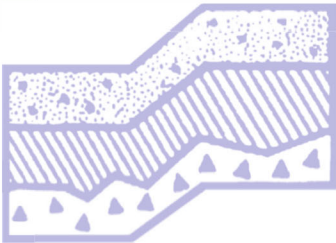


# **GEOTECHNICAL REPORT**

**Arlington 360  
8904, 9104, 9110, and 9116 Tveit Road  
Arlington, Washington**

**Project No. T-9011**



**Terra Associates, Inc.**

**Prepared for:**

**Arlington 360, LLC  
Woodinville, Washington**

**April 9, 2025**



# TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology  
and  
Environmental Earth Sciences

April 9, 2025  
Project No. T-9011

Mr. Darin Huseby  
Arlington 360, LLC  
13110 Northeast 177th Place, # 228  
Woodinville, Washington 98072

Subject: Geotechnical Report  
Arlington 360  
8904, 9104, 9110, and 9116 Tveit Road  
Arlington, Washington

Dear Mr. Huseby:

As requested, we conducted a geotechnical engineering study for the subject project. The attached report presents our findings and recommendations for the geotechnical aspects of project design and construction.

Our field exploration indicates the site is underlain by glacially deposited sediments composed of glacial till overlying advance outwash overlying pre-glacial deposits composed of lacustrine and fine-grained deposits. Perched groundwater seepage was observed at numerous depths within each of the distinct geologic formations above the lower fine-grained deposits.

In our opinion, there are no geotechnical conditions that would preclude the planned residential development. Residences can be supported on conventional spread footings bearing on competent native soils underlying the surface organic soils, on structural fill placed on the competent native soils. Floor slabs and pavements can be similarly supported.

Detailed recommendations addressing these issues and other geotechnical design considerations are presented in the attached report. We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours,  
**TERRA ASSOCIATES, INC.**

  
Michael J. Xanos, P.E.  
Principal Engineer

  
Carolyn S. Decker, P.E.  
President



## TABLE OF CONTENTS

|                                           | <b><u>Page No.</u></b> |
|-------------------------------------------|------------------------|
| 1.0 Project Description .....             | 1                      |
| 2.0 Scope of Work .....                   | 1                      |
| 3.0 Site Conditions .....                 | 2                      |
| 3.1 Surface .....                         | 2                      |
| 3.2 Soils .....                           | 2                      |
| 3.3 Groundwater .....                     | 3                      |
| 3.4 Geologic Hazards .....                | 4                      |
| 3.4.1 Critical Erosion Hazard Areas ..... | 5                      |
| 3.4.2 Landslide Hazard Areas.....         | 6                      |
| 3.4.3 Seismic Hazard Areas.....           | 7                      |
| 3.5 Seismic Site Class.....               | 7                      |
| 4.0 Discussion and Recommendations .....  | 8                      |
| 4.1 General.....                          | 8                      |
| 4.2 Site Preparation and Grading.....     | 8                      |
| 4.3 Relative Slope Stability .....        | 10                     |
| 4.4 Excavations.....                      | 13                     |
| 4.5 Foundations .....                     | 14                     |
| 4.6 Slab-on-Grade Floors.....             | 15                     |
| 4.7 Stormwater Facilities.....            | 15                     |
| 4.8 Infiltration Feasibility .....        | 16                     |
| 4.9 Drainage.....                         | 16                     |
| 4.10 Utilities .....                      | 17                     |
| 4.11 Pavements.....                       | 17                     |
| 5.0 Additional Services.....              | 18                     |
| 6.0 Limitations.....                      | 18                     |

### **Figures**

|                                    |          |
|------------------------------------|----------|
| Vicinity Map .....                 | Figure 1 |
| Exploration Location Plan .....    | Figure 2 |
| Typical Interceptor Drain.....     | Figure 3 |
| Typical Wall Drainage Detail ..... | Figure 4 |

### **Appendices**

|                                                |            |
|------------------------------------------------|------------|
| Field Exploration and Laboratory Testing ..... | Appendix A |
| Test Pit and Test Boring Logs by Others.....   | Appendix B |
| Slide2 Output .....                            | Appendix C |
| Slide2 Output Steep Slopes.....                | Appendix D |

**Geotechnical Report  
Arlington 360  
8904, 9104, 9110, and 9116 Tveit Road  
Arlington, Washington**

**1.0 PROJECT DESCRIPTION**

The proposed project is a residential subdivision consisting of townhome units, single-family residential building lots, apartment buildings, and associated access and utilities. The development will be divided by existing critical areas and existing roadways. Final development and grading plans were available at the time of this report. Based on existing site topography, we expect grading to be moderate to major with cuts and fills of up to 20 feet being necessary to achieve final lot and roadway elevations.

We expect the single-family residences will be two- to three-story, wood-frame buildings with their main floor levels framed over a crawl space and attached garages constructed at grade. Foundation loads should be relatively light, in the range of 2 to 3 kips per foot for bearing walls and 25 to 50 kips for isolated columns.

We expect the townhome structures will be three-story, wood-frame buildings with main floors constructed at grade. Foundation loads are expected to be relatively light, in the range of 4 to 8 kips per foot for bearing walls and 50 to 75 kips for isolated columns.

We expect the apartment buildings to be wood-framed structures framed over concrete. The structural loading carried by building foundations for the apartment buildings is expected to be moderate with isolated columns carrying 400 to 600 kips and bearing walls carrying 6 to 12 kips per foot.

The recommendations contained in the following sections of this report are preliminary and based on our understanding of the above design features. We should review design drawings as they become available to verify our recommendations have been properly interpreted and incorporated into project design and to amend or supplement our recommendations, if required.

**2.0 SCOPE OF WORK**

Our work was completed in accordance with our authorized proposal dated March 8, 2024. Accordingly, on April 22, 2024, through April 24, 2024, we explored subsurface conditions at the site within 9 test borings advanced with a hollow-stem auger to a maximum depth of approximately 50 feet below existing site grades. Using the results of our field exploration and laboratory testing, along with existing subsurface data from a previous study of the property, analyses were undertaken to develop geotechnical recommendations for project design and construction. Specifically, this report addresses the following:

- Soil and groundwater conditions.
- Geologic hazards per the City of Arlington Municipal Code (AMC).
- Seismic design parameters per the current International Building Code (IBC).
- Site preparation and grading.
- Relative slope stability.
- Excavations.



- Foundations.
- Slab-on-grade floors.
- Stormwater facilities.
- Infiltration feasibility.
- Drainage.
- Utilities.
- Pavements.

We have reviewed and incorporated existing subsurface data from a previous study of the property performed by Associated Earth Sciences, Inc. (AESI) which took place during the months of May, November, and December of 2023. Test Pit and Test Boring Logs associated with the study are included in Appendix B of this report.

### **3.0 SITE CONDITIONS**

#### **3.1 Surface**

The proposed project site consists of 19 tax parcels totaling approximately 308 acres at, south of, and northeast of 8904, 9104, 9110, and 9116 Tveit Road in Arlington, Washington. The focus of subsurface exploration at this time has been the central 8 tax parcels totaling approximately 209 acres. The approximate site location is shown on Figure 1.

The northern parcels are currently developed near Tveit Road with four single-family residences and several outbuildings, along with associated access and utilities. The remainder of the area is undeveloped and covered with a moderate forest and associated understory with some cleared areas covered with grass and tall brush. Site topography generally consists of a moderate slope over an upland plateau which transitions to a steep slope in the northern portion of the site. Site grades descend from the south to the north with an overall vertical relief of approximately 350 feet. The steep slopes located in the northern and northwestern portions of the site generally descend over overall vertical reliefs of approximately 60 to 125 feet. There are also steep slopes within the development that descend to mapped drainage channels in the western portion of the site which flow to the north. The northeastern portion of the site similarly slopes towards a drainage channel located partially onsite to the northeast. Slopes descending towards the drainage channels typically show overall vertical reliefs of approximately 30 to 80 feet.

#### **3.2 Soils**

Based on the subsurface explorations and those completed by AESI, five primary geologic formations are understood to be underlying the site. Stratigraphy at the site typically consists of loose to very dense silty sand and sandy silt with varying gravel content (weathered and unweathered Vashon Lodgement Till) overlying medium dense to dense sand with varying silt and gravel content (Advance Outwash/Olympia Sand) overlying very stiff to hard silt deposits with varying sand content and interbedded medium dense to dense granular layers (Olympia Lacustrine Deposits) overlying very stiff to hard silt deposits (Olympia Fine-Grained Deposits).

Test Borings advanced along the northern steep slope performed by AESI showed landslide deposits composed of very loose to very dense disturbed sand and silt layers with varying silt, sand, and gravel contents as well as inclusions of organic material and topsoil. Some of the silt samples showed signs of fracturing and infilling. The landslide deposits were typically observed overlying the Olympia Lacustrine or Olympia Fine-Grained deposits and, in some cases, the Vashon Lodgement Till and Olympia Sand deposits.

Test Pits performed by AESI also indicated relatively limited and shallow deposits of loose to medium dense sand with silt to silty sand with varying gravel content (Recessional Outwash) up to approximately six feet in depth overlying the till deposits in the eastern and central portions of the site as well as along the northern portion of the site. Test Pit EP-24 in the northwestern portion of the site showed loose to medium dense and soft alluvial deposits composed of sand with silt to silty sand with varying gravel content and sandy silt to the termination of the test pit. Test Pit EP-25 showed approximately four feet of loose fill composed of fine silty sand overlying native recessional outwash deposits.

The thicknesses of the geologic units expressed above vary across the site. In general, Vashon Lodgement Till deposits extend to depths ranging from approximately 4 to 17 feet below existing site grades where the formation thins out towards the crest of the northern steep slope. The Advance Outwash/Olympia Sand deposits extend to depths ranging from approximately 18 to 58 feet below existing site grades. The Olympia Lacustrine deposits extend to depths ranging from approximately 43 to 93 feet below existing site grades. The landslide deposits extend to depths ranging from approximately 9 to 44 feet below existing site grades. Test Pits and Test Borings that encountered the Olympia Fine-Grained deposits terminated in the formation.

Based on a review of the Test Pit Logs prepared by AESI, the surficial organic horizon typically consists of approximately 3 to 12 inches of forest duff and organic topsoil.

Review of the *Geologic Map of the Arlington East Quadrangle, Snohomish County, Washington* by J.P. Minard (1985) shows the upland plateau of the property mapped as Vashon Till (Qvt). Advance Outwash (Qva) is mapped along the northern steep slopes and along the drainage channels. Transitional Beds (Qtb) is mapped along the base of the northern slope with Recessional Outwash (Qvrm and Qvra) mapped beyond the transitional beds to the northwestern edge of the property. It is our opinion that this mapping is generally consistent with the subsurface findings at the site, although we believe the Qtb description likely incorporates the Olympia Lacustrine and Fine-Grained deposits in the surface mapping.

The preceding discussion is intended to be a general review of the soil conditions encountered. For more detailed descriptions, please refer to the Test Boring Logs in Appendix A. Test Pit and Test Boring logs prepared by AESI may be found in Appendix B. The approximate locations of the subsurface explorations are shown on Figure 2.

### **3.3 Groundwater**

Perched groundwater seepage was observed in many of the test borings and test pits ranging from depths of approximately 1.5 to 90 feet below existing grades. Typically, zones of limited perched seepage were observed within the till and outwash deposits within sand seams or above silt seams, respectively. Thicker zones of perched seepage were typically observed within the landslide deposits and lacustrine deposits with wet soils observed until the lower fine-grained deposits were encountered.

There were also limited thicknesses of perched seepage within these deposits periodically as well. Perched seepage was also encountered in the recessional outwash deposits above the lower till deposits. We did observe instances where the advance outwash formation was nearly fully inundated, such as at Test Borings B-101, B-102, B-103, and B-105 which were advanced near the crest of the northern slope. This typically indicates the formation acts as an aquifer near the slope. While the advance outwash formation is generally confined by the overlying till, test pit data obtained by AESI indicate the advance outwash aquifer is unconfined as shown by Test Pits EP-13, EP-14, EP-16, and EP-17 located along the western portion of the northern slope and along the western drainage channel.

During reconnaissance of the site slopes performed by Terra Associates, Inc., we observed wet surface soils within the drainage channels and a point of seepage through exposed strata at the interface of the advance outwash and fine-grained formations (roughly elevation 240.0 feet) along what appeared to be an old cut road traversing from the south to north along the western portion of the northern slope. We also observed a point of seepage flowing from landslide deposits along the northern slope at an approximate elevation of 200.0 feet.

We expect groundwater levels and flow rates will fluctuate seasonally and will typically reach their highest levels during, and shortly following, the wet winter months (November through May). Given the time of year our field work was completed, and our experience with groundwater conditions in the area, the groundwater levels observed likely represent near seasonal high levels. To evaluate the seasonal weather influence, Test Borings B-101, B-104, B-107, and B-109, were converted to monitoring wells. The wells will be instrumented prior to the wet season to allow for winter groundwater monitoring through the 2024-2025 wet season. Monitoring wells installed by AESI will also be instrumented over the wet season.

Water levels inside the wells were measured following their installation. The table below provides static groundwater measurements within the wells:

| Groundwater Depth Below Grade (ft) |       |       |       |       |
|------------------------------------|-------|-------|-------|-------|
| Test Boring Number                 |       |       |       |       |
| Date                               | B-101 | B-104 | B-107 | B-109 |
| April 24, 2024                     | 29.93 | 45.48 | NA    | 32.04 |

### **3.4 Geologic Hazards**

Chapter 20.93.600.a of the City of Arlington Municipal Code (AMC) defines geologically hazardous areas as “...areas susceptible to erosion, sliding, earthquakes, liquefaction, or other geological events. Geologically hazardous areas shall be classified based upon the history or existence of landslides, unstable soils, steep slopes, high erosion potential or seismic hazards.” Discussions related to erosion, landslide, mine, and seismic hazards are presented as followed.

### 3.4.1 Erosion Hazard Areas

Chapter 20.93.600.b.1 of the AMC defines erosion hazard areas as areas that are "... as defined by the USDA Soil Conservation Service, United States Geologic Survey, or by the Department of Ecology Coastal Zone Atlas. The following classes are high erosion hazard areas:

- a) Class 3, class U (unstable) includes severe erosion hazards and rapid surface runoff areas;
- b) Class 4, class UOS (unstable old slides) includes areas having severe limitations due to slope; and,
- c) Class 5, class URS (unstable recent slides)."

The Soil Conservation Service (now called National Resources Conservation Service (NRCS)) shows mapped soils in the developable upslope and downslope portions of the site consisting of *Norma loam*, *Ragnar fine sandy loam*, *0 to 8 percent slopes*, and *Tokul gravelly medial loam*, *0 to 15 percent slopes*. The NRCS describes the erosion hazard of these materials as slightly to moderately susceptible to erosion when exposed which does not meet the above criteria defining a critical erosion hazard area. However, the soils located along the northern steep slope and drainage channels are mapped as *Patsik silt loam*, *8 to 25 percent slopes*, *Tokul gravelly medial loam*, *15 to 30 percent slopes*, and *Tokul-Winston gravelly loams*, *25 to 65 percent slopes*. The erosion hazard of these materials is described as severely susceptible to erosion when exposed. Accordingly, the onsite steep slopes would be considered an erosion hazard area per the AMC.

Implementation of temporary and permanent Best Management Practices (BMPs) for preventing and controlling erosion will be required and will mitigate the erosion hazard. As a minimum, we recommend implementing the following erosion and sediment control BMPs prior to, during, and immediately following construction activities at the site:

#### **Prevention**

- Limit site clearing and grading activities to the relatively dry months (typically May through September).
- Limit disturbance to areas where construction is imminent.
- Locate temporary stockpiles of excavated soils no closer than ten feet from the crest of the slope.
- Provide temporary cover for cut slopes and soil stockpiles during periods of inactivity. Temporary cover may consist of durable plastic sheeting that is securely anchored to the ground or straw mulch.
- Establish permanent cover over exposed areas that will not be disturbed for a period of 30 days or more by seeding, in conjunction with a mulch cover or appropriate hydroseeding.

#### **Containment**

- Install a silt fence along sit margins and down slope of areas that will be disturbed. The silt fence should be in place before clearing and grading is initiated.
- Intercept surface water flow and route the flow away from the slope to a stabilized discharge point. Surface water must not discharge at the top or onto the face of the steep slope.
- Provide onsite sediment retention for collected runoff.

The contractor should perform daily review and maintenance of all erosion and sedimentation control measures at the site.

### **3.4.2 *Landslide Hazard Areas***

Chapter 20.93.600.b.2 of the AMC defines landslide hazard areas as "...areas subject to severe risk of landslide based on a combination of geologic, topographic and hydrologic factors. Some of these areas may be identified in the Department of Ecology Coastal Zone Atlas, or through site-specific criteria. Landslide hazard areas include any of the following:

- a) Areas characterized by slopes greater than fifteen percent and impermeable soils (typically silt and clay) frequently interbedded with permeable granular soils (predominantly sand and gravel) or impermeable soils overlain with permeable soils or springs or groundwater seepage;
- b) Any area that has exhibited movement during the Holocene epoch (from ten thousand years ago to present) or which is underlain by mass wastage debris of that epoch;
- c) Any area potentially unstable due to rapid stream incision, stream bank erosion or undercutting by wave action;
- d) Any area located on an alluvial fan presently subject to or potentially subject to inundation by debris flows or deposition of stream-transported sediments;
- e) Any area with a slope of thirty-three percent or greater and with a vertical relief of ten or more feet except areas composed of consolidated rock;
- f) Any area with slope defined by the United States Department of Agriculture Soil Conservation Service as having a severe limitation for building site development; and
- g) Any shoreline designated or mapped as class U, UOS, or URS by the Department of Ecology Coastal Zone Atlas."

Review of mapped landslide areas on the Washington State Department of Natural Resources (DNR) Geologic Information Portal website shows the steep, north-facing slope located within the northern parcels mapped with scarps, flanks, landslide deposits, and fans. These mappings are assigned confidence levels ranging from low to high with an estimated relative age of greater than 150 years (Pre-historic). The test borings performed by AESI along the slope-face show relative densities of medium dense to very dense within the landslide deposits, with some surficial loose material, which would conform with the DNR's estimated age of the slide mass.

Maximum surface grades along the drainage channels in the western portion and along the northeastern portion of the site approach approximately 85 percent over a maximum vertical relief of up to approximately 80 feet. As described earlier, the underlying stratigraphy along these slopes consists of permeable outwash deposits overlying relatively impermeable fine-grained deposits. Subsurface exploration has shown the upper outwash formation to be water-bearing, and we observed one point of seepage at an exposed interface between the upper outwash formation and lower fine-grained deposits. Therefore, conditions 'a', 'b', and 'e' as described above are met. Per the AMC, the north-facing steep slope and the drainage channels located in the western and northeastern portions of the site meet the classification for landslide hazard area designation.

Additional analysis regarding the slopes has been completed for the project and can be found in Section 4.3 below.

### **3.4.3 Seismic Hazard Areas**

Chapter 20.93.600.b.4 of the AMC defines seismic hazard areas as "... areas subject to severe risk of earthquake damage as a result of seismic induced settlement, shaking, slope failure or soil liquefaction. These conditions occur in areas underlain by cohesion less soils of low density usually in association with a shallow groundwater table."

A review of a map titled *Faults and Earthquakes in Washington State*, dated 2014 by Jessica L. Czajkowski and Jeffrey D. Bowman shows the site does not reside within any active fault zone. The nearest fault, the Darrington-Devils Mountain Fault, is located approximately 10 miles north of the site. Quaternary-age activity of the fault (rupture within the last two million years) is predicted to have occurred during the Pleistocene and possibly during the early Holocene, or roughly between 10,000 to 126,000 years ago. Accordingly, during a seismic event, the risk of ground rupture along a fault line at the site is low.

Liquefaction is a phenomenon where there is a reduction or complete loss of soil strength due to an increase in water pressure induced by vibrations. Liquefaction mainly affects geologically recent deposits of fine-grained sands underlying the groundwater table. Soils of this nature derive their strength from intergranular friction. The generated water pressure or pore pressure essentially separates the soil grains and eliminates this intergranular friction; thus, eliminating the soil's strength.

The predominant formations underlying the site consist of medium dense to very dense sand formations, medium dense to very dense till formations, and very stiff to hard cohesive fine-grained formations. The sand formations are relatively permeable and would allow dissipation of pore water pressures generated by a seismic event, thereby not significantly impacting the effective strength of the deposits. The risk for soil liquefaction occurring at the site in the till and lower fine-grained deposits is negligible due to the relative density of the soils and amount of cohesive material that would be sufficient to resist the cyclical loading of a seismic event.

In addition, the Washington DNR has mapped the site as having a low to very low potential for liquefaction on their Geologic Information Portal website. Therefore, it is our opinion that the risk for soil liquefaction to occur at this site and its associated impacts is low.

Section 4.3 of this report includes a discussion relating to the susceptibility of the steep slope to seismically induced landsliding.

### **3.5 Seismic Site Class**

Based on the site soil conditions, blow count data, DNR mapping, and our knowledge of the area geology, per the current International Building Code (IBC), site class "D" should be used in structural design.

## **4.0 DISCUSSION AND RECOMMENDATIONS**

### **4.1 General**

Based on our study, there are no geotechnical conditions that would preclude the planned development. The proposed structures can be supported on conventional spread footings bearing on competent native soils underlying organic topsoil or on structural fill placed on a competent native soil subgrade. Floor slabs and pavements can be similarly supported.

The primary geotechnical concern for the site will be the presence of steep slopes and associated landslide hazards adjacent to and throughout the site. Preliminary site plans show a 50-foot slope buffer from the crest of the steep slopes adjacent to the development along with an additional 15-foot building setback which will be necessary to mitigate potential damage to the development from potential slope movement.

To mitigate potential slope movement, permanent drainage near the crest of the north-facing slope should be installed to intercept groundwater flows impacting the stability of the slope.

Most of the native soils observed in the test pits and borings contain a sufficient amount of fines (silt- and clay-sized particles) that will make compaction as structural fill difficult when the soils are wet or dry of optimum. Accordingly, the ability to use these soils from site excavations as structural fill will depend on their moisture content and the prevailing weather conditions at the time of construction. If grading activities take place during extended periods of wet weather, the owner should be prepared to import free-draining granular material for use as structural fill and backfill. The relatively clean outwash deposits observed below the till deposits generally have a low percentage of soil fines and should be suitable for use as structural fill in most weather conditions.

Detailed recommendations regarding these issues and other geotechnical design considerations are provided in the following sections of this report. These recommendations should be incorporated into the final design drawings and construction specifications.

### **4.2 Site Preparation and Grading**

To prepare the site for construction, all vegetation, organic surface soils, and other deleterious materials should be stripped from areas of new construction. We expect surface stripping depths to remove the organic surficial soils would generally be about three to 12 inches. Stripped vegetation debris should be removed from the site. Organic soils will not be suitable for use as structural fill but may be used for limited depths in nonstructural areas or for landscaping purposes. Abandoned utilities should be removed if existing within new building areas. Abandoned utility pipes that fall outside of new building areas can be left in place provided they are sealed to prevent intrusion of groundwater seepage and soil.

Permanent subsurface drainage should be installed near the crest of the north-face slope north and/or west of Lots 26 through 28, Lots 105 through 132, and Lots 633 through 645. The drain will need to extend through any water bearing soils/wet soils and be keyed into the fine-grained soils observed at depth. Where the depth to the lower-fine-grained soils dips along the trench alignment, we recommend over-excavating the trench to expose the fine-grained soils and backfilling the over-excavation to an appropriate elevation with controlled-density fill (CDF).

A representative of Terra Associates, Inc. should observe the excavation to ensure the drain extends to an appropriate depth. A typical subsurface interceptor drain detail is shown on Figure 3. It would be advisable to install these permanent subsurface drainage features early on in the site grading activities to control groundwater flows and reduce seepage impacts to grading and building activities. The water collected by the interceptor trench will ultimately discharge to the existing drainage channels.

Some loose surficial soils were observed in test pits completed by AESI along the upper plateau within the till and recessional outwash deposits. The depth of the loose material is limited and should be scarified to a depth of 12 inches and compacted meeting the requirements outlined below. The lateral extent of the loose soils should be determined in the field during grading procedures.

Once clearing and grubbing operations are complete, cut and fill operations to establish desired grades can be initiated. A representative of Terra Associates, Inc. should examine all bearing surfaces to verify that the conditions encountered are as anticipated and are suitable for placement of structural fill or direct support of building and pavement elements. Our representative may request proof rolling of exposed surfaces with a heavy rubber-tired vehicle to determine if any isolated soft and yielding areas are present. If unstable yielding areas are observed, they should be cut to firm bearing soil and filled to grade with structural fill. If the depth of excavation to remove unstable soils is excessive, use of geotextile fabric such as Mirafi 500X or equivalent in conjunction with structural fill can be considered in order to limit the depth of removal. In general, our experience has shown that a minimum of 18 inches of clean, granular structural fill over the geotextile fabric should establish a stable bearing surface.

Our study indicates most of the site soils contain a significant amount of fines (silt and clay-sized particles) that will make them difficult to compact as structural fill when too wet or too dry. Provided these soils are near optimum moisture when excavated, and are placed during dry weather conditions, we anticipate they will generally be suitable for direct use as structural fill. Materials that are wet of optimum will require drying the soil by aeration during dry weather conditions or by using soil amendments such as lime or Portland cement to reduce and stabilize the soil's moisture content. If soil amendment products are used, additional Temporary Erosion and Sedimentation Control (TESC) BMPs will need to be implemented to mitigate potential impacts to stormwater runoff associated with possible elevated pH levels.

The relatively clean recessional outwash soils observed above the till deposits generally have a low percentage of soil fines and should be suitable for use as structural fill in most weather conditions. If grading activities are planned during the wet winter months, or if they extend into fall and winter, imported fill materials should consist of a granular soil that meets the following grading requirements:

| U.S. Sieve Size | Percent Passing |
|-----------------|-----------------|
| 3 inches        | 100             |
| No. 4           | 75 maximum      |
| No. 200         | 5 maximum*      |

\*Based on the 3/4-inch fraction.



Prior to use, Terra Associates, Inc. should examine and test all materials planned to be imported to the site for use as structural fill.

Structural fill should be placed in uniform loose layers not exceeding 12 inches and compacted to a minimum of 95 percent of the soil's maximum dry density, as determined by American Society for Testing and Materials (ASTM) Test Designation D-1557 (Modified Proctor). The moisture content of the soil at the time of compaction should be within two percent of its optimum, as determined by this ASTM standard. In nonstructural areas, the degree of compaction may be reduced to 90 percent.

#### **4.3 Relative Slope Stability**

Reconnaissance of the site's steep slopes showed several instances of leaning, pistoled-butted, and fallen trees. As described above, we observed a small number of seeps along the north-facing slope and wet surface soils within the drainage channels. However, the slopes are heavily vegetated with ferns, blackberries, and other forest understory, and support the growth of many upright small- to medium-sized trees, and we did not observe any evidence of new tension-cracking or new head scarps.

We have completed 19 slope stability analyses for the project site. Nine of the analyses were completed within the area of the landslide hazard in the northern portion of the site and ten of the analyses were completed outside of the landslide hazard area but still within a steep slope area. Our analyses were completed at locations designated as Cross Section A-A' through I-I' and AA-AA' through JJ-JJ' using the computer program Slide 2. The location of the cross sections is shown on attached Figure 2.

Our analysis considered both static and pseudostatic (seismic) conditions. A horizontal acceleration of 0.23g was used in the pseudostatic analysis to simulate slope performance under earthquake loading. This acceleration was determined following the FHWA-NHI-11-032 "Limit Equilibrium Pseudo Static Stability Analysis" procedure.

The results of our slope stability analysis, as shown by the lowest safety factors for each condition, are presented in the following table:

**Table 1 – Slope Stability Analysis Results**

**Cross Sections Located inside of the Landslide Hazard Area**

| <b>Cross Section</b> | <b>Minimum Safety Factors</b> |                             |
|----------------------|-------------------------------|-----------------------------|
|                      | <b>Existing Conditions</b>    | <b>Post Construction</b>    |
| A-A'                 | 2.4<br>(Seismic FS = 1.2)     | N/A                         |
| B-B'                 | 1.0<br>(Seismic FS = 0.5)     | 1.1*<br>(Seismic FS = 2.2)  |
| C-C'                 | 0.8<br>(Seismic FS = 0.4)     | 0.8*<br>(Seismic FS = 0.4*) |

| Cross Section | Minimum Safety Factors    |                            |
|---------------|---------------------------|----------------------------|
|               | Existing Conditions       | Post Construction          |
| D-D'          | 1.0<br>(Seismic FS = 0.4) | 3.6<br>(Seismic FS = 1.4)  |
| E-E'          | 0.7<br>(Seismic FS = 0.3) | 5.5<br>(Seismic FS = 1.7)  |
| G-G'          | 1.5<br>(Seismic FS = 0.8) | N/A                        |
| H-H'          | 1.3<br>(Seismic FS = 0.7) | 10.2<br>(Seismic FS = 3.0) |
| I-I'          | 1.3<br>(Seismic FS = 0.7) | 2.6<br>(Seismic FS = 1.3)  |

The results of the analyses indicate the sections analyzed meet the engineering standard of 1.5 for static and 1.1 for seismic within the building areas. The slope stability relies on the interceptor drain lowering the groundwater throughout the project site. The results of the analysis are included in Appendix C.

Sections B-B' and C-C' are located on the east side of the project. The analysis of these sections determined minimum factors of safety below the acceptable minimum values mentioned above. However, because all the failure surfaces associated with safety factors below the acceptable minimum values are located outside of the proposed buffer areas, it is our opinion that an appropriate buffer of 50 feet will adequately mitigate potential steep slope hazards at these locations.

**Table 2 – Slope Stability Analysis Results**

**Cross Sections Located outside of the Landslide Hazard Area**

| Cross Section | Minimum Safety Factors     |                            |
|---------------|----------------------------|----------------------------|
|               | Existing Conditions        | Post Construction          |
| F-F'          | 1.5<br>(Seismic FS = 1.0*) | 1.5<br>(Seismic FS = 1.0*) |
| AA-AA'        | 2.0<br>(Seismic FS = 1.3)  | 2.0<br>(Seismic FS = 1.3)  |
| BB-BB'        | 1.6<br>(Seismic FS = 1.1)  | 1.6<br>(Seismic FS = 1.1)  |
| CC-CC'        | 1.7<br>(Seismic FS = 1.1)  | 1.7<br>(Seismic FS = 1.1)  |
| DD-DD'        | 1.6<br>(Seismic FS = 1.0*) | 1.6<br>(Seismic FS = 1.0*) |

| Cross Section | Minimum Safety Factors      |                             |
|---------------|-----------------------------|-----------------------------|
|               | Existing Conditions         | Post Construction           |
| EE-EE'        | 1.7<br>(Seismic FS = 1.1)   | 1.7<br>(Seismic FS = 1.1)   |
| FF-FF'        | 1.9<br>(Seismic FS = 1.2)   | 1.9<br>(Seismic FS = 1.2)   |
| GG-GG'        | 1.4*<br>(Seismic FS = 0.9*) | 1.4*<br>(Seismic FS = 0.9*) |
| HH-HH'        | 1.6<br>(Seismic FS = 1.0*)  | 1.6<br>(Seismic FS = 1.0*)  |
| II-II'        | 1.7<br>(Seismic FS = 1.1)   | 1.7<br>(Seismic FS = 1.1)   |
| JJ-JJ'        | 2.0<br>(Seismic FS = 1.2)   | 2.0<br>(Seismic FS = 1.2)   |

The results of our analyses indicate the site slopes are generally stable with respect to deep-seated movement under static conditions with the exception of Cross Section GG-GG'. The results of the analysis are included in Appendix D.

Section GG-GG' is located on along building lot 616. Potential failure surfaces associated with factors of safety below 1.5, which is the minimum safety factor considered acceptable for stable slopes under static conditions by local geotechnical engineering practice, extend about four feet behind the apparent steep slope crest. Pseudostatic analysis of the existing slope on Section GG-GG' indicates the slope would fail during a severe seismic event with potential failure surfaces associated with factors of safety below 1.1, which is the minimum safety factor considered acceptable for stable slopes under pseudostatic conditions by local geotechnical engineering practice, extending about 30 feet behind the apparent steep slope crest. Therefore, it is our opinion that an appropriate buffer of 35 feet will adequately mitigate potential steep slope hazards at this location.

Analyses of slope sections F-F', DD-DD' and HH-HH' indicate adequate factors of safety exist for the existing slopes and the proposed development under static conditions but not for pseudostatic conditions.

At Section F-F', potential failure surfaces associated with safety factors below the acceptable minimum value of 1.1 terminate at the apparent slope crest of the existing slope and extend about 20 feet beyond the apparent slope crest for the proposed development. In our opinion, establishing a minimum buffer of 25 feet between the existing slope crest and any proposed development, including lot fills, would adequately mitigate potential steep slope hazards at this location.

At Section DD-DD', potential failure surfaces associated with safety factors below the acceptable minimum value of 1.1 terminate at the apparent slope crest of the existing slope and extend about 10 feet beyond the apparent slope crest for the proposed development. In our opinion, establishing a minimum buffer of 15 feet between the existing slope crest and any proposed development, including lot fills, would adequately mitigate potential steep slope hazards at this location.

At Section HH-HH', potential failure surfaces associated with safety factors below the acceptable minimum value of 1.1 terminate at the apparent slope crest of the existing slope and extend about 23 feet beyond the apparent slope crest for the proposed development. In our opinion, establishing a minimum buffer of 30 feet between the existing slope crest and any proposed development, including lot fills, would adequately mitigate potential steep slope hazards at this location.

Based on our understanding of the planned site development, the results of our stability analysis, our site observations, and provided the recommendations contained in this report are followed, it is our opinion that the following table should be used to establish suitable buffers that will adequately mitigate geologic hazards associated with the steep slopes outside of the landslide hazard areas which, as noted above, will be mitigated using a deep interceptor trench.

| BUILDING LOT                   | BUFFER (FEET) |
|--------------------------------|---------------|
| 117 – 138, 602, 603, 637 – 639 | 15            |
| 604 – 613                      | 30            |
| 614 – 616                      | 35            |

#### **4.4 Excavations**

All excavations at the site associated with confined spaces, such as lower-building level retaining walls, must be completed in accordance with local, state, and federal requirements. Based on the Washington State Safety and Health Administration (WSHA) regulations, the advance and recessional outwash deposits and loose to medium dense weathered till soils would typically be classified as Type “C” soils. The native fine-grained deposits would be classified as Type “B” soils. The native dense to very dense unweathered till deposits would be classified as Type “A” soils.

Accordingly, temporary excavations in Type C soils should have their slopes laid back at an inclination of 1.5:1 (Horizontal: Vertical) or flatter, from the toe to the crest of the slope. Side slopes in Type B soils can be laid back at an inclination of 1:1 or flatter. Side slopes in Type A soils can be laid back at a slope inclination of 0.75:1 or flatter. For temporary excavation slopes less than 8 feet in height in Type A soils, the lower 3.5 feet can be cut to a vertical condition, with a 0.75:1 slope graded above. For temporary excavation slopes greater than 8 feet in height up to a maximum height of 12 feet, the slope above the 3.5-foot vertical portion will need to be laid back at a minimum slope inclination of 1:1. No vertical cut with a backslope immediately above is allowed for excavation depths that exceed 12 feet. In this case, a four-foot vertical cut with an equivalent horizontal bench to the cut slope toe is required.

All exposed temporary slope faces that will remain open for an extended period of time should be covered with a durable reinforced plastic membrane during construction to prevent slope raveling and rutting during periods of precipitation.

Groundwater seepage should be anticipated within excavations. We anticipate that the volume of water and rate of flow into relatively shallow excavations will be relatively minor and are not expected to impact the stability of the excavations when completed, as described. Conventional sump pumping procedures, along with a system of collection trenches, if necessary, should be capable of maintaining a relative dry excavation for construction purposes. Deeper excavations into the advance outwash formation may encounter groundwater seepage, especially near the interface with the lower fine-grained soils, with volumes and flow rates sufficient to require some level of dewatering via well points or isolated deep-pump wells.

The above information is provided solely for the benefit of the owner and other design consultants and should not be construed to imply that Terra Associates, Inc. assumes responsibility for job site safety. It is understood that job site safety is the sole responsibility of the project general contractor.

#### **4.5 Foundations**

The proposed buildings may be supported on conventional spread footing foundations bearing on competent native soils or on structural fill placed above the competent soils. Foundation subgrade should be prepared as recommended in Section 4.2 of this report. Perimeter foundations exposed to the weather should bear a minimum depth of one and one-half feet below final exterior grades for frost protection. Interior foundations can be constructed at any convenient depth below the floor slab.

The native silty sand soils will be easily disturbed by normal construction activity particularly when wet. Care will need to be exercised during construction to avoid excessively disturbing the subgrade. If disturbed, the material should be removed, and footings lowered to undisturbed material or grade restored with structural fill. During wet-weather conditions, to avoid disturbance, consideration should be given to protecting the fill foundation subgrade with a four-inch layer of crushed rock or lean mix concrete.

Foundations for single-family residences and townhomes bearing on competent soils can be dimensioned for a net allowable bearing capacity of 2,500 pounds per square foot (psf). Foundations for apartment buildings bearing on competent unweathered till soils can be dimensioned for a net allowable bearing capacity of 4,000 psf. Where apartment building footings are constructed over new structural fill, weathered till, or other competent native soils, foundations should be dimensioned for a net allowable bearing capacity of 2,500 psf. For short-term loads, such as wind and seismic, a one-third increase in this allowable capacity can be used. With structural loading as anticipated and this bearing stress applied, estimated total settlements are less than one-half inch.

For designing foundations to resist lateral loads, a base friction coefficient of 0.35 can be used. Passive earth pressures acting on the side of the footing and buried portion of the foundation stem wall can also be considered. We recommend calculating this lateral resistance using an equivalent fluid weight of 300 pcf. We recommend not including the upper 12 inches of soil in this computation because they can be affected by weather or disturbed by future grading activity. This value assumes the foundation will be constructed neat against competent existing fill, native soil, or backfilled with structural fill as described in Section 4.2 of this report. The values recommended include a safety factor of 1.5.

#### **4.6 Slab-on-Grade Floors**

Slab-on-grade floors may be supported on subgrade prepared as recommended in Section 4.2 of this report. Immediately below the floor slab, we recommend placing a four-inch-thick capillary break layer composed of clean, coarse sand or fine gravel that has less than five percent passing the No. 200 sieve. This material will reduce the potential for upward capillary movement of water through the underlying soil and subsequent wetting of the floor slab.

The capillary break layer will not prevent moisture intrusion through the slab caused by water vapor transmission. Where moisture by vapor transmission is undesirable, such as covered floor areas, a common practice is to place a durable plastic membrane on the capillary break layer and then cover the membrane with a layer of clean sand or fine gravel to protect it from damage during construction and to aid in uniform curing of the concrete slab. It should be noted, if the sand or gravel layer overlying the membrane is saturated prior to pouring the slab, it will not be effective in assisting uniform curing of the slab and can actually serve as a water supply for moisture bleeding through the slab, potentially affecting floor coverings. Therefore, in our opinion, covering the membrane with a layer of sand or gravel should be avoided if floor slab construction occurs during the wet winter months and the layer cannot be effectively drained. We recommend floor designers and contractors refer to the current American Concrete Institute (ACI) Manual of Concrete Practice for further information regarding vapor barrier installation below slab-on-grade floors.

#### **4.7 Stormwater Facilities**

Site stormwater plans were not available at the time of this report.

##### ***Detention Vault***

We expect the bottom of the excavations for the detention vaults will expose dense to very dense till and/or medium dense outwash. Vault foundations supported by these native soils may be designed for an allowable bearing capacity of 4,000 psf. For short-term loads, such as seismic, a one-third increase in this allowable capacity can be used.

Vault walls should be designed as below-grade retaining walls. The magnitude of earth pressure development on engineered retaining walls will partly depend upon the quality of the wall backfill. We recommend placing and compacting wall backfill as structural fill as described in Section 4.2 of this report. To prevent overstressing the walls during backfilling, heavy construction machinery should not be operated within five feet of the wall. Wall backfill in this zone should be compacted with hand-operated equipment. To prevent hydrostatic pressure development, wall drainage must also be installed. A typical wall drainage detail is shown on Figure 4.

With wall backfill placed and compacted as recommended and drainage properly installed, we recommend designing unrestrained walls for an active earth pressure equivalent to a fluid weighing 35 pounds per cubic foot (pcf). For restrained walls, an additional uniform load of 100 pounds per square foot (psf) should be added to the 35 pcf. To account for typical traffic surcharge loading, the walls can be designed for an additional imaginary height of two feet (two-foot soil surcharge). For evaluation of below-grade walls under seismic loading, an additional uniform lateral pressure equivalent to  $8H$  psf, where  $H$  is the height of the below-grade portion of the wall in feet, can be used. These values assume a horizontal backfill condition and that no other surcharge loading such as traffic, sloping embankments, or adjacent buildings will act on the wall. If such conditions will exist, then the imposed loading must be included in the wall design. Friction at the base of foundations and passive earth pressure will provide resistance to these lateral loads. Values for these parameters are given in Section 4.4 of this report.

If it is not possible to discharge collected water at the footing invert elevation, the invert elevation of the wall drainpipe could be set equivalent to the outfall invert. For any portion of the wall that falls below the invert elevation of the wall drain, an earth pressure equivalent to a fluid weighing 85 pcf should be used.

### ***Stormwater Ponds***

If fill berms will be constructed, the berm locations should be stripped of topsoil, duff, and soils containing organic material prior to the placement of fill. The fill berms should be constructed by placing structural fill in accordance with recommendations outlined in Section 4.2 of this report. Material used to construct pond berms should consist of predominately granular soils with a maximum size of three inches and a minimum of 20 percent fines. Terra Associates, Inc. should examine and test all onsite or imported materials proposed for use as berm fill prior to their use.

It is possible that sand and gravel soils may be exposed within the pond area. Therefore, it may be necessary to line the dead storage portion of the pond for water quality purposes depending on the final grades and exposed soils.

Due to the exposure to fluctuating stored water levels and wave action, soils exposed on the interior side slopes of the ponds may be subject to some risk of periodic shallow instability or sloughing. Establishing interior slopes at a 3:1 gradient will significantly reduce or eliminate this potential. Exterior berm slopes and interior slopes above the maximum water surface should be graded to a finished inclination no steeper than 2:1. Finished slope faces should be thoroughly compacted and vegetated to guard against erosion.

We should review the stormwater plans when they are completed and revise our recommendations, if required.

## **4.8 Infiltration Feasibility**

It is our opinion that the proximity of the development to steep slopes would preclude any development of infiltration facilities or low impact development (LID) elements as the introduction of stormwater adjacent to the steep slopes has the potential to impact the stability of the slopes.

## **4.9 Drainage**

### ***Surface***

Final exterior grades should promote free and positive drainage away from the site at all times. Water must not be allowed to pond or collect adjacent to foundations or within the immediate building areas. We recommend providing a positive drainage gradient away from the building perimeter. If this gradient cannot be provided, surface water should be collected adjacent to the structures and directed to appropriate storm facilities.

Surface water must not be allowed to flow uncontrolled over the crest of the site slopes and embankments. Surface water should be directed away from the slope crests to a point of collection and controlled discharge. If site grades do not allow for directing surface water away from slopes, then water should be collected and tightlined down the slope face in a controlled manner.

## ***Subsurface***

We recommend installing perimeter foundation drains adjacent to shallow foundations. The drains can be laid to grade at an invert elevation equivalent to the bottom of footing grade. The drains can consist of four-inch diameter perforated PVC pipe enveloped in washed pea gravel-sized drainage aggregate. The aggregate should extend six inches above and to the sides of the pipe. Roof and foundation drains should be tightlined separately to the storm drains. All drains should be provided with cleanouts at easily accessible locations.

### **4.10 Utilities**

Utility pipes should be bedded and backfilled in accordance with American Public Works Association (APWA) or local jurisdictional requirements. At minimum, trench backfill should be placed and compacted as structural fill, as described in Section 4.2. As noted, soils excavated onsite should be suitable for use as backfill material. However, some of the site soils are fine-grained and moisture sensitive; therefore, moisture conditioning may be necessary to facilitate proper compaction. If utility construction takes place during the winter, it may be necessary to import suitable wet-weather fill for utility trench backfilling.

### **4.11 Pavements**

Pavement subgrades should be prepared as described in Section 4.2 of this report. Regardless of the degree of relative compaction achieved, the subgrade must be firm and relatively unyielding before paving. The subgrade should be proof rolled with heavy rubber-tired construction equipment such as a loaded ten-yard dump truck to verify this condition.

The pavement design section is dependent upon the supporting capability of the subgrade soils and the traffic conditions to which it will be subjected. For residential access, with traffic consisting mainly of light passenger vehicles with only occasional heavy traffic, and with a stable subgrade prepared as recommended, we recommend the following pavement sections:

- Two inches of Hot Mix Asphalt (HMA) over four inches of Crushed Rock Base (CRB).
- Three and one-half inches of full depth HMA.

The paving materials used should conform to the Washington State Department of Transportation (WSDOT) specifications for half-inch class HMA and CRB.

If the existing roadway in the southern portion of the site is intended to remain without a change in alignment, we recommend a two-inch grind and overlay to improve surface conditions along the roadway.

Long-term pavement performance will depend on surface drainage. A poorly drained pavement section will be subject to premature failure as a result of surface water infiltrating into the subgrade soils and reducing their supporting capability. For optimum pavement performance, we recommend surface drainage gradients of at least two percent. Some degree of longitudinal and transverse cracking of the pavement surface should be expected over time. Regular maintenance should be planned to seal cracks when they occur.



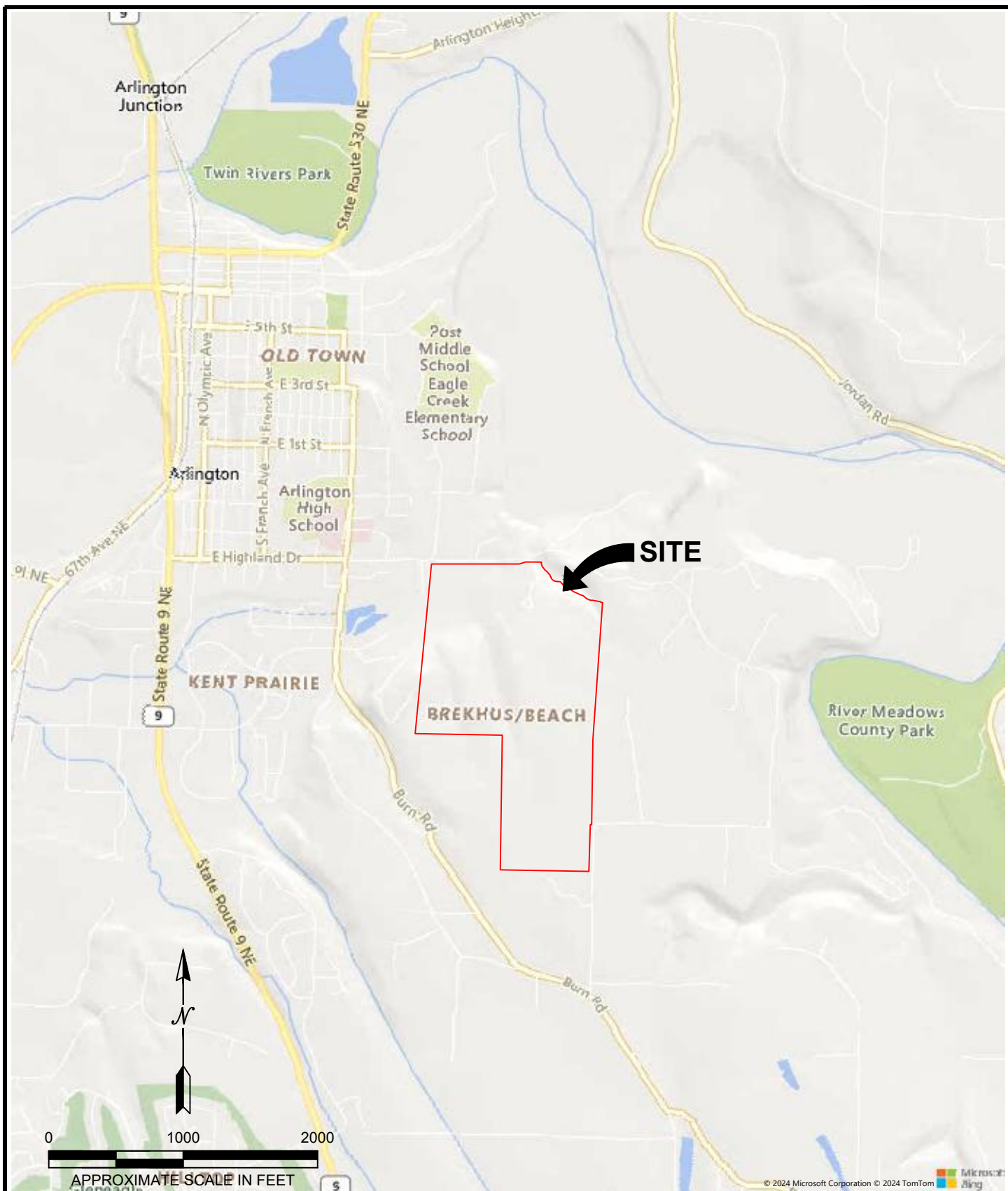
## **5.0 ADDITIONAL SERVICES**

Terra Associates, Inc. should review the final design drawings and specifications in order to verify earthwork and foundation recommendations have been properly interpreted and implemented in project design. We should also provide geotechnical service during construction to observe compliance with our design concepts, specifications, and recommendations. This will allow for design changes if subsurface conditions differ from those anticipated prior to the start of construction.

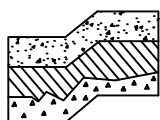
## **6.0 LIMITATIONS**

We prepared this report in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the Arlington 360 project in Arlington, Washington and for the exclusive use of Arlington 360, LLC and their authorized representatives.

The analyses and recommendations presented in this report are based on data obtained from the subsurface explorations completed onsite. Variations in soil conditions can occur, the nature and extent of which may not become evident until construction. If variations appear evident, Terra Associates, Inc. should be requested to reevaluate the recommendations in this report prior to proceeding with construction.



ACCESSED 2024



**Terra  
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Consultants in Geotechnical Engineering  
Geology and  
Environmental Earth Sciences

VICINITY MAP  
ARLINGTON 360  
ARLINGTON, WASHINGTON

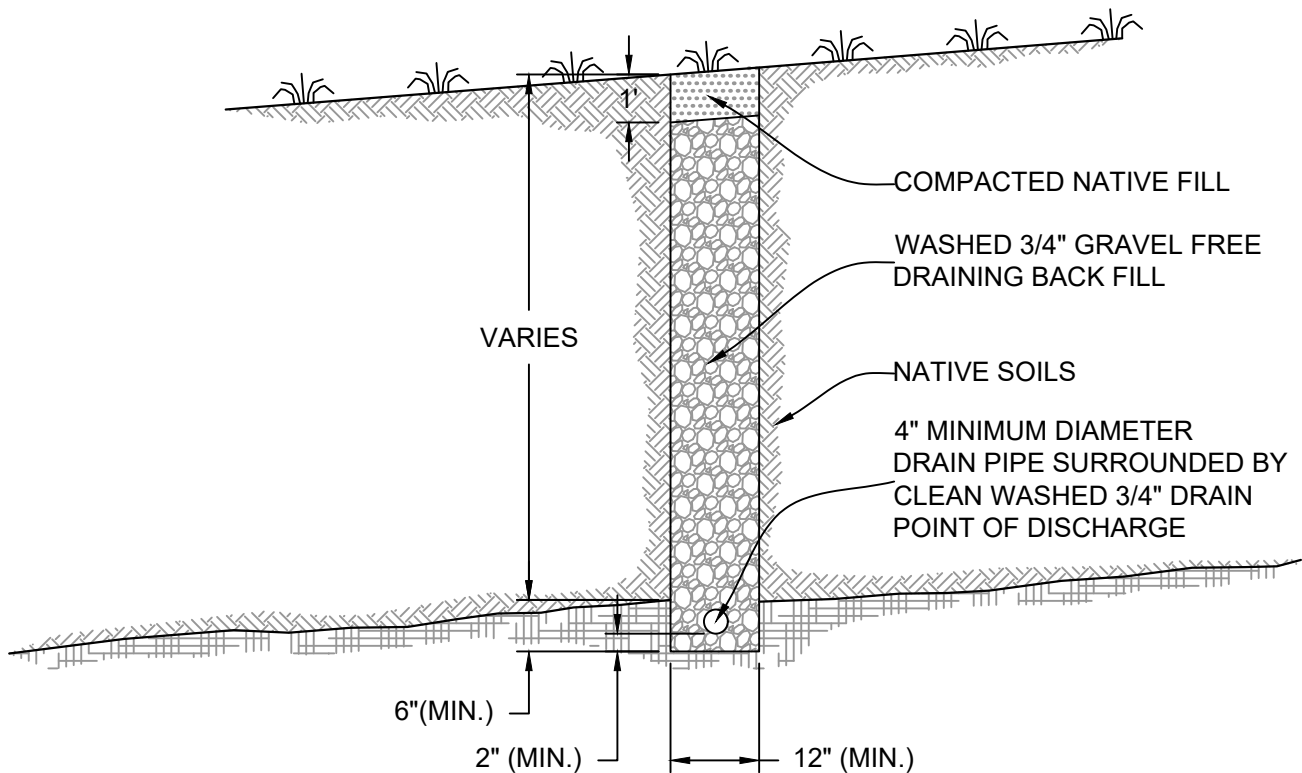
Proj.No. T-9011

Date: APR 2025

Figure 1



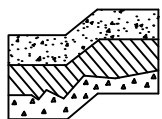




NOT TO SCALE

NOTES:

METHOD OF DRAIN INSTALLATION AND TRENCH SIDEWALL STABILITY SHOULD BE ASSESSED BY THE CONTRACTOR.



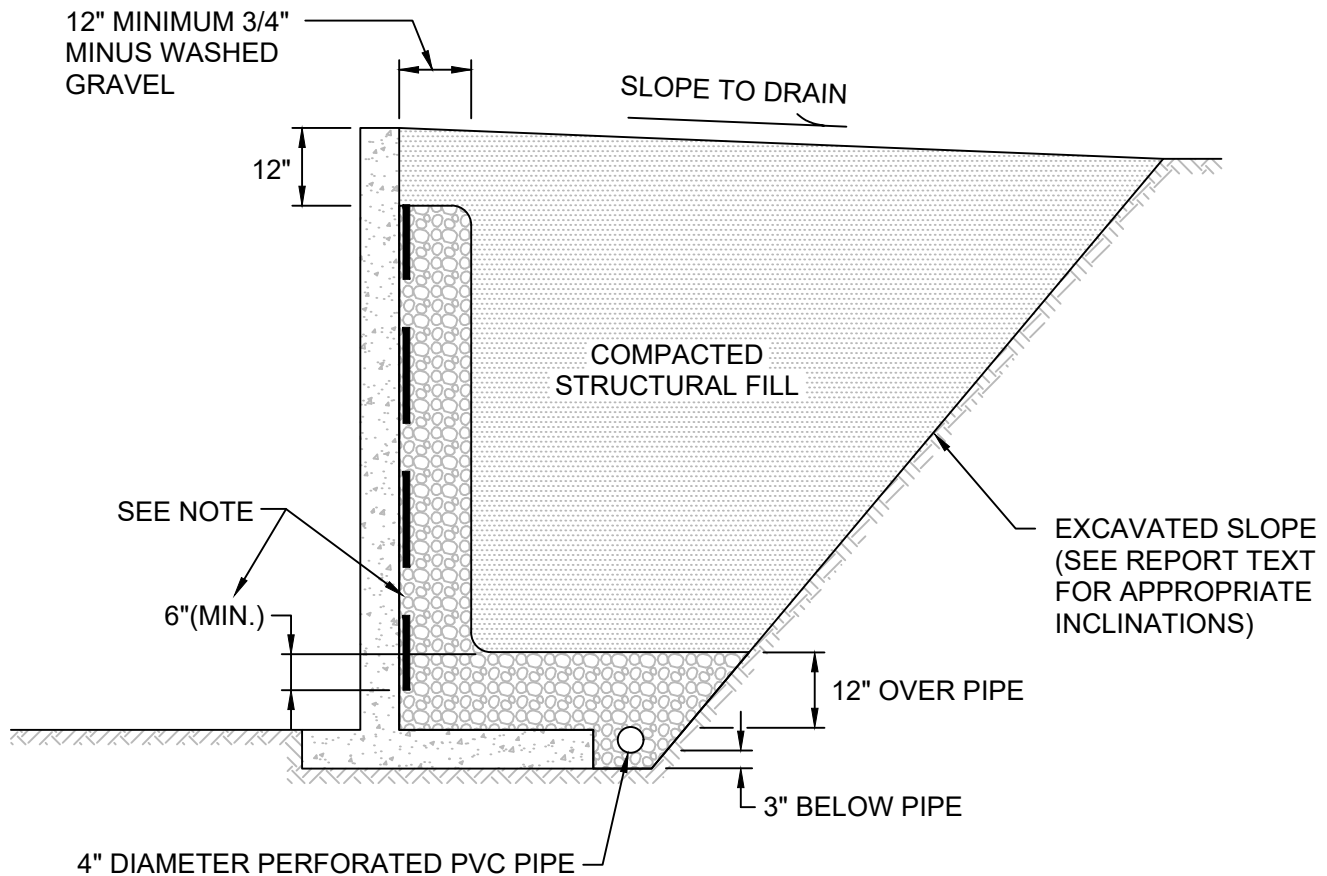
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Geology and  
Environmental Earth Sciences

TYPICAL INTERCEPTOR DRAIN  
ARLINGTON 360  
ARLINGTON, WASHINGTON

Proj.No. T-9011

Date: APR 2025

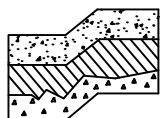
Figure 3



### **NOT TO SCALE**

#### **NOTE:**

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.



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**TYPICAL WALL DRAINAGE DETAIL**  
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Proj.No. T-9011

Date: APR 2025

Figure 4

**APPENDIX A**  
**FIELD EXPLORATION AND LABORATORY TESTING**

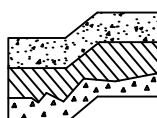
**Arlington 360**  
**Arlington, Washington**

On April 22, 2024, through April 24, 2024, we explored subsurface conditions at the site at 9 test borings advanced with a hollow-stem auger to maximum depths of approximately 50 feet below existing site grades. The test boring locations are shown on Figure 2. The test boring locations were approximately determined in the field using GPS coordinates derived from Google Earth. The Test Boring Logs are presented on Figures A-2 and A-10.

A geotechnical engineer from our office conducted the field exploration. Our representative classified the soil conditions encountered, maintained a log of each test boring, obtained representative soil samples, and recorded water levels observed during subsurface exploration. During drilling, soil samples were obtained in general accordance with ASTM Test Designation D-1586. Using this procedure, a two-inch (outside diameter) split barrel sampler is driven into the ground 18 inches using a 140-pound hammer free falling a height of 30 inches. The number of blows required to drive the sampler 12 inches after an initial 6-inch set is referred to as the Standard Penetration Resistance value or N value. This is an index related to the consistency of cohesive soils and relative density of cohesionless materials. N values obtained for each sampling interval are recorded on the Test Boring Logs. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS) described on Figure A-1.

Representative soil samples obtained from the test borings were placed in sealed plastic bags and taken to our laboratory for further examination and testing. The moisture content of each sample was measured and is reported on the Test Boring Logs. Grain size analyses were performed on selected samples. The results of the grain size analyses are shown on Figures A-11 and A-12.



| MAJOR DIVISIONS                                                                                                                                                                                          |                                                                                                                                                         |                                    | LETTER SYMBOL                                                                                                                                                                                                                                                                                                                                                                                                                 | TYPICAL DESCRIPTION                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| COARSE GRAINED SOILS<br><br>More than 50% material larger than No. 200 sieve size                                                                                                                        | GRAVELS<br>More than 50% of coarse fraction is larger than No. 4 sieve                                                                                  | Clean Gravels (less than 5% fines) | GW                                                                                                                                                                                                                                                                                                                                                                                                                            | Well-graded gravels, gravel-sand mixtures, little or no fines.    |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | GP                                                                                                                                                                                                                                                                                                                                                                                                                            | Poorly-graded gravels, gravel-sand mixtures, little or no fines.  |
|                                                                                                                                                                                                          |                                                                                                                                                         | Gravels with fines                 | GM                                                                                                                                                                                                                                                                                                                                                                                                                            | Silty gravels, gravel-sand-silt mixtures, non-plastic fines.      |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | GC                                                                                                                                                                                                                                                                                                                                                                                                                            | Clayey gravels, gravel-sand-clay mixtures, plastic fines.         |
|                                                                                                                                                                                                          | SANDS<br>More than 50% of coarse fraction is smaller than No. 4 sieve                                                                                   | Clean Sands (less than 5% fines)   | SW                                                                                                                                                                                                                                                                                                                                                                                                                            | Well-graded sands, sands with gravel, little or no fines.         |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | SP                                                                                                                                                                                                                                                                                                                                                                                                                            | Poorly-graded sands, sands with gravel, little or no fines.       |
|                                                                                                                                                                                                          |                                                                                                                                                         | Sands with fines                   | SM                                                                                                                                                                                                                                                                                                                                                                                                                            | Silty sands, sand-silt mixtures, non-plastic fines.               |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | SC                                                                                                                                                                                                                                                                                                                                                                                                                            | Clayey sands, sand-clay mixtures, plastic fines.                  |
| FINE GRAINED SOILS<br><br>More than 50% material smaller than No. 200 sieve size                                                                                                                         | SILTS AND CLAYS<br>Liquid Limit is less than 50%                                                                                                        |                                    | ML                                                                                                                                                                                                                                                                                                                                                                                                                            | Inorganic silts, rock flour, clayey silts with slight plasticity. |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | CL                                                                                                                                                                                                                                                                                                                                                                                                                            | Inorganic clays of low to medium plasticity. (Lean clay)          |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | OL                                                                                                                                                                                                                                                                                                                                                                                                                            | Organic silts and organic clays of low plasticity.                |
|                                                                                                                                                                                                          | SILTS AND CLAYS<br>Liquid Limit is greater than 50%                                                                                                     |                                    | MH                                                                                                                                                                                                                                                                                                                                                                                                                            | Inorganic silts, elastic.                                         |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | CH                                                                                                                                                                                                                                                                                                                                                                                                                            | Inorganic clays of high plasticity. (Fat clay)                    |
|                                                                                                                                                                                                          |                                                                                                                                                         |                                    | OH                                                                                                                                                                                                                                                                                                                                                                                                                            | Organic clays of high plasticity.                                 |
| HIGHLY ORGANIC SOILS                                                                                                                                                                                     |                                                                                                                                                         |                                    | PT                                                                                                                                                                                                                                                                                                                                                                                                                            | Peat.                                                             |
| DEFINITION OF TERMS AND SYMBOLS                                                                                                                                                                          |                                                                                                                                                         |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   |
| COHESIONLESS                                                                                                                                                                                             | <u>Density</u>                                                                                                                                          |                                    |  2" OUTSIDE DIAMETER SPILT SPOON SAMPLER<br><br> 2.4" INSIDE DIAMETER RING SAMPLER OR SHELBY TUBE SAMPLER<br><br> WATER LEVEL (Date)<br><br>Tr TORVANE READINGS, tsf |                                                                   |
|                                                                                                                                                                                                          | <u>Standard Penetration Resistance in Blows/Foot</u><br><br>Very Loose 0-4<br>Loose 4-10<br>Medium Dense 10-30<br>Dense 30-50<br>Very Dense >50         |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   |
| COHESIVE                                                                                                                                                                                                 | <u>Consistency</u>                                                                                                                                      |                                    | Pp PENETROMETER READING, tsf<br><br>DD DRY DENSITY, pounds per cubic foot<br><br>LL LIQUID LIMIT, percent<br><br>PI PLASTIC INDEX<br><br>N STANDARD PENETRATION, blows per foot                                                                                                                                                                                                                                               |                                                                   |
|                                                                                                                                                                                                          | <u>Standard Penetration Resistance in Blows/Foot</u><br><br>Very Soft 0-2<br>Soft 2-4<br>Medium Stiff 4-8<br>Stiff 8-16<br>Very Stiff 16-32<br>Hard >32 |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   |
|  <b>Terra Associates, Inc.</b><br>Consultants in Geotechnical Engineering<br>Geology and Environmental Earth Sciences |                                                                                                                                                         |                                    | UNIFIED SOIL CLASSIFICATION SYSTEM<br>ARLINGTON 360<br>ARLINGTON, WASHINGTON                                                                                                                                                                                                                                                                                                                                                  |                                                                   |
| Proj.No. T-9011                                                                                                                                                                                          |                                                                                                                                                         |                                    | Date: APR 2025                                                                                                                                                                                                                                                                                                                                                                                                                | Figure A-1                                                        |

LOG OF BORING NO. B-101

Figure No. A-2

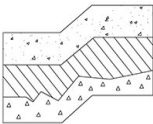
Project: Arlington 360 Project No: T-9011 Date Drilled: April 22, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -8 ft, -36 ft, -41 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                                            | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well |
|------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|-----------------|
|            |                 |                                                                                                                                                                             |                                  | 10                      | 30 | 50 |                         |                 |
| 0          |                 | Gray silty SAND with gravel, fine to coarse sand, fine to coarse gravel, moist, mottled, occasional rootlet, occasional small-sized organic fragment. (SM) (Lodgement Till) | Dense                            |                         |    |    |                         |                 |
| 5          |                 |                                                                                                                                                                             |                                  |                         |    |    |                         |                 |
| 10         |                 | Gray silty SAND, fine to medium sand, wet, oxidized, occasional gravel, occasional silt seam. (SM) (Olympia Sand)                                                           | Medium Dense                     |                         |    |    |                         |                 |
| 15         |                 |                                                                                                                                                                             |                                  |                         |    |    |                         |                 |
| 20         |                 |                                                                                                                                                                             |                                  |                         |    |    |                         |                 |
| 25         |                 |                                                                                                                                                                             |                                  |                         |    |    |                         |                 |
|            |                 | *Interbedded silt layers observed*                                                                                                                                          |                                  |                         |    |    |                         |                 |
|            |                 | *Continued on Next Page*                                                                                                                                                    |                                  |                         |    |    |                         |                 |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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LOG OF BORING NO. B-101

Figure No. A-2

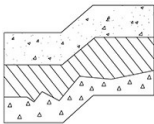
Project: Arlington 360 Project No: T-9011 Date Drilled: April 22, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -8 ft, -36 ft, -41 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                                                                                        | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well |
|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|-----------------|
|            |                 |                                                                                                                                                                                                                         |                                  | 10                      | 30 | 50 |                         |                 |
| 30         |                 | Bluish-gray SILT, moist to wet, laminated. (ML)<br>(Olympia Fine-Grained)                                                                                                                                               | Very Stiff                       |                         | •  | 27 | 27.5                    |                 |
| 35         |                 | *Locally blocky structure, scattered inundated sand<br>with silt inclusions observed in sample*                                                                                                                         | Hard                             |                         | •  | 30 | 28.8                    |                 |
| 40         |                 | *Slightly blocky structure, scattered inundated sand<br>with silt inclusions observed in sample*                                                                                                                        | Very Stiff                       |                         | •  | 27 | 30.7                    |                 |
| 45         |                 | *Slightly blocky structure, scattered sand with silt<br>inclusions observed in sample*                                                                                                                                  |                                  |                         | •  | 21 | 30.5                    |                 |
| 50         |                 |                                                                                                                                                                                                                         | Hard                             |                         |    | 51 | 30.6                    |                 |
| 55         |                 | Test Boring terminated at approximately 50 feet.<br><br>Perched groundwater seepage observed at<br>approximately 8 feet, 36 feet, and 41 feet.<br><br>Test Boring converted to monitoring well with Well ID<br>BPG 819. |                                  |                         |    |    |                         |                 |

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LOG OF BORING NO. B-102

Figure No. A-3

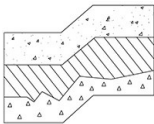
Project: Arlington 360 Project No: T-9011 Date Drilled: April 22, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: 18 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                        | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |
|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|
|            |                 |                                                                                                                         |                                  | 10                      | 30 | 50 |                         |
| 0          |                 | Gray sandy SILT with gravel, fine to coarse sand, fine to coarse gravel, moist, mottled. (ML) (Lodgement Till)          | Dense                            |                         |    |    |                         |
| 5          |                 |                                                                                                                         |                                  |                         |    | 38 | 14.1                    |
| 10         |                 | *Occasional small-sized organic fragments observed in sample*                                                           | Very Dense                       |                         |    | 79 | 8.9                     |
| 15         |                 |                                                                                                                         |                                  |                         |    | 21 | 16.8<br>11.7            |
| 20         |                 | Gray SAND with silt, fine to medium sand, moist to wet, occasionally oxidized, trace silt seams. (SP-SM) (Olympia Sand) | Medium Dense                     |                         |    | 20 | 22.9                    |
| 25         |                 |                                                                                                                         |                                  |                         |    | 26 | 21.4                    |
| 30         |                 | Gray silty SAND, fine to medium sand, wet, occasionally oxidized, trace silt seams. (SM) (Olympia Sand)                 |                                  |                         |    | 28 | 27.2                    |
|            |                 | *Continued on Next Page*                                                                                                |                                  |                         |    |    |                         |

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LOG OF BORING NO. B-102

Figure No. A-3

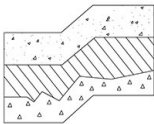
Project: Arlington 360 Project No: T-9011 Date Drilled: April 22, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: 18 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                               | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |
|------------|-----------------|----------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|
|            |                 |                                                                                                                |                                  | 10                      | 30 | 50 |                         |
| 35         |                 | Gray silty SAND, fine to medium sand, wet, occasionally oxidized, trace silt seams. (SM) (Olympia Sand)        | Dense                            |                         | •  | 31 | 26.3                    |
| 40         |                 | Gray SILT, moist, laminated, occasional oxidized lamination, occasional sand with silt seam. (ML)              | Hard                             |                         | •  | 38 | 29.5                    |
| 45         |                 | Gray sandy SILT, fine sand, moist to wet, trace sand with silt layers. (ML)                                    | Dense                            |                         | •  | 38 | 29.5                    |
| 50         |                 | Gray SILT, moist, massive, interbedded sandy silt layers. (ML) (Olympia Fine-Grained?)                         | Very Stiff                       | •                       |    | 23 | 28.8                    |
| 55         |                 | Test Boring terminated at approximately 50 feet.<br><br>Groundwater seepage observed at approximately 18 feet. |                                  |                         |    |    |                         |
| 60         |                 |                                                                                                                |                                  |                         |    |    |                         |

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LOG OF BORING NO. B-103

Figure No. A-4

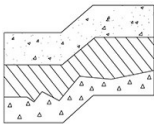
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -13 ft, -28 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |
|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|
|            |                 |                                                                                                                                                 |                                  | 10                      | 30 | 50 |                         |
| 0          |                 | Brown sandy SILT, fine to medium sand, moist, trace rootlets, trace gravel. (ML) (Weathered Till)                                               | Dense                            |                         |    |    |                         |
| 5          |                 | Gray sandy SILT with gravel, fine to medium sand, fine to coarse gravel, dry to moist, mottled. (ML) (Lodgement Till)                           |                                  |                         |    |    | 27.1<br>11.7            |
| 10         |                 | *Interbedded silt layers, sand with silt seams observed in sample*                                                                              | Medium Dense                     |                         |    |    | 13<br>31.4              |
| 15         |                 | Gray SAND with silt, fine to medium sand, moist, occasionally oxidized, trace silt seams. (SP-SM) (Olympia Sand)<br>*Water observed in sampler* |                                  |                         |    |    | 22<br>14.6              |
| 20         |                 |                                                                                                                                                 |                                  |                         |    |    | 28<br>12.3              |
| 25         |                 | Gray SILT, moist, oxidized laminations, massive, occasional sand with silt layer. (ML)<br>*Continued on Next Page*                              | Very Stiff                       |                         |    |    | 21<br>29.3              |

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LOG OF BORING NO. B-103

Figure No. A-4

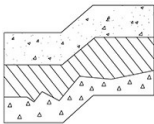
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -13 ft, -28 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                                                     | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |      |
|------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|------|
|            |                 |                                                                                                                                                                                      |                                  | 10                      | 30 | 50 |                         |      |
| 30         |                 | Gray silty SAND, fine to medium sand, wet, occasionally oxidized. (SM) (Olympia Sand)                                                                                                | Dense                            |                         | •  | 34 | 24.2                    |      |
| 35         |                 |                                                                                                                                                                                      |                                  |                         |    |    | 48                      | 21.1 |
| 40         |                 | *Silt seams and fine gravel observed in sample*                                                                                                                                      |                                  |                         | •  |    | 31                      | 25.7 |
| 45         |                 | *Trace silt seams observed in sample*                                                                                                                                                |                                  |                         |    | •  | 40                      | 27.4 |
| 50         |                 | Gray SILT, moist, laminated, oxidized laminations, interbedded and inundated sand with silt layers. (ML) (Olympia Fine-Grained?)                                                     | Hard                             |                         | •  | 36 | 29.3                    |      |
| 55         |                 | Test Boring terminated at approximately 50 feet.<br><br>Perched groundwater seepage observed at approximately 13 feet.<br><br>Groundwater seepage observed at approximately 28 feet. |                                  |                         |    |    |                         |      |

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LOG OF BORING NO. B-104

Figure No. A-5

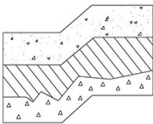
Project: Arlington 360 Project No: T-9011 Date Drilled: April 24, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -20.5 ft, -25.5 ft, -44 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                               | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well |
|------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|-----------------|
|            |                 |                                                                                                                                                                |                                  | 10                      | 30 | 50 |                         |                 |
| 0          |                 | Gray sandy SILT with gravel, fine to medium sand, fine to coarse gravel, moist, mottled, trace small- to medium-sized organic fragments. (ML) (Lodgement Till) | Dense                            |                         |    |    |                         |                 |
| 5          |                 |                                                                                                                                                                |                                  |                         |    |    |                         |                 |
| 10         |                 | Gray silty SAND, fine to medium sand, dry to wet, occasional oxidized, trace silt seams. (SM) (Olympia Sand)                                                   | Medium Dense                     |                         |    |    |                         |                 |
| 15         |                 |                                                                                                                                                                |                                  |                         |    |    |                         |                 |
| 20         |                 |                                                                                                                                                                |                                  |                         |    |    |                         |                 |
| 25         |                 | *9-inch layer of laminated and oxidized silt observed in sample*<br>*Continued on Next Page*                                                                   | Dense                            |                         |    |    |                         |                 |

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LOG OF BORING NO. B-104

Figure No. A-5

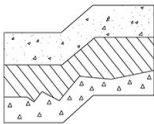
Project: Arlington 360 Project No: T-9011 Date Drilled: April 24, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -20.5 ft, -25.5 ft, -44 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                                                                                       | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well      |
|------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|----------------------|
|            |                 |                                                                                                                                                                                                                        |                                  | 10                      | 30 | 50 |                         |                      |
| 30         |                 | Gray silty SAND, fine to medium sand, dry to wet, occasionally oxidized, trace silt seams. (SM) (Olympia Sand)                                                                                                         | Dense                            |                         |    |    | 47                      | 4.3                  |
| 35         |                 |                                                                                                                                                                                                                        |                                  |                         |    |    | 49                      | 11.6                 |
| 40         |                 | *8-inch layer of laminated and oxidized silt observed in sample*                                                                                                                                                       | Medium Dense                     |                         |    |    | 26                      | 5.6<br>27.1          |
| 45         |                 |                                                                                                                                                                                                                        | Dense                            |                         |    |    | 30                      | 25.7                 |
| 50         |                 | *Interbedded layers of fine silty sand and sandy silt observed in sample*                                                                                                                                              |                                  |                         |    |    | 31                      | 31.0<br>28.3<br>35.3 |
| 55         |                 | Test Boring terminated at approximately 50 feet.<br><br>Perched groundwater seepage observed at approximately 20.5 feet, 25.5 feet, and 44 feet.<br><br>Test Boring converted to monitoring well with Well ID BPG 850. |                                  |                         |    |    |                         |                      |

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LOG OF BORING NO. B-105

Figure No. A-6

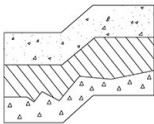
Project: Arlington 360 Project No: T-9011 Date Drilled: April 22, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -10.5 ft, -23 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                               | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |
|------------|-----------------|----------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|
|            |                 |                                                                                                                |                                  | 10                      | 30 | 50 |                         |
| 0          |                 | Brownish-gray sandy SILT with gravel, fine to coarse sand, fine to coarse gravel, moist. (ML) (Weathered Till) | Dense                            |                         |    |    |                         |
| 5          |                 |                                                                                                                |                                  |                         |    |    |                         |
|            |                 | Gray silty SAND, fine to medium sand, moist, mottled, trace gravel. (SM) (Lodgement Till)                      | Medium Dense                     |                         |    |    |                         |
| 10         |                 | *3-inch inundated sand layer observed in sample*                                                               |                                  |                         |    |    |                         |
| 15         |                 | Gray silty SAND, fine sand, moist to wet, occasional oxidized. (SM) (Olympia Sand)                             |                                  |                         |    |    |                         |
| 20         |                 |                                                                                                                |                                  |                         |    |    |                         |
| 25         |                 |                                                                                                                |                                  |                         |    |    |                         |
|            |                 | *Continued on Next Page*                                                                                       |                                  |                         |    |    |                         |

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LOG OF BORING NO. B-105

Figure No. A-6

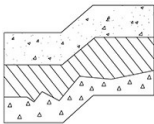
Project: Arlington 360 Project No: T-9011 Date Drilled: April 22, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -10.5 ft, -23 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                       | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |      | Moisture<br>Content (%) |
|------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|------|-------------------------|
|            |                 |                                                                                                                                        |                                  | 10                      | 30 | 50   |                         |
| 30         |                 | Gray silty SAND, fine to medium sand, wet, occasionally oxidized, occasional sandy silt layers, occasional gravel. (SM) (Olympia Sand) | Dense                            |                         |    | • 36 | 29.4                    |
| 35         |                 |                                                                                                                                        | Very Dense                       |                         |    | • 51 | 27.4                    |
| 40         |                 |                                                                                                                                        | Dense                            |                         |    | • 47 | 26.4                    |
| 45         |                 |                                                                                                                                        | Very Dense                       |                         |    | • 55 | 23.8<br>28.3            |
|            |                 | Gray sandy SILT, moist to wet, fine to medium sand. (ML)                                                                               |                                  |                         |    |      |                         |
|            |                 | Gray SILT, moist, laminated, interbedded sand with silt and sandy silt seams. (ML) (Olympia Fine-Grained?)                             | Hard                             |                         |    |      |                         |
| 50         |                 |                                                                                                                                        |                                  |                         |    | • 62 | 29.1                    |
|            |                 | Test Boring terminated at approximately 50 feet.                                                                                       |                                  |                         |    |      |                         |
|            |                 | Perched groundwater seepage observed at approximately 10.5 feet.                                                                       |                                  |                         |    |      |                         |
| 55         |                 | Groundwater seepage observed at approximately 23 feet.                                                                                 |                                  |                         |    |      |                         |

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LOG OF BORING NO. B-106

Figure No. A-7

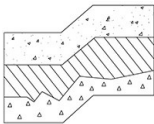
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -39 ft, -44 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                       | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |
|------------|-----------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|
|            |                 |                                                                                                                        |                                  | 10                      | 30 | 50 |                         |
| 0          |                 | Brown sandy SILT with gravel, fine to coarse sand, fine to coarse gravel, moist, trace rootlets. (ML) (Weathered Till) |                                  |                         |    |    |                         |
| 5          |                 | Gray silty SAND with gravel, fine to medium sand, fine to coarse gravel, moist. (SM) (Lodgement Till)                  |                                  |                         | •  | 27 | 14.2                    |
|            |                 | Gray silty SAND, fine to medium sand, moist, occasionally oxidized, trace silt seams. (SM) (Olympia Sand)              |                                  |                         |    |    | 17.4                    |
| 10         |                 |                                                                                                                        |                                  | •                       |    | 11 | 21.7                    |
| 15         |                 |                                                                                                                        | Medium Dense                     | •                       |    | 14 | 18.9                    |
| 20         |                 |                                                                                                                        |                                  | •                       |    | 17 | 20.6                    |
| 25         |                 |                                                                                                                        |                                  | •                       |    | 18 | 24.5                    |
|            |                 | Gray SILT, moist, laminated, interbedded sand with silt seams. (ML)                                                    |                                  |                         |    |    | 27.5                    |
|            |                 | *Continued on Next Page*                                                                                               |                                  |                         |    |    |                         |

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LOG OF BORING NO. B-106

Figure No. A-7

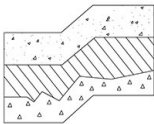
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -39 ft, -44 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                 | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |      |
|------------|-----------------|------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|------|
|            |                 |                                                                                                                  |                                  | 10                      | 30 | 50 |                         |      |
| 30         |                 | Gray silty SAND, fine to medium sand, moist to wet, occasionally oxidized, trace silt seams. (SM) (Olympia Sand) | Medium Dense                     |                         |    |    | 21                      | 15.6 |
| 35         |                 |                                                                                                                  | Dense                            |                         |    |    | 37                      | 16.6 |
| 40         |                 | *Interbedded silt layers observed in sample*                                                                     | Medium Dense                     |                         |    |    | 27                      | 29.6 |
| 45         |                 | *Interbedded silt layers observed in sample*                                                                     | Dense                            |                         |    |    | 32                      | 31.7 |
| 50         |                 | Gray SILT, moist, laminated. (ML) (Olympa Fine-Grained?)                                                         | Very Dense                       |                         |    |    | 55                      | 29.4 |
|            |                 |                                                                                                                  | Hard                             |                         |    |    |                         | 30.6 |
|            |                 | Test Boring terminated at approximately 50 feet.                                                                 |                                  |                         |    |    |                         |      |
|            |                 | Perched groundwater seepage observed at approximately 39 feet.                                                   |                                  |                         |    |    |                         |      |
| 55         |                 | Groundwater seepage observed at approximately 44 feet.                                                           |                                  |                         |    |    |                         |      |

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LOG OF BORING NO. B-107

Figure No. A-8

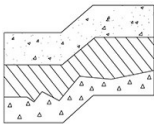
Project: Arlington 360 Project No: T-9011 Date Drilled: April 24, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: NA Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                               | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well |
|------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|-----------------|
|            |                 |                                                                                                                                                |                                  | 10                      | 30 | 50 |                         |                 |
| 0          |                 | Gray sandy SILT with gravel, fine to medium sand, fine to coarse gravel, moist, mottled, occasional sand with silt seam. (ML) (Lodgement Till) | Dense                            |                         |    |    |                         |                 |
| 5          |                 |                                                                                                                                                |                                  |                         |    |    |                         |                 |
| 10         |                 | Gray silty SAND, fine to medium sand, moist, oxidized, trace silt seams. (SM) (Olympia Sand)                                                   | Medium Dense                     |                         |    |    |                         |                 |
| 15         |                 |                                                                                                                                                |                                  |                         |    |    |                         |                 |
| 20         |                 |                                                                                                                                                |                                  |                         |    |    |                         |                 |
| 25         |                 |                                                                                                                                                | Dense                            |                         |    |    |                         |                 |
|            |                 | *Continued on Next Page*                                                                                                                       |                                  |                         |    |    |                         |                 |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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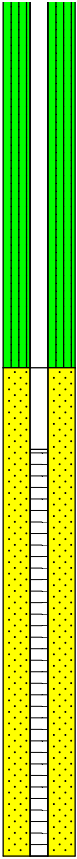
LOG OF BORING NO. B-107

Figure No. A-8

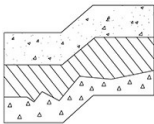
Project: Arlington 360 Project No: T-9011 Date Drilled: April 24, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: NA Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                                               | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well                                                                      |
|------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|--------------------------------------------------------------------------------------|
|            |                 |                                                                                                                                                                |                                  | 10                      | 30 | 50 |                         |                                                                                      |
| 30         |                 | Gray silty SAND, fine to medium sand, dry to moist, oxidized, trace silt seams. (SM) (Olympia Sand)                                                            | Medium Dense                     |                         | •  | 27 | 10.9                    |  |
| 35         |                 |                                                                                                                                                                |                                  |                         | •  | 34 | 9.5                     |                                                                                      |
| 40         |                 |                                                                                                                                                                | Dense                            |                         | •  | 47 | 8.4                     |                                                                                      |
| 45         |                 |                                                                                                                                                                |                                  |                         | •  | 46 | 10.7                    |                                                                                      |
| 50         |                 |                                                                                                                                                                | Very Dense                       |                         | •  | 52 | 16.7                    |                                                                                      |
| 55         |                 | Test Boring terminated at approximately 50 feet.<br><br>No groundwater seepage observed.<br><br>Test Boring converted to monitoring well with Well ID BPG 916. |                                  |                         |    |    |                         |                                                                                      |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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LOG OF BORING NO. B-108

Figure No. A-9

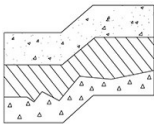
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: 5 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                                    | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |
|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|
|            |                 |                                                                                                                                     |                                  | 10                      | 30 | 50 |                         |
| 0          |                 |                                                                                                                                     |                                  |                         |    |    |                         |
| 5          |                 | Brown silty SAND with gravel, fine to coarse sand, fine to coarse gravel, moist to wet, trace rootlets. (SM) (Weathered Till)       | Very Dense                       |                         |    |    |                         |
|            |                 | Gray silty SAND to silty SAND with gravel, fine to medium sand, fine to coarse gravel, dry to moist, mottled. (SM) (Lodgement Till) |                                  |                         |    |    |                         |
| 10         |                 | Gray SAND with silt, fine to medium sand, moist, oxidized, trace seams. (SP-SM) (Olympia Sand)                                      | Medium Dense                     |                         |    |    |                         |
| 15         |                 |                                                                                                                                     |                                  |                         |    |    |                         |
| 20         |                 |                                                                                                                                     | Dense                            |                         |    |    |                         |
| 25         |                 |                                                                                                                                     |                                  |                         |    |    |                         |
|            |                 | *Continued on Next Page*                                                                                                            |                                  |                         |    |    |                         |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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LOG OF BORING NO. B-108

Figure No. A-9

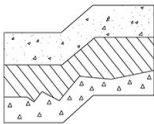
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: 5 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                            | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) |      |     |
|------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|------|-----|
|            |                 |                                                                                                                             |                                  | 10                      | 30 | 50 |                         |      |     |
| 30         |                 | Gray SAND with silt, fine to medium sand, dry to moist, occasionally oxidized, occasional silt seam. (SP-SM) (Olympia Sand) | Dense                            |                         |    |    | 39                      | 6.7  |     |
| 35         |                 |                                                                                                                             |                                  |                         |    |    |                         | 49   | 5.6 |
| 40         |                 |                                                                                                                             |                                  |                         |    |    |                         | 48   | 8.8 |
| 45         |                 |                                                                                                                             | Very Dense                       |                         |    |    |                         | 56   | 8.5 |
| 50         |                 | Test Boring terminated at approximately 50 feet.<br>Perched groundwater observed at approximately 5 feet.                   |                                  |                         |    |    | 50                      | 13.4 |     |
| 55         |                 |                                                                                                                             |                                  |                         |    |    |                         |      |     |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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LOG OF BORING NO. B-109

Figure No. A-10

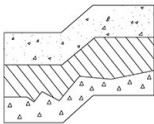
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -30.5 ft, -38 ft Approx. Elev: NA

| Depth (ft) | Sample Interval | Soil Description                                                                                                            | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |    | Moisture<br>Content (%) | Observ.<br>Well |
|------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----|-------------------------|-----------------|
|            |                 |                                                                                                                             |                                  | 10                      | 30 | 50 |                         |                 |
| 0          |                 | Gray sandy SILT, fine to coarse sand, moist, mottled, trace fine gravel. (ML) (Lodgement Till)                              |                                  |                         |    |    |                         |                 |
| 5          |                 | *Approximately 2 inches of wet sandy silt with scattered rootlets observed at top of sample*                                | Very Dense                       |                         |    | 63 | 12.8                    |                 |
| 10         |                 | Gray SAND with silt, fine to medium sand, dry to moist, occasionally oxidized, occasional silt seam. (SP-SM) (Olympia Sand) | Dense                            |                         |    | 42 | 43.0<br>11.4            |                 |
| 15         |                 |                                                                                                                             | Medium Dense                     |                         |    | 26 | 10.8                    |                 |
| 20         |                 |                                                                                                                             | Dense                            |                         |    | 30 | 15.8                    |                 |
| 25         |                 |                                                                                                                             |                                  |                         |    | 36 | 19.4                    |                 |
|            |                 | *Continued on Next Page*                                                                                                    |                                  |                         |    |    |                         |                 |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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LOG OF BORING NO. B-109

Figure No. A-10

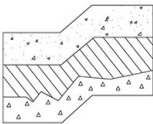
Project: Arlington 360 Project No: T-9011 Date Drilled: April 23, 2024

Client: Land Pro Group Driller: BoreTec1 Logged By: MJX

Location: Arlington, Washington Depth to Groundwater: -30.5 ft, -38 ft Approx. Elev: NA

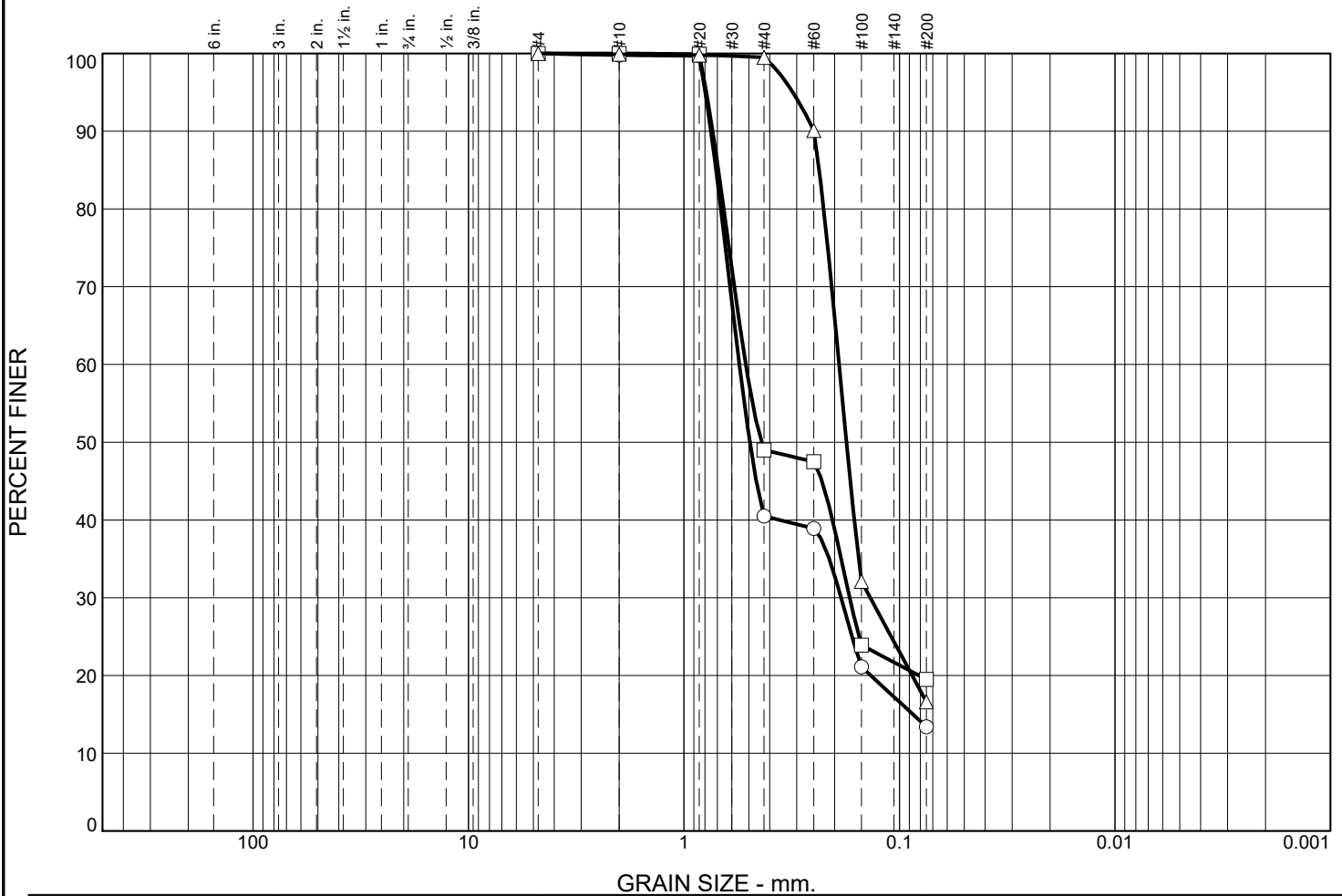
| Depth (ft) | Sample Interval | Soil Description                                                                                                                                                                                                                        | Consistency/<br>Relative Density | SPT (N)<br>Blows / foot |    |          | Moisture<br>Content (%) | Observ.<br>Well |
|------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|----------|-------------------------|-----------------|
|            |                 |                                                                                                                                                                                                                                         |                                  | 10                      | 30 | 50       |                         |                 |
| 30         |                 | Gray SILT, moist, laminated, occasional inundated sand with silt layer. (ML)                                                                                                                                                            | Hard                             |                         |    | • 35     | 31.1                    |                 |
| 35         |                 | Gray sandy SILT, fine to medium sand, wet, some oxidation, occasional fine gravel, occasional silt layer. (ML)                                                                                                                          | Dense                            |                         |    | • 41     | 29.4                    |                 |
| 40         |                 |                                                                                                                                                                                                                                         | Very Dense                       |                         |    | • 88/11" | 30.1                    |                 |
| 45         |                 |                                                                                                                                                                                                                                         | Dense                            |                         |    | • 41     | 28.5                    |                 |
| 50         |                 | Bluish-gray silty SAND, fine to medium sand, wet, occasional silt seam. (SM)                                                                                                                                                            |                                  |                         |    | • 36     | 25.4                    |                 |
| 55         |                 | Test Boring terminated at approximately 50 feet. Perched groundwater seepage observed at approximately 30.5 feet. Groundwater seepage observed at approximately 38 feet. Test Boring converted to monitoring well with Well ID BPG 849. |                                  |                         |    |          |                         |                 |

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site



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# Particle Size Distribution Report



|   | % +3" | % Gravel |      | % Sand |        |      | % Fines |      |
|---|-------|----------|------|--------|--------|------|---------|------|
|   |       | Coarse   | Fine | Coarse | Medium | Fine | Silt    | Clay |
| ○ | 0.0   | 0.0      | 0.0  | 0.2    | 59.3   | 27.1 | 13.4    |      |
| □ | 0.0   | 0.0      | 0.0  | 0.0    | 51.0   | 29.5 | 19.5    |      |
| △ | 0.0   | 0.0      | 0.0  | 0.1    | 0.4    | 82.9 | 16.6    |      |

|   | LL | PL | D <sub>85</sub> | D <sub>60</sub> | D <sub>50</sub> | D <sub>30</sub> | D <sub>15</sub> | D <sub>10</sub> | C <sub>c</sub> | C <sub>u</sub> |
|---|----|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|
| ○ |    |    | 0.7101          | 0.5535          | 0.4948          | 0.1865          | 0.0866          |                 |                |                |
| □ |    |    | 0.6929          | 0.5170          | 0.4368          | 0.1702          |                 |                 |                |                |
| △ |    |    | 0.2359          | 0.1906          | 0.1762          | 0.1366          |                 |                 |                |                |

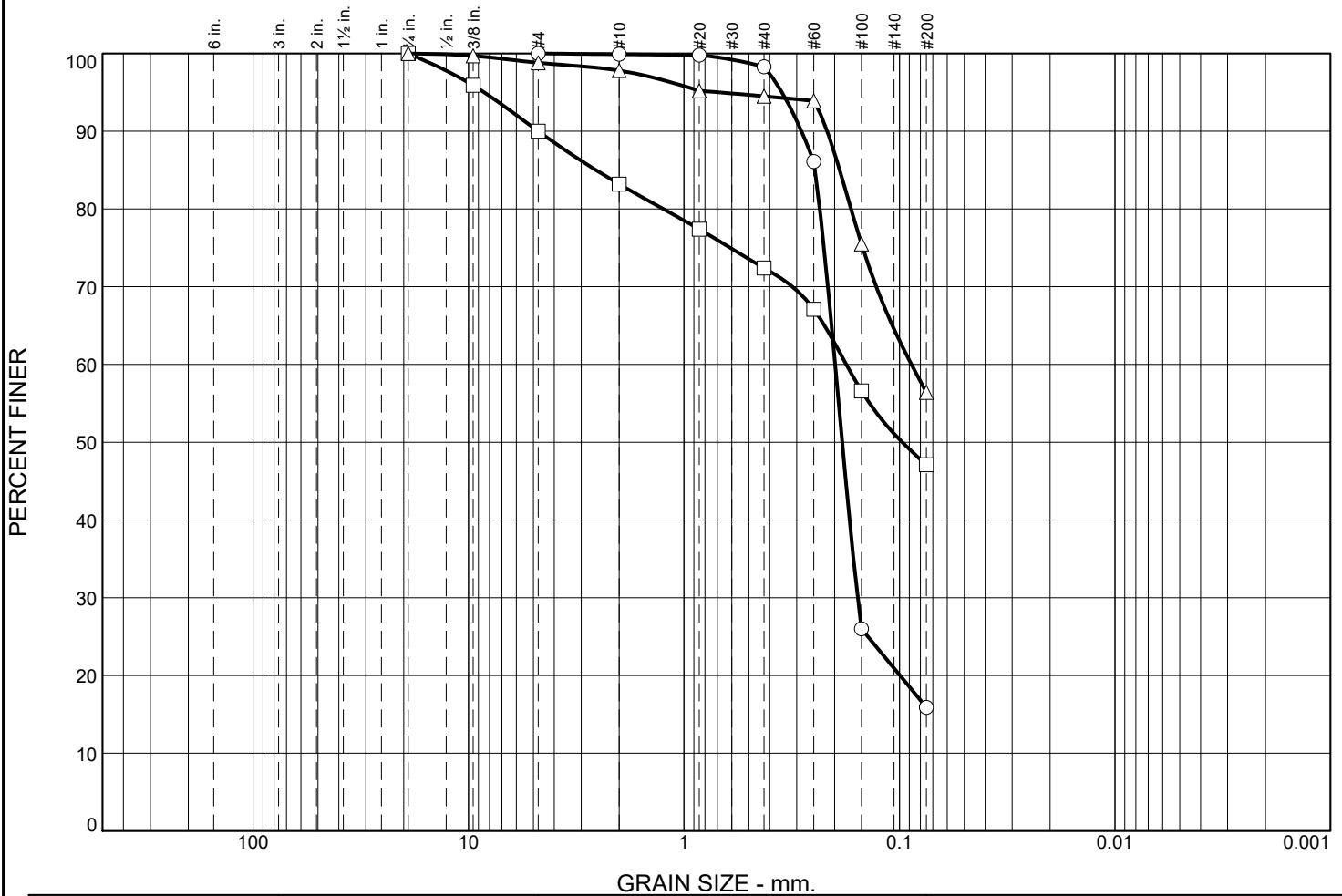
| Material Description |  |  |  |  |  |  | USCS | AASHTO |
|----------------------|--|--|--|--|--|--|------|--------|
| ○ silty SAND         |  |  |  |  |  |  | SM   |        |
| □ silty SAND         |  |  |  |  |  |  | SM   |        |
| △ silty SAND         |  |  |  |  |  |  | SM   |        |

|                                                                                          |                      |                         |                                                                                                  |  |  |
|------------------------------------------------------------------------------------------|----------------------|-------------------------|--------------------------------------------------------------------------------------------------|--|--|
| <b>Project No.</b> T-9011 <b>Client:</b> Land Pro Group<br><b>Project:</b> Arlington 360 |                      |                         | <b>Remarks:</b><br>○ Tested on May 1, 2024<br>□ Tested on May 1, 2024<br>△ Tested on May 1, 2024 |  |  |
| ○ <b>Location:</b> Test Boring B-103                                                     | <b>Depth:</b> -30 ft | <b>Sample Number:</b> 7 | <b>Terra Associates, Inc.</b><br><br><b>Kirkland, WA</b>                                         |  |  |
| □ <b>Location:</b> Test Boring B-103                                                     | <b>Depth:</b> -35 ft | <b>Sample Number:</b> 8 |                                                                                                  |  |  |
| △ <b>Location:</b> Test Boring B-105                                                     | <b>Depth:</b> -20 ft | <b>Sample Number:</b> 4 |                                                                                                  |  |  |

Figure A-11

Tested By: KJ

# Particle Size Distribution Report



|   | % +3" |    | % Gravel        |                 | % Sand          |                 |                 | % Fines         |                |                |
|---|-------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|
|   |       |    | Coarse          | Fine            | Coarse          | Medium          | Fine            | Silt            |                | Clay           |
| ○ | 0.0   |    | 0.0             | 0.0             | 0.1             | 1.6             | 82.4            | 15.9            |                |                |
| □ | 0.0   |    | 0.0             | 10.0            | 6.8             | 10.8            | 25.3            | 47.1            |                |                |
| △ | 0.0   |    | 0.0             | 1.2             | 1.0             | 3.3             | 38.1            | 56.4            |                |                |
| ⊗ | LL    | PL | D <sub>85</sub> | D <sub>60</sub> | D <sub>50</sub> | D <sub>30</sub> | D <sub>15</sub> | D <sub>10</sub> | C <sub>c</sub> | C <sub>u</sub> |
| ○ |       |    | 0.2468          | 0.1988          | 0.1843          | 0.1562          |                 |                 |                |                |
| □ |       |    | 2.5616          | 0.1764          | 0.0971          |                 |                 |                 |                |                |
| △ |       |    | 0.1894          | 0.0880          |                 |                 |                 |                 |                |                |

| Material Description |  |  |  |  |  |  | USCS | AASHTO |
|----------------------|--|--|--|--|--|--|------|--------|
| ○ silty SAND         |  |  |  |  |  |  | SM   |        |
| □ sandy SILT         |  |  |  |  |  |  | ML   |        |
| △ sandy SILT         |  |  |  |  |  |  | ML   |        |

|                               |                                    |                      |                               |  |  |                                                                                                                                                                                                  |
|-------------------------------|------------------------------------|----------------------|-------------------------------|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project No.</b> T-9011     |                                    |                      | <b>Client:</b> Land Pro Group |  |  | <b>Remarks:</b><br><div><input type="radio"/> Tested on May 1, 2024</div> <div><input type="checkbox"/> Tested on May 1, 2024</div> <div><input type="triangle-up"/> Tested on May 1, 2024</div> |
| <b>Project:</b> Arlington 360 |                                    |                      |                               |  |  |                                                                                                                                                                                                  |
| <input type="radio"/>         | <b>Location:</b> Test Boring B-107 | <b>Depth:</b> -20 ft | <b>Sample Number:</b> 5       |  |  |                                                                                                                                                                                                  |
| <input type="checkbox"/>      | <b>Location:</b> Test Boring B-109 | <b>Depth:</b> -5 ft  | <b>Sample Number:</b> 1       |  |  |                                                                                                                                                                                                  |
| <input type="triangle-up"/>   | <b>Location:</b> Test Boring B-109 | <b>Depth:</b> -40 ft | <b>Sample Number:</b> 9       |  |  |                                                                                                                                                                                                  |
| <b>Terra Associates, Inc.</b> |                                    |                      |                               |  |  | <b>Figure</b> A-12                                                                                                                                                                               |
| <b>Kirkland, WA</b>           |                                    |                      |                               |  |  |                                                                                                                                                                                                  |

Tested By: KJ

**APPENDIX B**

**TEST PIT AND TEST BORING LOGS BY OTHERS**



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## Exploration Pit

## EP-1

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023  
Total Depth (ft): 16

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                     | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 443 ft NAVD88                                                                                            |      |
| 0          | <b>Forest Duff - 6 inch</b>                                                                                     |      |
|            | <b>Vashon Lodgement Till</b>                                                                                    |      |
|            | Loose to medium dense, orangish brown, silty, fine SAND, some gravel; occasional cobbles (SM).                  |      |
|            | Medium dense, mottled orangish brown and tan, silty, fine SAND, some gravel; occasional cobbles; unsorted (SM). |      |
| 5          | Dense, moist, brown, silty, fine SAND, some gravel; unsorted; breaks out in chunks (SM).                        |      |
|            | Becomes very dense.                                                                                             |      |
|            | Becomes wet, zones of minor seepage 8.5 to 11 feet.                                                             |      |
| 10         | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                          |      |
| 15         | Mild reaction with hydrochloric acid.                                                                           |      |
|            | Minor perched seepage at 8.5 feet. No caving.                                                                   |      |
| 20         |                                                                                                                 |      |
| 25         |                                                                                                                 |      |
| 30         |                                                                                                                 |      |
| 35         |                                                                                                                 |      |
| 40         |                                                                                                                 |      |

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## Exploration Pit

## EP-2

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/22/2023

Logged By: PEL

20230078E001

Total Depth (ft): 15

Approved By: JHS

| Depth (ft) | Description                                                                                                     | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 430 ft NAVD88                                                                                            |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                   |      |
|            | <b>Vashon Lodgement Till</b>                                                                                    |      |
|            | Loose to medium dense, moist, orangish brown to reddish brown, silty, fine SAND, some gravel; small roots (SM). |      |
|            | Medium dense to dense, moist, brown, silty, fine SAND, some gravel; unsorted; occasional cobbles (SM).          |      |
| 5          | Becomes dense.                                                                                                  |      |
|            | Becomes wet, zones of minor groundwater seepage at 8 to 9 feet.                                                 |      |
| 10         | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                          |      |
| 15         | Minor perched seepage 8 to 9 feet. No caving.                                                                   |      |
| 20         |                                                                                                                 |      |
| 25         |                                                                                                                 |      |
| 30         |                                                                                                                 |      |
| 35         |                                                                                                                 |      |
| 40         |                                                                                                                 |      |

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## Exploration Pit

## EP-3

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/22/2023

Logged By: PEL

20230078E001

Total Depth (ft): 12

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                                                                                                  | USCS |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 444 ft NAVD88                                                                                                                                                                                                                                                                                                                                                                         |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                                                                                                                                                                                                                |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                                                                                                                                                                                                                                                 |      |
|            | Loose, moist, reddish brown, silty, fine SAND, some gravel; small roots (SM).<br>Medium dense, moist, mottled tan and orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br><br>Becomes dense and brown; breaks off in chunks.<br><br>Becomes very dense, brownish gray.<br><br>Very dense, moist, gray, silty, fine SAND, trace gravel; unsorted (SM).<br><br>Difficult digging. |      |
|            | No seepage. No caving.                                                                                                                                                                                                                                                                                                                                                                       |      |
| 5          |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 10         |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 15         |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 20         |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 25         |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 30         |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 35         |                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 40         |                                                                                                                                                                                                                                                                                                                                                                                              |      |

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2/9/2024

20230078E001



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## Exploration Pit

## EP-4

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/22/2023

Logged By: PEL

20230078E001

Total Depth (ft): 12

Approved By: JHS

| Depth (ft) | Description                                                                                            | USCS |
|------------|--------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 425 ft NAVD88                                                                                   |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                          |      |
|            | <b>Vashon Lodgement Till</b>                                                                           |      |
|            | Loose to medium dense, moist, orangish brown, silty, fine SAND, trace gravel; occasional cobbles (SM). |      |
|            | Dense, moist, brown, silty, fine SAND, some gravel; unsorted; breaks off in chunks (SM).               |      |
| 5          | Becomes very dense.                                                                                    |      |
|            | Becomes brownish gray.                                                                                 |      |
| 10         | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                 |      |
|            | No seepage. No caving.                                                                                 |      |
| 15         |                                                                                                        |      |
| 20         |                                                                                                        |      |
| 25         |                                                                                                        |      |
| 30         |                                                                                                        |      |
| 35         |                                                                                                        |      |
| 40         |                                                                                                        |      |

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2/9/2024

20230078E001





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## Exploration Pit

## EP-5

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 14

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                       | USCS |
|------------|-------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 400 ft NAVD88                                                                                              |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                     |      |
|            | <b>Vashon Lodgement Till</b>                                                                                      |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, trace gravel; unsorted (SM).                               |      |
|            | dense, moist, mottled tan and orangish brown, silty, fine SAND, some gravel; unsorted; breaks off in chunks (SM). |      |
| 5          | Becomes brown.                                                                                                    |      |
|            | Wet at 7 feet.                                                                                                    |      |
|            | Becomes very dense.                                                                                               |      |
| 10         | Gravelly in places.                                                                                               |      |
|            | Becomes brownish gray.                                                                                            |      |
| 15         | Minor perched seepage 7 feet. No caving.                                                                          |      |
| 20         | <b>DRAFT</b>                                                                                                      |      |
| 25         |                                                                                                                   |      |
| 30         |                                                                                                                   |      |
| 35         |                                                                                                                   |      |
| 40         |                                                                                                                   |      |

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## Exploration Pit

## EP-6

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023  
Total Depth (ft): 12

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                                                                                                                                    | USCS |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Forest Duff - 6 inches</b><br><b>Vashon Lodgment Till</b><br>Loose to medium dense, very moist, dark orangish brown, silty, fine SAND, trace gravel; small roots (SM).<br>Medium dense, moist, tan and orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br><br>Becomes dense and brown.<br>Wet at 6 feet.<br>Becomes very dense.<br><br>Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM). |      |
| 5          |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
| 10         |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
| 15         | Minor perched seepage 6 feet. No caving.                                                                                                                                                                                                                                                                                                                                                                                       |      |
| 20         |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
| 25         |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
| 30         |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
| 35         |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
| 40         |                                                                                                                                                                                                                                                                                                                                                                                                                                |      |

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## Exploration Pit

## EP-7

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 16

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                   | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 423 ft NAVD88                                                                                                                                          |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                 |      |
|            | <b>Vashon Recessional Outwash</b>                                                                                                                             |      |
|            | Loose, very moist, dark brown, silty, fine SAND, trace gravel (SM).<br>Becomes medium dense, wet, brown, fine to medium SAND, some silt, some gravel (SP-SM). |      |
| 5          | <b>Vashon Lodgement Till</b>                                                                                                                                  |      |
|            | Dense, moist, brown, silty, fine SAND, some gravel; unsorted (SM).<br>Wet between 4 and 6 feet.<br>Becomes very dense.                                        |      |
| 10         | Becomes brownish gray.                                                                                                                                        |      |
| 15         | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                                                                        |      |
| 20         | Moderate perched seepage 4 to 6 feet; water pooling in base of excavation. No caving.                                                                         |      |
| 25         |                                                                                                                                                               |      |
| 30         |                                                                                                                                                               |      |
| 35         |                                                                                                                                                               |      |
| 40         |                                                                                                                                                               |      |

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## Exploration Pit

## EP-8

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 22

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                            | USCS |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 410 ft NAVD88                                                                                                                                                                                   |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                          |      |
|            | <b>Vashon Recessional Outwash</b><br>Medium dense, moist, orangish brown and brown, fine SAND, some silt, some gravel; small roots; black decomposed roots (SP-SM).                                    |      |
| 5          | <b>Vashon Lodgement Till</b><br>Dense to very dense, moist, brownish gray, silty, fine SAND, some gravel; unsorted; occasional cobbles and boulders; breaks off in chunks (SM).<br>Becomes very dense. |      |
| 10         |                                                                                                                                                                                                        |      |
| 15         | <b>Vashon Advance Outwash - Olympia Sand</b><br>Very dense, moist to very moist, brownish gray, fine SAND, some silt, some gravel; no longer breaking into chunks (SP-SM).                             |      |
| 20         | Becomes fine sand, trace silt; beds of fine sand, some silt; stratified (SP-SM).                                                                                                                       |      |
| 25         | No seepage. No caving.                                                                                                                                                                                 |      |
| 30         |                                                                                                                                                                                                        |      |
| 35         |                                                                                                                                                                                                        |      |
| 40         |                                                                                                                                                                                                        |      |

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## Exploration Pit

## EP-9

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/22/2023

Logged By: PEL

20230078E001

Total Depth (ft): 16

Approved By: JHS

| Depth (ft) | Description                                                                                        | USCS |
|------------|----------------------------------------------------------------------------------------------------|------|
|            | Elev.: 398 ft NAVD88                                                                               |      |
| 0          | <b>Grass/Topsoil - 4 inches</b>                                                                    |      |
|            | <b>Vashon Lodgement Till</b>                                                                       |      |
|            | Loose, moist, dark orangish and reddish brown, silty, fine SAND, trace gravel (SM).                |      |
|            | Medium dense, moist, mottled orangish brown and tan, silty, fine SAND, some gravel; unsorted (SM). |      |
|            | Dense, moist, brown, silty, fine SAND, some gravel; unsorted (SM).                                 |      |
| 5          | Wet at 5 feet.                                                                                     |      |
|            | Becomes very dense, brownish gray.                                                                 |      |
|            | Very dense, moist, gray, silty, fine sand, some gravel; unsorted (SM).                             |      |
| 10         |                                                                                                    |      |
|            | Mild reaction to hydrochloric acid.                                                                |      |
| 15         |                                                                                                    |      |
|            | Moderate perched seepage 5 feet. No caving.                                                        |      |
| 20         |                                                                                                    |      |
| 25         |                                                                                                    |      |
| 30         |                                                                                                    |      |
| 35         |                                                                                                    |      |
| 40         |                                                                                                    |      |

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## Exploration Pit

## EP-10

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 15

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                   | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 404 ft NAVD88                                                                                                                                                                                                                                          |      |
| 0          | <b>Grass/Topsoil - 4 inches</b>                                                                                                                                                                                                                               |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                                                                                                                  |      |
|            | Medium dense, moist, orangish and reddish brown, silty, fine SAND, some gravel (SM).<br>Bed (4 inches thick) of mottled orangish brown and tan, silty, fine SAND.<br>Dense, moist, brown, silty, fine SAND, some gravel; unsorted; breaks out in chunks (SM). |      |
| 5          | Becomes grayish brown; occasional cobbles and boulders.                                                                                                                                                                                                       |      |
|            | Becomes brownish gray.                                                                                                                                                                                                                                        |      |
| 10         | Very dense, moist, brownish gray, fine SAND, some silt, some gravel; interbed of sand within till (SP-SM).                                                                                                                                                    |      |
|            | Very dense, moist, brownish gray, silty, fine SAND, some gravel; unsorted (SM).                                                                                                                                                                               |      |
| 15         | No groundwater. No caving.                                                                                                                                                                                                                                    |      |
| 20         |                                                                                                                                                                                                                                                               |      |
| 25         |                                                                                                                                                                                                                                                               |      |
| 30         |                                                                                                                                                                                                                                                               |      |
| 35         |                                                                                                                                                                                                                                                               |      |
| 40         |                                                                                                                                                                                                                                                               |      |

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## Exploration Pit

## EP-11

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/22/2023

Logged By: PEL

20230078E001

Total Depth (ft): 19

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                        | USCS |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 378 ft NAVD88                                                                                                                                               |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                      |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                       |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel; small roots; unsorted (SM).<br>Becomes dense, brown; breaks off in chunks; occasional cobbles. |      |
| 5          | Occasional manganese staining.                                                                                                                                     |      |
|            | Becomes brownish gray.                                                                                                                                             |      |
|            | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted; mild reaction to hydrochloric acid (SM).                                                         |      |
| 10         | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                       |      |
|            | Very dense, moist, grayish brown, fine SAND, some silt, trace gravel; beds of silty, fine sand; stratified (SP-SM).                                                |      |
| 15         | Occasional mica.                                                                                                                                                   |      |
|            | Becomes fine SAND, trace silt, trace gravel (SP)                                                                                                                   |      |
| 20         | No groundwater. No caving.                                                                                                                                         |      |
| 25         |                                                                                                                                                                    |      |
| 30         |                                                                                                                                                                    |      |
| 35         |                                                                                                                                                                    |      |
| 40         |                                                                                                                                                                    |      |

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## Exploration Pit

## EP-12

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 18

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                        | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 364 ft NAVD88                                                                                                                                                               |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                      |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                                       |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted; small roots (SM).<br>Becomes dense, brown; no roots; breaks off in chunks.                           |      |
| 5          | Becomes dense.                                                                                                                                                                     |      |
| 10         | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                       |      |
|            | Very dense, moist to very moist bands of oxidation, grayish brown, fine SAND, some silt; beds of brown and orangish brown silty, fine SAND; stratified (SP-SM).<br>Wet at 12 feet. |      |
| 15         | Very dense, moist, grayish brown, fine SAND, some silt; laminations of brown silt; mica (SP-SM).                                                                                   |      |
|            | Very dense, moist, grayish brown, fine SAND, trace silt; occasional beds of brownish gray and brown, sandy, silt; interbedded (SP-SM).                                             |      |
| 20         | Perched groundwater 12 feet. No caving.                                                                                                                                            |      |
| 25         |                                                                                                                                                                                    |      |
| 30         |                                                                                                                                                                                    |      |
| 35         |                                                                                                                                                                                    |      |
| 40         |                                                                                                                                                                                    |      |

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## Exploration Pit

## EP-13

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/22/2023

Logged By: PEL

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Total Depth (ft): 19

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                       | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 340 ft NAVD88                                                                                                                                                              |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                     |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                      |      |
|            | Medium dense to dense, moist, orangish brown and tan, silty, fine SAND, some gravel (SM).                                                                                         |      |
|            | Dense, moist, brown to grayish brown to brown, silty, fine SAND, some gravel; interbedded fine SAND, some silt with silty, fine SAND from 6 to 19 feet; contains mica (SM/SP-SM). |      |
| 5          | Becomes very dense, grayish brown.                                                                                                                                                |      |
| 10         |                                                                                                                                                                                   |      |
| 15         |                                                                                                                                                                                   |      |
|            | Brown bands of oxidation and less frequent bedding.                                                                                                                               |      |
| 20         | No seepage. No caving.                                                                                                                                                            |      |
| 25         |                                                                                                                                                                                   |      |
| 30         |                                                                                                                                                                                   |      |
| 35         |                                                                                                                                                                                   |      |
| 40         |                                                                                                                                                                                   |      |

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## Exploration Pit

## EP-14

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 19

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                           | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 328 ft NAVD88                                                                                                                                                                  |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                         |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                          |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel (SM).                                                                                                              |      |
|            | Dense, moist to very moist, grayish brown, fine SAND, some silt; beds and laminations of brown and orangish brown, silty, fine sand, trace gravel; stratified; contains mica (SP-SM). |      |
| 5          |                                                                                                                                                                                       |      |
|            | Wet at 6 feet.                                                                                                                                                                        |      |
|            | Becomes very dense, moist.                                                                                                                                                            |      |
| 10         |                                                                                                                                                                                       |      |
|            | Banded oxidation.                                                                                                                                                                     |      |
| 15         |                                                                                                                                                                                       |      |
|            | Becomes trace silt.                                                                                                                                                                   |      |
|            | Bed (6 inches thick) of sandy, silt; mica.                                                                                                                                            |      |
| 20         | Minor perched seepage 6 feet. No caving.                                                                                                                                              |      |
| 25         |                                                                                                                                                                                       |      |
| 30         |                                                                                                                                                                                       |      |
| 35         |                                                                                                                                                                                       |      |
| 40         |                                                                                                                                                                                       |      |

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## Exploration Pit

## EP-15

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/22/2023

Total Depth (ft): 19

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                              | USCS |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 345 ft NAVD88                                                                                                                                                     |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                            |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                             |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel (SM).<br>Becomes mottled, orangish brown and tan; unsorted.                                           |      |
| 5          | Becomes more dense and brown.                                                                                                                                            |      |
|            | Becomes very dense. Zones of perched groundwater 6 to 7 feet.                                                                                                            |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                             |      |
|            | Very dense, moist, grayish brown, fine SAND, some silt, trace gravel; stratified; occasional mica; beds of fine to medium sand, trace silt and silty, fine sand (SP-SM). |      |
| 10         | Becomes trace silt (SP).                                                                                                                                                 |      |
|            | Occasional dark gray laminations.                                                                                                                                        |      |
| 15         | Banded oxidation.                                                                                                                                                        |      |
| 20         | Perched groundwater 6 to 7 feet. No caving.                                                                                                                              |      |
| 25         |                                                                                                                                                                          |      |
| 30         |                                                                                                                                                                          |      |
| 35         |                                                                                                                                                                          |      |
| 40         |                                                                                                                                                                          |      |

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## Exploration Pit

## EP-16

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 18

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                 | USCS |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Forest Duff - 6 inches</b><br><b>Vashon Advance Outwash - Olympia Sand</b><br>Medium dense, moist, orangish brown, silty, fine SAND, some gravel (SM).<br>Dense, moist, brown, fine SAND, some silt; trace gravel (SP-SM).<br><br>Becomes grayish brown. |      |
| 5          |                                                                                                                                                                                                                                                             |      |
| 10         | Very dense, moist, brownish gray, fine SAND, some silt, trace gravel; contains mica; stratified (SP-SM).<br>Two beds (2 to 3 inches thick) of unsorted, till-like, silty, fine sand, some gravel from 8 to 10 feet.<br>Wet at 8 to 10 feet.                 |      |
| 15         | Beds of fine sand, trace silt.<br><br>Becomes fine sand, trace silt; beds of fine sand, some silt; stratified (SP).                                                                                                                                         |      |
| 20         | Minor perched groundwater seepage 8 to 10 feet. No caving.                                                                                                                                                                                                  |      |
| 25         | <b>DRAFT</b>                                                                                                                                                                                                                                                |      |
| 30         |                                                                                                                                                                                                                                                             |      |
| 35         |                                                                                                                                                                                                                                                             |      |
| 40         |                                                                                                                                                                                                                                                             |      |

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## Exploration Pit

# EP-17

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 20

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                               | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 370 ft NAVD88                                                                                                                                                                                                      |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                                             |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                                                              |      |
|            | Medium dense, moist, orangish and reddish brown, silty, fine SAND, some gravel (SM).<br>Dense, moist, brown, fine SAND, some silt, trace gravel (SP-SM).                                                                  |      |
| 5          | Bed of till-like, silty, fine sand, some gravel; unsorted.<br><br>Becomes grayish brown.                                                                                                                                  |      |
| 10         | Dense, moist, fine SAND, trace silt, trace gravel; contains mica (SP).<br>Beds and laminations of brown, silty, fine SAND, very moist; above silty beds (SP-SM).<br><br>Becomes very dense.                               |      |
| 15         | Moist, brown, fine sand, trace silt, trace gravel; laminations of dark brown, fine sand, some silt; micaceous (SP-SM).<br><br>Bed of brownish gray, sandy, SILT; brown and dark brown laminations (4 to 12 inches thick). |      |
| 20         | Bed (6 inches thick) of brownish gray and orangish brown, silt.<br>No groundwater. No caving.                                                                                                                             |      |
| 25         |                                                                                                                                                                                                                           |      |
| 30         |                                                                                                                                                                                                                           |      |
| 35         |                                                                                                                                                                                                                           |      |
| 40         |                                                                                                                                                                                                                           |      |

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## Exploration Pit

## EP-18

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 20

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                   | USCS |
|------------|-------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 315 ft NAVD88                                                                                                          |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                 |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                  |      |
|            | Medium dense, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes fine to medium SAND (SM).              |      |
| 5          | Becomes dense and brown.                                                                                                      |      |
|            | Becomes very dense and grayish brown.                                                                                         |      |
| 10         | Very dense, moist to very moist, brownish gray with banded oxidation, fine SAND, some silt, trace gravel; stratified (SP-SM). |      |
|            | Becomes moist, trace silt; mica.<br>Orangish brown and dark brown oxidation.                                                  |      |
| 15         | Occasional beds of silty, fine SAND, very moist to wet sand.                                                                  |      |
|            | Dark brown; weathered laminations; mica.                                                                                      |      |
| 20         | No groundwater. No caving.                                                                                                    |      |
| 25         |                                                                                                                               |      |
| 30         |                                                                                                                               |      |
| 35         |                                                                                                                               |      |
| 40         |                                                                                                                               |      |

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## Exploration Pit

# EP-19

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 19

Approved By: JHS

| Depth (ft) | Description                                                                                                                 | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 185 ft NAVD88                                                                                                        |      |
| 0          | <b>Organic Topsoil - 6 inches</b>                                                                                           |      |
|            | <b>Landslide Deposits</b>                                                                                                   |      |
|            | Loose, moist, orangish brown, silty, fine SAND, trace gravel (SM).                                                          |      |
| 5          | Medium stiff, very moist, mottled orangish brown and tan, sandy, SILT; brecciated texture (ML).                             |      |
| 10         | Zones of fine sand, some silt; heavily oxidized in places; blocks of grayish brown included in the sand; disturbed texture. |      |
|            | Wet at 12 feet.                                                                                                             |      |
|            | Medium stiff to stiff, very moist, grayish brown, sandy, SILT; faint laminations; fractured (ML).                           |      |
| 15         | Stiff, moist, gray with light gray laminations; scattered fine organics; fractured; disturbed texture (ML).                 |      |
|            | Interbeds of sandy, silt.                                                                                                   |      |
|            | Beds of very moist, sandy, silt.                                                                                            |      |
| 20         | Minor perched seepage 12 feet. Moderate to severe caving 4 to 12 feet.                                                      |      |
| 25         |                                                                                                                             |      |
| 30         |                                                                                                                             |      |
| 35         |                                                                                                                             |      |
| 40         |                                                                                                                             |      |

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## Exploration Pit

## EP-20

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 17

Approved By: JHS

| Depth (ft) | Description                                                                                                          | USCS |
|------------|----------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Organic Topsoil - 8 inches</b>                                                                                    |      |
|            | <b>Landslide Deposits</b>                                                                                            |      |
|            | Loose, very moist, dark grayish brown, silty, fine SAND (SM).<br>Becomes orangish brown and grayish brown, mottled.  |      |
| 5          | Moderate caving.<br><br>Beds of fine sand, some silt; disturbed texture.                                             |      |
| 10         | Becomes medium stiff, sandy, SILT; scattered fine organics; disturbed texture (ML).<br>Wet at 10 feet.               |      |
|            | <b>Olympia Fine-Grained Deposits</b>                                                                                 |      |
| 15         | Stiff, moist, brownish gray with dark brown staining, SILT; laminated (ML).<br><br>Becomes very stiff to hard, gray. |      |
| 20         | Moderate perched seepage 10 feet. Moderate caving 0 to 12 feet.                                                      |      |
| 25         |                                                                                                                      |      |
| 30         |                                                                                                                      |      |
| 35         |                                                                                                                      |      |
| 40         |                                                                                                                      |      |

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## Exploration Pit

## EP-21

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 16

Approved By: JHS

| Depth (ft) | Description                                                                                                                                         | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 172 ft NAVD88                                                                                                                                |      |
| 0          | <b>Organic Topsoil - 6 inches</b>                                                                                                                   |      |
|            | <b>Landslide Deposits</b>                                                                                                                           |      |
|            | Loose, moist, light brown and slightly oxidized, silty, fine SAND, trace gravel; small roots; scattered organics (SM).                              |      |
|            | Loose, moist to very moist, mottled dark brown and orangish brown, silty, fine SAND; scattered fine organics (small roots); disturbed texture (SM). |      |
| 5          | Soft, wet, grayish brown and dark orangish brown, sandy, SILT; bed of brittle black organics; small roots (ML).                                     |      |
|            | Medium dense, wet, brownish gray with reddish brown oxidation, silty, fine SAND (SM).                                                               |      |
|            | Becomes very moist; contains mica.                                                                                                                  |      |
| 10         | <b>Olympia Fine-Grained Deposits</b>                                                                                                                |      |
|            | Dense, wet, gray, fine SAND, some silt; contains mica (SP-SM).                                                                                      |      |
|            | Very stiff, moist, gray with light gray laminations, SILT; stratified (ML).                                                                         |      |
| 15         | Occasional beds of silty, fine sand.                                                                                                                |      |
|            | Minor perched seepage 11 to 12 feet. Moderate caving 0 to 8 feet.                                                                                   |      |
| 20         |                                                                                                                                                     |      |
| 25         |                                                                                                                                                     |      |
| 30         |                                                                                                                                                     |      |
| 35         |                                                                                                                                                     |      |
| 40         |                                                                                                                                                     |      |

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## Exploration Pit

## EP-22

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 19

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                    | USCS |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 195 ft NAVD88                                                                                                                                                                                           |      |
| 0          | <b>Forest Duff</b>                                                                                                                                                                                             |      |
|            | <b>Landslide Deposits</b>                                                                                                                                                                                      |      |
|            | Loose to medium dense, moist, brown to dark brown, silty, fine SAND, trace gravel; small roots (SM).<br>Becomes dense, grayish brown and orangish brown; stratified; disturbed texture.                        |      |
| 5          | Becomes brownish gray with mottled oxidation, fine SAND, some silt; beds of brown and orangish brown silty, fine SAND; mica (SP-SM).<br>Wet at 7 feet.<br>Becomes very moist; scattered fine organics.         |      |
| 10         | Becomes brown and orangish brown, silty, fine SAND and gray, sandy SILT; abundant dark brown and black organics; entrained wood; organic debris (SM/ML).                                                       |      |
| 15         | Medium dense, very moist, brown with orangish brown, fine SAND, some silt, trace gravel; faintly stratified; mica; disturbed texture (SP-SM).<br>Becomes wet, silty, fine SAND ranging to sandy, SILT (SM/ML). |      |
| 20         | Minor perched seepage 7 feet. No caving.                                                                                                                                                                       |      |
| 25         |                                                                                                                                                                                                                |      |
| 30         |                                                                                                                                                                                                                |      |
| 35         |                                                                                                                                                                                                                |      |
| 40         |                                                                                                                                                                                                                |      |

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## Exploration Pit

## EP-23

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 19

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                           | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 250 ft NAVD88                                                                                                                  |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                         |      |
|            | <b>Landslide Deposits</b>                                                                                                             |      |
|            | Loose, moist, light brown, silty, fine SAND, trace gravel; small roots (SM).                                                          |      |
|            | Medium dense, moist, reddish brown and dark brown, silty, fine SAND, trace gravel; small roots (SM).                                  |      |
| 5          | Becomes dense, moist, grayish brown and orangish brown, fine SAND, some silt, trace gravel; small roots; disturbed texture (SP-SM).   |      |
|            | Brecciated texture within silt.                                                                                                       |      |
| 10         |                                                                                                                                       |      |
|            | Becomes silty, fine SAND; beds of sand, some silt; disturbed texture (SM) .                                                           |      |
| 15         |                                                                                                                                       |      |
|            | <b>Olympia Fine-Grained Deposits</b>                                                                                                  |      |
|            | Stiff, very moist to moist, brownish gray with banded oxidation, sandy, SILT; scattered fine organics; brown infilled fractures (ML). |      |
| 20         | Becomes very stiff to hard, moist.                                                                                                    |      |
|            | No seepage. No caving.                                                                                                                |      |
| 25         |                                                                                                                                       |      |
| 30         |                                                                                                                                       |      |
| 35         |                                                                                                                                       |      |
| 40         |                                                                                                                                       |      |

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## Exploration Pit

## EP-24

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 17

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Organic Topsoil - 8 inches</b><br><b>Holocene Alluvium</b><br>Loose, moist, dark brown and gray, silty, fine SAND, trace gravel (SM).<br>Becomes brown, fine SAND, some silt; beds of gravelly sand (SP-SM).<br><br>Becomes soft, very moist to wet, dark gray and dark brown, sandy, SILT; interbedded with gravelly, sand; woody organics (ML).<br><br>Becomes medium dense, very moist, gray and orangish brown, silty, fine SAND, trace gravel (SM).<br><br>Becomes soft, dark brown and dark gray, sandy, SILT; beds of dark brown, organics (ML).<br><br>Wet at 13 feet.<br><br>Medium dense, wet, dark gray, gravelly, fine to coarse SAND, some silt; occasional cobbles (SP-SM).<br>Moderate perched seepage 13 feet. Groundwater encountered at 16 feet. Moderate to severe caving 0 to 17 feet. |      |
| 5          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 10         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 15         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 20         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 25         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 30         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 35         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 40         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |

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## Exploration Pit

## EP-25

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 14

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Grass/Topsoil - 4 inches</b><br><b>Fill</b><br>Loose, moist, dark brown and reddish brown, silty, fine SAND, some gravel; chaotic texture (SM).                                                                                                                                                         |      |
| 5          | <b>Vashon Recessional Outwash</b><br>Soft, moist, light brown and orangish brown, SILT (ML).<br>Medium dense, moist, dark orangish brown, gravelly fine to medium SAND, trace silt; stratified (SP).<br><br>Becomes very moist, brown, gravelly, fine to coarse SAND, trace silt (SP).<br><br>Becomes wet. |      |
| 10         | <b>Pre-Possession Undifferentiated</b><br>Dense, moist, brown and orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Moderate perched seepage 12 feet. Moderate to severe caving 0 to 13 feet.                                                                                               |      |
| 15         |                                                                                                                                                                                                                                                                                                            |      |
| 20         |                                                                                                                                                                                                                                                                                                            |      |
| 25         |                                                                                                                                                                                                                                                                                                            |      |
| 30         |                                                                                                                                                                                                                                                                                                            |      |
| 35         |                                                                                                                                                                                                                                                                                                            |      |
| 40         |                                                                                                                                                                                                                                                                                                            |      |

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## Exploration Pit

## EP-26

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 17

Approved By: JHS

| Depth (ft) | Description                                                                                                                        | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Organic Topsoil - 6 inches</b>                                                                                                  |      |
|            | <b>Landslide Deposits</b>                                                                                                          |      |
|            | Loose, moist, dark brown and brown, silty, fine SAND, trace gravel (SM).                                                           |      |
|            | Medium stiff, moist, grayish brown and orangish brown, SILT; faint laminations; stratified; brecciated; disturbed appearance (ML). |      |
| 5          | Becomes stiff, silt (ML).                                                                                                          |      |
|            | Becomes very stiff, brownish gray and orangish brown.                                                                              |      |
|            | Fractured; disturbed appearance.                                                                                                   |      |
| 10         | Fractured in places.                                                                                                               |      |
| 15         | Stiff, moist, gray, SILT; light gray, sandy laminations (ML).                                                                      |      |
|            | No seepage. No caving.                                                                                                             |      |
| 20         |                                                                                                                                    |      |
| 25         |                                                                                                                                    |      |
| 30         |                                                                                                                                    |      |
| 35         |                                                                                                                                    |      |
| 40         |                                                                                                                                    |      |

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## Exploration Pit

## EP-27

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 15

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 225 ft NAVD88                                                                                                                                       |      |
| 0          | <b>Grass/Topsoil - 4 inches</b>                                                                                                                            |      |
|            | <b>Landslide Deposits</b>                                                                                                                                  |      |
|            | Loose, moist, dark brown with dark brown and black staining, silty, fine sAND, some gravel; organics (SM).                                                 |      |
|            | Dense, moist, dark orangish brown, silty, fine SAND, some gravel; unsorted (SM).                                                                           |      |
| 5          | Medium stiff, very moist, gray, sandy, SILT ranging to silty, fine SAND, some gravel; scattered organics; buried log at 4 feet; disturbed texture (ML/SM). |      |
|            | Bed of dark brown and black organics.                                                                                                                      |      |
|            | Becomes dark gray and olive, silty, fine SAND, some gravel; occasional boulders; brecciated texture (SM).                                                  |      |
| 10         | Becomes wet, gray with dark brown and black staining, sandy, SILT; occasional beds of clayey, silt; mica (ML).                                             |      |
|            | <b>Olympia Fine-Grained Deposits</b>                                                                                                                       |      |
|            | Stiff, moist, brown and orangish brown, SILT; occasional laminations of dark brown staining; stratified (ML).                                              |      |
| 15         | Moderate seepage 3 and 11 feet. Severe caving 0 to 12 feet.                                                                                                |      |
| 20         |                                                                                                                                                            |      |
| 25         |                                                                                                                                                            |      |
| 30         |                                                                                                                                                            |      |
| 35         |                                                                                                                                                            |      |
| 40         |                                                                                                                                                            |      |

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## Exploration Pit

# EP-28

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 17

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                               | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 290 ft NAVD88                                                                                                                                                                                                      |      |
| 0          | <b>Grass/Topsoil - 4 Inches</b><br><b>Vashon Lodgement Till</b><br>Medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown; unsorted; occasional boulders and cobbles. |      |
| 5          | Dark brown and orangish brown; weathering in places.<br><br>Becomes very dense and grayish brown.                                                                                                                         |      |
| 10         |                                                                                                                                                                                                                           |      |
| 15         | Becomes brownish gray.<br><br>Very dense, moist, gray, silty, fine SAND, some gravel; unsorted; mild reaction to hydrochloric acid (SM).                                                                                  |      |
| 20         | No seepage. No caving.                                                                                                                                                                                                    |      |
| 25         |                                                                                                                                                                                                                           |      |
| 30         |                                                                                                                                                                                                                           |      |
| 35         |                                                                                                                                                                                                                           |      |
| 40         |                                                                                                                                                                                                                           |      |

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## Exploration Pit

## EP-29

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 21

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                    | USCS |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Grass/Topsoil - 4 inches</b>                                                                                                                                                                                                                                |      |
|            | <b>Vashon Lodgement Till</b><br>Medium dense, moist, grayish brown, fine SAND, some silt, trace gravel; stratified; beds of brown and orangish brown, silty, fine sandy (SP-SM).<br>Becomes dense and brown.                                                   |      |
| 5          |                                                                                                                                                                                                                                                                |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b><br>Dense, moist, grayish brown, fine SAND, some silt, trace gravel; beds of brown and orangish brown, silty, fine sand; stratified (SP-SM).<br>Becomes fine sand, trace silt, thin brown bands of oxidation (SP). |      |
| 10         |                                                                                                                                                                                                                                                                |      |
| 15         |                                                                                                                                                                                                                                                                |      |
|            | <b>Olympia Fine-Grained Deposits</b><br>Very stiff to hard, moist, brown and orangish brown, sandy, SILT; laminated (ML).                                                                                                                                      |      |
| 20         |                                                                                                                                                                                                                                                                |      |
|            | No seepage. No caving.                                                                                                                                                                                                                                         |      |
| 25         |                                                                                                                                                                                                                                                                |      |
| 30         |                                                                                                                                                                                                                                                                |      |
| 35         |                                                                                                                                                                                                                                                                |      |
| 40         |                                                                                                                                                                                                                                                                |      |

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## Exploration Pit

# EP-30

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 21

Approved By: JHS

| Depth (ft) | Description                                                                                                            | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Roots/Topsoil - 6 inches</b>                                                                                        |      |
|            | <b>Vashon Lodgement Till</b>                                                                                           |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense and brown.         |      |
| 5          | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                           |      |
|            | Dense, moist, grayish brown, fine SAND, some silt, some gravel (SP-SM).                                                |      |
|            | Becomes fine sand, some silt; stratified (SP).                                                                         |      |
| 10         | Occasional laminations of silty, fine sand.                                                                            |      |
| 15         | Becomes very moist; banded oxidation.                                                                                  |      |
| 20         | <b>Olympia Lacustrine Deposits</b>                                                                                     |      |
|            | Dense to hard, moist, brownish gray, silty, fine SAND ranging to sandy, SILT; silty, fine sand; contains mica (SM/ML). |      |
|            | No seepage. No caving.                                                                                                 |      |
| 25         |                                                                                                                        |      |
| 30         |                                                                                                                        |      |
| 35         |                                                                                                                        |      |
| 40         |                                                                                                                        |      |

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## Exploration Pit

# EP-31

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 19

Approved By: JHS

| Depth (ft) | Description                                                                                   | USCS |
|------------|-----------------------------------------------------------------------------------------------|------|
|            | Elev.: 340 ft NAVD88                                                                          |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                 |      |
|            | <b>Vashon Recessional Outwash</b>                                                             |      |
|            | Loose, moist, orangish brown, silty, fine SAND, some gravel (SM).                             |      |
|            | Becomes medium dense, fine to medium SAND, some silt (SP-SM).                                 |      |
| 5          | Becomes very moist.                                                                           |      |
|            | <b>Vashon Lodgement Till</b>                                                                  |      |
|            | Dense, moist, brown to grayish brown, silty, fine SAND, some gravel; unsorted (SM).           |      |
| 10         | Becomes very dense and brownish gray.                                                         |      |
| 15         |                                                                                               |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                  |      |
|            | Very dense, moist, brownish gray, fine sand, trace silt, trace gravel; mica; stratified (SP). |      |
| 20         | No seepage. No caving.                                                                        |      |
| 25         |                                                                                               |      |
| 30         |                                                                                               |      |
| 35         |                                                                                               |      |
| 40         |                                                                                               |      |

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## Exploration Pit

## EP-32

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 18

Approved By: JHS

| Depth (ft) | Description                                                                                                         | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 315 ft NAVD88                                                                                                |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                       |      |
|            | <b>Vashon Lodgement Till</b>                                                                                        |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, grayish brown. |      |
| 5          | Becomes very dense, brownish gray.                                                                                  |      |
| 10         | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                        |      |
|            | Very dense, moist, brownish gray, silty, fine SAND, some gravel; stratified (SP-SM).                                |      |
| 15         | Becomes trace silt (SP).                                                                                            |      |
| 20         | No seepage. No caving.                                                                                              |      |
| 25         |                                                                                                                     |      |
| 30         |                                                                                                                     |      |
| 35         |                                                                                                                     |      |
| 40         |                                                                                                                     |      |

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## Exploration Pit

# EP-33

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 15

Approved By: JHS

| Depth (ft) | Description                                                                                                                                 | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 333 ft NAVD88                                                                                                                        |      |
| 0          | <b>Grass/Topsoil - 4 inches</b>                                                                                                             |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                |      |
|            | Medium dense, moist, reddish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown; occasional cobbles and boulders. |      |
| 5          | Becomes very dense, grayish brown.                                                                                                          |      |
| 10         |                                                                                                                                             |      |
|            | Minor groundwater seepage at 13 feet.                                                                                                       |      |
|            | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                                                      |      |
| 15         | Minor seepage 13 feet. No caving.                                                                                                           |      |
| 20         |                                                                                                                                             |      |
| 25         |                                                                                                                                             |      |
| 30         |                                                                                                                                             |      |
| 35         |                                                                                                                                             |      |
| 40         |                                                                                                                                             |      |

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## Exploration Pit

## EP-34

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 15

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                             | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 340 ft NAVD88                                                                                                                    |      |
| 0          | <b>Grass/Topsoil - 4 inches</b>                                                                                                         |      |
|            | <b>Vashon Recessional Outwash</b>                                                                                                       |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel (SM).<br>Becomes mottled tan and orangish brown; faintly stratified. |      |
|            | Becomes wet, orangish brown, fine SAND, some silt (SP-SM).                                                                              |      |
| 5          | Sandy pocket in sidewall at 4 feet with rapid groundwater seepage.                                                                      |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                            |      |
|            | Dense, moist, grayish brown, silty, fine SAND, some gravel; unsorted (SM) .                                                             |      |
| 10         |                                                                                                                                         |      |
|            | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                                                  |      |
| 15         | Rapid seepage 4.5 feet; pooling in base of excavation. Moderate caving 0 to 6 feet.                                                     |      |
| 20         |                                                                                                                                         |      |
|            | <b>DRAFT</b>                                                                                                                            |      |
| 25         |                                                                                                                                         |      |
| 30         |                                                                                                                                         |      |
| 35         |                                                                                                                                         |      |
| 40         |                                                                                                                                         |      |

2/9/2024

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## Exploration Pit

## EP-35

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 14

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                     | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Grass/Topsoil - 4 inches</b><br><b>Vashon Lodgement Till</b><br>Medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown.  |      |
| 5          | Alternating 2-inch beds of wet, brown, gravelly, fine to coarse SAND, trace silt (SP) and 4- to 6-inch beds of silty, fine SAND, some gravel; unsorted (SM) from 6.5 to 9 feet. |      |
| 10         | Very dense, moist, brown, silty, fine SAND, some gravel; unsorted (SM).                                                                                                         |      |
| 15         | Very dense, moist, gray, silty, fine SAND, some gravel; unsorted (SM).                                                                                                          |      |
| 20         | Rapid seepage 7 to 9 feet; pooling in base of excavation. Minor caving 6 to 9 feet.                                                                                             |      |
| 25         |                                                                                                                                                                                 |      |
| 30         |                                                                                                                                                                                 |      |
| 35         |                                                                                                                                                                                 |      |
| 40         |                                                                                                                                                                                 |      |

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## Exploration Pit

## EP-36

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 14

Approved By: JHS

| Depth (ft) | Description                                                                                                                                 | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 375 ft NAVD88                                                                                                                        |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                               |      |
|            | <b>Vashon Recessional Outwash</b>                                                                                                           |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel (SM).<br>Becomes fine sand, some silt; stratified beds of gravel (SP-SM) |      |
|            | Becomes brown.                                                                                                                              |      |
| 5          | <b>Vashon Lodgement Till</b>                                                                                                                |      |
|            | Dense, moist, brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes very dense.                                                   |      |
| 10         | Becomes grayish brown.                                                                                                                      |      |
| 15         | No seepage. Minor caving 0 to 4 feet.                                                                                                       |      |
| 20         |                                                                                                                                             |      |
| 25         |                                                                                                                                             |      |
| 30         |                                                                                                                                             |      |
| 35         |                                                                                                                                             |      |
| 40         |                                                                                                                                             |      |

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## Exploration Pit

## EP-37

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 14

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                 | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 390 ft NAVD88                                                                                                                                                                                                                        |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                                                               |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                                                                                                |      |
|            | Loose to medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown.                                                                                                                        |      |
|            | Becomes grayish brown.                                                                                                                                                                                                                      |      |
| 5          | Becomes very dense; occasional cobbles and boulders; glacial erratic at 5 feet ( $\approx$ 8 feet in diameter).                                                                                                                             |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                                                                                |      |
|            | Very dense, moist, grayish brown, silty, fine SAND, trace gravel; stratified (SM).<br>Interbedded silty, fine SAND and fine to medium SAND, trace silt; contains mica (SP-SM).<br>Zones of very moist, sand above beds of silty, fine SAND. |      |
| 15         | No seepage. No caving.                                                                                                                                                                                                                      |      |
| 20         |                                                                                                                                                                                                                                             |      |
| 25         |                                                                                                                                                                                                                                             |      |
| 30         |                                                                                                                                                                                                                                             |      |
| 35         |                                                                                                                                                                                                                                             |      |
| 40         |                                                                                                                                                                                                                                             |      |

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## Exploration Pit

## EP-38

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 5/23/23

Logged By: PEL

20230078E001

Total Depth (ft): 18

Approved By: JHS

| Depth (ft) | Description                                                                                                                  | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 355 ft NAVD88                                                                                                         |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                 |      |
|            | Medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown.                  |      |
| 5          | Becomes grayish brown.<br>Becomes very dense.                                                                                |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                 |      |
| 10         | Very dense, moist, grayish brown, fine SAND, some silt, trace gravel; beds of oxidized silty, fine sand; stratified (SP-SM). |      |
| 15         | Becomes trace silt (SP).                                                                                                     |      |
| 20         | No seepage. No caving.                                                                                                       |      |
| 25         |                                                                                                                              |      |
| 30         |                                                                                                                              |      |
| 35         |                                                                                                                              |      |
| 40         |                                                                                                                              |      |

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## Exploration Pit

## EP-39

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23  
Total Depth (ft): 20

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                       | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 355 ft NAVD88                                                                                                                                                              |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                     |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                                      |      |
|            | Medium dense, moist, orangish brown and dark brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown; occasional cobbles and boulders; breaks off in chunks. |      |
| 5          | Becomes very dense, grayish brown.                                                                                                                                                |      |
| 10         | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                      |      |
|            | Very dense, moist, grayish brown, fine SAND, some silt; stratified; abundant mica (SP-SM).                                                                                        |      |
| 15         | Occasional beds of silty, fine SAND; very moist above silty beds.                                                                                                                 |      |
| 20         | No seepage. No caving.                                                                                                                                                            |      |
| 25         |                                                                                                                                                                                   |      |
| 30         |                                                                                                                                                                                   |      |
| 35         |                                                                                                                                                                                   |      |
| 40         |                                                                                                                                                                                   |      |

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## Exploration Pit

## EP-40

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 19

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                             | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 315 ft NAVD88                                                                                                                                                                                                                    |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                                                           |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                                                                                            |      |
|            | Loose to medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown with dark brown weathering; fractured.<br>Beds of wet, gravelly, fine to medium sand, some silt from 3.5 to 5 feet. |      |
| 5          | Becomes orangish brown and light brown; mottled; unsorted.                                                                                                                                                                              |      |
| 10         | Becomes very dense, grayish brown.                                                                                                                                                                                                      |      |
| 15         |                                                                                                                                                                                                                                         |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                                                                            |      |
|            | Very dense, moist, grayish brown, fine SAND, some silt; faintly stratified; mica; beds of fine sand, trace silt (SP-SM).                                                                                                                |      |
| 20         | Minor seepage 3.5 to 5 feet. No caving.                                                                                                                                                                                                 |      |
| 25         |                                                                                                                                                                                                                                         |      |
| 30         |                                                                                                                                                                                                                                         |      |
| 35         |                                                                                                                                                                                                                                         |      |
| 40         |                                                                                                                                                                                                                                         |      |

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## Exploration Pit

## EP-41

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 18

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                            | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 300 ft NAVD88                                                                                                                                                   |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                          |      |
|            | <b>Vashon Lodgement Till</b>                                                                                                                                           |      |
|            | Loose to medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted (SM).<br>Becomes dense, brown, occasional gravelly beds and dark brown staining. |      |
| 5          | Rips up in chunks.<br>Becomes very dense, grayish brown.                                                                                                               |      |
| 10         |                                                                                                                                                                        |      |
|            | <b>Olympia Lacustrine Deposits</b>                                                                                                                                     |      |
|            | Very stiff to hard, moist, grayish brown with banded oxidation, sandy, SILT; mica; stratified; occasional laminations (ML).                                            |      |
| 15         |                                                                                                                                                                        |      |
|            | Very dense, moist, grayish brown, fine SAND, trace silt; banded oxidation (SP).                                                                                        |      |
|            | Occasional beds of very moist, silty, fine sand (SP-SM).                                                                                                               |      |
| 20         | No seepage. No caving.                                                                                                                                                 |      |
| 25         |                                                                                                                                                                        |      |
| 30         |                                                                                                                                                                        |      |
| 35         |                                                                                                                                                                        |      |
| 40         |                                                                                                                                                                        |      |

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## Exploration Pit

## EP-42

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 18

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                               | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 255 ft NAVD88                                                                                                                                                                                                                                      |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                                                                             |      |
|            | <b>Landslide Deposits</b>                                                                                                                                                                                                                                 |      |
|            | Loose to medium dense, moist, orangish brown, silty, fine SAND, some gravel; unsorted; boulders and cobbles (SM).<br>Becomes brown; disturbed texture; small voids in diamict.<br>Angular boulder (6 foot in diameter).                                   |      |
| 5          | Dense, moist, brown, gravelly, fine to coarse SAND, some silt (SP-SM).<br><br>Small to medium roots.                                                                                                                                                      |      |
| 10         | Dense, moist, tan and orangish brown, silty, fine SAND, some gravel; organic inclusions; blocks of intact silt within the silty, fine sand (SM).<br><br>Wet at 12 feet.                                                                                   |      |
| 15         | <b>Vashon Lodgement Till</b><br>Very dense, moist, brown, silty, fine SAND, some gravel; unsorted (SM).                                                                                                                                                   |      |
|            | <b>Vashon Advance Outwash - Olympia Sand</b><br>Very dense, moist, grayish brown, fine SAND, some silt; stratified; mica (SP-SM).<br>Very stiff, moist, grayish brown, sandy SILT; mica (ML).<br>Minor perched seepage 12 feet. Minor caving 0 to 8 feet. |      |
| 20         |                                                                                                                                                                                                                                                           |      |
| 25         |                                                                                                                                                                                                                                                           |      |
| 30         |                                                                                                                                                                                                                                                           |      |
| 35         |                                                                                                                                                                                                                                                           |      |
| 40         |                                                                                                                                                                                                                                                           |      |

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## Exploration Pit

## EP-43

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23

Total Depth (ft): 18

Logged By: PEL

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                  | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 205 ft NAVD88                                                                                                                                                                                                         |      |
| 0          | <b>Topsoil - 12 inches</b>                                                                                                                                                                                                   |      |
|            | <b>Landslide Deposits</b>                                                                                                                                                                                                    |      |
|            | Loose, moist, dark brown and orangish brown, silty, fine SAND, some gravel (SM).<br>Becomes medium dense, very moist, brown and orangish brown.                                                                              |      |
| 5          | Occasional pieces of diamict; brecciated.                                                                                                                                                                                    |      |
|            | Bed of wet, dark brown and dark orangish brown, gravelly, fine to coarse SAND.                                                                                                                                               |      |
| 10         | Medium dense, very moist to wet, brown and orangish brown with scattered dark brown staining, fine SAND, some silt; beds of sandy, silt; mica; disturbed texture (SP-SM).                                                    |      |
|            | Heavily oxidized band.<br>Stiff, very moist to moist, gray, sandy, SILT; organic inclusions; occasional laminations of clayey silt; mica; organic inclusions; disturbed texture; zones of dark olive, silty, fine sand (ML). |      |
| 15         | <b>Olympia Fine-Grained Deposits</b>                                                                                                                                                                                         |      |
|            | Very stiff, moist, gray, SILT; occasional laminations of light gray; polished surfaces (ML).                                                                                                                                 |      |
| 20         | Moderate seepage 7 feet. Moderate caving 3 to 8 feet.                                                                                                                                                                        |      |
| 25         | <b>DRAFT</b>                                                                                                                                                                                                                 |      |
| 30         |                                                                                                                                                                                                                              |      |
| 35         |                                                                                                                                                                                                                              |      |
| 40         |                                                                                                                                                                                                                              |      |

2/9/2024

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## Exploration Pit

## EP-44

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 5/23/23  
Total Depth (ft): 21

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                       | USCS |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 185 ft NAVD88                                                                                                                                                                                                                                                              |      |
| 0          | <b>Forest Duff - 6 inches</b>                                                                                                                                                                                                                                                     |      |
|            | <b>Vashon Recessional Outwash</b><br>Loose, moist, orangish brown, fine SAND, some silt, trace gravel (SP-SM).<br>Becomes medium dense; mica.                                                                                                                                     |      |
| 5          | <b>Vashon Lodgement Till</b><br>Medium dense, moist to very moist, brown, silty, fine SAND, some gravel (SM).<br>Becomes dense, grayish brown; unsorted; rips up in chunks (SM).<br>Wet at 8 feet.                                                                                |      |
| 10         | <b>Olympia Fine-Grained Deposits</b><br>Very stiff, moist, brownish gray and orangish brown, SILT; infilled, oxidized fractures; polished surfaces; brecciated in places (ML).<br><br>Becomes gray.<br>Becomes sandy, silt, light gray; laminations; mica.<br><br>Olive staining. |      |
| 15         |                                                                                                                                                                                                                                                                                   |      |
| 20         |                                                                                                                                                                                                                                                                                   |      |
| 25         | Minor perched seepage 8 feet. No caving.                                                                                                                                                                                                                                          |      |
| 30         |                                                                                                                                                                                                                                                                                   |      |
| 35         |                                                                                                                                                                                                                                                                                   |      |
| 40         |                                                                                                                                                                                                                                                                                   |      |

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## Exploration Pit

## EP-45

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 11/20/23  
Total Depth (ft): 18

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | USCS |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 284 ft NAVD88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |
| 0          | <b>Grass/Roots - 3 inches</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |
|            | <b>Landslide Deposits</b><br>Loose, moist, dark brown, silty, fine SAND, trace gravel; small roots; fine organics (topsoil) (SM).<br>Medium dense, moist, orangish brown, silty, fine SAND, some gravel; trace cobbles; distributed texture (SM).<br>Medium dense, moist, mottled orangish brown and brown, silty, fine SAND, trace gravel; contains black decomposed roots (SM).<br>Medium dense, very moist, brown, fine SAND, some silt, trace gravel; contains thin interbeds (1 inch thick) of gravelly, silty, fine SAND; gravel is fine ranging to coarse sand; mica; laminations of sandy, silt; disturbed texture (SP-SM).<br>Dense, moist, grayish brown, fine SAND, some silt, trace gravel; finely bedded in places; contains mica; disturbed texture (SP-SM). |      |
| 10         | <b>Vashon Lodgement Till</b><br>Dense, moist, brownish gray to dark brownish gray, silty, fine SAND, some gravel; unsorted; zones of oxidation and manganese staining; scattered boulders; pinhole voids (SM).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |
| 15         | <b>Olympia Lacustrine Deposits</b><br>Dense, moist, grayish brown, fine SAND, trace silt; occasional bands of oxidation along beds of fine sand, some silt; contains mica; stratified in places; massive; zones of heavily oxidized sand (dark orange and black) (SP).<br><br>Zones/pockets of silty, fine GRAVEL, trace sand.                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |
| 20         | Minor perched seepage 6 to 6.5 feet. Moderate caving 0 to 9 feet.<br>No pooling at base of excavation from perched seepage above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |
| 25         | <b>DRAFT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| 30         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |
| 35         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |
| 40         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |

2/9/2024

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## Exploration Pit

## EP-46

### Arlington 360

Sheet: 1 of 1

Arlington, WA

Date: 11/20/23

Logged By: PEL

20230078E001

Total Depth (ft): 16

Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 274 ft NAVD88                                                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 0          | <b>Landslide Deposits</b><br>Loose, moist, dark brown to black, silty, fine SAND; abundant organics; roots (SM).<br>Loose, moist, dark orangish brown, silty, fine SAND, trace gravel (SM).<br>Medium dense to dense, moist, grayish brown, interbedded silty, fine SAND and fine SAND, some silt; thinly bedded; banded oxidation; contains mica (SM).<br>Medium dense to dense, moist, grayish brown, fine SAND, some silt; stratified (SP-SM). |      |
| 5          | Bed of laminated sandy, SILT; oxidized (ML).                                                                                                                                                                                                                                                                                                                                                                                                      |      |
|            | Bed of laminated sandy, SILT; orangish brown oxidation (ML).                                                                                                                                                                                                                                                                                                                                                                                      |      |
| 10         | Dense, moist to very moist, grayish brown, silty, fine SAND; faintly stratified; separated along sandy partings (SM).                                                                                                                                                                                                                                                                                                                             |      |
|            | Bed of laminated sandy, SILT; orangish brown oxidation (ML).                                                                                                                                                                                                                                                                                                                                                                                      |      |
| 15         |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
|            | Minor perched seepage 1.5 to 2 feet. Moderate caving 0 to 2 feet.<br>No pooling at base of excavation from perched seepage above.                                                                                                                                                                                                                                                                                                                 |      |
| 20         |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
|            | <b>DRAFT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |
| 25         |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
| 30         |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
| 35         |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
| 40         |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |

2/9/2024

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## Exploration Pit

## EP-47

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 11/20/23  
Total Depth (ft): 17.5

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                           | USCS |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|            | Elev.: 274 ft NAVD88                                                                                                                                                                                                                                                                  |      |
| 0          | <b>Grass/Roots - 6 inches</b><br>Loose, moist, dark brown, silty, fine SAND, trace gravel (SM).                                                                                                                                                                                       |      |
|            | <b>Landslide Deposits</b><br>Loose to medium dense, moist, orangish brown and grayish brown, fine SAND, some silt; brecciated texture in places (SP-SM).<br>Medium dense, moist, grayish brown, silty, fine SAND; brecciated texture; zones of orangish brown mottled oxidation (SM). |      |
| 5          |                                                                                                                                                                                                                                                                                       |      |
| 10         | Medium stiff, moist, grayish brown and orangish brown, SILT; occasional oxidized fractures and slickensides; laminations of sand contains mica; scattered fine organics (ML).                                                                                                         |      |
| 15         | Medium stiff, very moist, grayish brown and orangish brown, sandy, SILT (ML).                                                                                                                                                                                                         |      |
| 20         | Medium stiff, very moist, gray, laminated sandy, SILT; laminations of brown, sandy, SILT and thin beds of light gray, clayey, SILT; occasional fractures (ML).<br>No seepage. Moderate caving 0 to 4 feet.                                                                            |      |
| 25         |                                                                                                                                                                                                                                                                                       |      |
| 30         |                                                                                                                                                                                                                                                                                       |      |
| 35         |                                                                                                                                                                                                                                                                                       |      |
| 40         |                                                                                                                                                                                                                                                                                       |      |

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## Exploration Pit

## EP-48

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 11/21/23  
Total Depth (ft): 15

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                  | USCS |
|------------|------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Grass/Topsoil - 6 inches</b>                                                                                              |      |
|            | <b>Landslide Deposits</b>                                                                                                    |      |
|            | Loose, moist, dark brown, silty, fine SAND (SM).<br>Soft, moist, brown, sandy, SILT; massive; small roots (ML).              |      |
| 5          | Soft to medium stiff, moist, mottled orangish brown and light brown, SILT; brecciated texture; fine organic inclusions (ML). |      |
| 10         | Medium stiff, gray, clayey, SILT; brecciated texture; polished surfaces; fractured (ML).                                     |      |
| 15         | Minor perched seepage 9 to 10 feet. Minor caving 0 to 8 feet.                                                                |      |
| 20         |                                                                                                                              |      |
| 25         |                                                                                                                              |      |
| 30         |                                                                                                                              |      |
| 35         |                                                                                                                              |      |
| 40         |                                                                                                                              |      |

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## Exploration Pit

## EP-49

### Arlington 360

Sheet: 1 of 1

Arlington, WA  
20230078E001

Date: 11/21/23  
Total Depth (ft): 15

Logged By: PEL  
Approved By: JHS

| Depth (ft) | Description                                                                                                                                                                                                                                                                                                                   | USCS |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 0          | <b>Grass/Roots - 6 inches</b><br><b>Landslide Deposits</b><br>Loose, moist, dark brown, silty, fine SAND, trace gravel (SM).<br>Loose to medium dense, moist, dark orangish brown, silty, fine SAND; small roots; fine organics (SM).<br>Loose, moist, mottled orangish brown and light brown, SILT; brecciated texture (ML). |      |
| 5          | Medium stiff, moist, orangish brown and brown, SILT; fractured; dark orangish brown oxidation along fractured; brecciated zones of silt (ML).                                                                                                                                                                                 |      |
| 10         | Becomes brownish gray, fractured, slickensides, brecciated texture.                                                                                                                                                                                                                                                           |      |
| 15         | Becomes gray.                                                                                                                                                                                                                                                                                                                 |      |
| 20         | Minor perched seepage 3.5 to 4 feet. Minor caving 0 to 4 feet.                                                                                                                                                                                                                                                                |      |
| 25         |                                                                                                                                                                                                                                                                                                                               |      |
| 30         |                                                                                                                                                                                                                                                                                                                               |      |
| 35         |                                                                                                                                                                                                                                                                                                                               |      |
| 40         |                                                                                                                                                                                                                                                                                                                               |      |

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## Monitoring Well

# EB-1W

Arlington 360

Sheet: 1 of 3

Arlington, WA

Start Date: 7/26/2023

Logged By: PL

20230078E001

Ending Date: 7/27/2023

Approved By: JHS

Driller/Equipment: Holocene Drilling/Mud-Rotary

Hammer Weight/Drop: 140#/30"

Hole Diameter (in): 8.5

Ground Surface Elevation (ft): 260

Water Level Elevation (ft): 233.7

Groundwater Depth ATD (ft): 15

Total Depth (ft): 91.5

Well Completion Depth (ft): 50

Well Tag No.: BPQ-836

Top of Well Casing Elevation (ft): 263.5

Datum: NAVD88

Groundwater Depth Post Drilling (ft) (Date): 23.92 ( 10/5/23 )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                         | Water Level | Blows/6" |    |    |    |    | Well Construction                                                          |
|------------|-------------|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|----|----|----|----|----------------------------------------------------------------------------|
|            |             |            |                |                                                                                                                                                                                                                                     |             | Blows/6" | 10 | 20 | 30 | 40 |                                                                            |
| 0          |             |            |                | <b>Landslide Deposits</b><br>Moist to slightly moist, brown, silty, fine SAND, trace gravel; scattered cobbles; small roots (SM).<br>No recovery.<br>Gravelly drilling.                                                             |             |          |    |    |    |    | Standup monument<br>Casing stickup +3.13 to 0 feet<br>Concrete 0 to 4 feet |
| 1          |             | 1          |                |                                                                                                                                                                                                                                     |             | 2        |    |    |    |    |                                                                            |
| 2          |             |            |                |                                                                                                                                                                                                                                     |             | 1        |    |    |    |    |                                                                            |
| 3          |             |            |                |                                                                                                                                                                                                                                     |             | 1        |    |    |    |    |                                                                            |
| 4          |             | 2          |                | Moist, brown, silty, fine SAND, some gravel; inclusions of dark brown to black organics (SM).                                                                                                                                       |             | 2        |    | 22 |    |    | Medium (3/8-inch) bentonite chips 4 to 37 feet                             |
| 5          |             |            |                |                                                                                                                                                                                                                                     |             | 9        |    |    |    |    |                                                                            |
| 6          |             |            |                |                                                                                                                                                                                                                                     |             | 13       |    |    |    |    |                                                                            |
| 7          |             | 3          |                | Moist, brown, fine SAND, some gravel, some silt; zones of silty, fine sand; disturbed texture (SP-SM).                                                                                                                              |             | 12       |    | 25 |    |    |                                                                            |
| 8          |             |            |                |                                                                                                                                                                                                                                     |             | 15       |    |    |    |    |                                                                            |
| 9          |             |            |                |                                                                                                                                                                                                                                     |             | 10       |    |    |    |    |                                                                            |
| 10         |             | 4          |                | Gravelly drilling.<br>Moist, brown and grayish brown, silty, fine SAND, some gravel; disturbed texture; unsorted (SM).                                                                                                              |             | 15       |    | 34 |    |    |                                                                            |
| 11         |             |            |                |                                                                                                                                                                                                                                     |             | 20       |    |    |    |    |                                                                            |
| 12         |             |            |                |                                                                                                                                                                                                                                     |             | 36       |    |    |    |    |                                                                            |
| 13         |             |            |                | Smooth drilling at 13 to 14 feet.                                                                                                                                                                                                   |             |          |    |    |    |    |                                                                            |
| 14         |             |            |                |                                                                                                                                                                                                                                     |             |          |    |    |    |    |                                                                            |
| 15         |             | 5          |                | Upper 6 inches: Very moist to wet, brown, fine SAND, some silt; contains mica; pockets of dark brown (SP-SM).<br>Lower 12 inches: Very moist, grayish, brown, sandy, SILT; contains mica; sharp contact between sand and silt (ML). |             | 8        |    | 9  |    |    |                                                                            |
| 16         |             |            |                |                                                                                                                                                                                                                                     |             | 4        |    |    |    |    |                                                                            |
| 17         |             |            |                |                                                                                                                                                                                                                                     |             | 5        |    |    |    |    |                                                                            |
| 18         |             |            |                |                                                                                                                                                                                                                                     |             |          |    |    |    |    |                                                                            |
| 19         |             |            |                |                                                                                                                                                                                                                                     |             |          |    |    |    |    |                                                                            |
| 20         |             | 6          |                | <b>Olympia Lacustrine Deposits</b><br>Very moist, grayish brown, sandy, SILT; beds of wet, grayish brown, fine SAND, some silt; sand contains mica; stratified; finely bedded to laminated (ML).                                    |             | 7        |    | 25 |    |    | 2-inch I.D. Sch 40 PVC casing with threaded connections 0 to 40 feet       |
| 21         |             |            |                |                                                                                                                                                                                                                                     |             | 15       |    |    |    |    |                                                                            |
| 22         |             |            |                |                                                                                                                                                                                                                                     |             | 25       |    |    |    |    |                                                                            |
| 23         |             | 7          |                | Wet, grayish brown, silty, fine SAND; sand contains abundant mica; occasional banded oxidation; massive (SM).                                                                                                                       |             | 12       |    | 26 |    |    |                                                                            |
| 24         |             |            |                |                                                                                                                                                                                                                                     |             | 16       |    |    |    |    |                                                                            |
| 25         |             |            |                |                                                                                                                                                                                                                                     |             | 26       |    |    |    |    |                                                                            |
| 26         |             | 8          |                | Moist, grayish brown, SILT; beds of wet, grayish brown to dark grayish brown, fine SAND, some silt; sharp contacts; sand contains mica; finely bedded to laminated (ML).                                                            |             | 7        |    | 24 |    |    |                                                                            |
| 27         |             |            |                |                                                                                                                                                                                                                                     |             | 8        |    |    |    |    |                                                                            |
| 28         |             |            |                |                                                                                                                                                                                                                                     |             | 16       |    |    |    |    |                                                                            |
| 29         |             |            |                |                                                                                                                                                                                                                                     |             |          |    |    |    |    |                                                                            |
| 30         |             | 9          |                | Wet, brownish, gray, fine SAND, some silt; contains mica; poor recovery (SP-SM).                                                                                                                                                    |             | 14       |    | 44 |    |    |                                                                            |
| 31         |             |            |                |                                                                                                                                                                                                                                     |             | 20       |    |    |    |    |                                                                            |
| 32         |             |            |                |                                                                                                                                                                                                                                     |             | 24       |    |    |    |    |                                                                            |
| 33         |             |            |                |                                                                                                                                                                                                                                     |             |          |    |    |    |    |                                                                            |
| 34         |             |            |                |                                                                                                                                                                                                                                     |             |          |    |    |    |    |                                                                            |
| 35         |             | 10         |                | Very moist to wet, brownish gray, fine SAND, some silt; beds of silty, fine SAND and sandy, silt; stratified                                                                                                                        |             | 28       |    | 57 |    |    |                                                                            |
| 36         |             |            |                |                                                                                                                                                                                                                                     |             | 45       |    |    |    |    |                                                                            |

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## Monitoring Well

# EB-1W

Arlington 360

Sheet: 2 of 3

Arlington, WA

Start Date: 7/26/2023

Logged By: PL

20230078E001

Ending Date: 7/27/2023

Approved By: JHS

Driller/Equipment: Holocene Drilling/Mud-Rotary

Hammer Weight/Drop: 140#/30"

Hole Diameter (in): 8.5

Ground Surface Elevation (ft): 260

Water Level Elevation (ft): 233.7

Groundwater Depth ATD (ft): 15

Total Depth (ft): 91.5

Well Completion Depth (ft): 50

Well Tag No.: BPQ-836

Top of Well Casing Elevation (ft): 263.5

Datum: NAVD88

Groundwater Depth Post Drilling (ft) (Date): 23.92 ( 10/5/23 )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                  | Water Level    | Blows/6" | Blows/Foot | Well Construction                                                              |
|------------|-------------|------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------------|--------------------------------------------------------------------------------|
|            |             |            |                | (SP-SM).                                                                                                                                                     | 50/6"          |          |            | 12/20 filter sand 37 to 50 feet                                                |
| 40         |             | 11         |                | Wet, gray, silty, fine SAND; occasional laminations of silt; contains mica (SM).                                                                             | 10<br>21<br>25 |          | 46         | 2-inch I.D. Sch 40 PVC slotted well screen 0.020-inch slot width 40 to 50 feet |
| 45         |             | 12         |                | Upper 6 inches: Very moist to moist, gray, SILT (ML). Lower 6 inches: Wet, gray, fine SAND, some silt ranging to silty, fine SAND; sharp contact (SP-SM/SM). | 29<br>50/6"    |          | 48         |                                                                                |
|            |             | 13         |                | Wet, gray, silty, fine SAND, trace gravel; bed of sandy, silt; dropstones (SM).                                                                              | 20<br>17<br>31 |          | 48         |                                                                                |
| 50         |             | 14         |                | Wet, dark gray, silty, fine SAND; massive; contains mica (SM).                                                                                               | 21<br>31<br>39 |          | 70         | Flat threaded endcap                                                           |
| 55         |             | 15         |                | Wet, dark gray, silty, fine SAND; massive; contains fine woody organics and mica (SM).                                                                       | 27<br>29<br>35 |          | 64         |                                                                                |
|            |             | 16         |                | Driller notes faster drilling at 57 feet.                                                                                                                    | 39<br>50/4"    |          | 58         |                                                                                |
|            |             |            |                | <b>Olympia Fine-Grained Deposits</b>                                                                                                                         |                |          |            |                                                                                |
|            |             |            |                | Moist, dark gray, SILT; beds of fine SAND, some silt; stratified; sand contains mica (ML).                                                                   |                |          |            |                                                                                |
| 60         |             | 17         |                | Moist, gray to dark gray, SILT; occasional light gray infilled fractures; massive; no reaction to diluted HCl (ML).                                          | 11<br>22<br>33 |          | 55         |                                                                                |
| 65         |             | 18         |                | Moist, gray, SILT; occasional beds of very moist to wet, sandy, SILT; gradational contacts generally massive; silt is non-cohesive and non-plastic (ML).     | 15<br>25<br>39 |          | 64         |                                                                                |
| 70         |             | 19         |                | Moist, gray to dark gray, SILT; occasional dark gray and light gray laminations (ML).                                                                        | 15<br>26<br>37 |          | 63         |                                                                                |

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## Monitoring Well

## EB-1W

Arlington 360

Sheet: 3 of 3

Arlington, WA

Start Date: 7/26/2023

Logged By: PL

20230078E001

Ending Date: 7/27/2023

Approved By: JHS

Driller/Equipment: Holocene Drilling/Mud-Rotary

Total Depth (ft): 91.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 50

Hole Diameter (in): 8.5

Well Tag No.: BPQ-836

Ground Surface Elevation (ft): 260

Top of Well Casing Elevation (ft): 263.5

Water Level Elevation (ft): 233.7

Datum: NAVD88

Groundwater Depth ATD (ft): 15

Groundwater Depth Post Drilling (ft) (Date): 23.92 ( 10/5/23 )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                                     | Water Level    | Blows/6" | Blows/Foot | Well Construction |
|------------|-------------|------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------------|-------------------|
| 75         |             | 20         |                | Moist, gray, SILT; massive; no reaction to HCl (ML).                                                                                                                                                                                                            | 18<br>34<br>44 |          | 78         | <div>DRAFT</div>  |
| 80         |             | 21         |                | Moist, gray to dark gray, SILT; occasional light gray laminations (ML).                                                                                                                                                                                         | 26<br>50/6"    |          | 47         |                   |
| 85         |             | 22         |                | Moist, gray, to dark gray, SILT; low to moderate plasticity; light gray laminations (ML).                                                                                                                                                                       | 12<br>21<br>31 |          | 52         |                   |
| 90         |             | 23         |                | Moist, gray to dark gray, SILT; light gray laminations (ML).                                                                                                                                                                                                    | 18<br>22<br>30 |          | 52         |                   |
| 95         |             |            |                | Groundwater encountered at approximately 15 feet BGS ATD.<br>Blow counts (Blows/Foot) from samples taken with a 2.5-inch outside diameter modified California (Cal-Mod) sampler have been adjusted to reflect standard 2-inch outside diameter SPT blow counts. |                |          |            |                   |
| 100        |             |            |                |                                                                                                                                                                                                                                                                 |                |          |            |                   |
| 105        |             |            |                |                                                                                                                                                                                                                                                                 |                |          |            |                   |





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## Monitoring Well

## EB-2W

Arlington 360

Sheet: 1 of 2

Arlington, WA

Start Date: 7/27/2023

Logged By: PL

20230078E001

Ending Date: 7/28/2023

Approved By: JHS

Driller/Equipment: Holocene Drilling/HSA

Hammer Weight/Drop: 140#/30"

Hole Diameter (in): 8.5

Ground Surface Elevation (ft): ~265

Water Level Elevation (ft): 231

Groundwater Depth ATD (ft): 34

Total Depth (ft): 51.5

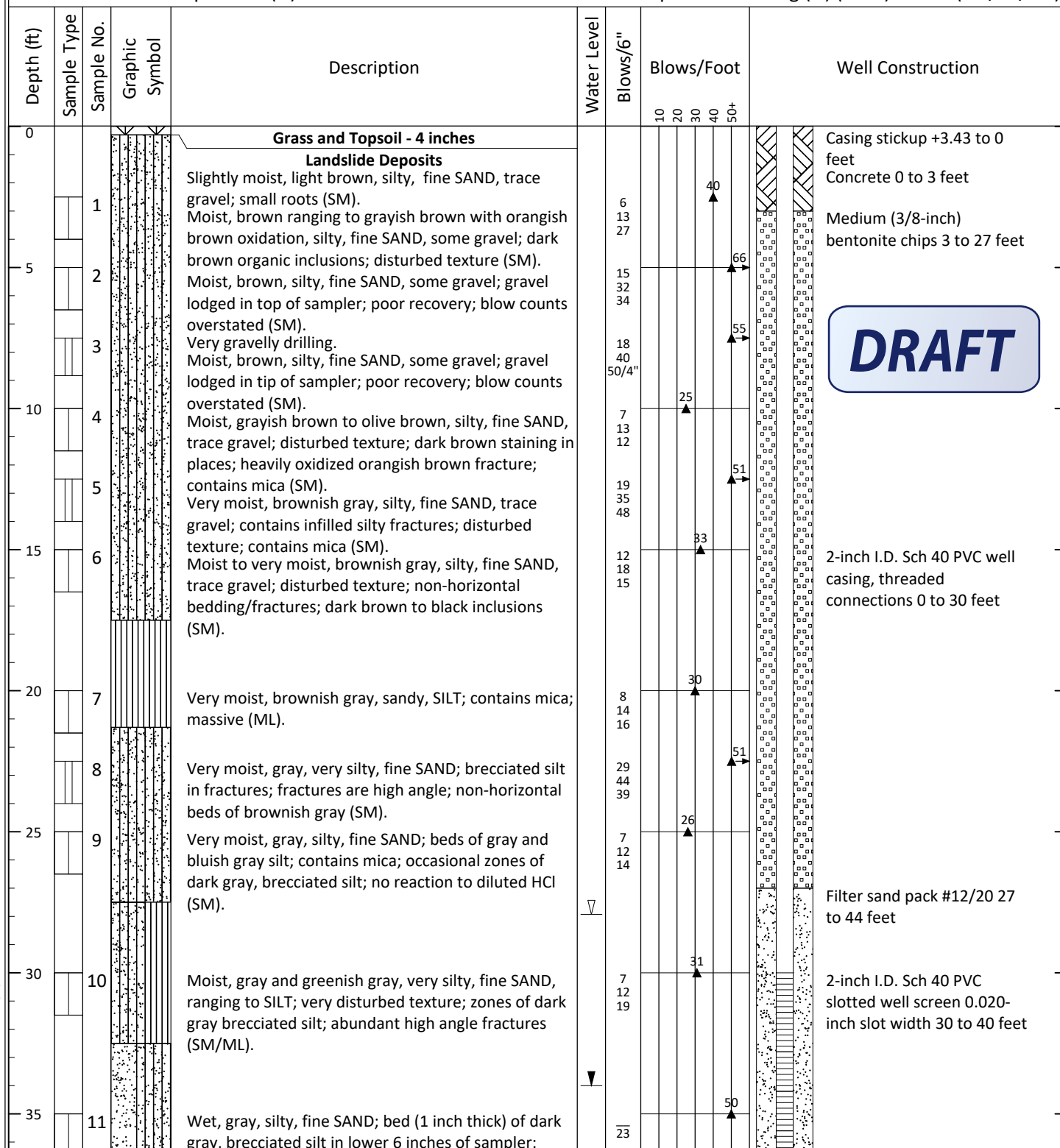
Well Completion Depth (ft): 50.5

Well Tag No.: BPQ-837

Top of Well Casing Elevation (ft): 268.6

Datum: NAVD88

Groundwater Depth Post Drilling (ft) (Date): 27.93 ( 12/22/23 )



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## Monitoring Well

## EB-2W

Arlington 360

Sheet: 2 of 2

Arlington, WA

Start Date: 7/27/2023

Logged By: PL

20230078E001

Ending Date: 7/28/2023

Approved By: JHS

Driller/Equipment: Holocene Drilling/HSA

Hammer Weight/Drop: 140#/30"

Hole Diameter (in): 8.5

Ground Surface Elevation (ft): ≈265

Water Level Elevation (ft): 231

Groundwater Depth ATD (ft): 34

Total Depth (ft): 51.5

Well Completion Depth (ft): 50.5

Well Tag No.: BPQ-837

Top of Well Casing Elevation (ft): 268.6

Datum: NAVD88

Groundwater Depth Post Drilling (ft) (Date): 27.93 ( 12/22/23 )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                                                                                                                           | Water Level       | Blows/6"                    | Blows/Foot |                                                                    |
|------------|-------------|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------|------------|--------------------------------------------------------------------|
|            |             |            |                |                                                                                                                                                                                                                                                                                                                                                       |                   | 10<br>20<br>30<br>40<br>50+ |            | <b>DRAFT</b>                                                       |
| 40         |             | 12         |                | sand contains mica; interbedded sand and silt (SP-SM).<br>Driller adds water preemptively for sand heave.                                                                                                                                                                                                                                             | 27                |                             |            |                                                                    |
|            |             |            |                |                                                                                                                                                                                                                                                                                                                                                       | 14<br>20<br>27    |                             | 47         | Flat threaded well cap                                             |
|            |             | 13         |                | Wet, gray, silty, fine SAND; high angle fractures/bedding; brecciated non-horizontal beds of silt; disturbed texture (SM).                                                                                                                                                                                                                            | 16<br>43<br>50/5" |                             | 56         |                                                                    |
| 45         |             | 14         |                | Moist to wet, gray, sandy, SILT to SILT; high angle infilled fractures; zones of wet, silty, fine sand; disturbed texture; Cal-mod sampler (ML).<br><b>Olympia Fine-Grained Deposits</b>                                                                                                                                                              | 12<br>24<br>38    |                             | 62         | Caved debris and medium (3/8-inch) bentonite chips 44 to 51.5 feet |
|            |             |            |                | Moist, gray, SILT; light gray and dark gray laminations; appears intact compared to previous samples; no reaction to diluted HCl (ML).                                                                                                                                                                                                                |                   |                             |            |                                                                    |
| 50         |             | 15         |                | Moist, gray, SILT; laminations of dark gray and light gray, silt; cohesive; medium plasticity (ML).                                                                                                                                                                                                                                                   | 16<br>31<br>50/6" |                             | 50/6"      |                                                                    |
|            |             |            |                | Groundwater encountered at 34 feet ATD.<br>Groundwater at 21.1 feet 30 minutes after install, may be elevated due to water used while drilling.<br>Blow counts (Blows/Foot) from samples taken with a 2.5-inch outside diameter modified California (Cal-Mod) sampler have been adjusted to reflect standard 2-inch outside diameter SPT blow counts. |                   |                             |            |                                                                    |
| 55         |             |            |                |                                                                                                                                                                                                                                                                                                                                                       |                   |                             |            |                                                                    |
| 60         |             |            |                |                                                                                                                                                                                                                                                                                                                                                       |                   |                             |            |                                                                    |
| 65         |             |            |                |                                                                                                                                                                                                                                                                                                                                                       |                   |                             |            |                                                                    |
| 70         |             |            |                |                                                                                                                                                                                                                                                                                                                                                       |                   |                             |            |                                                                    |



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## Monitoring Well

# EB-3W

Arlington 360

Sheet: 1 of 2

Arlington, WA

Start Date: 12/11/23

Logged By: PL

20230078E001

Ending Date: 12/11/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/HSA

Hammer Weight/Drop: 140#/30"

Hole Diameter (in): 8

Ground Surface Elevation (ft): ≈266

Water Level Elevation (ft): 242.63

Groundwater Depth ATD (ft): 7

Total Depth (ft): 51.5

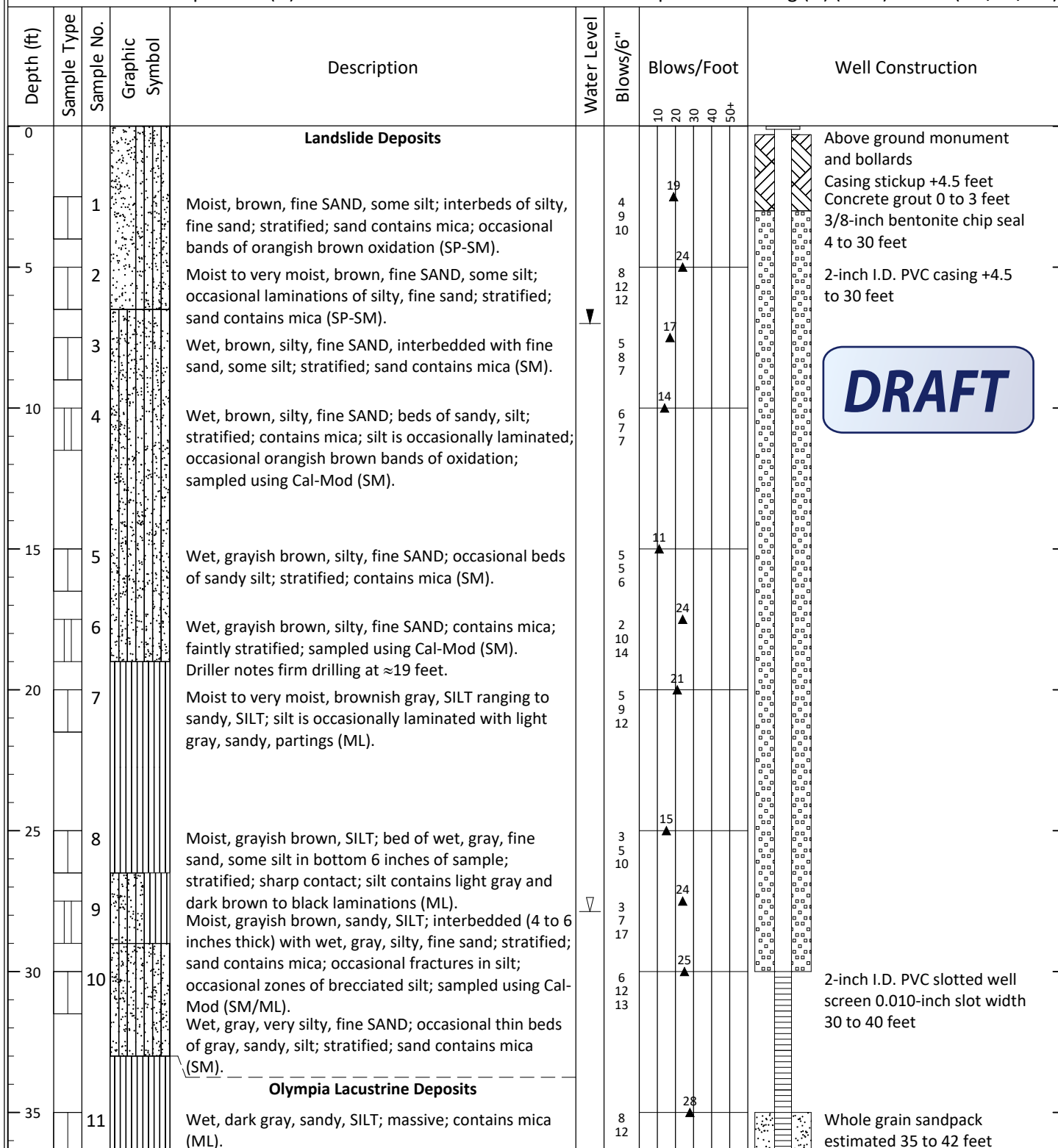
Well Completion Depth (ft): 40

Well Tag No.: BPX651

Top of Well Casing Elevation (ft): 270.5

Datum: NAVD 88

Groundwater Depth Post Drilling (ft) (Date): 27.87 ( 12/22/23 )



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**EB-3W**

Sheet: 2 of 2

|               |
|---------------|
| Logged By: PL |
|---------------|

|                  |
|------------------|
| Approved By: JHS |
|------------------|

Groundwater Depth Post Drilling (ft) (Date): 27.87 ( 12/22/23 )

2/9/2024



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## Monitoring Well

# EB-4W

Arlington 360

Sheet: 1 of 3

Arlington, WA

Start Date: 12/13/23

Logged By: PL

20230078E001

Ending Date: 12/14/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud-Rotary Total Depth (ft): 101.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 30

Hole Diameter (in): 5

Well Tag No.: BPX653

Ground Surface Elevation (ft): 284

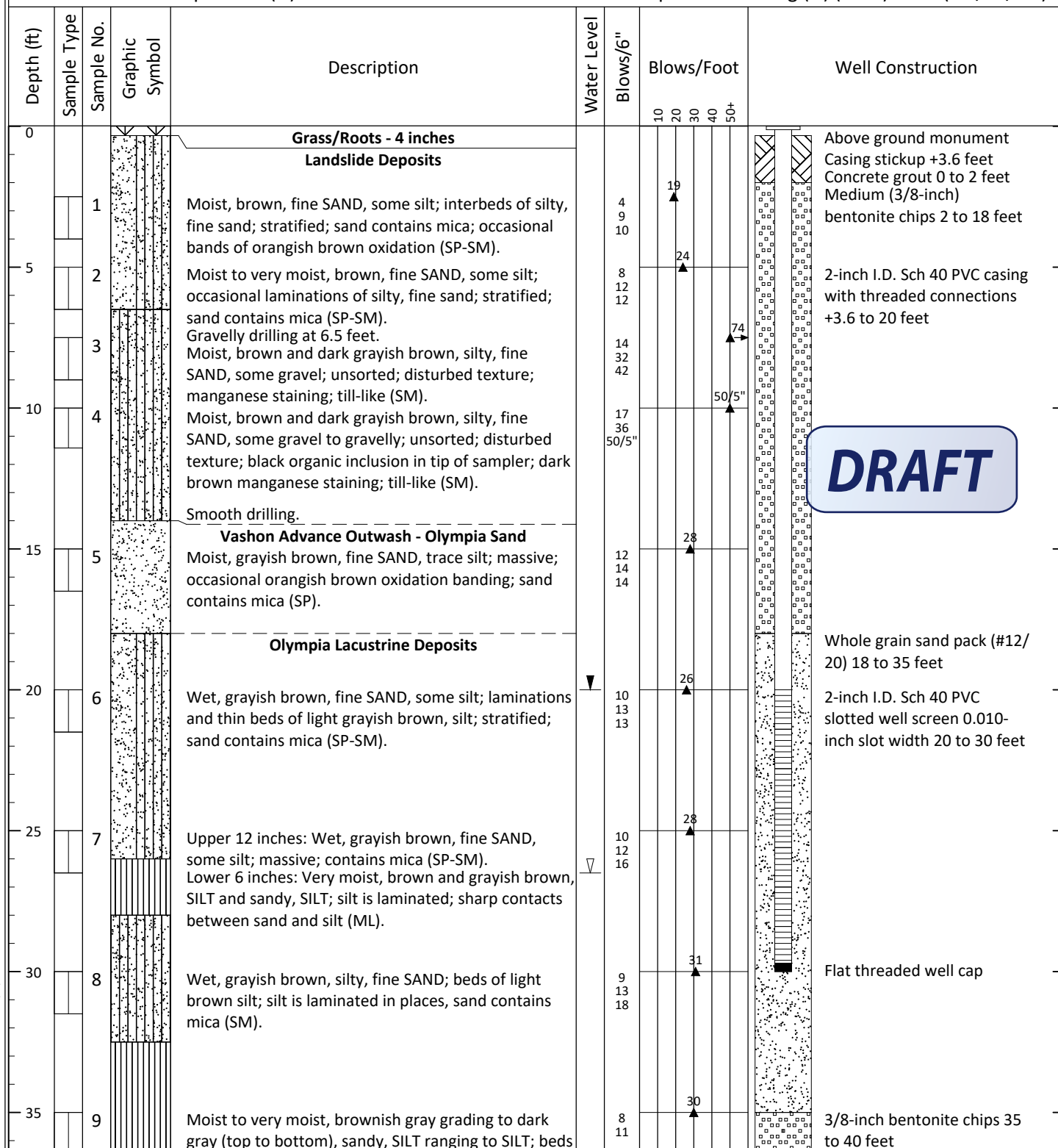
Top of Well Casing Elevation (ft): 287.6

Water Level Elevation (ft): 261.1

Datum: NAVD 88

Groundwater Depth ATD (ft): 20

Groundwater Depth Post Drilling (ft) (Date): 26.5 ( 12/22/23 )



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## Monitoring Well

# EB-4W

Arlington 360

Sheet: 2 of 3

Arlington, WA

Start Date: 12/13/23

Logged By: PL

20230078E001

Ending Date: 12/14/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud-Rotary Total Depth (ft): 101.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 30

Hole Diameter (in): 5

Well Tag No.: BPX653

Ground Surface Elevation (ft): 284

Top of Well Casing Elevation (ft): 287.6

Water Level Elevation (ft): 261.1

Datum: NAVD 88

Groundwater Depth ATD (ft): 20

Groundwater Depth Post Drilling (ft) (Date): 26.5 ( 12/22/23 )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                                                                          | Water Level    | Blows/6" | Blows/6" | Well Construction |    |     |
|------------|-------------|------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|----------|-------------------|----|-----|
|            |             |            |                |                                                                                                                                                                                                                                                                                                      |                | 10       | 20       | 30                | 40 | 50+ |
|            |             |            |                | of dark gray, fine sand, some silt in top of sampler; sand contains mica (ML).                                                                                                                                                                                                                       | 19             |          |          |                   |    |     |
| 40         |             | 10         |                | Wet, dark gray, silty, fine SAND ranging to sandy, SILT; bed (3 inches thick) of dark gray and light gray, silt; sand contains mica; stratified; silt contains horizontal partings/lamination (SM-ML/ML).                                                                                            | 14<br>21<br>29 |          |          |                   | 50 |     |
| 45         |             | 11         |                | Wet, dark gray, very silty, fine SAND; bed of gray silt ranging to clayey, silt; clayey silt is medium plasticity and cohesive; sand contains occasional dark brown to black staining and fine black lamination (possible organics); sand contains fine mica; stratified (SM/ML).                    | 14<br>25<br>33 |          |          |                   | 58 |     |
| 50         |             | 12         |                | Moist, dark gray, low plasticity, cohesive, SILT; silt contains bands of black staining; occasional thin beds of brecciated silt have semi-polished surface (ML).                                                                                                                                    | 16<br>24<br>37 |          |          |                   | 61 |     |
| 55         |             | 13         |                | Wet, dark gray, non-plastic, non-cohesive, sandy, SILT; bed (4 inches thick) of medium plasticity, cohesive, clayey, silt near tip of sampler; sandy silt contains mica; clayey silt is laminated (ML).                                                                                              | 9<br>16<br>25  |          |          |                   | 41 |     |
| 60         |             | 14         |                | Moist, gray, non-plastic, non-cohesive, sandy, SILT; beds (2 to 5 inches thick) of wet, dark gray, silty, fine sand and thin beds (>0.5 to 1 inch thick) of moist, dark gray, medium plasticity, cohesive, clayey, silt; sand contains mica; occasional laminations in silt of light gray sand (ML). | 19<br>32<br>37 |          |          |                   | 69 |     |
| 65         |             | 15         |                | <b>Olympia Fine-Grained Deposits</b><br>Moist, dark gray, low plasticity, low cohesive, SILT; thin zone (0.5 centimeters thick) of brecciated silt with pointed surfaces; massive (ML).                                                                                                              | 15<br>28<br>36 |          |          |                   | 64 |     |
| 70         |             | 16         |                | Moist, dark gray, low plasticity, cohesive, SILT; occasional light gray, sandy laminations (ML).                                                                                                                                                                                                     | 14<br>21<br>27 |          |          |                   | 48 |     |

Bentonite grout mixture 40 to 100 feet

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Bentonite grout mixture 40 to 100 feet





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## Monitoring Well

## EB-4W

Arlington 360

Sheet: 3 of 3

Arlington, WA

Start Date: 12/13/23

Logged By: PL

20230078E001

Ending Date: 12/14/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud-Rotary Total Depth (ft): 101.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 30

Hole Diameter (in): 5

Well Tag No.: BPX653

Ground Surface Elevation (ft): 284

Top of Well Casing Elevation (ft): 287.6

Water Level Elevation (ft): 261.1

Datum: NAVD 88

Groundwater Depth ATD (ft): 20

Groundwater Depth Post Drilling (ft) (Date): 26.5 ( 12/22/23 )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                                | Water Level    | Blows/6" |    |    |    |    | Well Construction                                          |
|------------|-------------|------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|----|----|----|----|------------------------------------------------------------|
|            |             |            |                |                                                                                                                                                                                                                                                            |                | Blows/6" | 10 | 20 | 30 | 40 |                                                            |
| 75         |             | 17         |                | Moist, dark gray, SILT; occasional polished surfaces; light gray, sandy laminations (ML).                                                                                                                                                                  | 11<br>16<br>24 |          |    |    |    | 40 | Bentonite grout mixture 40 to 100 feet<br><br><b>DRAFT</b> |
| 80         |             | 18         |                | Moist, dark gray, low to medium plasticity, cohesive, clayey, SILT; occasional light gray, sandy laminations (ML).                                                                                                                                         | 11<br>13<br>23 |          |    |    |    | 36 |                                                            |
| 85         |             | 19         |                | Moist, dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations; thin zone (0.5 centimeters thick) of brecciated silt with polished surfaces (only showed in one spot) (ML). Swelling/Caving in borehole 85 to 95 feet ATD. | 15<br>21<br>28 |          |    |    |    | 49 |                                                            |
| 90         |             | 20         |                | Moist, dark gray, medium plasticity, cohesive, clayey, SILT; massive; occasional light gray, sandy laminations (ML).                                                                                                                                       | 12<br>18<br>25 |          |    |    |    | 43 |                                                            |
| 95         |             | 21         |                | Moist, dark gray, medium plasticity; cohesive, clayey, SILT; occasional light gray, sandy laminations; massive (ML).                                                                                                                                       | 17<br>17<br>23 |          |    |    |    | 40 |                                                            |
| 100        |             | 22         |                | Moist, dark gray, medium to high plasticity, cohesive, clayey, SILT; massive (ML).                                                                                                                                                                         | 13<br>22<br>26 |          |    |    |    | 48 |                                                            |
|            |             |            |                | Groundwater encountered at 20 feet ATD.<br>Post-development groundwater encountered at 26.50 feet BTC.                                                                                                                                                     |                |          |    |    |    |    |                                                            |
| 105        |             |            |                |                                                                                                                                                                                                                                                            |                |          |    |    |    |    |                                                            |

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## Monitoring Well

# EB-5W

Arlington 360

Sheet: 1 of 4

Arlington, WA

Start Date: 12/28/23

Logged By: PL

20230078E001

Ending Date: 12/29/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 57

Hole Diameter (in): 8

Well Tag No.: BPX656

Ground Surface Elevation (ft): 304

Top of Well Casing Elevation (ft): 307

Water Level Elevation (ft): 282

Datum: NAVD 88

Groundwater Depth ATD (ft): 35

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                                                              | Water Level    | Blows/6" | Blows/Foot                  | Well Construction                                                                                        |
|------------|-------------|------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|-----------------------------|----------------------------------------------------------------------------------------------------------|
| 0          |             |            |                | <b>Vashon Advance Outwash - Olympia Sand</b>                                                                                                                                                                                                                                             |                |          | 10<br>20<br>30<br>40<br>50+ | Above ground monument<br>Casing stickup +3 feet<br>42 to 2 feet<br>3/8-inch bentonite chips 2 to 42 feet |
| 1          |             | 1          |                | Very moist, brown and dark brown, silty, fine SAND, some gravel; faintly stratified; unsorted in tip of sampler (SM).                                                                                                                                                                    | 7<br>8<br>13   | 21       |                             |                                                                                                          |
| 2          |             | 2          |                | Moist, grayish brown, fine SAND, some silt; sand contains dark gray, silty laminations; stratified; sand contains minor mica (SP-SM).                                                                                                                                                    | 11<br>11<br>9  | 20       |                             |                                                                                                          |
| 3          |             | 3          |                | Moist, grayish brown, fine SAND, some silt; bed (0.5 inches thick) of brown silt; stratified; sand contains minor mica (SP-SM).                                                                                                                                                          | 9<br>10<br>12  | 22       |                             |                                                                                                          |
| 4          |             | 4          |                | Moist, brown, fine SAND, some silt, some gravel; gravel in tip of sampler; blow counts overstated; poor recovery (SP-SM).                                                                                                                                                                | 5<br>17<br>22  | 39       |                             |                                                                                                          |
| 5          |             | 5          |                | Upper 9 inches: Moist, brown, non-plastic, non-cohesive, SILT; banded orangish brown oxidation (ML).<br>Lower 9 inches: Moist, grayish brown, fine SAND, trace silt; band of reddish brown oxidation; stratified; contact between sand and silt is sharp; sand contains minor mica (SP). | 10<br>21<br>22 | 43       |                             |                                                                                                          |
| 6          |             | 6          |                | Moist to very moist, grayish brown to brown, fine SAND, some silt; occasional laminations of brown silt; thin horizontal bands of dark brown to black staining; sand contains minor mica (SP-SM).                                                                                        | 23<br>29<br>28 | 57       |                             | 2-inch I.D. Sch 40 PVC casing<br>+3 to 47 feet                                                           |
| 7          |             | 7          |                | Moist, grayish brown with dark orangish to reddish brown oxidation, fine SAND, some silt; faintly stratified; contains minor mica (SP-SM).                                                                                                                                               | 18<br>20<br>26 | 46       |                             |                                                                                                          |
| 8          |             | 8          |                | Moist, grayish brown, fine SAND, trace silt; occasional thin horizontal bands of dark gray to black staining; contains mica (SP).                                                                                                                                                        | 19<br>25<br>26 | 51       |                             |                                                                                                          |
| 9          |             | 9          |                | <b>Olympia Lacustrine Deposits</b><br>Wet, brown, fine SAND, some silt; beds and laminations of light brown silt; stratified; sand                                                                                                                                                       | 18<br>24       | 57       |                             |                                                                                                          |

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## Monitoring Well

# EB-5W

Arlington 360

Sheet: 2 of 4

Arlington, WA

Start Date: 12/28/23

Logged By: PL

20230078E001

Ending Date: 12/29/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 57

Hole Diameter (in): 8

Well Tag No.: BPX656

Ground Surface Elevation (ft): 304

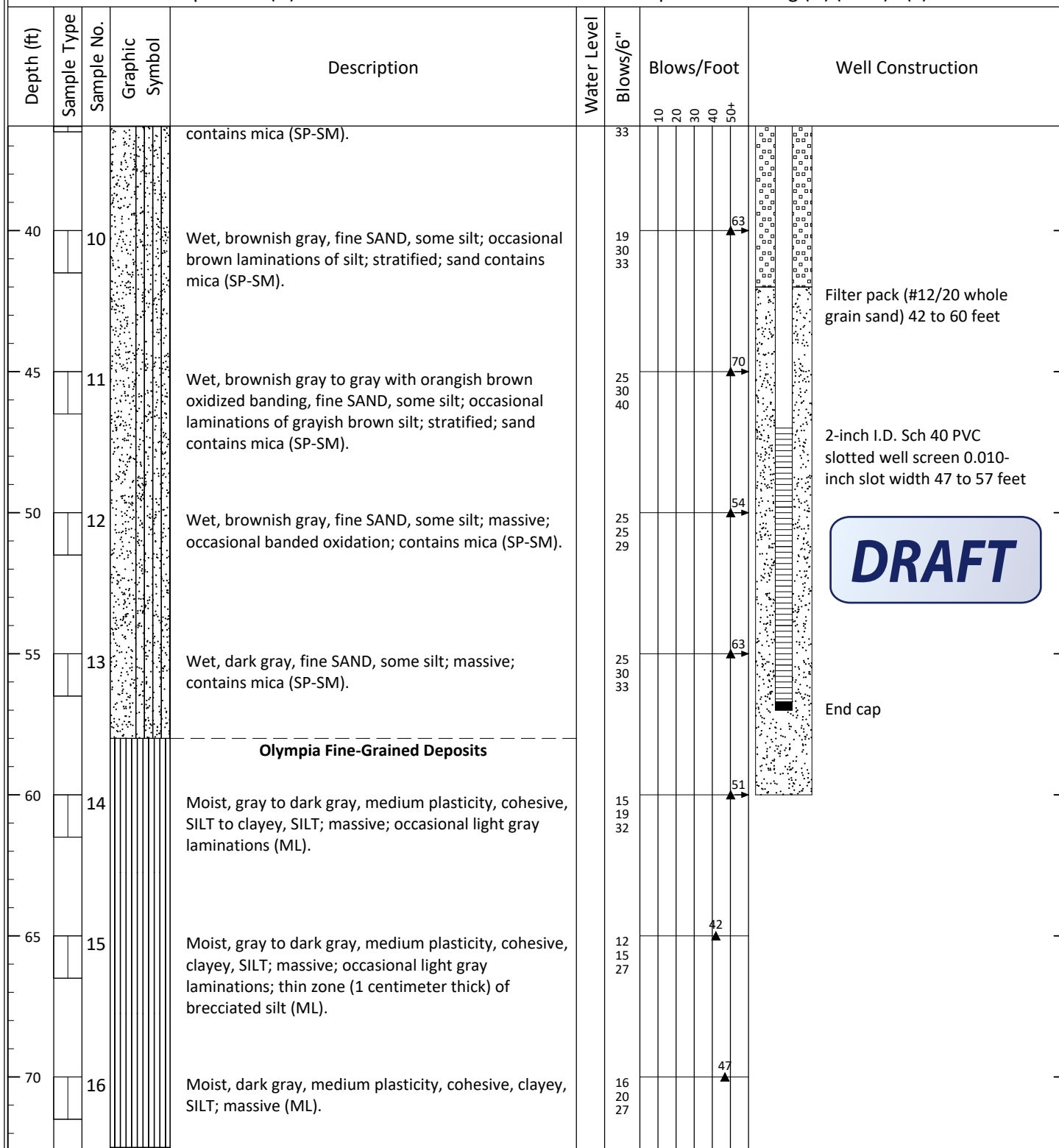
Top of Well Casing Elevation (ft): 307

Water Level Elevation (ft): 282

Datum: NAVD 88

Groundwater Depth ATD (ft): 35

Groundwater Depth Post Drilling (ft) (Date): ( )





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## Monitoring Well

## EB-5W

Arlington 360

Sheet: 3 of 4

Arlington, WA

Start Date: 12/28/23

Logged By: PL

20230078E001

Ending Date: 12/29/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 57

Hole Diameter (in): 8

Well Tag No.: BPX656

Ground Surface Elevation (ft): 304

Top of Well Casing Elevation (ft): 307

Water Level Elevation (ft): 282

Datum: NAVD 88

Groundwater Depth ATD (ft): 35

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                           | Water Level       | Blows/6" | Blows/6" | Well Construction |    |       |                  |
|------------|-------------|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|----------|-------------------|----|-------|------------------|
|            |             |            |                |                                                                                                                                                                                                       |                   | 10       | 20       | 30                | 40 | 50+   |                  |
| 75         |             | 17         |                | Moist to very moist, gray to dark gray, fine SAND, some silt; massive; contains mica; effervesces with hydrochloric acid (SP-SM).                                                                     | 28<br>31<br>50/6" |          |          |                   |    | 50/6" | <div>DRAFT</div> |
| 80         |             | 18         |                | Moist, gray to dark gray, low to medium plasticity, cohesive, SILT ranging to clayey, SILT; massive (ML).                                                                                             | 13<br>25<br>40    |          |          |                   |    | 65    |                  |
| 85         |             | 19         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations; two thin beds (1 to 2 centimeters thick) of brecciated silt slicken side (ML).                | 13<br>23<br>26    |          |          |                   |    | 49    |                  |
| 90         |             | 20         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations (ML).                                                                                          | 16<br>29<br>37    |          |          |                   |    | 66    |                  |
| 95         |             | 21         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations; low angle to horizontal bed (3 centimeters thick) of brecciated silt with slicken sides (ML). | 14<br>25<br>38    |          |          |                   |    | 63    |                  |
| 100        |             | 22         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations; horizontal bed (1 to 2 centimeters thick) of dark gray silt with slicken sides (ML).          | 14<br>18<br>27    |          |          |                   |    | 45    |                  |
| 105        |             | 23         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations; bed (2 centimeters thick) of dark gray silt with low angle slicken sides (ML).                | 18<br>22<br>30    |          |          |                   |    | 52    |                  |



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## Monitoring Well

# EB-5W

Arlington 360

Sheet: 4 of 4

Arlington, WA

Start Date: 12/28/23

Logged By: PL

20230078E001

Ending Date: 12/29/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 57

Hole Diameter (in): 8

Well Tag No.: BPX656

Ground Surface Elevation (ft): 304

Top of Well Casing Elevation (ft): 307

Water Level Elevation (ft): 282

Datum: NAVD 88

Groundwater Depth ATD (ft): 35

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                        | Water Level    | Blows/6" |    |    |    |    |     | Well Construction |
|------------|-------------|------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|----|----|----|----|-----|-------------------|
|            |             |            |                |                                                                                                                                                                                                                                    |                | Blows/6" | 10 | 20 | 30 | 40 | 50+ |                   |
| 110        |             | 24         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; massive (ML).                                                                                                                                                 | 15<br>15<br>21 |          |    |    |    | 36 |     | <div>DRAFT</div>  |
| 115        |             | 25         |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray laminations; two beds (1 to 2 inches thick) of dark gray brecciated silt with slicken sides (ML).                                       | 11<br>17<br>25 |          |    |    |    | 42 |     |                   |
| 120        |             | 26         |                | Moist, gray and dark gray, medium plasticity, cohesive, clayey, SILT; light gray laminations; occasional low angle slicken sides; lower 6 inches of sample becomes thinly bedded with dark gray and olive gray, clayey, silt (ML). | 14<br>19<br>28 |          |    |    |    | 47 |     |                   |
| 125        |             | 27         |                | Moist, dark gray and olive gray, medium plasticity, cohesive, clayey, SILT; contains a single sandy lamination with dark brown, fine organics (ML).                                                                                | 18<br>20<br>27 |          |    |    |    | 47 |     |                   |
| 130        |             | 28         |                | Moist, dark gray and olive gray, medium plasticity, cohesive, clayey, SILT; light gray, sandy laminations/partings; brecciated/disturbed texture; fracture (45 degrees) with slicken sides (ML).                                   | 14<br>18<br>27 |          |    |    |    | 45 |     |                   |
| 135        |             |            |                | Groundwater encountered at 35 feet ATD.<br>Well completed adjacent to boring, approximately 10 feet northeast.<br>Exploration boring completed using mud-rotary.<br>Monitoring well completed using HSA.                           |                |          |    |    |    |    |     |                   |
| 140        |             |            |                |                                                                                                                                                                                                                                    |                |          |    |    |    |    |     |                   |
| 145        |             |            |                |                                                                                                                                                                                                                                    |                |          |    |    |    |    |     |                   |

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## Monitoring Well

## EB-6SI

Arlington 360

Sheet: 1 of 2

Arlington, WA

Start Date: 12/12/23

Logged By: PL

20230078E001

Ending Date: 12/12/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud Rotary Total Depth (ft): 51.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 50

Hole Diameter (in): 5

Well Tag No.: BPX652

Ground Surface Elevation (ft): ≈270

Top of Well Casing Elevation (ft):

Water Level Elevation (ft): 10

Datum: NAVD 88

Groundwater Depth ATD (ft): 10

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                            | Water Level    | Blows/6" | Blows/Foot | Well Construction                                                                                                                                                  |
|------------|-------------|------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0          |             |            |                | <b>Landslide Deposits</b><br>Gravelly drilling.                                                                                                                                                                                                        |                |          |            | Above ground monument<br>Casing stickup +4.5 feet<br>Quick set concrete 0 to 1 feet<br>Grout (2:1 ratio portland cement to quick-gel bentonite grout) 1 to 50 feet |
| 5          |             | 1          |                | Moist, brownish gray, silty, fine SAND, some gravel; dark brown manganese staining; disturbed texture; fine organic inclusions (SM).<br>Smooth drilling.                                                                                               | 18<br>25<br>33 |          | 58         |                                                                                                                                                                    |
| 10         |             | 2          |                | Wet, brown, silty, fine SAND; massive; sand contains mica (SM).                                                                                                                                                                                        | 7<br>5<br>7    | 12       |            | 2.75-inch PVC slope inclinometer casing                                                                                                                            |
| 15         |             | 3          |                | Wet, grayish brown to brown, gravelly, sandy, SILT; poor recovery; blow counts may be overstated due to gravel (ML).                                                                                                                                   | 14<br>14<br>17 | 31       |            |                                                                                                                                                                    |
| 20         |             | 4          |                | Wet, grayish brown, very silty, fine SAND ranging to sandy, SILT; change in grain size is gradational between faint bedding; sand contains mica; layer of orangish brown to reddish brown mottled oxidation with sand; sampled using Cal- Mod (SM/ML). | 9<br>13<br>15  | 28       |            |                                                                                                                                                                    |
| 25         |             | 5          |                | Wet, grayish brown, silty, fine SAND; thin beds of sandy, silt; sharp contacts; silt beds (approximately 0.5 inches thick) are occasional (SM).                                                                                                        | 12<br>14<br>17 | 31       |            |                                                                                                                                                                    |
| 30         |             | 6          |                | Moist, gray to dark gray, SILT; occasional light gray laminations (ML).                                                                                                                                                                                | 7<br>12<br>17  | 29       |            |                                                                                                                                                                    |
| 35         |             | 7          |                | Very moist, gray, very fine SAND, some silt; sand contains mica; fine black organics; 3/4-inch black wood fragment; bed of gray, clayey, silt in tip of sampler; clasts of silt within sand with oxidized ring; sampled using Cal-Mod (SP-SM).         | 17<br>27<br>31 | 58       |            |                                                                                                                                                                    |
|            |             | 8          |                |                                                                                                                                                                                                                                                        | 11<br>15       | 35       |            |                                                                                                                                                                    |

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## Monitoring Well

## EB-6SI

Arlington 360

Sheet: 2 of 2

Arlington, WA

Start Date: 12/12/23

Logged By: PL

20230078E001

Ending Date: 12/12/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud Rotary Total Depth (ft): 51.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 50

Hole Diameter (in): 5

Well Tag No.: BPX652

Ground Surface Elevation (ft): ≈270

Top of Well Casing Elevation (ft):

Water Level Elevation (ft): 10

Datum: NAVD 88

Groundwater Depth ATD (ft): 10

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                                                                                                                               | Water Level    | Blows/6" | Blows/Foot | Well Construction |    |     |              |
|------------|-------------|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------------|-------------------|----|-----|--------------|
|            |             |            |                |                                                                                                                                                                                                                                                                                                                           |                | 10       | 20         | 30                | 40 | 50+ |              |
|            |             |            |                | Wet, gray to dark gray, sandy, SILT ranging to moist, gray, SILT; silt contains light gray, sandy partings; rare polished surfaces and fractures within silt (ML).                                                                                                                                                        |                | 20       |            |                   |    |     |              |
|            |             |            |                | <b>Olympia Fine-Grained Deposits</b>                                                                                                                                                                                                                                                                                      |                |          |            |                   |    |     |              |
| 40         |             | 9          |                | Wet, dark gray, sandy, SILT; light gray sandy partings/laminations; scattered mica; sampled using Cal-Mod (ML).                                                                                                                                                                                                           | 14<br>18<br>31 |          | 49         |                   |    |     |              |
| 45         |             | 10         |                | Moist, gray to dark gray, SILT; occasional light gray, sandy laminations; thin bed (approximately 0.25 inches thick) of dark gray, fractured silt; fractures appear to have pointed surfaces (ML).                                                                                                                        | 13<br>21<br>33 |          | 54         |                   |    |     |              |
| 50         |             |            |                | Moist, gray to dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray, sandy laminations/partings (ML).                                                                                                                                                                                              |                |          |            |                   |    |     | Flat end cap |
| 55         |             |            |                | Groundwater encountered at 10 feet ATD. Post-drilling groundwater measurement not feasible due to mud-rotary drilling. Blow counts (Blows/Foot) from samples taken with a 2.5-inch outside diameter modified California (Cal-Mod) sampler have been adjusted to reflect standard 2-inch outside diameter SPT blow counts. |                |          |            |                   |    |     |              |
| 60         |             |            |                |                                                                                                                                                                                                                                                                                                                           |                |          |            |                   |    |     |              |
| 65         |             |            |                |                                                                                                                                                                                                                                                                                                                           |                |          |            |                   |    |     |              |
| 70         |             |            |                |                                                                                                                                                                                                                                                                                                                           |                |          |            |                   |    |     |              |

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## Monitoring Well

# EB-7W

Arlington 360

Sheet: 1 of 4

Arlington, WA

Start Date: 12/19/23

Logged By: PL

20230078E001

Ending Date: 12/21/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud-Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 100

Hole Diameter (in): 5

Well Tag No.: BPX-655

Ground Surface Elevation (ft): ≈360

Top of Well Casing Elevation (ft): 363.5

Water Level Elevation (ft): 273.5

Datum: NAVD 88

Groundwater Depth ATD (ft): 90

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                     | Water Level       | Blows/6" | Blows/Foot                  | Well Construction                                                                                                        |  |
|------------|-------------|------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------|--|
| 0          |             |            |                | <b>Vashon Lodgement Till</b>                                                                                                                                    |                   |          | 10<br>20<br>30<br>40<br>50+ |                                                                                                                          |  |
|            |             | 1          |                | Moist, dark orangish brown and grayish brown, silty, fine SAND, some gravel; fractured gravel in sampler; blow counts overstated; dark red fractured rock (SM). | 33<br>50/5"       |          | 50/5"                       | Above ground monument<br>Casing stickup +3.5 feet<br>Concrete grout 0 to 2 feet<br>3/8-inch bentonite chips 2 to 87 feet |  |
| 5          |             | 2          |                | Moist, brownish gray, silty, fine SAND, some gravel; unsorted (SM).                                                                                             | 12<br>31<br>35    |          | 66                          |                                                                                                                          |  |
|            |             | 3          |                | Moist, brownish gray, silty, fine SAND, some gravel; unsorted (SM).                                                                                             | 25<br>46<br>50/5" |          | 50/5"                       |                                                                                                                          |  |
| 10         |             | 4          |                | Moist, brownish gray, silty, fine SAND, some gravel; unsorted; zones of silty fine to medium sand (SM).                                                         | 35<br>45<br>50/6" |          | 50/6"                       | 2-inch I.D. Sch 40 PVC casing<br>+3.5 to 90 feet                                                                         |  |
|            |             |            |                | <b>Vashon Advance Outwash - Olympia Sand</b><br>Driller notes smooth drilling at 13-14 feet.                                                                    |                   |          |                             | <div>DRAFT</div>                                                                                                         |  |
| 15         |             | 5          |                | Moist, brownish gray, fine SAND, some silt, trace gravel; faintly stratified; contains mica (SP-SM).                                                            | 6<br>9<br>18      |          | 27                          |                                                                                                                          |  |
| 20         |             | 6          |                | Moist, brownish gray, fine SAND, some silt; massive; contains mica (SP-SM).                                                                                     | 12<br>13<br>17    |          | 30                          |                                                                                                                          |  |
| 25         |             | 7          |                | Moist, brownish gray, fine SAND, some silt; laminations of gray silty fine sand; stratified; contains mica (SP-SM).                                             | 12<br>31<br>24    |          | 55                          |                                                                                                                          |  |
| 30         |             | 8          |                | Very moist, brownish gray, fine SAND, some silt; thinly banded oxidation bed (1 inch thick) of gray, silty, fine sand; stratified; contains mica (SP-SM).       | 15<br>18<br>27    |          | 45                          |                                                                                                                          |  |
|            |             |            |                | Rock in boring obstructing lowered drill rods at approximately 12 feet; relocating boring 10 feet north; Relocated again drilling on another rock at 5 feet.    |                   |          |                             |                                                                                                                          |  |
| 35         |             | 9          |                | Moist to very moist, brownish gray, fine SAND, trace                                                                                                            | 23<br>43          |          | 50/5"                       |                                                                                                                          |  |

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## Monitoring Well

# EB-7W

Arlington 360

Sheet: 2 of 4

Arlington, WA

Start Date: 12/19/23

Logged By: PL

20230078E001

Ending Date: 12/21/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud-Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 100

Hole Diameter (in): 5

Well Tag No.: BPX-655

Ground Surface Elevation (ft): ≈360

Top of Well Casing Elevation (ft): 363.5

Water Level Elevation (ft): 273.5

Datum: NAVD 88

Groundwater Depth ATD (ft): 90

Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                                                               | Water Level    | Blows/6" | Blows/6" | Blows/6" | Blows/6" | Well Construction |                                       |
|------------|-------------|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|----------|----------|----------|-------------------|---------------------------------------|
|            |             |            |                |                                                                                                                                                                                                                           |                | 10       | 20       | 30       | 40       | 50+               |                                       |
|            |             |            |                | silt; massive; thin bands of grayish brown oxidation; contains mica (SP).                                                                                                                                                 | 50/5"          |          |          |          |          |                   |                                       |
| 40         |             | 10         |                | Moist to very moist, brownish gray, fine SAND, some silt; occasional thin bands of orangish brown oxidation; contains mica (SP-SM).                                                                                       | 21<br>25<br>33 |          |          |          | 58       |                   | 3/8-inch bentonite chips 2 to 87 feet |
| 45         |             | 11         |                | Moist, brownish gray, fine to very fine SAND, some silt; contains mica (SP-SM).                                                                                                                                           | 25<br>37<br>36 |          |          |          | 73       |                   |                                       |
| 50         |             | 12         |                | Very moist, brownish gray, fine SAND, some silt; bed (1 to 2 inches thick) of silty, fine sand; gradational contacts; stratified; contains mica; thin bands of brown and orangish brown oxidation (SP-SM).                | 15<br>28<br>40 |          |          |          | 68       |                   |                                       |
| 55         |             | 13         |                | Very moist, brownish gray, fine SAND, some silt; bed (0.5 inches thick) of silty, fine sand; band of orangish brown oxidation above bed of silty, fine sand; stratified; contains mica (SP-SM).                           | 26<br>36<br>33 |          |          |          | 69       |                   |                                       |
|            |             |            |                | Olympia Lacustrine Deposits                                                                                                                                                                                               |                |          |          |          |          |                   |                                       |
| 60         |             | 14         |                | Upper 12 inches: Very moist, brownish gray, fine SAND, trace silt; contains mica; banded orangish brown oxidation (SP-SM).<br>Lower 6 inches: Moist, brown, low plasticity, cohesive, SILT; sharp contact with sand (ML). | 21<br>38<br>28 |          |          |          | 66       |                   |                                       |
| 65         |             | 15         |                | Very moist, brownish gray, fine SAND, trace silt; massive; contains mica (SP).                                                                                                                                            | 21<br>27<br>27 |          |          |          | 54       |                   |                                       |
| 70         |             | 16         |                | Very moist, brownish gray, fine SAND, some silt; massive; contains mica; thin bands of oxidation (SP-SM).                                                                                                                 | 22<br>32<br>39 |          |          |          | 71       |                   |                                       |

DRAFT





**EB-7W**

Sheet: 3 of 4

|               |
|---------------|
| Logged By: PL |
|---------------|

|                  |
|------------------|
| Approved By: JHS |
|------------------|

     Groundwater Depth Post Drilling (ft) (Date): (   )

**DRAFT**

2-inch I.D. Sch 40 PVC  
slotted well screen 0.010-  
inch slot width 90 to 100  
feet

Threaded flat endcap

3/8-inch bentonite chips

Associated Earth Sciences, Inc.

20230078E001





associated  
earth sciences  
incorporated

## Monitoring Well

# EB-7W

Arlington 360

Sheet: 4 of 4

Arlington, WA

Start Date: 12/19/23

Logged By: PL

20230078E001

Ending Date: 12/21/23

Approved By: JHS

Driller/Equipment: Holocene Drilling/D-50/Mud-Rotary Total Depth (ft): 131.5

Hammer Weight/Drop: 140#/30"

Well Completion Depth (ft): 100

Hole Diameter (in): 5

Well Tag No.: BPX-655

Ground Surface Elevation (ft): ≈360

Top of Well Casing Elevation (ft): 363.5

Water Level Elevation (ft): 273.5

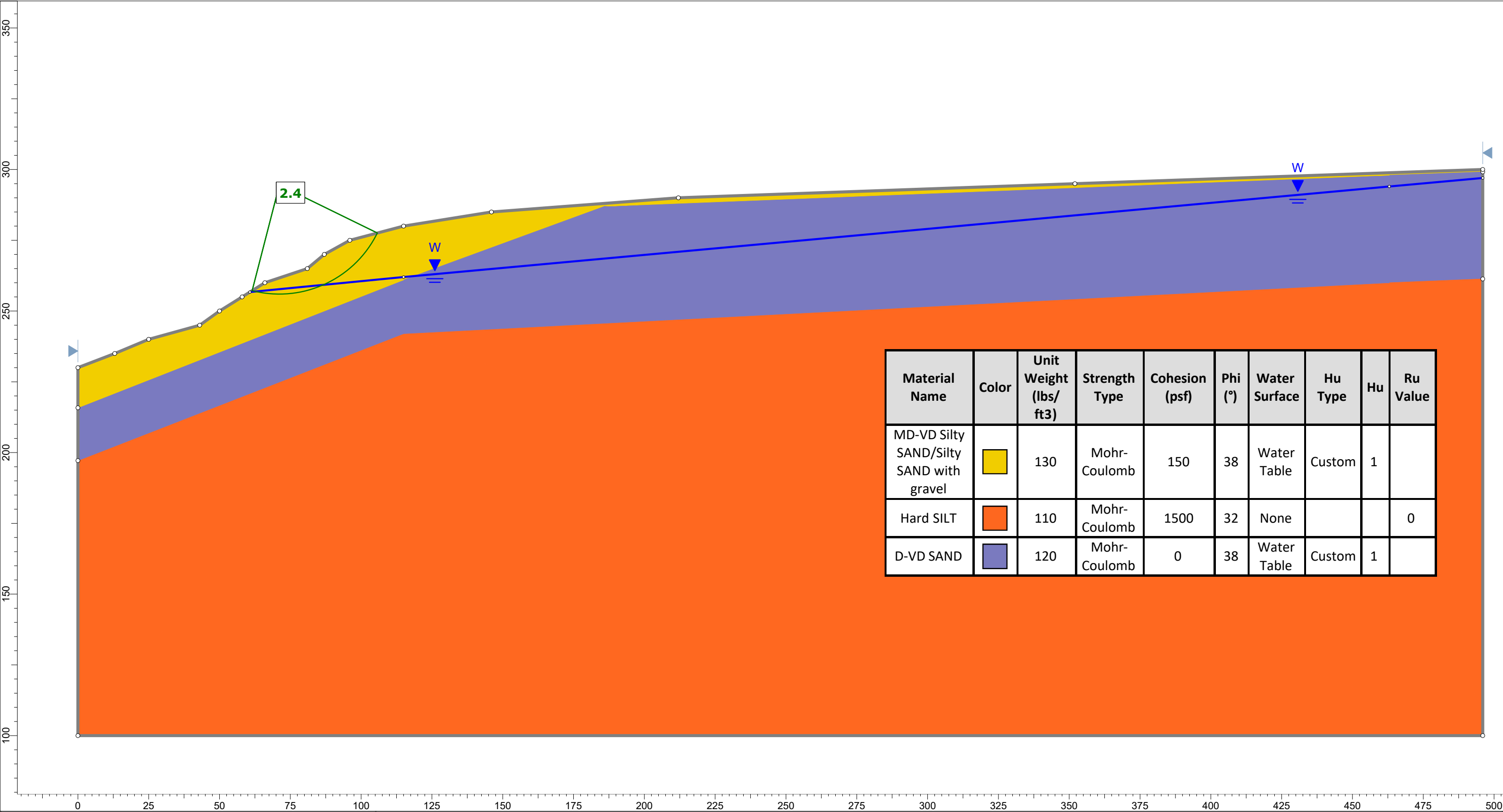
Datum: NAVD 88

Groundwater Depth ATD (ft): 90

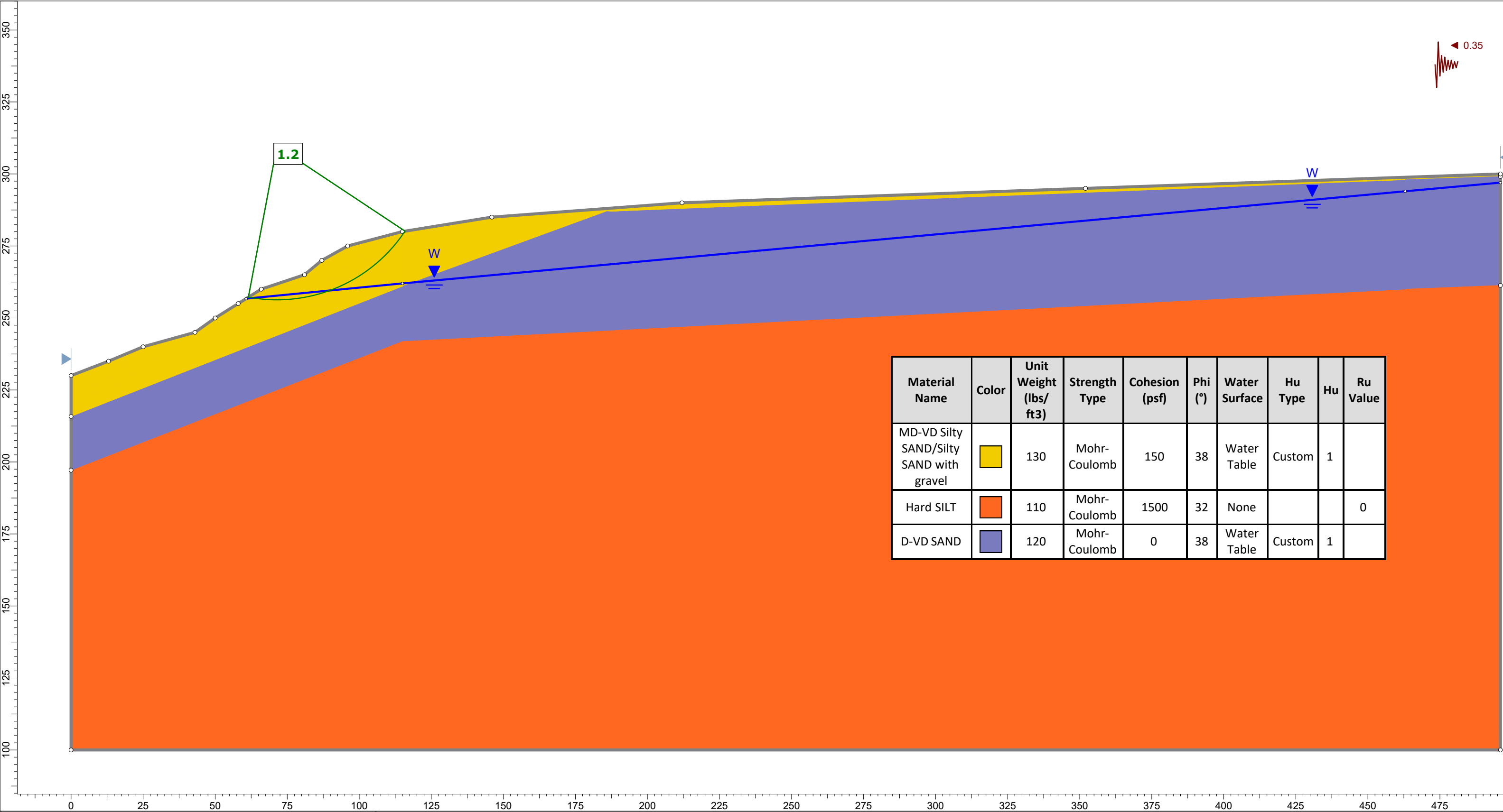
Groundwater Depth Post Drilling (ft) (Date): ( )

| Depth (ft) | Sample Type | Sample No. | Graphic Symbol | Description                                                                                                                                                                            | Water Level       | Blows/6" | Blows/6" | Well Construction |    |       |                                                 |
|------------|-------------|------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|----------|-------------------|----|-------|-------------------------------------------------|
|            |             |            |                |                                                                                                                                                                                        |                   | 10       | 20       | 30                | 40 | 50+   |                                                 |
| 110        |             | 24         |                | Moist, dark gray, medium plasticity, cohesive, clayey, SILT; occasional light gray, sandy laminations; bed of wet, dark gray, non-plastic, non-cohesive, sandy, silt; stratified (ML). | 22<br>28<br>30    |          |          |                   |    | 58    | <div>DRAFT</div> <div>Bentonite gel grout</div> |
| 115        |             | 25         |                | Wet, dark gray, non-plastic, non- cohesive, sandy, SILT; bed (3 inches thick) of moist, dark gray, medium plasticity, cohesive, clayey, silt; stratified (ML).                         | 24<br>38<br>38    |          |          |                   |    | 76    |                                                 |
| 120        |             | 26         |                | Moist, dark gray, medium plasticity, cohesive, clayey, SILT ranging to very moist, non-plastic, non-cohesive, sandy, SILT; gradational contacts (ML).                                  | 27<br>36<br>46    |          |          |                   |    | 82    |                                                 |
| 125        |             | 27         |                | Very moist, dark gray, very silty, fine SAND; massive; contains mica (SM).                                                                                                             | 22<br>36<br>47    |          |          |                   |    | 83    |                                                 |
| 130        |             | 28         |                | Moist, dark gray, low plasticity, cohesive, SILT; massive (ML).                                                                                                                        | 20<br>37<br>50/6" |          |          |                   |    | 50/6" |                                                 |
|            |             |            |                | Groundwater encountered at 90 feet ATD.                                                                                                                                                |                   |          |          |                   |    |       |                                                 |
| 135        |             |            |                |                                                                                                                                                                                        |                   |          |          |                   |    |       |                                                 |
| 140        |             |            |                |                                                                                                                                                                                        |                   |          |          |                   |    |       |                                                 |
| 145        |             |            |                |                                                                                                                                                                                        |                   |          |          |                   |    |       |                                                 |

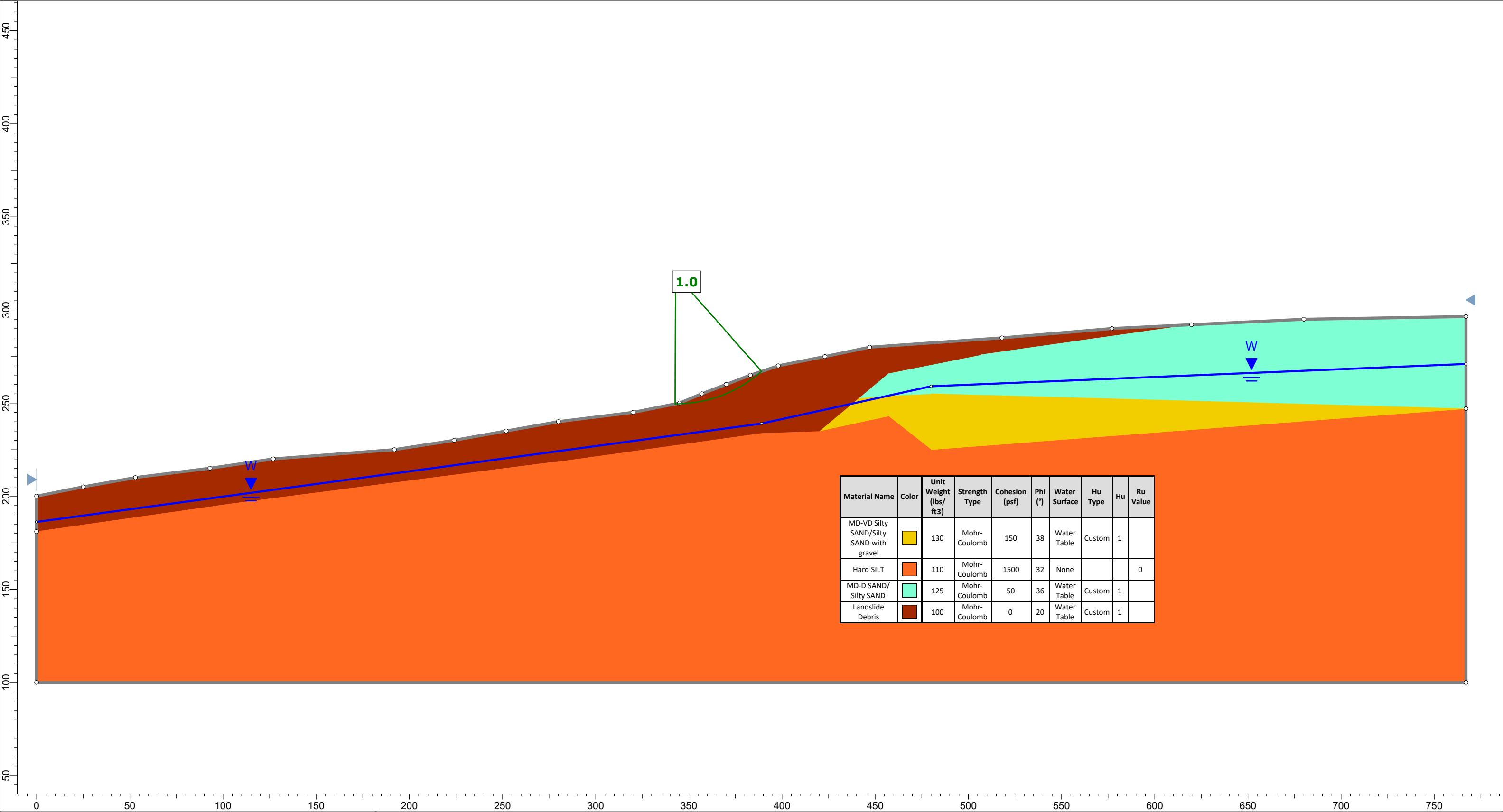
**APPENDIX C**  
**SLIDE2 OUTPUT**



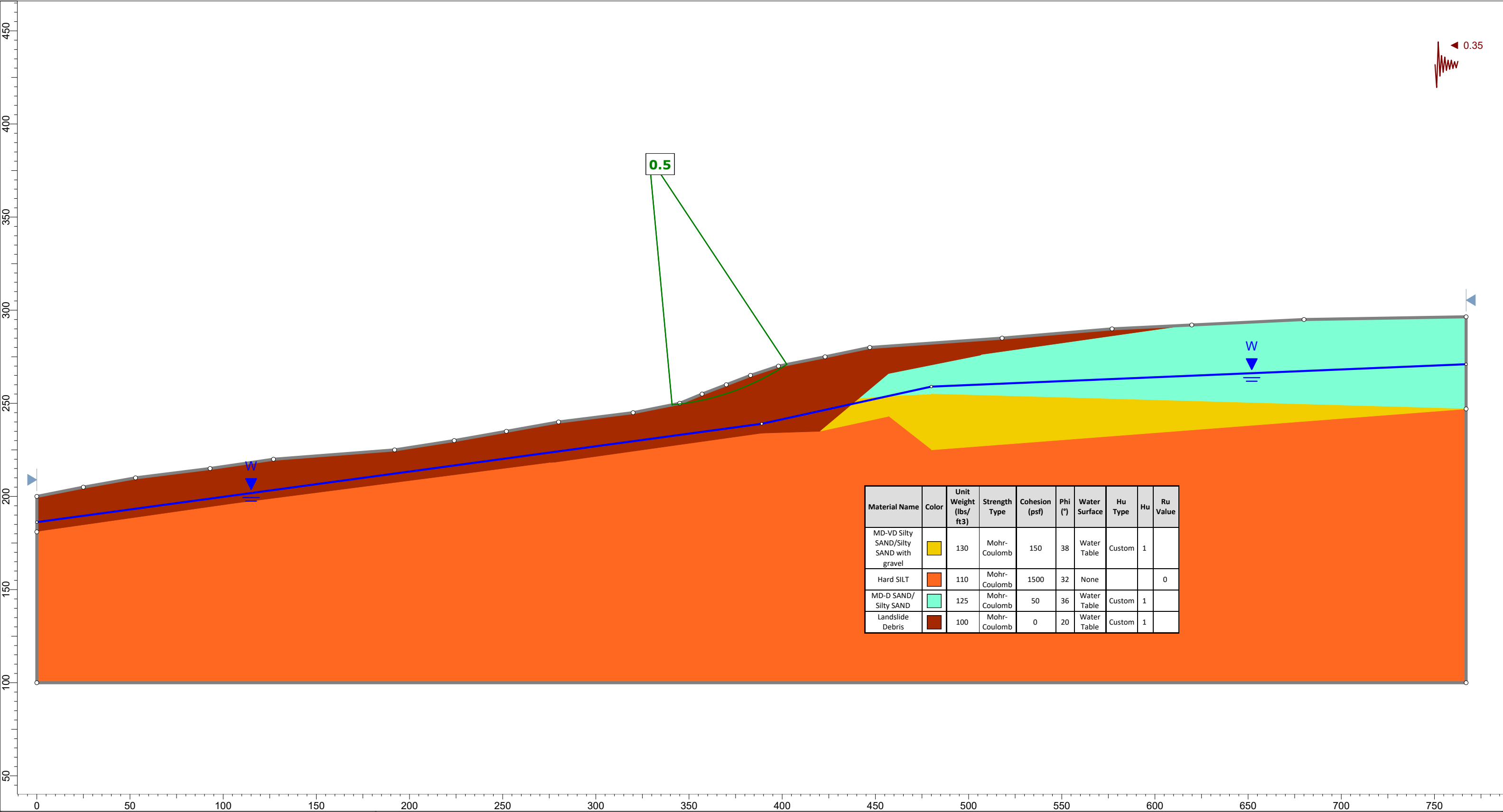
| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                               | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |



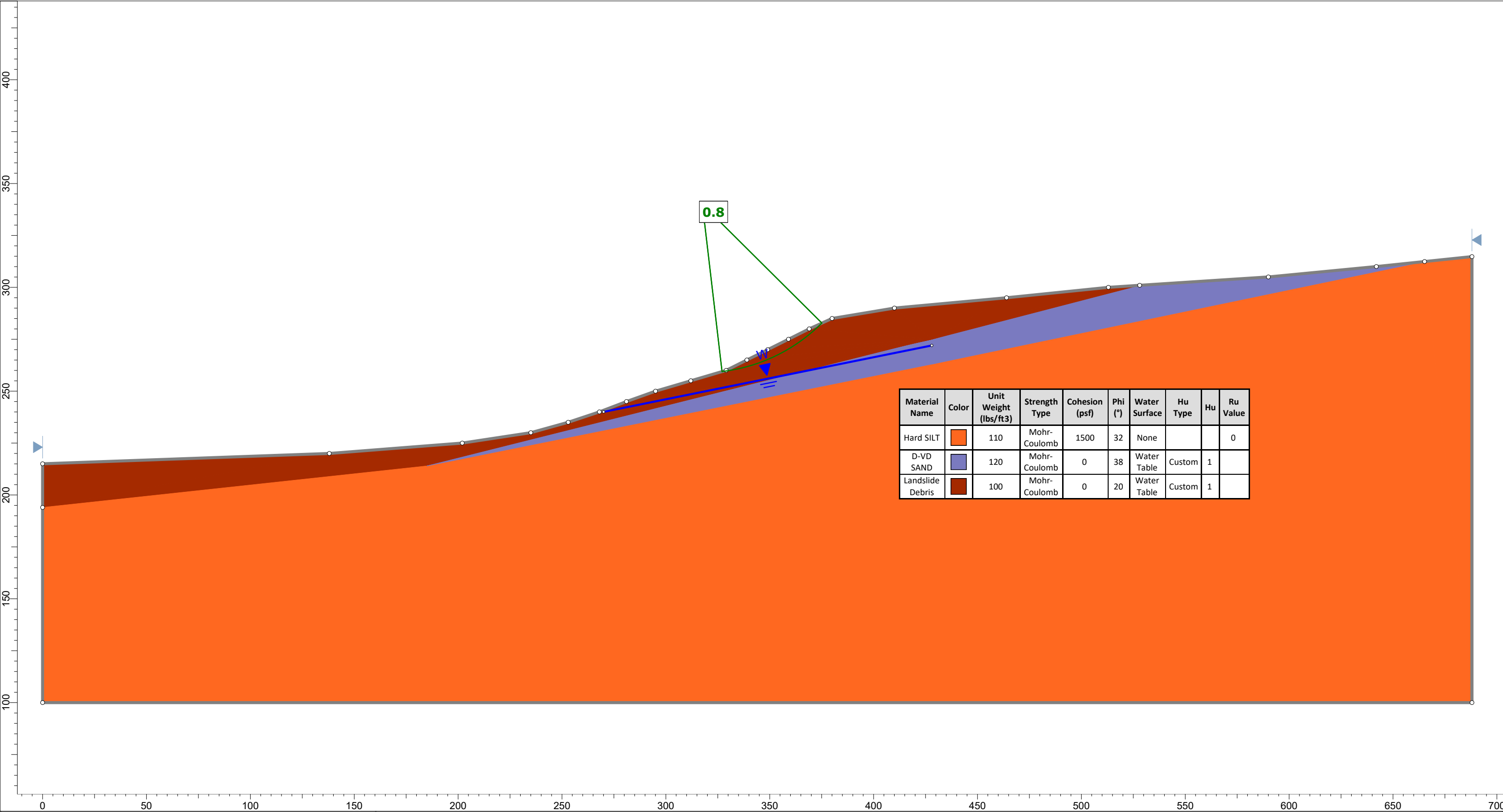
| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                               | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |



| Material Name                           | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel |       | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| MD-D SAND/Silty SAND                    |       | 125                   | Mohr-Coulomb  | 50             | 36      | Water Table   | Custom  | 1  |          |
| Landslide Debris                        |       | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |

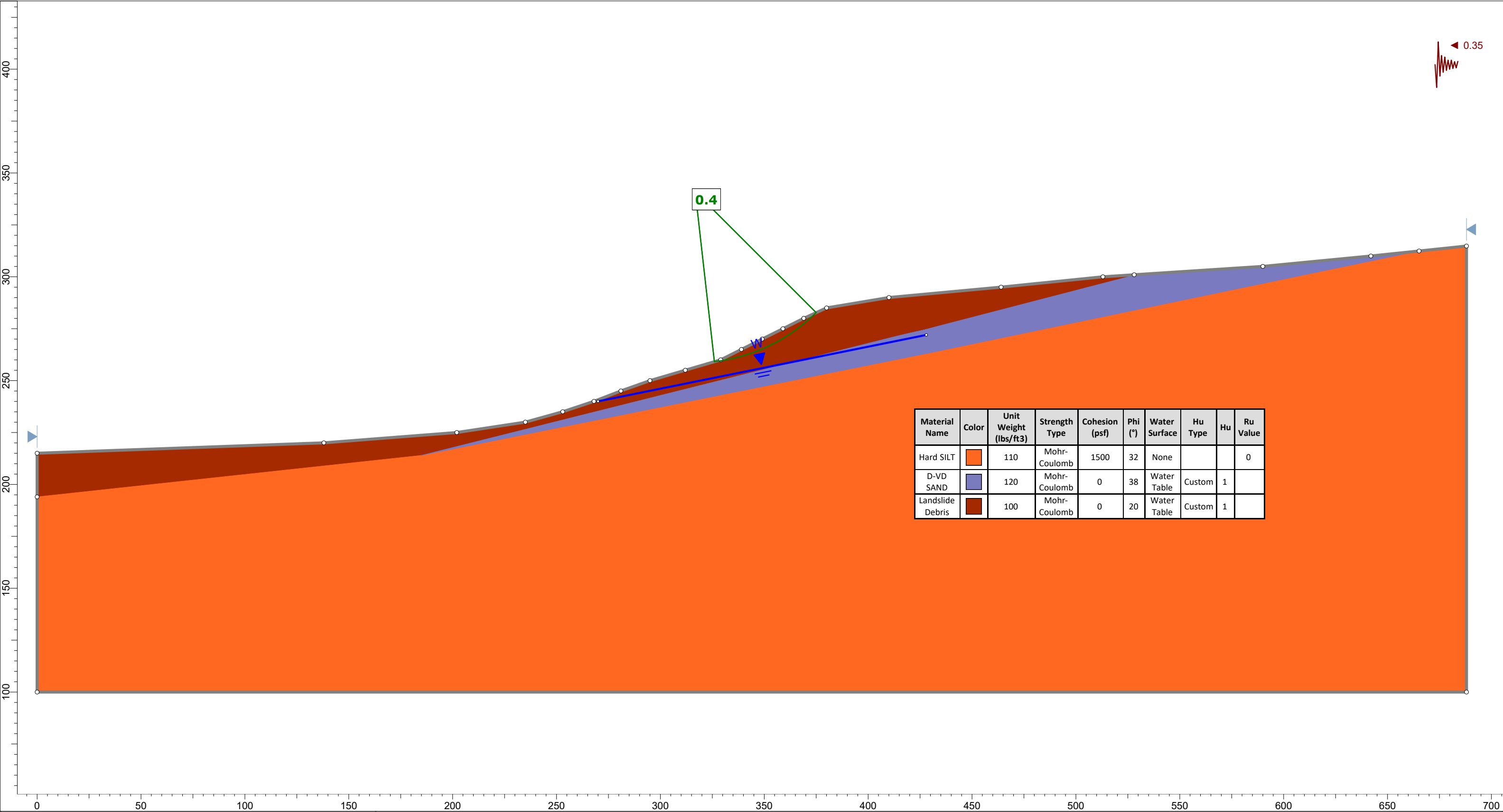


| Material Name                           | Color  | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|--------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | Yellow | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               | Orange | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| MD-D SAND/Silty SAND                    | Cyan   | 125                   | Mohr-Coulomb  | 50             | 36      | Water Table   | Custom  | 1  |          |
| Landslide Debris                        | Brown  | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |



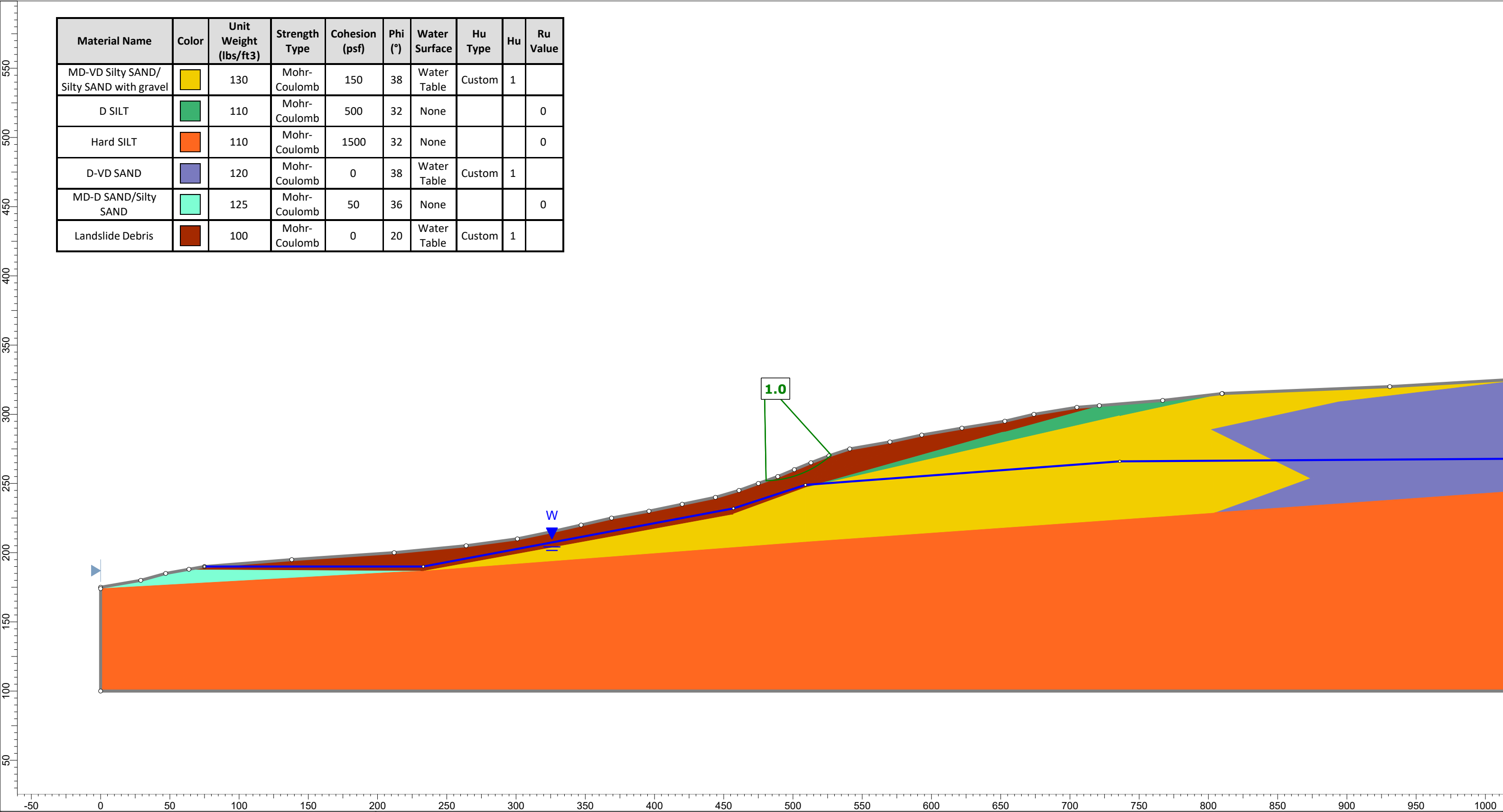
| Material Name    | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|------------------|-------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| Hard SILT        |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND        |       | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris |       | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |



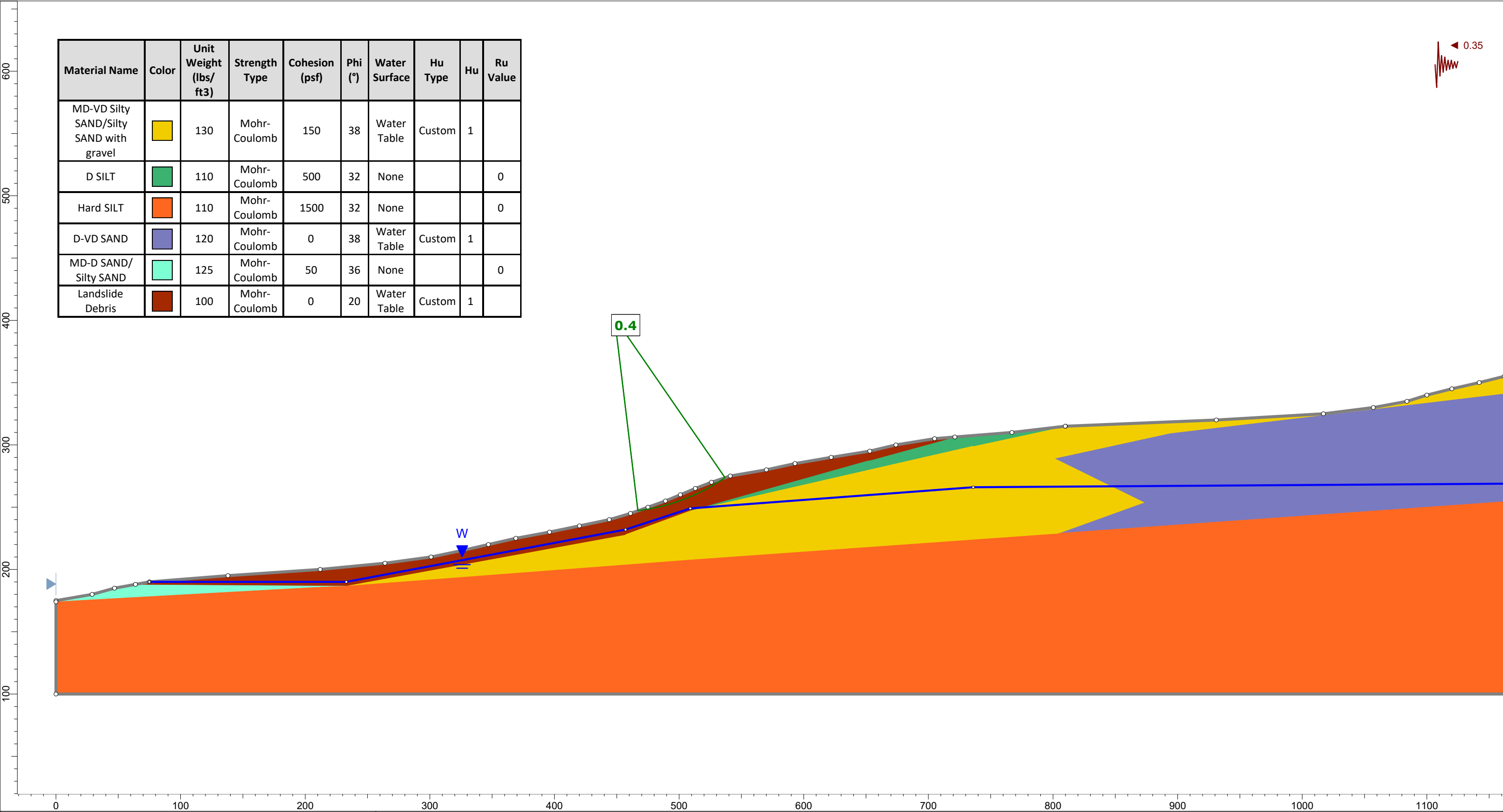


| Material Name    | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|------------------|-------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| Hard SILT        |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND        |       | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris |       | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |

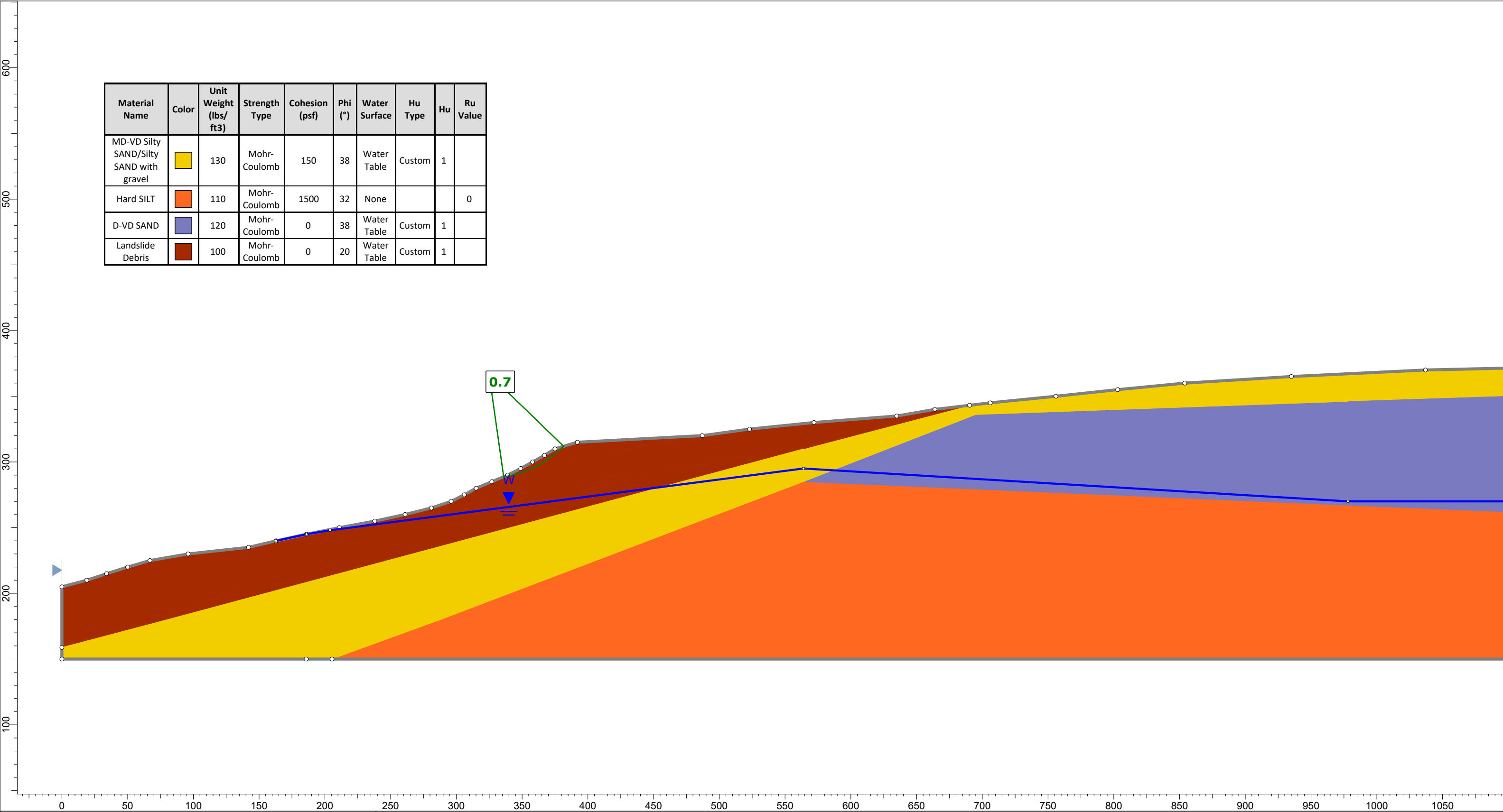




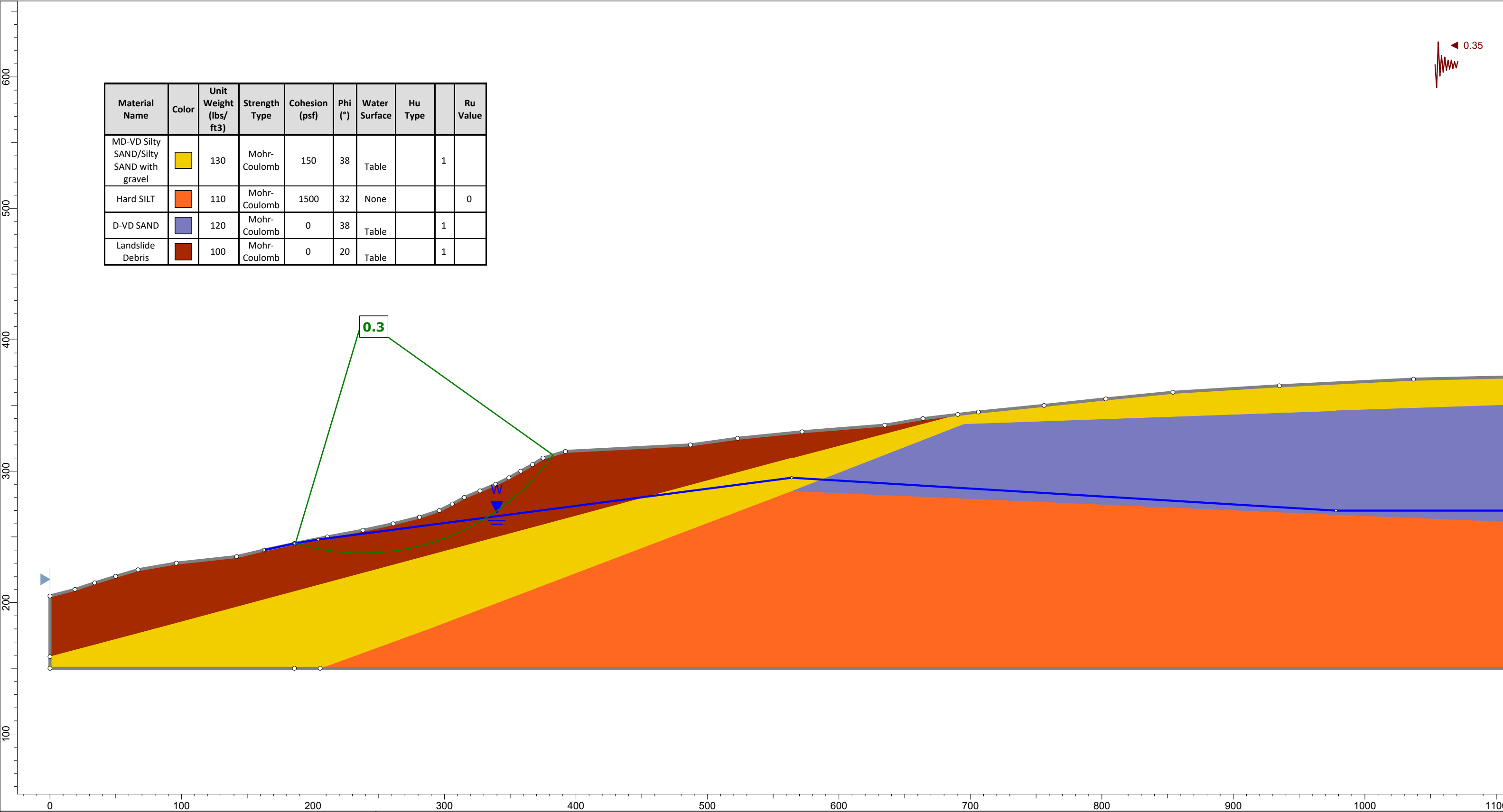
| Material Name                               | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|---------------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/<br>Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| D SILT                                      | <div></div> | 110                   | Mohr-Coulomb  | 500            | 32      | None          |         |    | 0        |
| Hard SILT                                   | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                                   | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| MD-D SAND/Silty SAND                        | <div></div> | 125                   | Mohr-Coulomb  | 50             | 36      | None          |         |    | 0        |
| Landslide Debris                            | <div></div> | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |



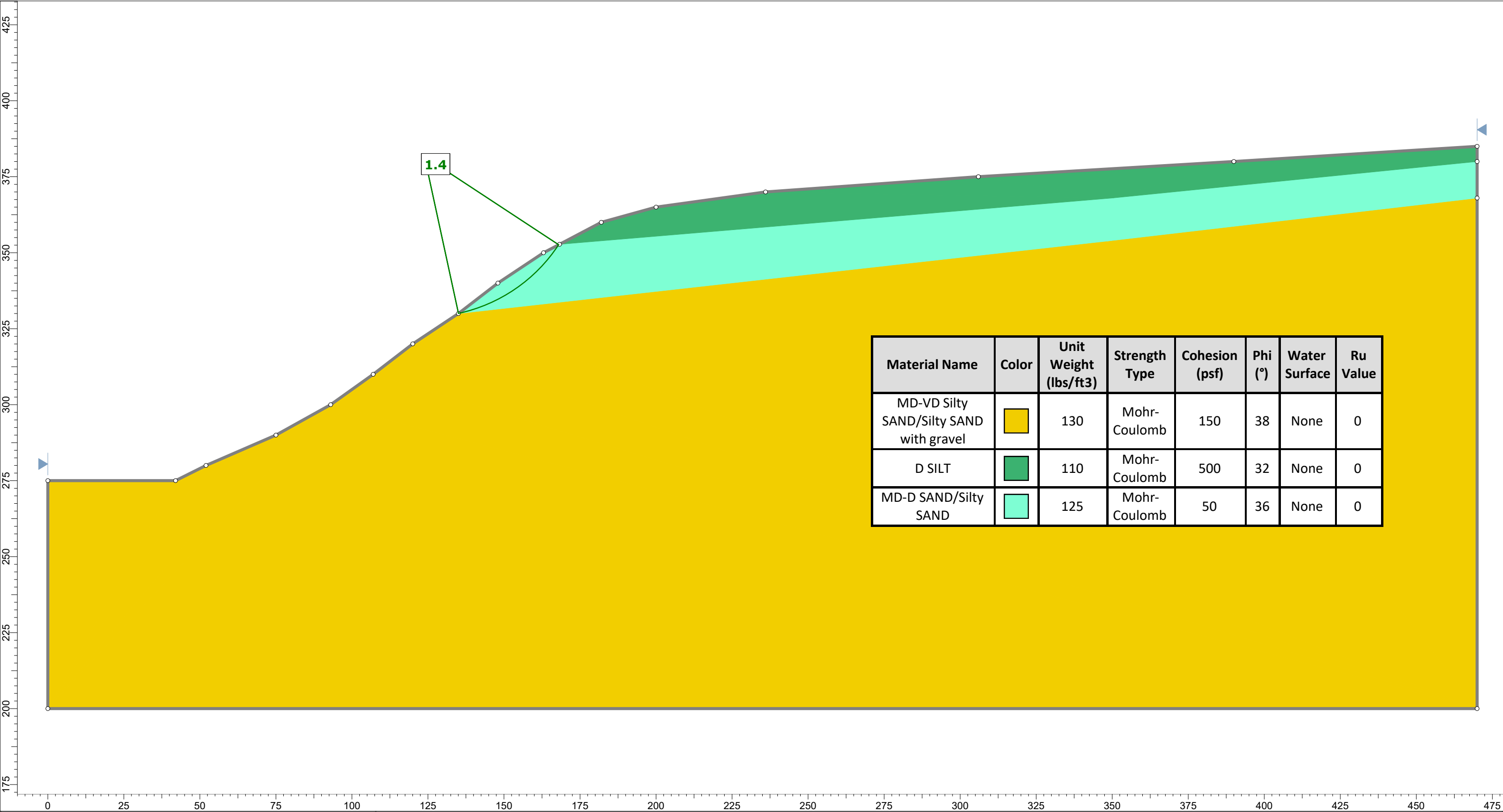
| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| D SILT                                  | <div></div> | 110                   | Mohr-Coulomb  | 500            | 32      | None          |         |    | 0        |
| Hard SILT                               | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                               | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| MD-D SAND/Silty SAND                    | <div></div> | 125                   | Mohr-Coulomb  | 50             | 36      | None          |         |    | 0        |
| Landslide Debris                        | <div></div> | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |



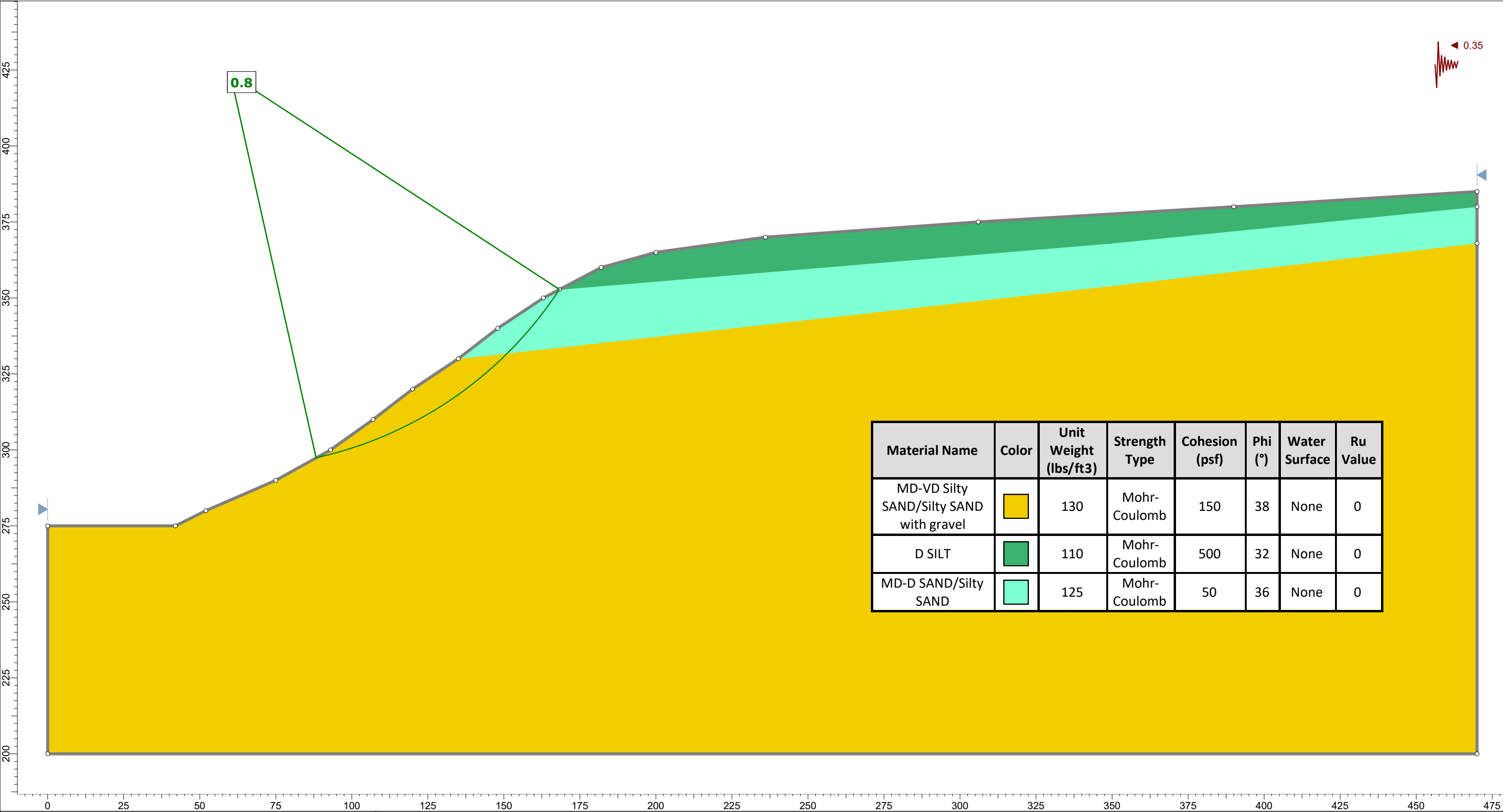
| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                               | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris                        | <div></div> | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |



| Material Name                           | Color  | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type |   | Ru Value |
|-----------------------------------------|--------|-----------------------|---------------|----------------|---------|---------------|---------|---|----------|
| MD-VD Silty SAND/Silty SAND with gravel | Yellow | 130                   | Mohr-Coulomb  | 150            | 38      | Table         |         | 1 |          |
| Hard SILT                               | Orange | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |   | 0        |
| D-VD SAND                               | Blue   | 120                   | Mohr-Coulomb  | 0              | 38      | Table         |         | 1 |          |
| Landslide Debris                        | Brown  | 100                   | Mohr-Coulomb  | 0              | 20      | Table         |         | 1 |          |

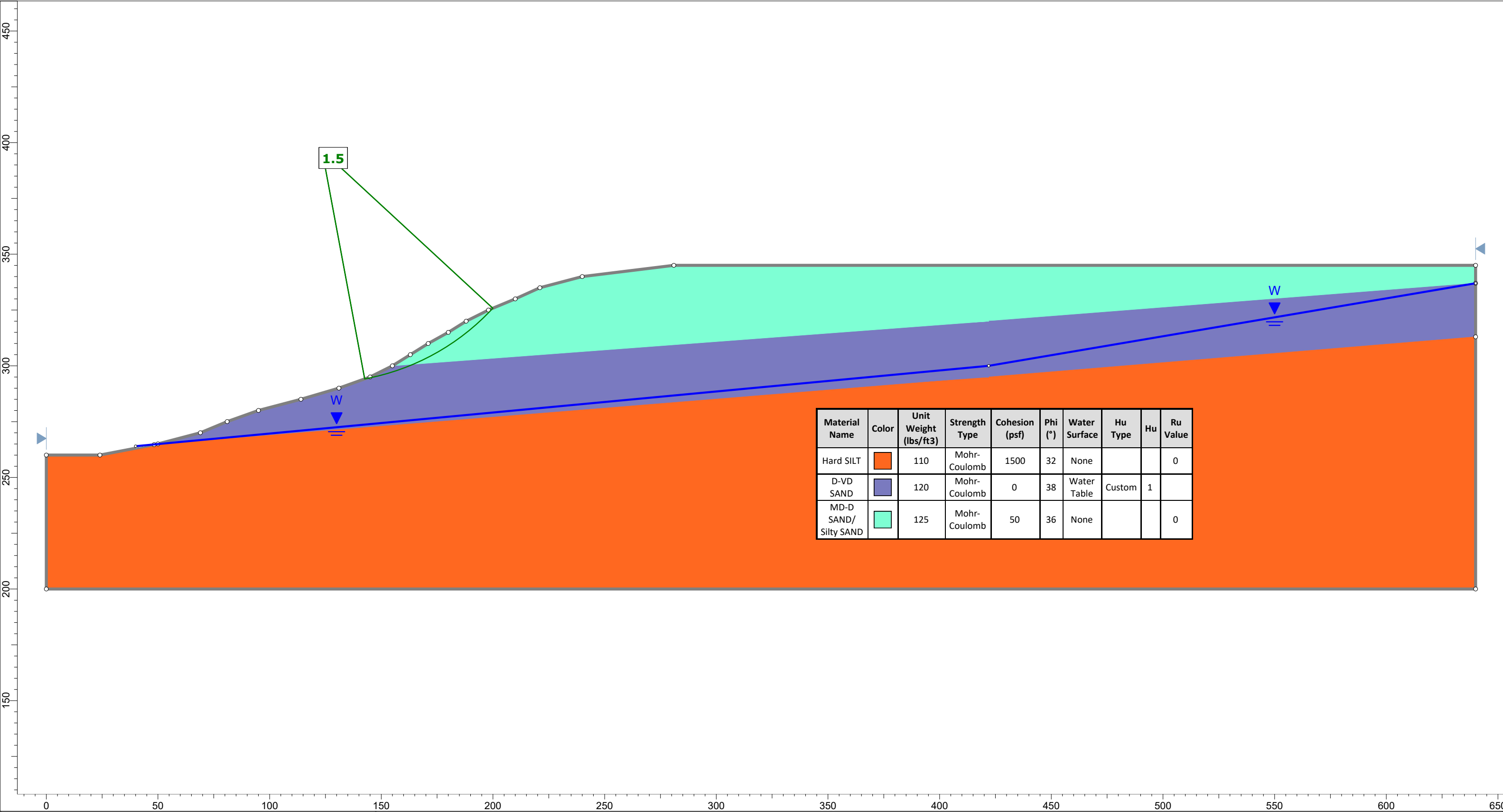


| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | None          | 0        |
| D SILT                                  | <div></div> | 110                   | Mohr-Coulomb  | 500            | 32      | None          | 0        |
| MD-D SAND/Silty SAND                    | <div></div> | 125                   | Mohr-Coulomb  | 50             | 36      | None          | 0        |

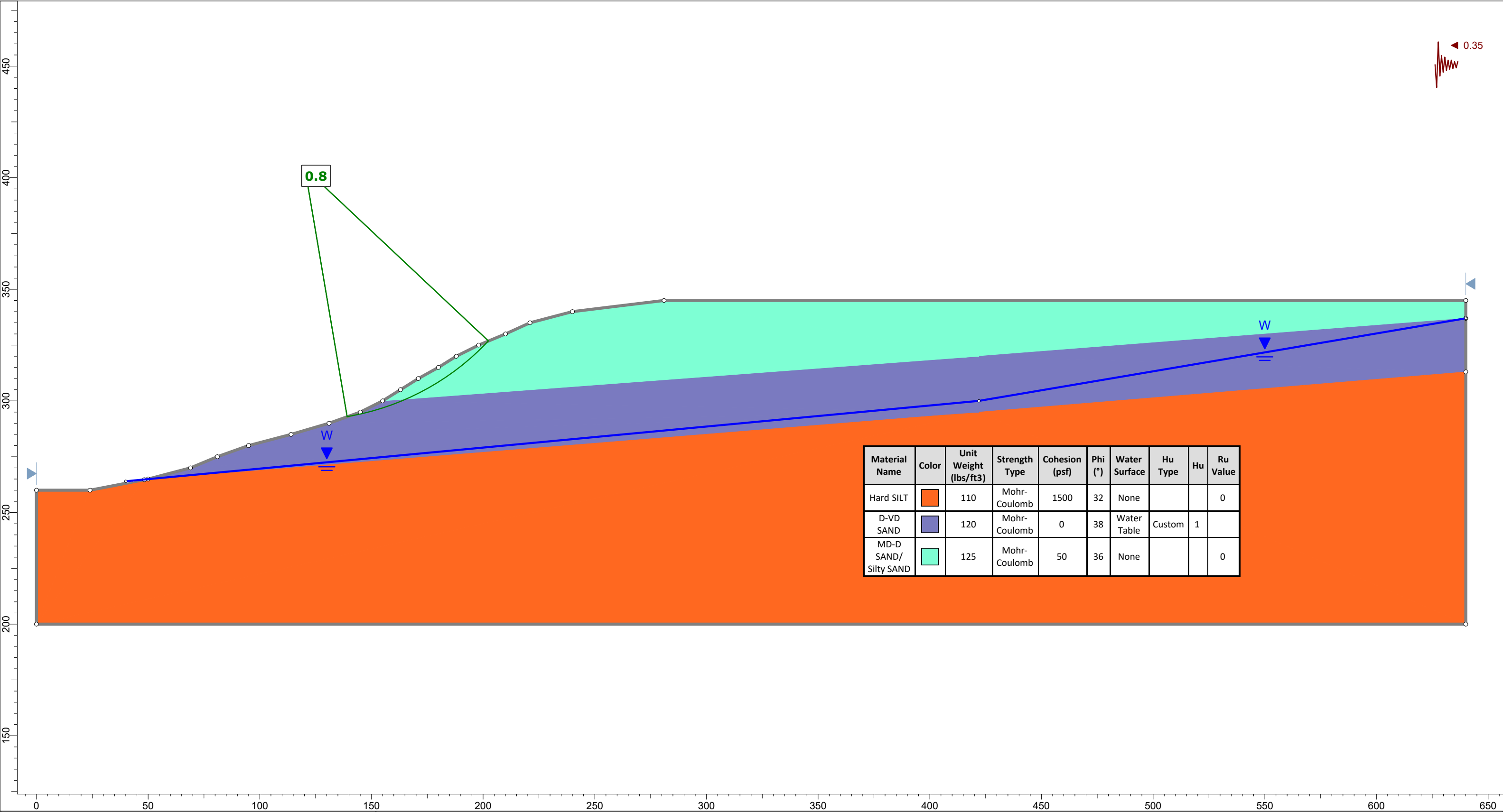


| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | None          | 0        |
| D SILT                                  | <div></div> | 110                   | Mohr-Coulomb  | 500            | 32      | None          | 0        |
| MD-D SAND/Silty SAND                    | <div></div> | 125                   | Mohr-Coulomb  | 50             | 36      | None          | 0        |



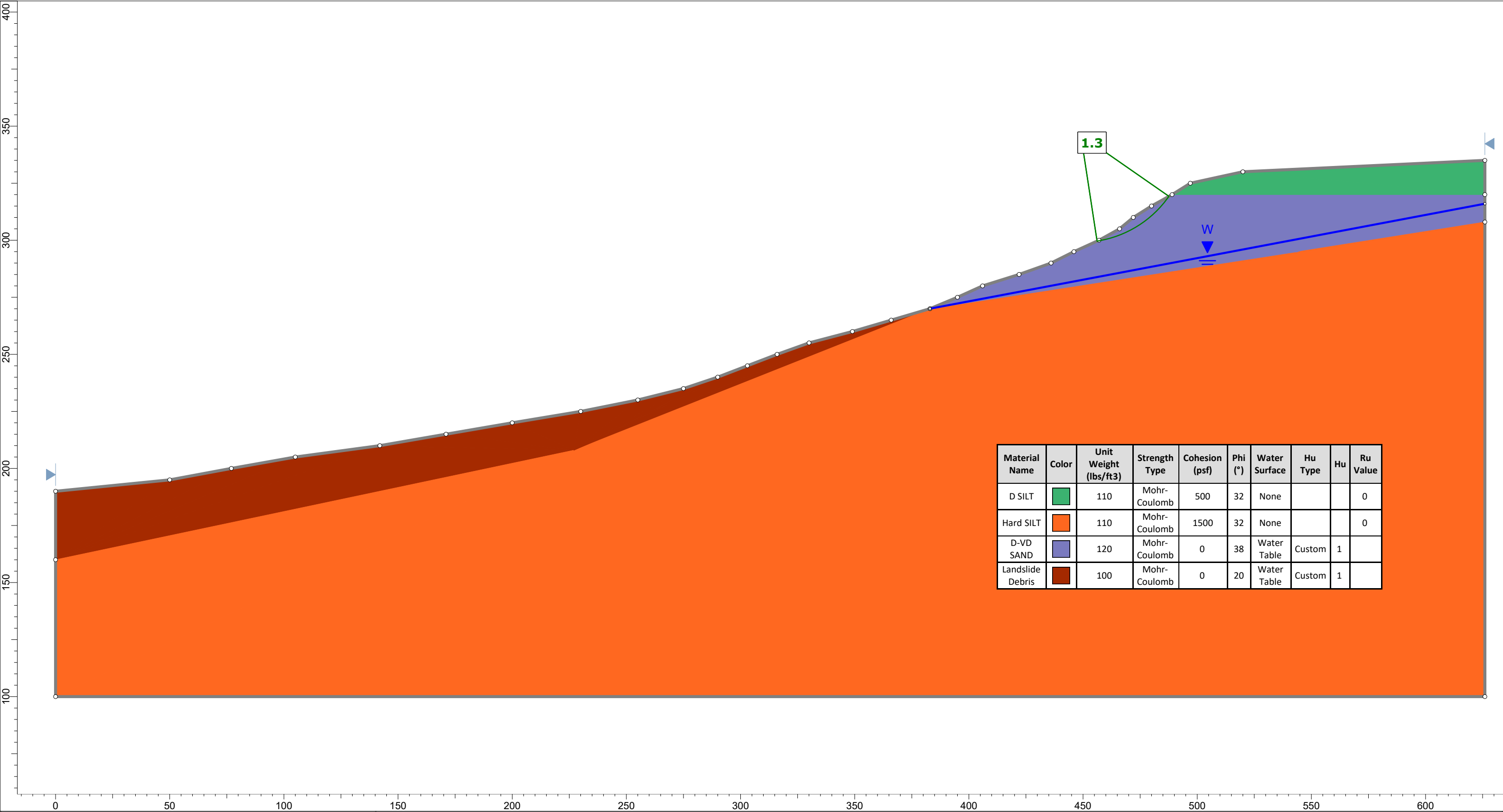


| Material Name         | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------|-------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| Hard SILT             |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND             |       | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| MD-D SAND/ Silty SAND |       | 125                   | Mohr-Coulomb  | 50             | 36      | None          |         |    | 0        |

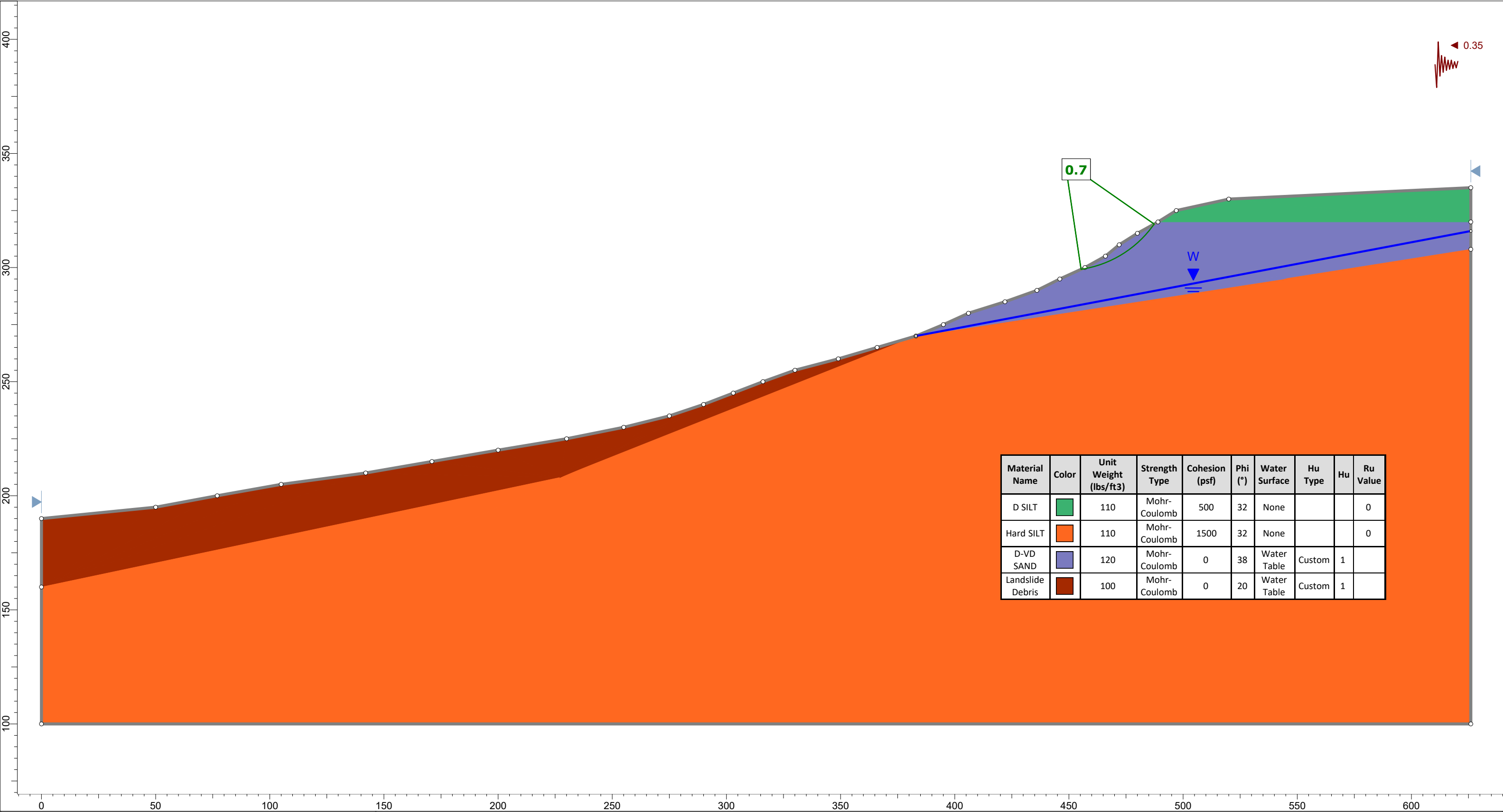


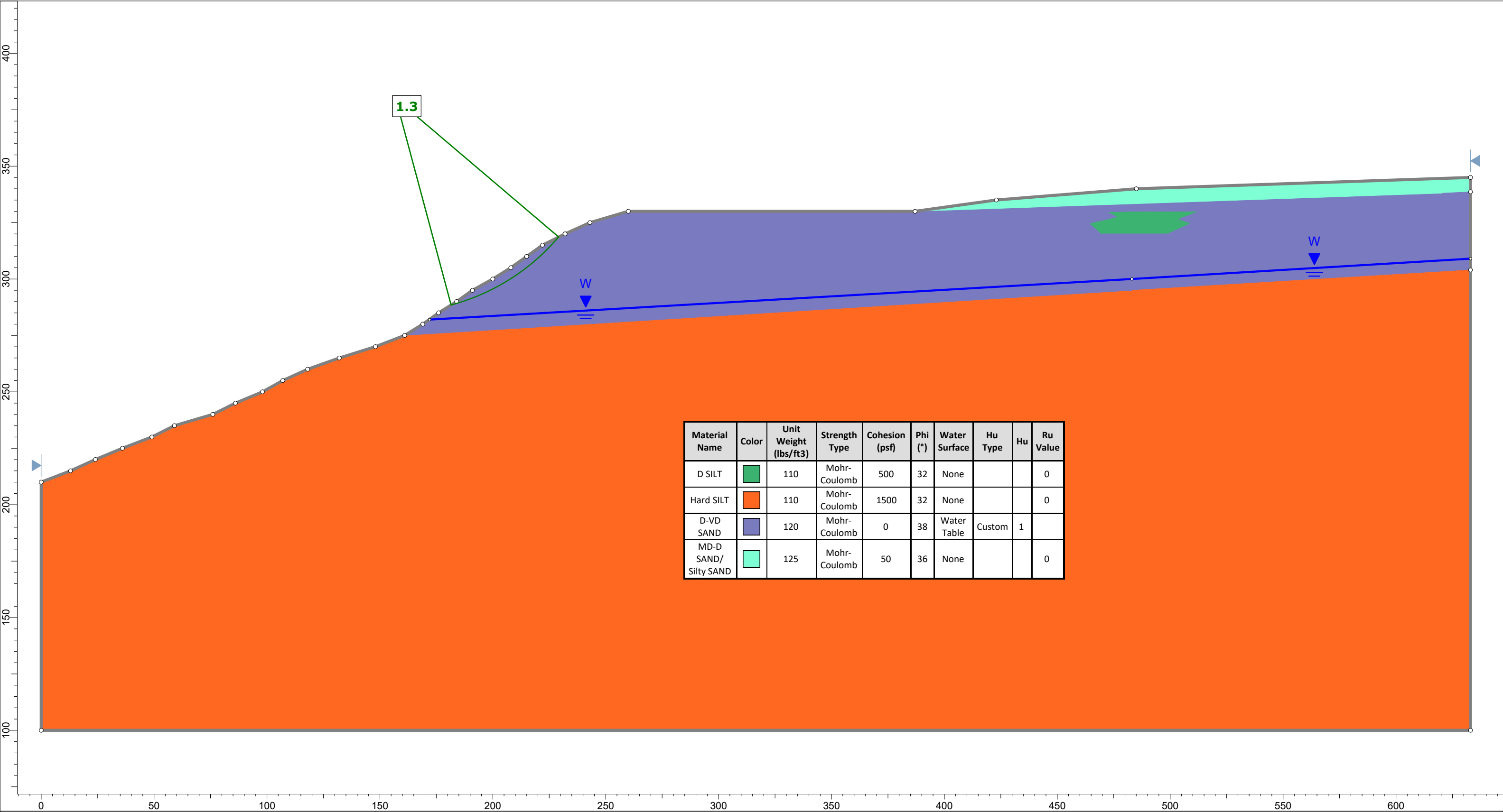
| Material Name        | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|----------------------|-------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| Hard SILT            |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND            |       | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| MD-D SAND/Silty SAND |       | 125                   | Mohr-Coulomb  | 50             | 36      | None          |         |    | 0        |

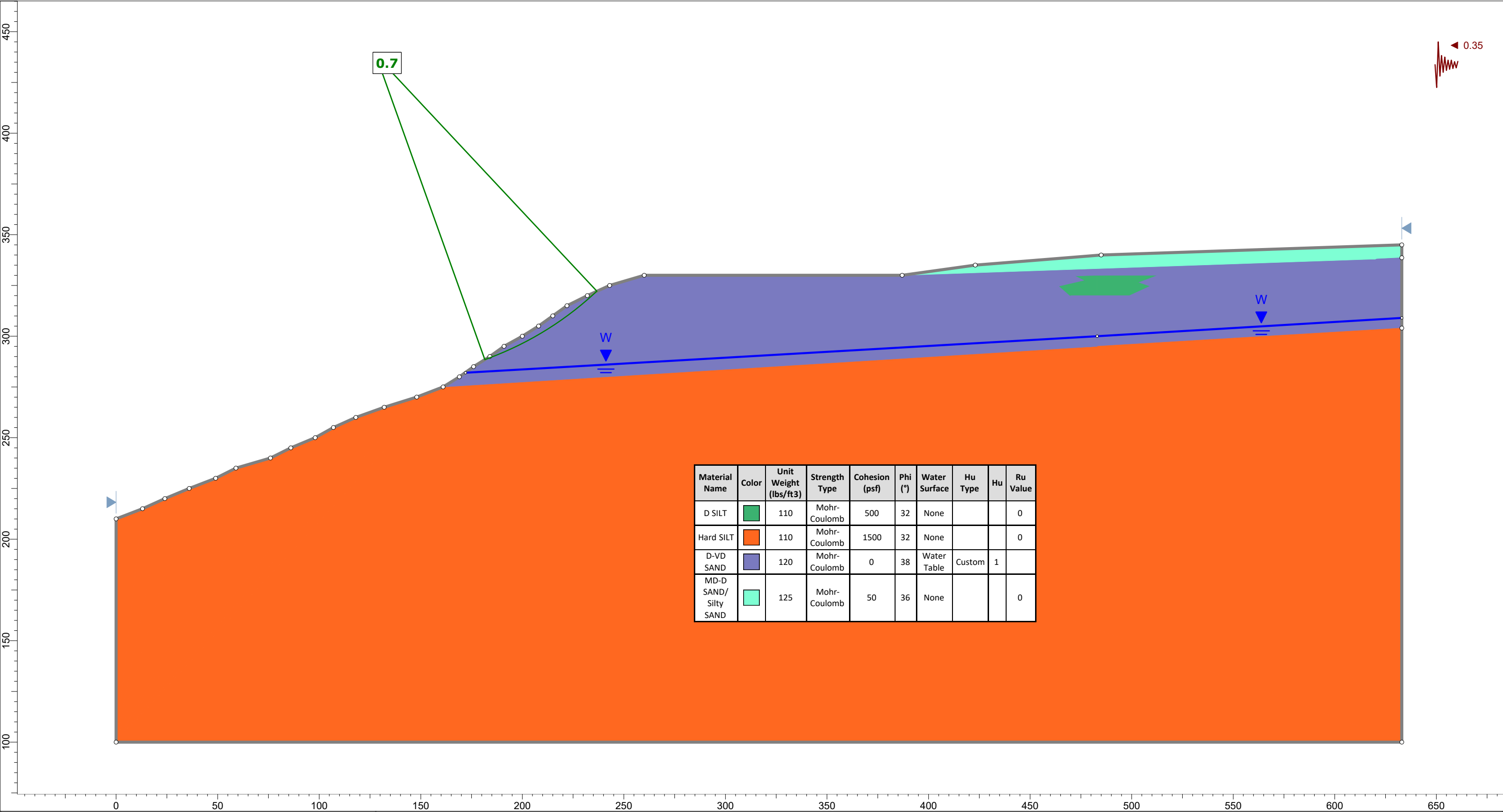


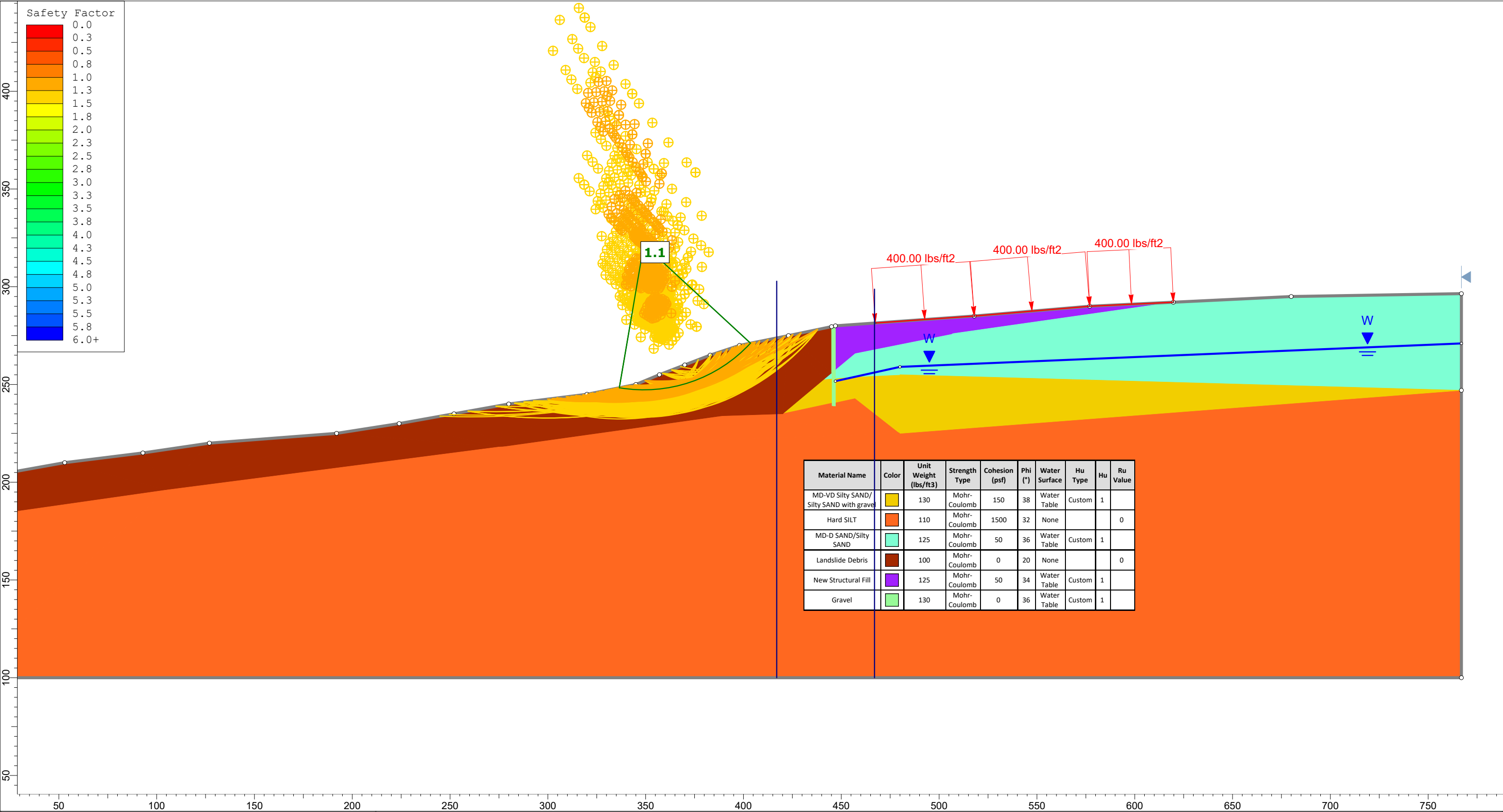


| Material Name    | Color  | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|------------------|--------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| D SILT           | Green  | 110                   | Mohr-Coulomb  | 500            | 32      | None          |         |    | 0        |
| Hard SILT        | Orange | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND        | Blue   | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris | Brown  | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |

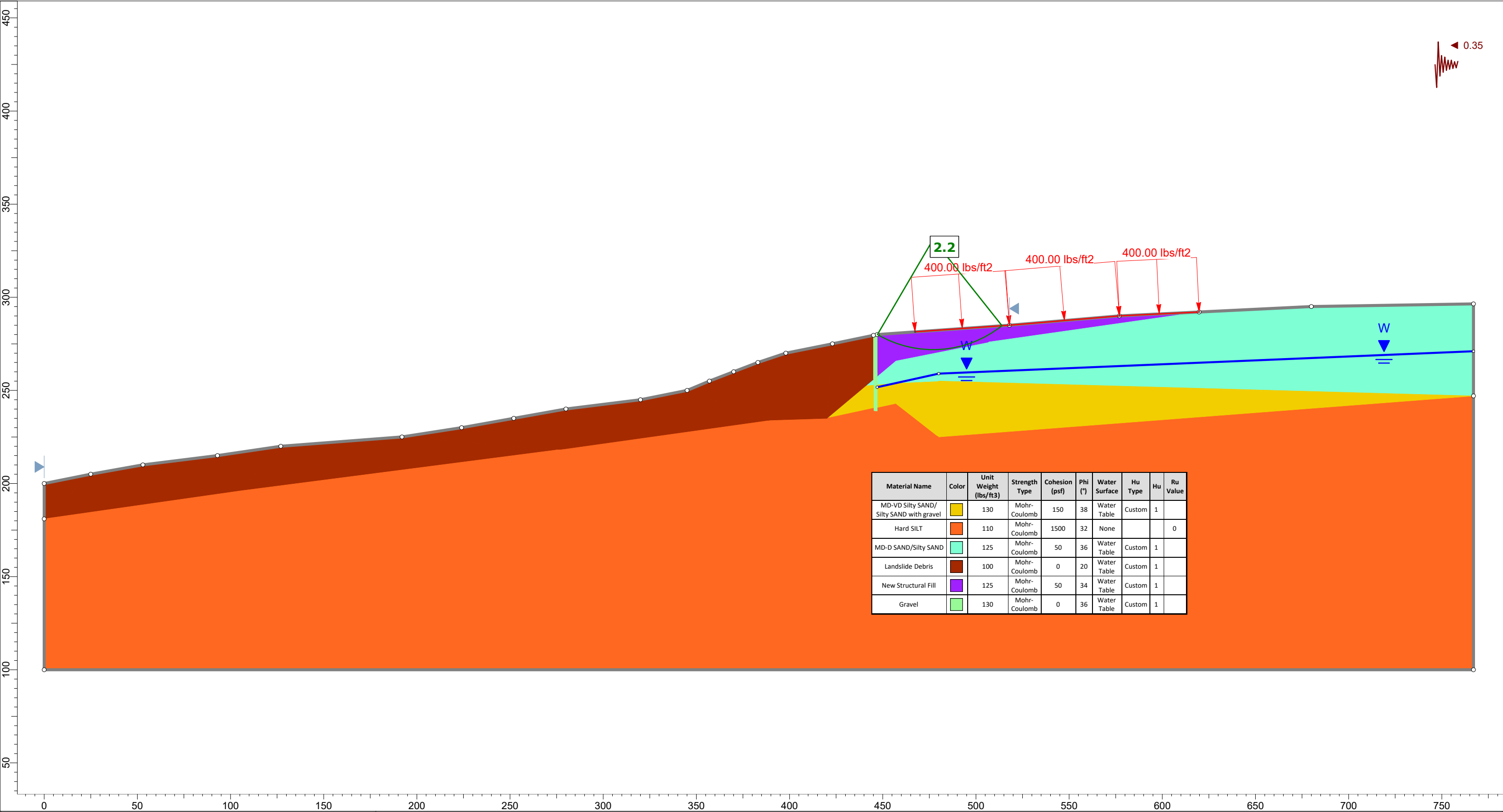




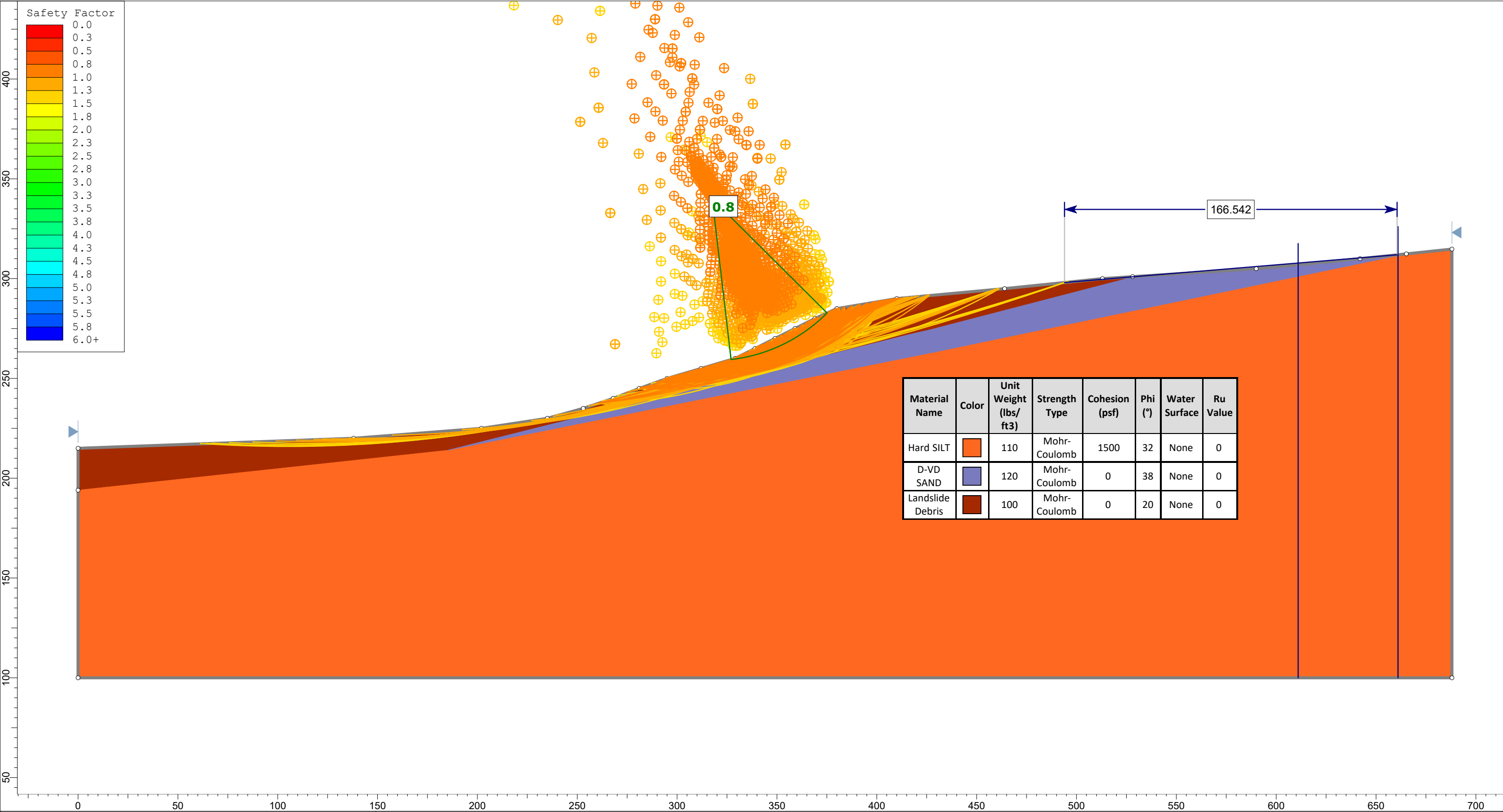




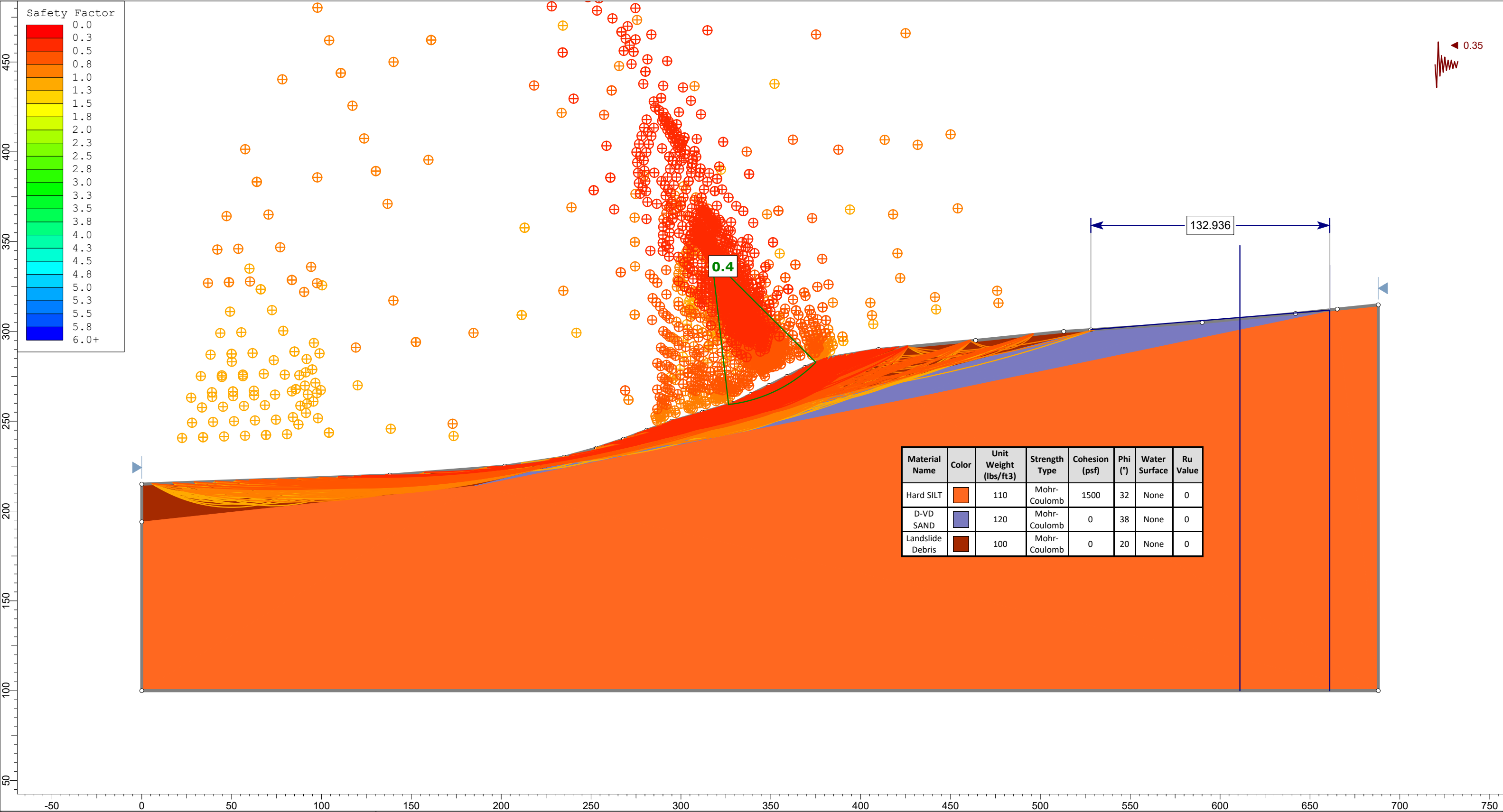
|                                                                                                                               |          |                 |                                                    |                        |
|-------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|----------------------------------------------------|------------------------|
| <div></div> <div>SLIDEINTERPRET 9.032</div> | Project  |                 | Arlington 360                                      |                        |
|                                                                                                                               | Group    |                 | Cross Section B-B'                                 | Scenario               |
|                                                                                                                               | Drawn By |                 | C. Decker                                          | Company                |
|                                                                                                                               | Date     |                 | June 26, 2024                                      | File Name              |
|                                                                                                                               |          |                 | Cross Sections - Post Construction Conditions.slmd |                        |
|                                                                                                                               |          | Master Scenario |                                                    | Terra Associates, Inc. |





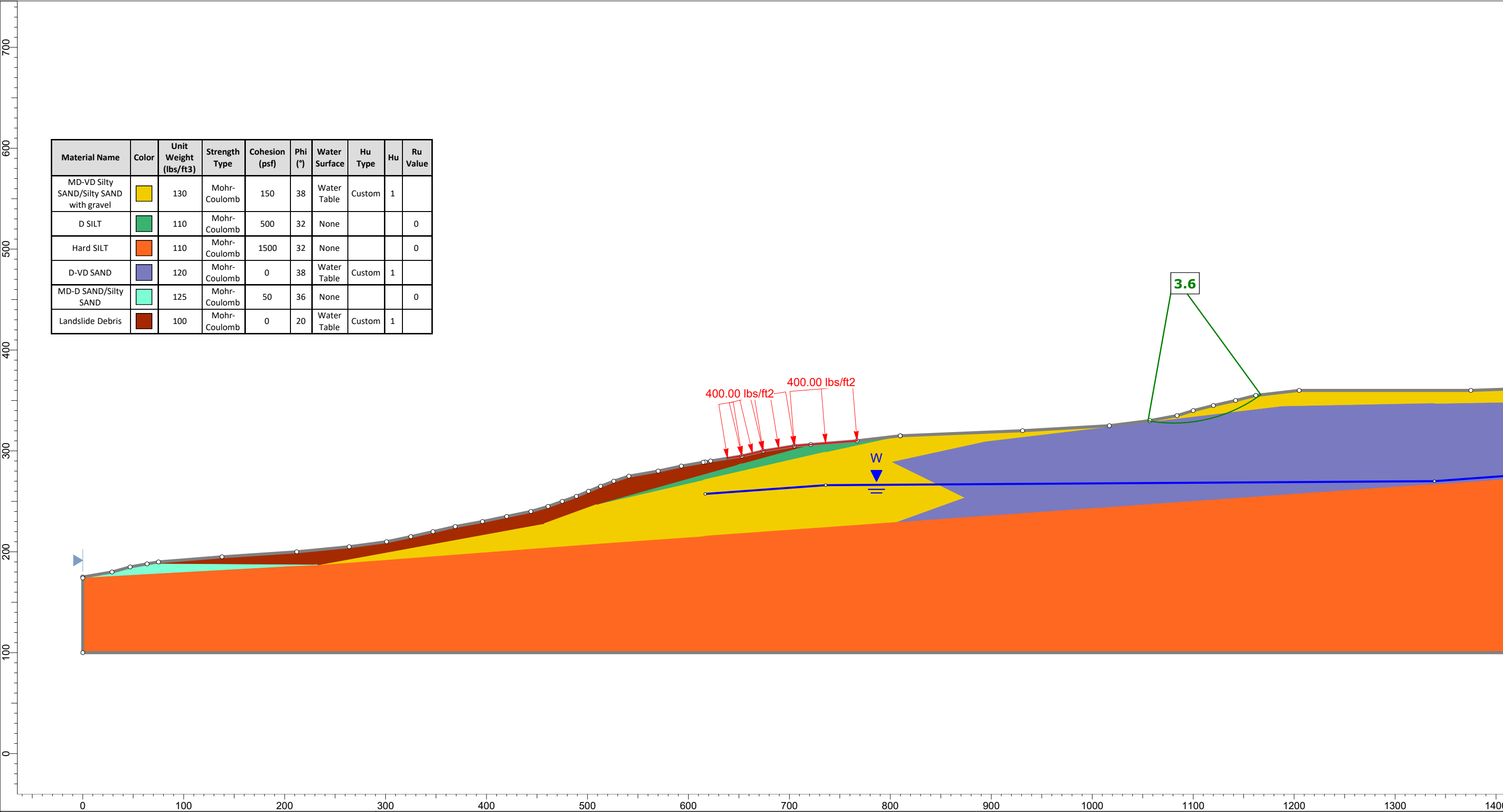


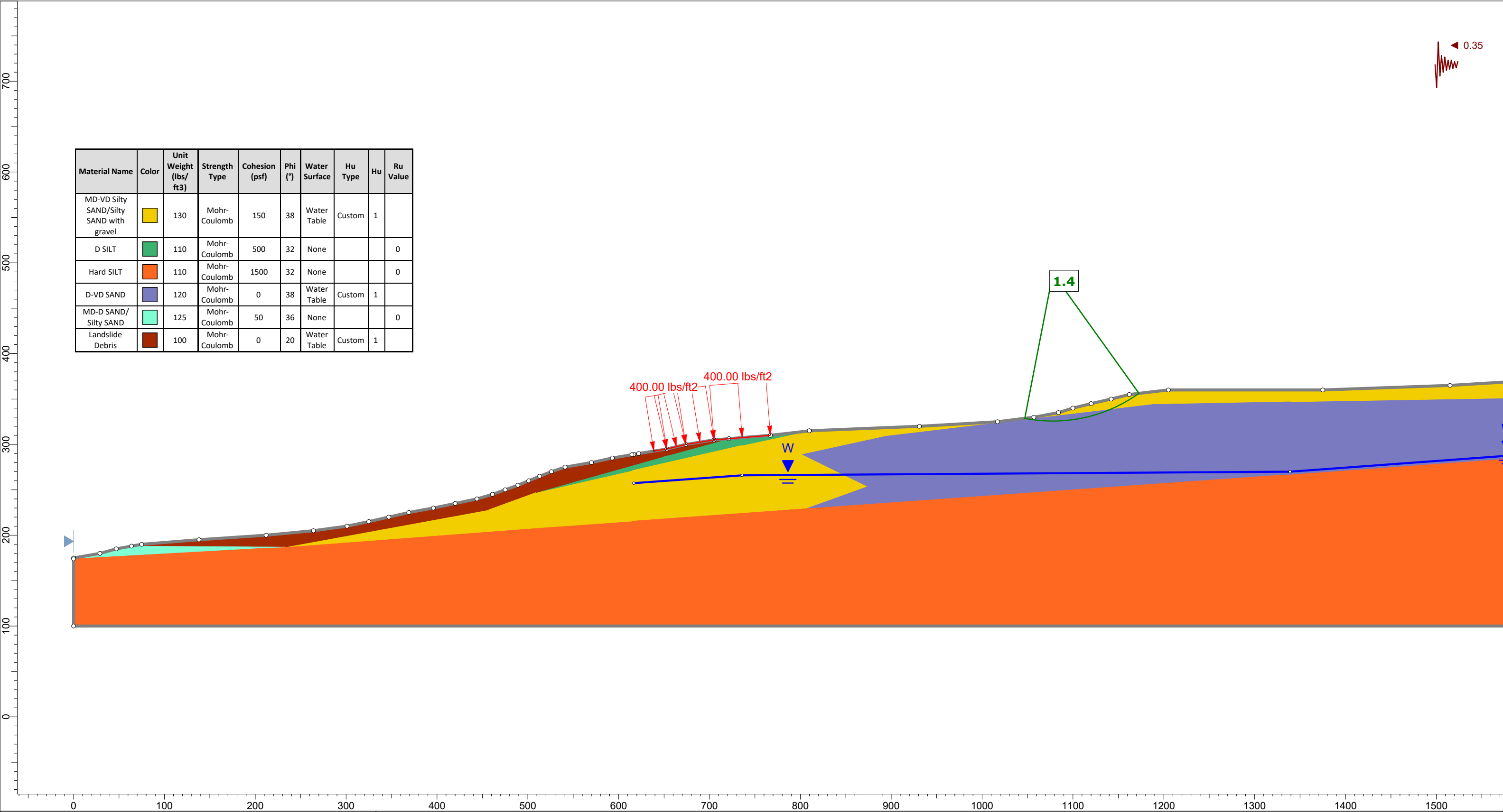
| Material Name    | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Ru Value |
|------------------|-------|-----------------------|---------------|----------------|---------|---------------|----------|
| Hard SILT        |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          | 0        |
| D-VD SAND        |       | 120                   | Mohr-Coulomb  | 0              | 38      | None          | 0        |
| Landslide Debris |       | 100                   | Mohr-Coulomb  | 0              | 20      | None          | 0        |

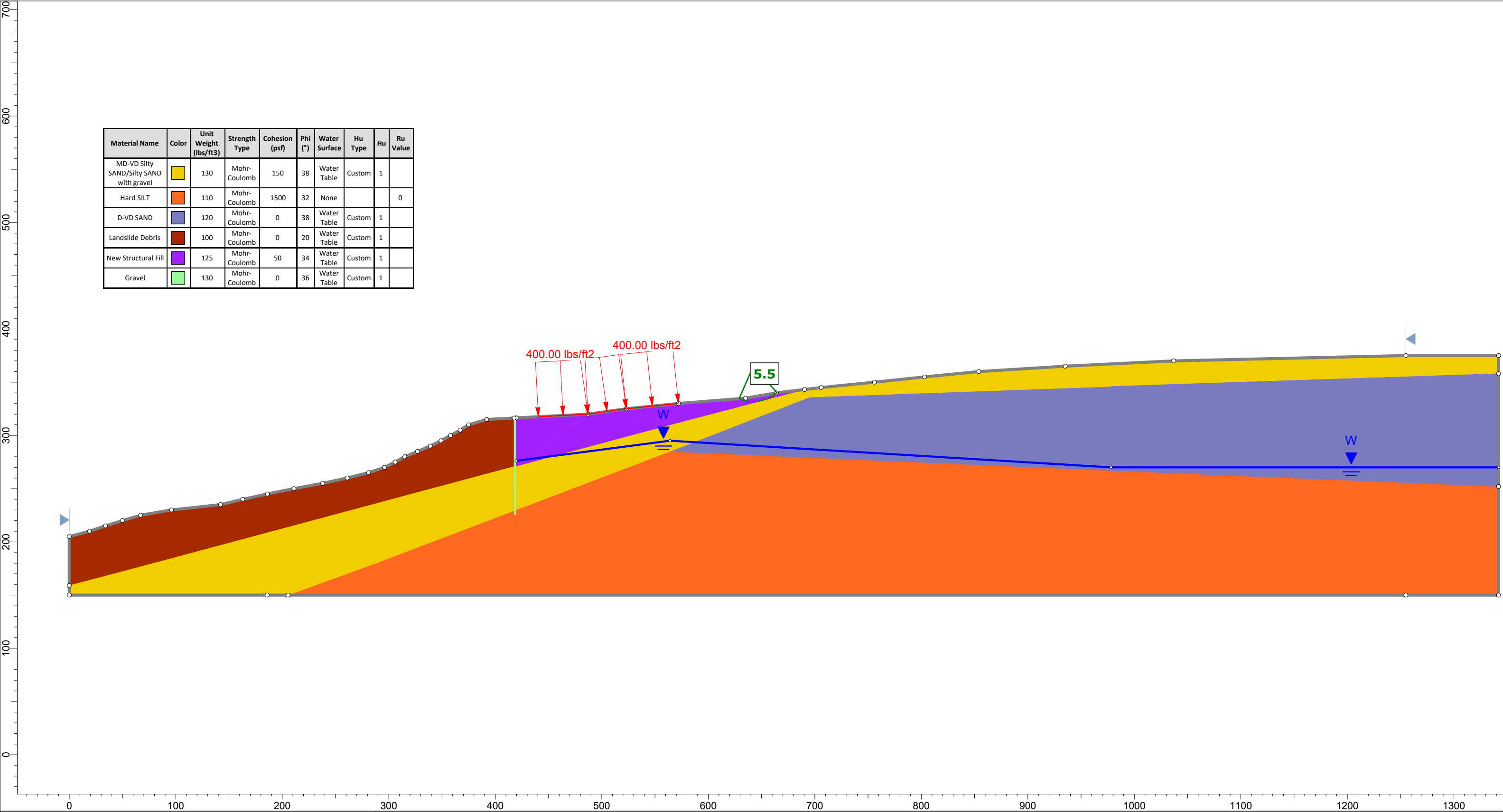


| Material Name    | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Ru Value |
|------------------|-------|-----------------------|---------------|----------------|---------|---------------|----------|
| Hard SILT        |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          | 0        |
| D-VD SAND        |       | 120                   | Mohr-Coulomb  | 0              | 38      | None          | 0        |
| Landslide Debris |       | 100                   | Mohr-Coulomb  | 0              | 20      | None          | 0        |

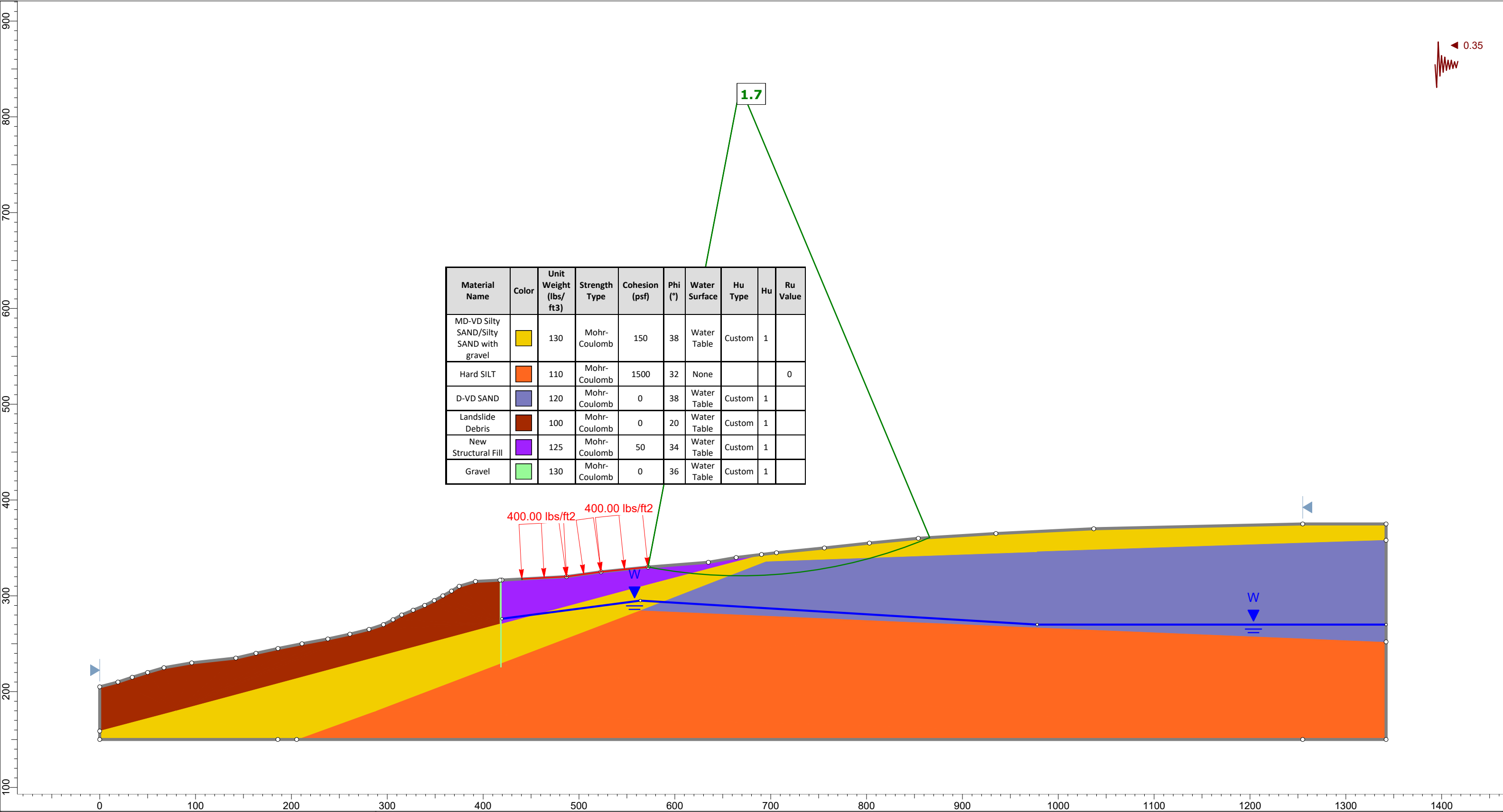




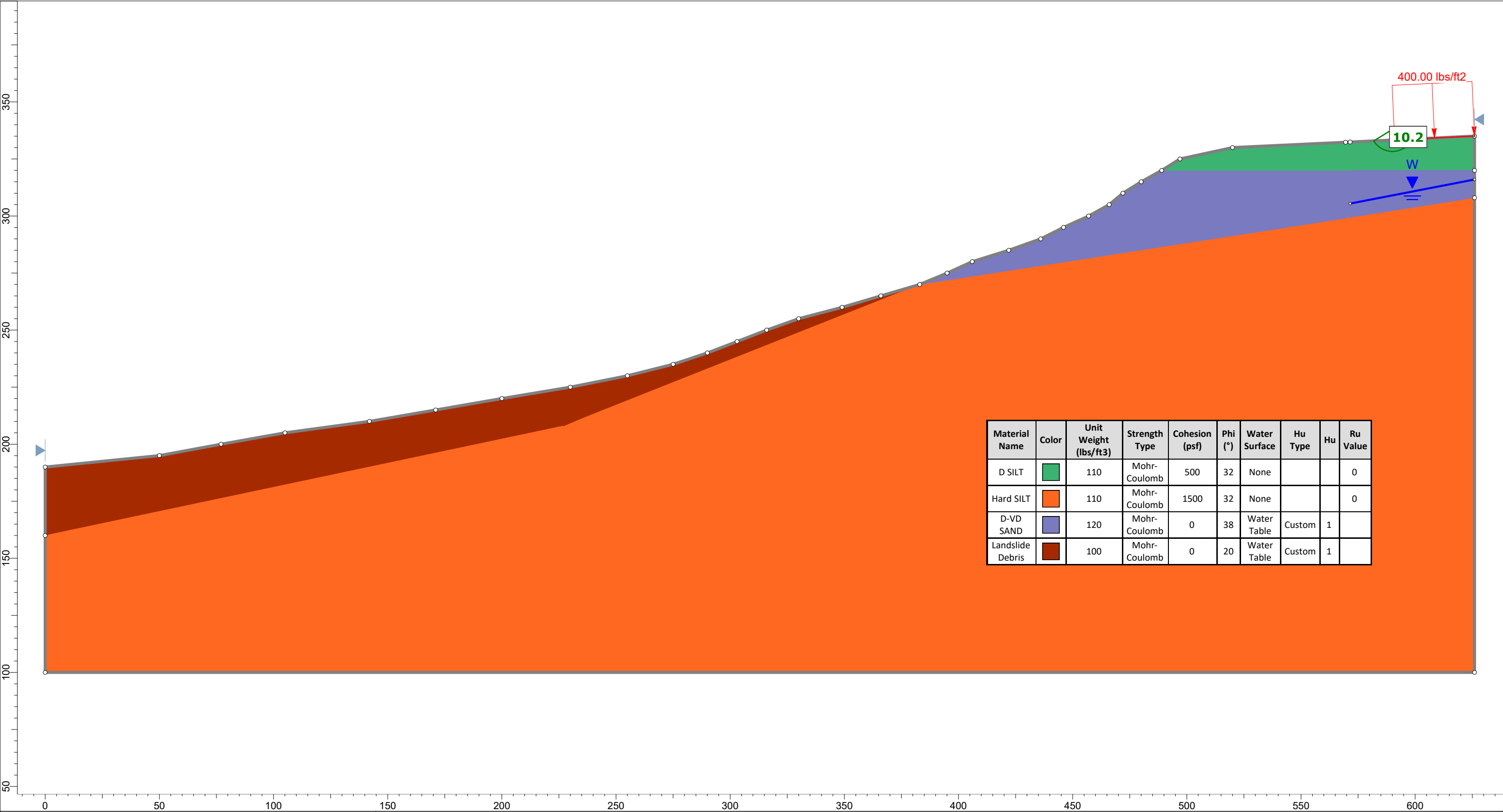




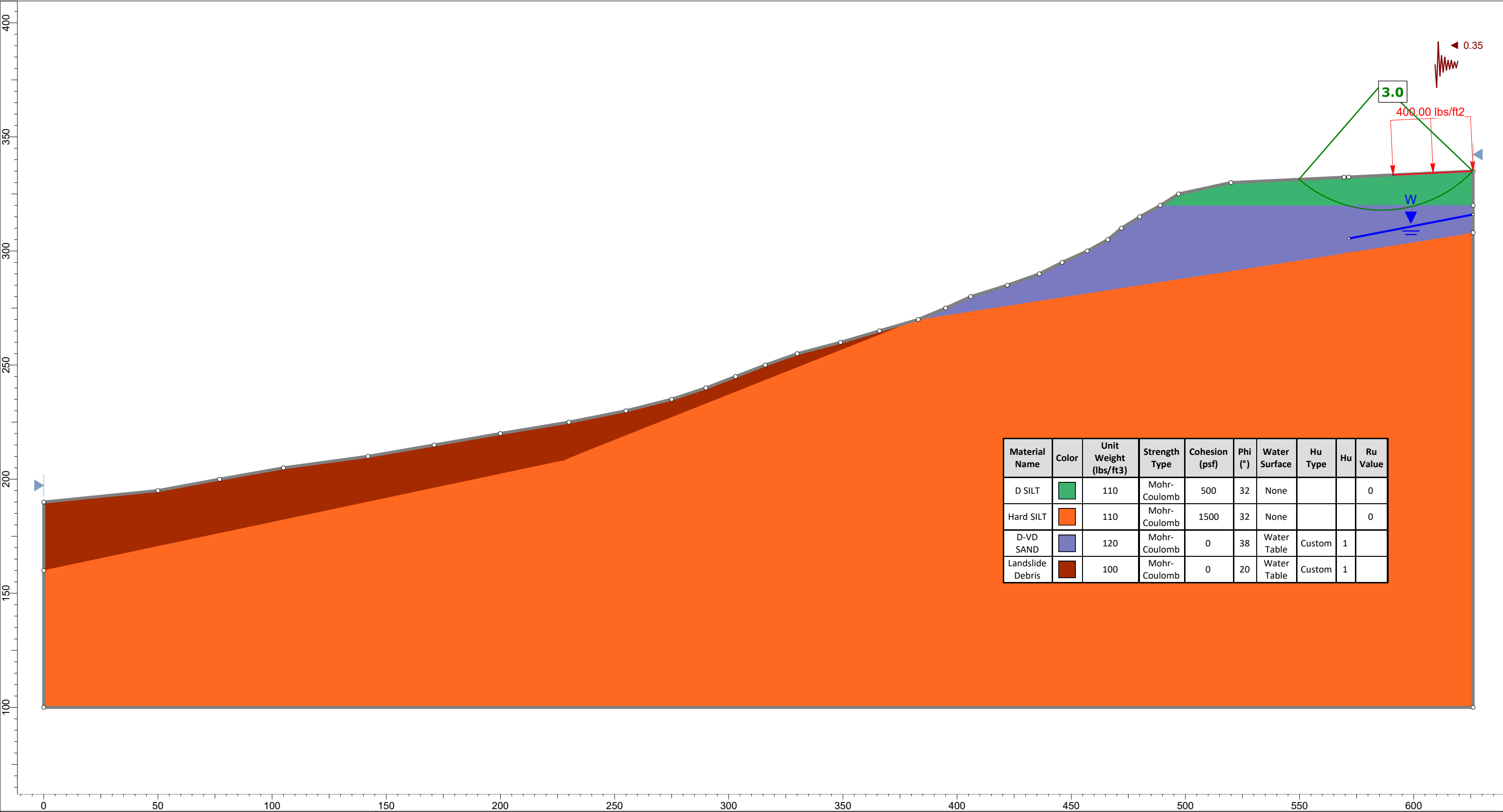
| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                               | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris                        | <div></div> | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |
| New Structural Fill                     | <div></div> | 125                   | Mohr-Coulomb  | 50             | 34      | Water Table   | Custom  | 1  |          |
| Gravel                                  | <div></div> | 130                   | Mohr-Coulomb  | 0              | 36      | Water Table   | Custom  | 1  |          |



| Material Name                           | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------------------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| MD-VD Silty SAND/Silty SAND with gravel | <div></div> | 130                   | Mohr-Coulomb  | 150            | 38      | Water Table   | Custom  | 1  |          |
| Hard SILT                               | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND                               | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris                        | <div></div> | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |
| New Structural Fill                     | <div></div> | 125                   | Mohr-Coulomb  | 50             | 34      | Water Table   | Custom  | 1  |          |
| Gravel                                  | <div></div> | 130                   | Mohr-Coulomb  | 0              | 36      | Water Table   | Custom  | 1  |          |

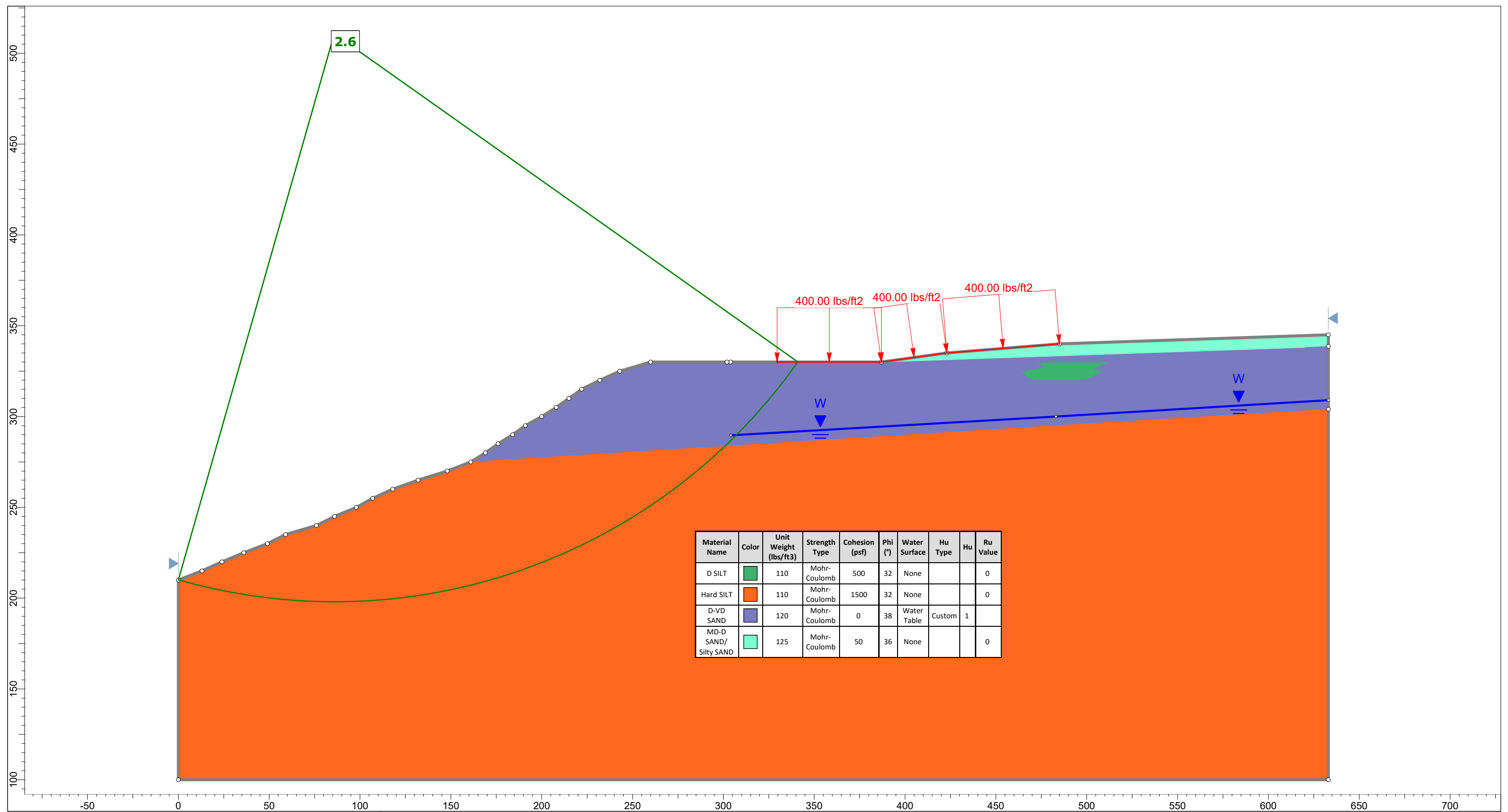


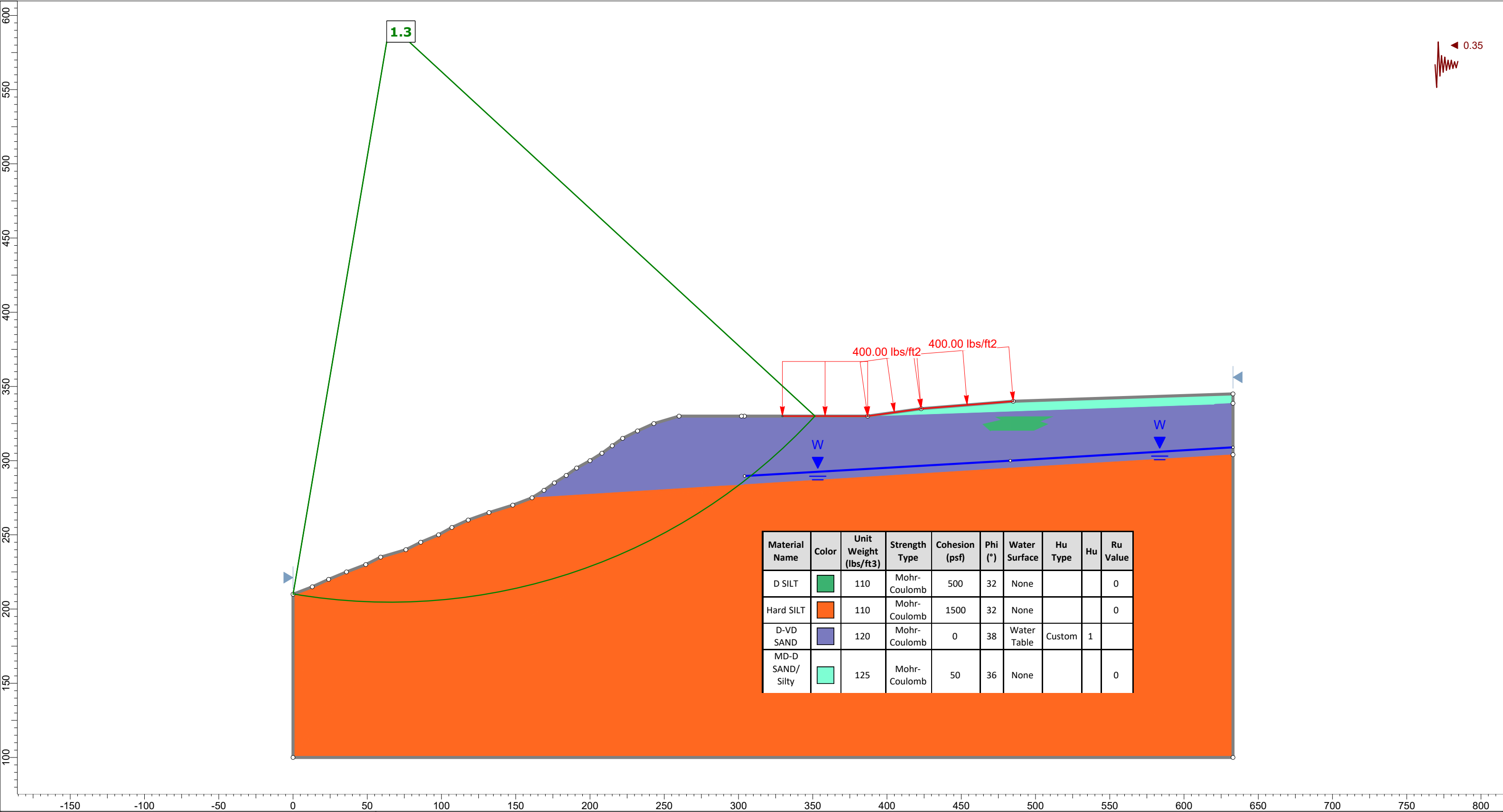
| Material Name    | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|------------------|-------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| D SILT           |       | 110                   | Mohr-Coulomb  | 500            | 32      | None          |         |    | 0        |
| Hard SILT        |       | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND        |       | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris |       | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |



| Material Name    | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|------------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| D SILT           | <div></div> | 110                   | Mohr-Coulomb  | 500            | 32      | None          |         |    | 0        |
| Hard SILT        | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND        | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| Landslide Debris | <div></div> | 100                   | Mohr-Coulomb  | 0              | 20      | Water Table   | Custom  | 1  |          |







| Material Name   | Color       | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Hu Type | Hu | Ru Value |
|-----------------|-------------|-----------------------|---------------|----------------|---------|---------------|---------|----|----------|
| D SILT          | <div></div> | 110                   | Mohr-Coulomb  | 500            | 32      | None          |         |    | 0        |
| Hard SILT       | <div></div> | 110                   | Mohr-Coulomb  | 1500           | 32      | None          |         |    | 0        |
| D-VD SAND       | <div></div> | 120                   | Mohr-Coulomb  | 0              | 38      | Water Table   | Custom  | 1  |          |
| MD-D SAND/Silty | <div></div> | 125                   | Mohr-Coulomb  | 50             | 36      | None          |         |    | 0        |





### Cross Sections

Slide2 - An Interactive Slope Stability Program

Date Created: 6/19/2024, 3:10:23 PM

Software Version: 9.032

# Table of Contents

|                                            |    |
|--------------------------------------------|----|
| Project Summary .....                      | 5  |
| Currently Open Scenarios .....             | 5  |
| General Settings .....                     | 7  |
| Analysis Options .....                     | 8  |
| All Open Scenarios .....                   | 8  |
| Groundwater Analysis .....                 | 9  |
| All Open Scenarios .....                   | 9  |
| Random Numbers .....                       | 10 |
| All Open Scenarios .....                   | 10 |
| Surface Options .....                      | 11 |
| Cross Section F-F' .....                   | 11 |
| Cross Section E-E' .....                   | 11 |
| Cross Section D-D' .....                   | 11 |
| Cross Section C-C' .....                   | 11 |
| Cross Section B-B' .....                   | 12 |
| Cross Section A-A' .....                   | 12 |
| Seismic Loading .....                      | 13 |
| Cross Section F-F' - Master Scenario ..... | 13 |
| Cross Section F-F' - Seismic .....         | 13 |
| Cross Section E-E' - Master Scenario ..... | 13 |
| Cross Section E-E' - Seismic .....         | 13 |
| Cross Section D-D' - Master Scenario ..... | 13 |
| Cross Section D-D' - Seismic .....         | 13 |
| Cross Section C-C' - Master Scenario ..... | 13 |
| Cross Section C-C' - Seismic .....         | 13 |
| Cross Section B-B' - Master Scenario ..... | 13 |
| Cross Section B-B' - Seismic .....         | 13 |
| Cross Section A-A' - Master Scenario ..... | 14 |
| Cross Section A-A' - Seismic .....         | 14 |
| Materials .....                            | 15 |
| Materials In Use .....                     | 16 |
| Global Minimums .....                      | 17 |
| Cross Section F-F' - Master Scenario ..... | 17 |
| Method: bishop simplified .....            | 17 |
| Method: janbu simplified .....             | 17 |
| Cross Section F-F' - Seismic .....         | 17 |
| Method: bishop simplified .....            | 17 |
| Method: janbu simplified .....             | 17 |
| Cross Section E-E' - Master Scenario ..... | 18 |
| Method: bishop simplified .....            | 18 |
| Method: janbu simplified .....             | 18 |
| Cross Section E-E' - Seismic .....         | 18 |

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| Method: bishop simplified .....                                          | 18 |
| Method: janbu simplified .....                                           | 18 |
| Cross Section D-D' - Master Scenario .....                               | 19 |
| Method: bishop simplified .....                                          | 19 |
| Method: janbu simplified .....                                           | 19 |
| Cross Section D-D' - Seismic .....                                       | 19 |
| Method: bishop simplified .....                                          | 19 |
| Method: janbu simplified .....                                           | 19 |
| Cross Section C-C' - Master Scenario .....                               | 20 |
| Method: bishop simplified .....                                          | 20 |
| Method: janbu simplified .....                                           | 20 |
| Cross Section C-C' - Seismic .....                                       | 20 |
| Method: bishop simplified .....                                          | 20 |
| Method: janbu simplified .....                                           | 20 |
| Cross Section B-B' - Master Scenario .....                               | 21 |
| Method: bishop simplified .....                                          | 21 |
| Method: janbu simplified .....                                           | 21 |
| Cross Section B-B' - Seismic .....                                       | 21 |
| Method: bishop simplified .....                                          | 21 |
| Method: janbu simplified .....                                           | 21 |
| Cross Section A-A' - Master Scenario .....                               | 22 |
| Method: bishop simplified .....                                          | 22 |
| Method: janbu simplified .....                                           | 22 |
| Cross Section A-A' - Seismic .....                                       | 22 |
| Method: bishop simplified .....                                          | 22 |
| Method: janbu simplified .....                                           | 22 |
| Global Minimum Support Data .....                                        | 24 |
| All Open Scenarios .....                                                 | 24 |
| Slice Data .....                                                         | 25 |
| Cross Section F-F' - Master Scenario .....                               | 25 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.38872 .....  | 25 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.33257 .....   | 28 |
| Cross Section F-F' - Seismic .....                                       | 31 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.815525 ..... | 31 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.754817 .....  | 35 |
| Cross Section E-E' - Master Scenario .....                               | 39 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.714409 ..... | 39 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.682976 .....  | 41 |
| Cross Section E-E' - Seismic .....                                       | 43 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.338014 ..... | 43 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.305704 .....  | 45 |
| Cross Section D-D' - Master Scenario .....                               | 47 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.95646 .....  | 47 |

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| Global Minimum Query (janbu simplified) - Safety Factor: 0.928467 .....  | 49 |
| Cross Section D-D' - Seismic .....                                       | 51 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.439952 ..... | 51 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.431157 .....  | 53 |
| Cross Section C-C' - Master Scenario .....                               | 55 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.773411 ..... | 55 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.752676 .....  | 57 |
| Cross Section C-C' - Seismic .....                                       | 59 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.383635 ..... | 59 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.368733 .....  | 61 |
| Cross Section B-B' - Master Scenario .....                               | 63 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.997343 ..... | 63 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.968445 .....  | 65 |
| Cross Section B-B' - Seismic .....                                       | 67 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.45648 .....  | 67 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.443509 .....  | 69 |
| Cross Section A-A' - Master Scenario .....                               | 71 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.42159 .....  | 71 |
| Global Minimum Query (janbu simplified) - Safety Factor: 2.18761 .....   | 75 |
| Cross Section A-A' - Seismic .....                                       | 79 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.24908 .....  | 79 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.09972 .....   | 83 |
| Entity Information .....                                                 | 86 |
| Cross Section F-F' .....                                                 | 86 |
| Shared Entities .....                                                    | 86 |
| Cross Section E-E' .....                                                 | 86 |
| Shared Entities .....                                                    | 86 |
| Scenario-based Entities .....                                            | 88 |
| Cross Section D-D' .....                                                 | 88 |
| Shared Entities .....                                                    | 88 |
| Scenario-based Entities .....                                            | 90 |
| Cross Section C-C' .....                                                 | 90 |
| Shared Entities .....                                                    | 90 |
| Scenario-based Entities .....                                            | 91 |
| Cross Section B-B' .....                                                 | 91 |
| Shared Entities .....                                                    | 91 |
| Scenario-based Entities .....                                            | 92 |
| Cross Section A-A' .....                                                 | 93 |
| Shared Entities .....                                                    | 93 |
| Scenario-based Entities .....                                            | 93 |

# Slide2 Analysis Information

## Cross Sections

### Project Summary

---

|                         |                                                 |
|-------------------------|-------------------------------------------------|
| File Name:              | Cross Sections.slmd                             |
| Slide2 Modeler Version: | 9.032                                           |
| Project Title:          | Slide2 - An Interactive Slope Stability Program |
| Date Created:           | 6/19/2024, 3:10:23 PM                           |

### Currently Open Scenarios

---

| Group Name                                                                                                 | Scenario Name   | Global Minimum                                                  | Compute Time    |
|------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|-----------------|
| Cross Section F <br>-F'   | Master Scenario | Bishop Simplified:<br>1.388720<br>Janbu Simplified:<br>1.332570 | 00h:00m:01.312s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>0.815525<br>Janbu Simplified:<br>0.754817 | 00h:00m:01.259s |
| Cross Section E <br>-E'   | Master Scenario | Bishop Simplified:<br>0.714409<br>Janbu Simplified:<br>0.682976 | 00h:00m:01.6s   |
|                                                                                                            | Seismic         | Bishop Simplified:<br>0.338014<br>Janbu Simplified:<br>0.305704 | 00h:00m:01.0s   |
| Cross Section D <br>-D'   | Master Scenario | Bishop Simplified:<br>0.956460<br>Janbu Simplified:<br>0.928467 | 00h:00m:01.234s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>0.439952<br>Janbu Simplified:<br>0.431157 | 00h:00m:01.222s |
| Cross Section C <br>-C' | Master Scenario | Bishop Simplified:<br>0.773411<br>Janbu Simplified:<br>0.752676 | 00h:00m:01.85s  |
|                                                                                                            | Seismic         | Bishop Simplified:<br>0.383635<br>Janbu Simplified:<br>0.368733 | 00h:00m:01.12s  |
| Cross Section B <br>-B' | Master Scenario | Bishop Simplified:<br>0.997343<br>Janbu Simplified:<br>0.968445 | 00h:00m:01.200s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>0.456480<br>Janbu Simplified:<br>0.443509 | 00h:00m:01.210s |
| Cross Section A <br>-A' | Master Scenario | Bishop Simplified:<br>2.421590<br>Janbu Simplified:<br>2.187610 | 00h:00m:01.472s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>1.249080<br>Janbu Simplified:<br>1.099720 | 00h:00m:01.207s |

# General Settings

---

|                       |                |
|-----------------------|----------------|
| Units of Measurement: | Imperial Units |
| Time Units:           | days           |
| Permeability Units:   | feet/second    |
| Data Output:          | Standard       |
| Failure Direction:    | Right to Left  |

# Analysis Options

## All Open Scenarios

|                                                                             |                   |
|-----------------------------------------------------------------------------|-------------------|
| Slices Type:                                                                | Vertical          |
| Analysis Methods Used                                                       |                   |
|                                                                             | Bishop simplified |
|                                                                             | Janbu simplified  |
| Number of slices:                                                           | 50                |
| Tolerance:                                                                  | 0.005             |
| Maximum number of iterations:                                               | 75                |
| Check malpha < 0.2:                                                         | Yes               |
| Create Interslice boundaries at intersections with water tables and piezos: | Yes               |
| Initial trial value of FS:                                                  | 1                 |
| Steffensen Iteration:                                                       | Yes               |



# Groundwater Analysis

---

## **All Open Scenarios**

Groundwater Method:

Pore Fluid Unit Weight [lbs/ft<sup>3</sup>]:

Advanced Groundwater Method:

Water Surfaces

62.4

None

# Random Numbers

---

## **All Open Scenarios**

Pseudo-random Seed:

10116

Random Number Generation Method:

Park and Miller v.3

## Surface Options

---

### **Cross Section F-F'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section E-E'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section D-D'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section C-C'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section B-B'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section A-A'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

# Seismic Loading

---

## ◆ **Cross Section F-F' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

## ◆ **Cross Section F-F' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

## ◆ **Cross Section E-E' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

## ◆ **Cross Section E-E' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

## ◆ **Cross Section D-D' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

## ◆ **Cross Section D-D' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

## ◆ **Cross Section C-C' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

## ◆ **Cross Section C-C' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

## ◆ **Cross Section B-B' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

## ◆ **Cross Section B-B' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

 **Cross Section A-A' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

 **Cross Section A-A' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

# Materials

## MD-VD Silty SAND/Silty SAND with gravel

|                                                     |                                                                                   |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                      |
| Unit Weight                                         | 130 lbs/ft3                                                                       |
| Cohesion                                            | 150 psf                                                                           |
| Phi                                                 | 38 °                                                                              |
| Water Surface                                       | Assigned per scenario                                                             |
| Hu Type                                             | Custom                                                                            |
| Hu                                                  | 1                                                                                 |
| Specify alternate strength type above water surface | No                                                                                |

## D SILT

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 110 lbs/ft3                                                                       |
| Cohesion      | 500 psf                                                                           |
| Phi           | 32 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

## Hard SILT

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 110 lbs/ft3                                                                         |
| Cohesion      | 1500 psf                                                                            |
| Phi           | 32 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## D-VD SAND

|                                                     |                                                                                     |
|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                        |
| Unit Weight                                         | 120 lbs/ft3                                                                         |
| Cohesion                                            | 0 psf                                                                               |
| Phi                                                 | 38 °                                                                                |
| Water Surface                                       | Assigned per scenario                                                               |
| Hu Type                                             | Custom                                                                              |
| Hu                                                  | 1                                                                                   |
| Specify alternate strength type above water surface | No                                                                                  |

**MD-D SAND/Silty SAND**

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 125 lbs/ft3                                                                       |
| Cohesion      | 50 psf                                                                            |
| Phi           | 36 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

**Landslide Debris**

|                                                     |                                                                                   |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                      |
| Unit Weight                                         | 100 lbs/ft3                                                                       |
| Cohesion                                            | 0 psf                                                                             |
| Phi                                                 | 20 °                                                                              |
| Water Surface                                       | Assigned per scenario                                                             |
| Hu Type                                             | Custom                                                                            |
| Hu                                                  | 1                                                                                 |
| Specify alternate strength type above water surface | No                                                                                |

**Materials In Use**

| Material                 | Cross Section F-F' | Seismic | Cross Section E-E' | Seismic | Cross Section D-D' | Seismic | Cross Section C-C' | Seismic | Cross Section B-B' | Seismic | Cross Section A-A' | Seismic |
|--------------------------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| MD-VD SAND/SAND w gravel | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       |
| D SILT                   | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       | ✗                  | ✗       |
| Hard SILT                | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       |
| D-VD SAND                | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       |
| MD-D SAND/SAND           | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       |
| Landslide Debris         | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✗                  | ✗       |



## Global Minimums

### ◆ Cross Section F-F' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.388720                |
|------------------------------|-------------------------|
| Center:                      | 123.836, 381.659        |
| Radius:                      | 52.840                  |
| Left Slip Surface Endpoint:  | 135.021, 330.016        |
| Right Slip Surface Endpoint: | 167.983, 352.623        |
| Resisting Moment:            | 636835 lb-ft            |
| Driving Moment:              | 458575 lb-ft            |
| Total Slice Area:            | 128.422 ft <sup>2</sup> |
| Surface Horizontal Width:    | 32.9618 ft              |
| Surface Average Height:      | 3.89608 ft              |

**Method: janbu simplified**

| FS                           | 1.332570                |
|------------------------------|-------------------------|
| Center:                      | 129.894, 370.743        |
| Radius:                      | 41.048                  |
| Left Slip Surface Endpoint:  | 135.021, 330.016        |
| Right Slip Surface Endpoint: | 166.269, 351.720        |
| Resisting Horizontal Force:  | 10446.3 lb              |
| Driving Horizontal Force:    | 7839.19 lb              |
| Total Slice Area:            | 138.488 ft <sup>2</sup> |
| Surface Horizontal Width:    | 31.2476 ft              |
| Surface Average Height:      | 4.43195 ft              |

### ◆ Cross Section F-F' - Seismic

**Method: bishop simplified**

| FS                           | 0.815525                |
|------------------------------|-------------------------|
| Center:                      | 60.107, 423.519         |
| Radius:                      | 129.254                 |
| Left Slip Surface Endpoint:  | 88.263, 297.368         |
| Right Slip Surface Endpoint: | 168.288, 352.783        |
| Resisting Moment:            | 7.2698e+06 lb-ft        |
| Driving Moment:              | 8.91426e+06 lb-ft       |
| Total Slice Area:            | 650.575 ft <sup>2</sup> |
| Surface Horizontal Width:    | 80.025 ft               |
| Surface Average Height:      | 8.12965 ft              |

**Method: janbu simplified**

| FS                           | 0.754817                |
|------------------------------|-------------------------|
| Center:                      | 70.903, 404.099         |
| Radius:                      | 110.066                 |
| Left Slip Surface Endpoint:  | 83.578, 294.766         |
| Right Slip Surface Endpoint: | 168.269, 352.773        |
| Resisting Horizontal Force:  | 60570.6 lb              |
| Driving Horizontal Force:    | 80245.5 lb              |
| Total Slice Area:            | 882.267 ft <sup>2</sup> |
| Surface Horizontal Width:    | 84.6908 ft              |
| Surface Average Height:      | 10.4175 ft              |

### ◆ Cross Section E-E' - Master Scenario

#### Method: bishop simplified

| FS                           | 0.714409                |
|------------------------------|-------------------------|
| Center:                      | 324.904, 366.875        |
| Radius:                      | 78.920                  |
| Left Slip Surface Endpoint:  | 335.958, 288.733        |
| Right Slip Surface Endpoint: | 381.554, 311.928        |
| Resisting Moment:            | 402657 lb-ft            |
| Driving Moment:              | 563622 lb-ft            |
| Total Slice Area:            | 155.481 ft <sup>2</sup> |
| Surface Horizontal Width:    | 45.5956 ft              |
| Surface Average Height:      | 3.41 ft                 |

#### Method: janbu simplified

| FS                           | 0.682976                |
|------------------------------|-------------------------|
| Center:                      | 338.446, 340.386        |
| Radius:                      | 49.177                  |
| Left Slip Surface Endpoint:  | 341.625, 291.312        |
| Right Slip Surface Endpoint: | 377.729, 310.803        |
| Resisting Horizontal Force:  | 3500 lb                 |
| Driving Horizontal Force:    | 5124.63 lb              |
| Total Slice Area:            | 123.468 ft <sup>2</sup> |
| Surface Horizontal Width:    | 36.1043 ft              |
| Surface Average Height:      | 3.41976 ft              |

### ◆ Cross Section E-E' - Seismic

#### Method: bishop simplified

| FS                           | 0.338014                |
|------------------------------|-------------------------|
| Center:                      | 237.713, 415.792        |
| Radius:                      | 178.110                 |
| Left Slip Surface Endpoint:  | 186.707, 245.141        |
| Right Slip Surface Endpoint: | 382.630, 312.244        |
| Resisting Moment:            | 1.19369e+07 lb-ft       |
| Driving Moment:              | 3.53148e+07 lb-ft       |
| Total Slice Area:            | 3309.07 ft <sup>2</sup> |
| Surface Horizontal Width:    | 195.923 ft              |
| Surface Average Height:      | 16.8897 ft              |

#### Method: janbu simplified

| FS                           | 0.305704                |
|------------------------------|-------------------------|
| Center:                      | 249.132, 386.675        |
| Radius:                      | 154.689                 |
| Left Slip Surface Endpoint:  | 186.707, 245.141        |
| Right Slip Surface Endpoint: | 385.140, 312.982        |
| Resisting Horizontal Force:  | 76892.9 lb              |
| Driving Horizontal Force:    | 251528 lb               |
| Total Slice Area:            | 4542.38 ft <sup>2</sup> |
| Surface Horizontal Width:    | 198.433 ft              |
| Surface Average Height:      | 22.8913 ft              |

### ◆ **Cross Section D-D' - Master Scenario**

#### **Method: bishop simplified**

| FS                           | 0.956460                |
|------------------------------|-------------------------|
| Center:                      | 479.328, 324.014        |
| Radius:                      | 72.041                  |
| Left Slip Surface Endpoint:  | 480.554, 251.983        |
| Right Slip Surface Endpoint: | 527.592, 270.531        |
| Resisting Moment:            | 385261 lb-ft            |
| Driving Moment:              | 402798 lb-ft            |
| Total Slice Area:            | 155.124 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.0378 ft              |
| Surface Average Height:      | 3.29787 ft              |

#### **Method: janbu simplified**

| FS                           | 0.928467                |
|------------------------------|-------------------------|
| Center:                      | 479.328, 324.014        |
| Radius:                      | 72.041                  |
| Left Slip Surface Endpoint:  | 480.554, 251.983        |
| Right Slip Surface Endpoint: | 527.592, 270.531        |
| Resisting Horizontal Force:  | 4892.74 lb              |
| Driving Horizontal Force:    | 5269.7 lb               |
| Total Slice Area:            | 155.124 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.0378 ft              |
| Surface Average Height:      | 3.29787 ft              |

### ◆ **Cross Section D-D' - Seismic**

#### **Method: bishop simplified**

| FS                           | 0.439952                |
|------------------------------|-------------------------|
| Center:                      | 448.172, 402.222        |
| Radius:                      | 156.228                 |
| Left Slip Surface Endpoint:  | 466.957, 247.128        |
| Right Slip Surface Endpoint: | 536.894, 273.631        |
| Resisting Moment:            | 1.07002e+06 lb-ft       |
| Driving Moment:              | 2.43213e+06 lb-ft       |
| Total Slice Area:            | 229.719 ft <sup>2</sup> |
| Surface Horizontal Width:    | 69.9369 ft              |
| Surface Average Height:      | 3.28467 ft              |

#### **Method: janbu simplified**

| FS                           | 0.431157                |
|------------------------------|-------------------------|
| Center:                      | 479.104, 324.422        |
| Radius:                      | 72.534                  |
| Left Slip Surface Endpoint:  | 480.313, 251.897        |
| Right Slip Surface Endpoint: | 527.689, 270.563        |
| Resisting Horizontal Force:  | 4333.35 lb              |
| Driving Horizontal Force:    | 10050.5 lb              |
| Total Slice Area:            | 157.297 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.3756 ft              |
| Surface Average Height:      | 3.3202 ft               |

### ◆ Cross Section C-C' - Master Scenario

**Method: bishop simplified**

| FS                           | 0.773411                |
|------------------------------|-------------------------|
| Center:                      | 317.580, 340.002        |
| Radius:                      | 81.136                  |
| Left Slip Surface Endpoint:  | 327.020, 259.418        |
| Right Slip Surface Endpoint: | 375.088, 282.767        |
| Resisting Moment:            | 428307 lb-ft            |
| Driving Moment:              | 553790 lb-ft            |
| Total Slice Area:            | 158.506 ft <sup>2</sup> |
| Surface Horizontal Width:    | 48.0677 ft              |
| Surface Average Height:      | 3.29756 ft              |

**Method: janbu simplified**

| FS                           | 0.752676               |
|------------------------------|------------------------|
| Center:                      | 318.174, 339.338       |
| Radius:                      | 80.277                 |
| Left Slip Surface Endpoint:  | 327.760, 259.635       |
| Right Slip Surface Endpoint: | 375.167, 282.803       |
| Resisting Horizontal Force:  | 4642.94 lb             |
| Driving Horizontal Force:    | 6168.58 lb             |
| Total Slice Area:            | 157.57 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.4072 ft             |
| Surface Average Height:      | 3.32376 ft             |

### ◆ Cross Section C-C' - Seismic

**Method: bishop simplified**

| FS                           | 0.383635                |
|------------------------------|-------------------------|
| Center:                      | 316.754, 340.947        |
| Radius:                      | 82.351                  |
| Left Slip Surface Endpoint:  | 325.994, 259.116        |
| Right Slip Surface Endpoint: | 374.992, 282.724        |
| Resisting Moment:            | 370933 lb-ft            |
| Driving Moment:              | 966889 lb-ft            |
| Total Slice Area:            | 160.023 ft <sup>2</sup> |
| Surface Horizontal Width:    | 48.9978 ft              |
| Surface Average Height:      | 3.26593 ft              |

**Method: janbu simplified**

| FS                           | 0.368733               |
|------------------------------|------------------------|
| Center:                      | 317.719, 339.896       |
| Radius:                      | 80.983                 |
| Left Slip Surface Endpoint:  | 327.198, 259.470       |
| Right Slip Surface Endpoint: | 375.140, 282.791       |
| Resisting Horizontal Force:  | 3938.64 lb             |
| Driving Horizontal Force:    | 10681.5 lb             |
| Total Slice Area:            | 158.52 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.9418 ft             |
| Surface Average Height:      | 3.3065 ft              |

### ◆ Cross Section B-B' - Master Scenario

#### Method: bishop simplified

| FS                           | 0.997343                |
|------------------------------|-------------------------|
| Center:                      | 342.825, 319.262        |
| Radius:                      | 69.735                  |
| Left Slip Surface Endpoint:  | 342.636, 249.527        |
| Right Slip Surface Endpoint: | 388.992, 266.997        |
| Resisting Moment:            | 370608 lb-ft            |
| Driving Moment:              | 371595 lb-ft            |
| Total Slice Area:            | 153.415 ft <sup>2</sup> |
| Surface Horizontal Width:    | 46.3556 ft              |
| Surface Average Height:      | 3.30953 ft              |

#### Method: janbu simplified

| FS                           | 0.968445                |
|------------------------------|-------------------------|
| Center:                      | 342.825, 319.262        |
| Radius:                      | 69.735                  |
| Left Slip Surface Endpoint:  | 342.636, 249.527        |
| Right Slip Surface Endpoint: | 388.992, 266.997        |
| Resisting Horizontal Force:  | 4892.25 lb              |
| Driving Horizontal Force:    | 5051.66 lb              |
| Total Slice Area:            | 153.415 ft <sup>2</sup> |
| Surface Horizontal Width:    | 46.3556 ft              |
| Surface Average Height:      | 3.30953 ft              |

### ◆ Cross Section B-B' - Seismic

#### Method: bishop simplified

| FS                           | 0.456480                |
|------------------------------|-------------------------|
| Center:                      | 328.501, 382.535        |
| Radius:                      | 133.932                 |
| Left Slip Surface Endpoint:  | 340.886, 249.177        |
| Right Slip Surface Endpoint: | 402.496, 270.899        |
| Resisting Moment:            | 813661 lb-ft            |
| Driving Moment:              | 1.78247e+06 lb-ft       |
| Total Slice Area:            | 200.884 ft <sup>2</sup> |
| Surface Horizontal Width:    | 61.61 ft                |
| Surface Average Height:      | 3.26057 ft              |

#### Method: janbu simplified

| FS                           | 0.443509                |
|------------------------------|-------------------------|
| Center:                      | 342.568, 319.545        |
| Radius:                      | 70.091                  |
| Left Slip Surface Endpoint:  | 342.273, 249.455        |
| Right Slip Surface Endpoint: | 388.928, 266.976        |
| Resisting Horizontal Force:  | 4309.21 lb              |
| Driving Horizontal Force:    | 9716.17 lb              |
| Total Slice Area:            | 153.839 ft <sup>2</sup> |
| Surface Horizontal Width:    | 46.655 ft               |
| Surface Average Height:      | 3.29738 ft              |

### ◆ Cross Section A-A' - Master Scenario

#### Method: bishop simplified

| FS                           | 2.421590                |
|------------------------------|-------------------------|
| Center:                      | 71.138, 294.517         |
| Radius:                      | 38.527                  |
| Left Slip Surface Endpoint:  | 61.531, 257.207         |
| Right Slip Surface Endpoint: | 105.733, 277.561        |
| Resisting Moment:            | 1.41793e+06 lb-ft       |
| Driving Moment:              | 585536 lb-ft            |
| Total Slice Area:            | 308.481 ft <sup>2</sup> |
| Surface Horizontal Width:    | 44.2025 ft              |
| Surface Average Height:      | 6.9788 ft               |

#### Method: janbu simplified

| FS                           | 2.187610                |
|------------------------------|-------------------------|
| Center:                      | 73.289, 288.443         |
| Radius:                      | 33.358                  |
| Left Slip Surface Endpoint:  | 61.550, 257.219         |
| Right Slip Surface Endpoint: | 104.730, 277.297        |
| Resisting Horizontal Force:  | 33495.6 lb              |
| Driving Horizontal Force:    | 15311.5 lb              |
| Total Slice Area:            | 344.425 ft <sup>2</sup> |
| Surface Horizontal Width:    | 43.1808 ft              |
| Surface Average Height:      | 7.97633 ft              |

### ◆ Cross Section A-A' - Seismic

#### Method: bishop simplified

| FS                           | 1.249080                |
|------------------------------|-------------------------|
| Center:                      | 71.425, 309.655         |
| Radius:                      | 53.377                  |
| Left Slip Surface Endpoint:  | 61.526, 257.204         |
| Right Slip Surface Endpoint: | 115.903, 280.146        |
| Resisting Moment:            | 2.3756e+06 lb-ft        |
| Driving Moment:              | 1.90188e+06 lb-ft       |
| Total Slice Area:            | 423.917 ft <sup>2</sup> |
| Surface Horizontal Width:    | 54.377 ft               |
| Surface Average Height:      | 7.79589 ft              |

#### Method: janbu simplified

| FS                           |  | 1.099720                |
|------------------------------|--|-------------------------|
| Center:                      |  | 88.828, 303.065         |
| Radius:                      |  | 53.152                  |
| Left Slip Surface Endpoint:  |  | 61.737, 257.335         |
| Right Slip Surface Endpoint: |  | 138.353, 283.767        |
| Resisting Horizontal Force:  |  | 97732.9 lb              |
| Driving Horizontal Force:    |  | 88870.4 lb              |
| Total Slice Area:            |  | 1279.52 ft <sup>2</sup> |
| Surface Horizontal Width:    |  | 76.6158 ft              |
| Surface Average Height:      |  | 16.7004 ft              |

# Global Minimum Support Data

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**All Open Scenarios**

No Supports Present



# Slice Data

## ◆ Cross Section F-F' - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.38872

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.659235   | 14.8287      | 12.5873                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 42.7836            | 59.4145              | 12.9579                  | 0                   | 12.9579                       | 22.5113                    | 22.5113                         |
| 2            | 0.659235   | 44.12        | 13.3208                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 63.2034            | 87.7718              | 51.9884                  | 0                   | 51.9884                       | 66.9533                    | 66.9533                         |
| 3            | 0.659235   | 72.6756      | 14.0566                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 82.8479            | 115.052              | 89.5371                  | 0                   | 89.5371                       | 110.28                     | 110.28                          |
| 4            | 0.659235   | 100.489      | 14.7947                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 101.723            | 141.265              | 125.615                  | 0                   | 125.615                       | 152.481                    | 152.481                         |
| 5            | 0.659235   | 127.552      | 15.5353                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 119.834            | 166.416              | 160.233                  | 0                   | 160.233                       | 193.546                    | 193.546                         |
| 6            | 0.659235   | 153.857      | 16.2786                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 137.186            | 190.513              | 193.4                    | 0                   | 193.4                         | 233.461                    | 233.461                         |
| 7            | 0.659235   | 179.396      | 17.0247                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 153.783            | 213.562              | 225.125                  | 0                   | 225.125                       | 272.214                    | 272.214                         |
| 8            | 0.659235   | 204.159      | 17.7739                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 169.63             | 235.569              | 255.413                  | 0                   | 255.413                       | 309.79                     | 309.79                          |
| 9            | 0.659235   | 228.138      | 18.5261                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 184.729            | 256.537              | 284.274                  | 0                   | 284.274                       | 346.178                    | 346.178                         |
| 10           | 0.659235   | 251.321      | 19.2817                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 199.084            | 276.472              | 311.712                  | 0                   | 311.712                       | 381.359                    | 381.359                         |
| 11           | 0.659235   | 273.698      | 20.0408                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 212.697            | 295.376              | 337.73                   | 0                   | 337.73                        | 415.317                    | 415.317                         |
| 12           | 0.659235   | 295.258      | 20.8036                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 225.569            | 313.252              | 362.335                  | 0                   | 362.335                       | 448.036                    | 448.036                         |
| 13           | 0.659235   | 315.988      | 21.5703                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 237.702            | 330.101              | 385.526                  | 0                   | 385.526                       | 479.497                    | 479.497                         |
| 14           | 0.659235   | 335.875      | 22.341                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 249.098            | 345.927              | 407.309                  | 0                   | 407.309                       | 509.68                     | 509.68                          |
| 15           | 0.659235   | 354.905      | 23.1161                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 259.756            | 360.728              | 427.681                  | 0                   | 427.681                       | 538.562                    | 538.562                         |
| 16           | 0.659235   | 373.064      | 23.8956                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 269.677            | 374.506              | 446.644                  | 0                   | 446.644                       | 566.124                    | 566.124                         |
| 17           | 0.659235   | 390.337      | 24.6799                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 278.86             | 387.259              | 464.197                  | 0                   | 464.197                       | 592.34                     | 592.34                          |
| 18           | 0.659235   | 406.705      | 25.4691                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 287.305            | 398.986              | 480.337                  | 0                   | 480.337                       | 617.184                    | 617.184                         |
| 19           | 0.659235   | 422.152      | 26.2636                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 295.009            | 409.685              | 495.064                  | 0                   | 495.064                       | 640.633                    | 640.633                         |
| 20           | 0.659235   | 436.387      | 27.0635                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 301.801            | 419.117              | 508.046                  | 0                   | 508.046                       | 662.242                    | 662.242                         |

|    |          |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 21 | 0.659235 | 445.68  | 27.8691 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 305.373 | 424.078 | 514.875 | 0 | 514.875 | 676.351 | 676.351 |
| 22 | 0.659235 | 452.674 | 28.6808 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 307.425 | 426.927 | 518.796 | 0 | 518.796 | 686.972 | 686.972 |
| 23 | 0.659235 | 458.664 | 29.4989 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.778 | 428.806 | 521.382 | 0 | 521.382 | 696.072 | 696.072 |
| 24 | 0.659235 | 463.626 | 30.3236 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 309.427 | 429.708 | 522.624 | 0 | 522.624 | 703.609 | 703.609 |
| 25 | 0.659235 | 467.534 | 31.1553 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 309.371 | 429.63  | 522.516 | 0 | 522.516 | 709.549 | 709.549 |
| 26 | 0.659235 | 470.36  | 31.9944 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.604 | 428.565 | 521.051 | 0 | 521.051 | 713.846 | 713.846 |
| 27 | 0.659235 | 472.075 | 32.8412 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 307.122 | 426.507 | 518.217 | 0 | 518.217 | 716.456 | 716.456 |
| 28 | 0.659235 | 472.646 | 33.6962 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 304.919 | 423.447 | 514.006 | 0 | 514.006 | 717.332 | 717.332 |
| 29 | 0.659235 | 472.04  | 34.5598 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 301.99  | 419.379 | 508.407 | 0 | 508.407 | 716.423 | 716.423 |
| 30 | 0.659235 | 470.22  | 35.4325 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 298.327 | 414.292 | 501.405 | 0 | 501.405 | 713.669 | 713.669 |
| 31 | 0.659235 | 467.147 | 36.3147 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 293.924 | 408.178 | 492.99  | 0 | 492.99  | 709.014 | 709.014 |
| 32 | 0.659235 | 462.777 | 37.207  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 288.774 | 401.026 | 483.146 | 0 | 483.146 | 702.393 | 702.393 |
| 33 | 0.659235 | 457.066 | 38.11   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.868 | 392.824 | 471.856 | 0 | 471.856 | 693.733 | 693.733 |
| 34 | 0.659235 | 449.962 | 39.0243 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 276.197 | 383.56  | 459.107 | 0 | 459.107 | 682.961 | 682.961 |
| 35 | 0.659235 | 441.412 | 39.9506 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 268.753 | 373.222 | 444.878 | 0 | 444.878 | 669.993 | 669.993 |
| 36 | 0.659235 | 431.356 | 40.8896 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 260.525 | 361.796 | 429.149 | 0 | 429.149 | 654.741 | 654.741 |
| 37 | 0.659235 | 419.731 | 41.8422 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 251.501 | 349.265 | 411.903 | 0 | 411.903 | 637.105 | 637.105 |
| 38 | 0.659235 | 406.465 | 42.8091 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 241.673 | 335.616 | 393.116 | 0 | 393.116 | 616.98  | 616.98  |
| 39 | 0.659235 | 391.481 | 43.7914 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 231.026 | 320.83  | 372.766 | 0 | 372.766 | 594.245 | 594.245 |
| 40 | 0.659235 | 374.694 | 44.7902 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 219.548 | 304.891 | 350.828 | 0 | 350.828 | 568.775 | 568.775 |
| 41 | 0.659235 | 356.008 | 45.8065 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 207.227 | 287.78  | 327.276 | 0 | 327.276 | 540.421 | 540.421 |
| 42 | 0.659235 | 335.32  | 46.8418 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 194.048 | 269.478 | 302.086 | 0 | 302.086 | 509.028 | 509.028 |
| 43 | 0.659235 | 311.32  | 47.8974 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 179.398 | 249.133 | 274.083 | 0 | 274.083 | 472.608 | 472.608 |
| 44 | 0.659235 | 279.377 | 48.975  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 161.053 | 223.658 | 239.02  | 0 | 239.02  | 424.128 | 424.128 |
| 45 | 0.659235 | 244.292 | 50.0765 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 141.545 | 196.567 | 201.732 | 0 | 201.732 | 370.878 | 370.878 |

|    |          |         |         |                             |    |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|-----------------------------|----|----|---------|---------|----------|---|----------|---------|---------|
| 46 | 0.659235 | 206.638 | 51.2038 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 121.238 | 168.365 | 162.916  | 0 | 162.916  | 313.725 | 313.725 |
| 47 | 0.659235 | 166.223 | 52.3595 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 100.124 | 139.044 | 122.559  | 0 | 122.559  | 252.382 | 252.382 |
| 48 | 0.659235 | 122.826 | 53.5463 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 78.1988 | 108.596 | 80.6507  | 0 | 80.6507  | 186.509 | 186.509 |
| 49 | 0.659235 | 76.1899 | 54.7674 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 55.4613 | 77.0202 | 37.1902  | 0 | 37.1902  | 115.717 | 115.717 |
| 50 | 0.659235 | 26.0138 | 56.0266 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 31.9151 | 44.3211 | -7.81629 | 0 | -7.81629 | 39.5472 | 39.5472 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.33257

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material        | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.624952   | 15.5137      | 7.6149                    | MD-D SAND/Silty SAND | 50                  | 36                        | 47.5904            | 63.4176              | 18.4677                  | 0                   | 18.4677                       | 24.8302                    | 24.8302                         |
| 2            | 0.624952   | 46.1581      | 8.49595                   | MD-D SAND/Silty SAND | 50                  | 36                        | 71.9377            | 95.862               | 63.1236                  | 0                   | 63.1236                       | 73.8695                    | 73.8695                         |
| 3            | 0.624952   | 76.0341      | 9.37902                   | MD-D SAND/Silty SAND | 50                  | 36                        | 95.2829            | 126.971              | 105.942                  | 0                   | 105.942                       | 121.68                     | 121.68                          |
| 4            | 0.624952   | 105.136      | 10.2643                   | MD-D SAND/Silty SAND | 50                  | 36                        | 117.641            | 156.765              | 146.949                  | 0                   | 146.949                       | 168.252                    | 168.252                         |
| 5            | 0.624952   | 133.458      | 11.1522                   | MD-D SAND/Silty SAND | 50                  | 36                        | 139.025            | 185.26               | 186.169                  | 0                   | 186.169                       | 213.576                    | 213.576                         |
| 6            | 0.624952   | 160.992      | 12.0427                   | MD-D SAND/Silty SAND | 50                  | 36                        | 159.447            | 212.474              | 223.627                  | 0                   | 223.627                       | 257.643                    | 257.643                         |
| 7            | 0.624952   | 187.732      | 12.9362                   | MD-D SAND/Silty SAND | 50                  | 36                        | 178.918            | 238.421              | 259.339                  | 0                   | 259.339                       | 300.436                    | 300.436                         |
| 8            | 0.624952   | 213.669      | 13.8329                   | MD-D SAND/Silty SAND | 50                  | 36                        | 197.449            | 263.115              | 293.327                  | 0                   | 293.327                       | 341.946                    | 341.946                         |
| 9            | 0.624952   | 238.794      | 14.7331                   | MD-D SAND/Silty SAND | 50                  | 36                        | 215.048            | 286.567              | 325.608                  | 0                   | 325.608                       | 382.157                    | 382.157                         |
| 10           | 0.624952   | 263.097      | 15.637                    | MD-D SAND/Silty SAND | 50                  | 36                        | 231.724            | 308.789              | 356.193                  | 0                   | 356.193                       | 421.053                    | 421.053                         |
| 11           | 0.624952   | 286.567      | 16.5449                   | MD-D SAND/Silty SAND | 50                  | 36                        | 247.484            | 329.79               | 385.097                  | 0                   | 385.097                       | 458.616                    | 458.616                         |
| 12           | 0.624952   | 309.193      | 17.4571                   | MD-D SAND/Silty SAND | 50                  | 36                        | 262.333            | 349.577              | 412.333                  | 0                   | 412.333                       | 494.83                     | 494.83                          |
| 13           | 0.624952   | 330.963      | 18.3739                   | MD-D SAND/Silty SAND | 50                  | 36                        | 276.277            | 368.159              | 437.908                  | 0                   | 437.908                       | 529.674                    | 529.674                         |
| 14           | 0.624952   | 351.863      | 19.2957                   | MD-D SAND/Silty SAND | 50                  | 36                        | 289.321            | 385.541              | 461.832                  | 0                   | 461.832                       | 563.127                    | 563.127                         |
| 15           | 0.624952   | 371.879      | 20.2226                   | MD-D SAND/Silty SAND | 50                  | 36                        | 301.468            | 401.727              | 484.111                  | 0                   | 484.111                       | 595.164                    | 595.164                         |
| 16           | 0.624952   | 390.995      | 21.1551                   | MD-D SAND/Silty SAND | 50                  | 36                        | 312.72             | 416.721              | 504.749                  | 0                   | 504.749                       | 625.763                    | 625.763                         |
| 17           | 0.624952   | 409.195      | 22.0935                   | MD-D SAND/Silty SAND | 50                  | 36                        | 323.079            | 430.525              | 523.749                  | 0                   | 523.749                       | 654.895                    | 654.895                         |
| 18           | 0.624952   | 426.459      | 23.0382                   | MD-D SAND/Silty SAND | 50                  | 36                        | 332.546            | 443.141              | 541.111                  | 0                   | 541.111                       | 682.53                     | 682.53                          |
| 19           | 0.624952   | 442.77       | 23.9896                   | MD-D SAND/Silty SAND | 50                  | 36                        | 341.121            | 454.567              | 556.838                  | 0                   | 556.838                       | 708.64                     | 708.64                          |
| 20           | 0.624952   | 458.106      | 24.948                    | MD-D SAND/Silty SAND | 50                  | 36                        | 348.801            | 464.802              | 570.926                  | 0                   | 570.926                       | 733.189                    | 733.189                         |
| 21           | 0.624952   | 472.309      | 25.914                    | MD-D SAND/Silty SAND | 50                  | 36                        | 355.494            | 473.72               | 583.202                  | 0                   | 583.202                       | 755.927                    | 755.927                         |
| 22           | 0.624952   | 482.093      | 26.8879                   | MD-D SAND/Silty SAND | 50                  | 36                        | 358.967            | 478.349              | 589.572                  | 0                   | 589.572                       | 771.592                    | 771.592                         |
| 23           | 0.624952   | 489.354      | 27.8703                   | MD-D SAND/Silty SAND | 50                  | 36                        | 360.584            | 480.504              | 592.539                  | 0                   | 592.539                       | 783.219                    | 783.219                         |

|    |          |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 0.624952 | 495.539 | 28.8618 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 361.359 | 481.536 | 593.958 | 0 | 593.958 | 793.124 | 793.124 |
| 25 | 0.624952 | 500.616 | 29.8627 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 361.285 | 481.437 | 593.823 | 0 | 593.823 | 801.258 | 801.258 |
| 26 | 0.624952 | 504.554 | 30.8738 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 360.357 | 480.201 | 592.121 | 0 | 592.121 | 807.567 | 807.567 |
| 27 | 0.624952 | 507.315 | 31.8957 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 358.568 | 477.817 | 588.84  | 0 | 588.84  | 811.992 | 811.992 |
| 28 | 0.624952 | 508.861 | 32.9291 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 355.912 | 474.277 | 583.968 | 0 | 583.968 | 814.474 | 814.474 |
| 29 | 0.624952 | 509.15  | 33.9747 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 352.378 | 469.569 | 577.486 | 0 | 577.486 | 814.942 | 814.942 |
| 30 | 0.624952 | 508.134 | 35.0333 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 347.958 | 463.678 | 569.379 | 0 | 569.379 | 813.324 | 813.324 |
| 31 | 0.624952 | 505.764 | 36.1059 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 342.64  | 456.592 | 559.625 | 0 | 559.625 | 809.537 | 809.537 |
| 32 | 0.624952 | 501.983 | 37.1933 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 336.412 | 448.293 | 548.203 | 0 | 548.203 | 803.492 | 803.492 |
| 33 | 0.624952 | 496.73  | 38.2965 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 329.262 | 438.765 | 535.088 | 0 | 535.088 | 795.092 | 795.092 |
| 34 | 0.624952 | 489.939 | 39.4169 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 321.174 | 427.987 | 520.254 | 0 | 520.254 | 784.228 | 784.228 |
| 35 | 0.624952 | 481.534 | 40.5555 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 312.133 | 415.939 | 503.672 | 0 | 503.672 | 770.782 | 770.782 |
| 36 | 0.624952 | 471.432 | 41.7139 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.121 | 402.598 | 485.309 | 0 | 485.309 | 754.621 | 754.621 |
| 37 | 0.624952 | 459.541 | 42.8935 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 291.12  | 387.938 | 465.132 | 0 | 465.132 | 735.596 | 735.596 |
| 38 | 0.624952 | 445.758 | 44.0962 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 279.109 | 371.932 | 443.102 | 0 | 443.102 | 713.541 | 713.541 |
| 39 | 0.624952 | 429.965 | 45.3239 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 266.066 | 354.551 | 419.178 | 0 | 419.178 | 688.269 | 688.269 |
| 40 | 0.624952 | 412.03  | 46.5788 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 251.967 | 335.763 | 393.319 | 0 | 393.319 | 659.569 | 659.569 |
| 41 | 0.624952 | 391.802 | 47.8635 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 236.786 | 315.534 | 365.476 | 0 | 365.476 | 627.197 | 627.197 |
| 42 | 0.624952 | 369.108 | 49.1809 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 220.497 | 293.828 | 335.6   | 0 | 335.6   | 590.876 | 590.876 |
| 43 | 0.624952 | 343.746 | 50.5343 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 203.072 | 270.607 | 303.639 | 0 | 303.639 | 550.286 | 550.286 |
| 44 | 0.624952 | 315.482 | 51.9279 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 184.479 | 245.831 | 269.539 | 0 | 269.539 | 505.049 | 505.049 |
| 45 | 0.624952 | 283.856 | 53.3661 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 164.597 | 219.337 | 233.072 | 0 | 233.072 | 454.429 | 454.429 |
| 46 | 0.624952 | 244.078 | 54.8548 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 141.208 | 188.17  | 190.175 | 0 | 190.175 | 390.757 | 390.757 |
| 47 | 0.624952 | 198.357 | 56.4007 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 115.71  | 154.192 | 143.409 | 0 | 143.409 | 317.571 | 317.571 |
| 48 | 0.624952 | 148.227 | 58.0123 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 89.1194 | 118.758 | 94.6371 | 0 | 94.6371 | 237.326 | 237.326 |

|    |          |         |         |                             |    |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|-----------------------------|----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 0.624952 | 93.0656 | 59.7002 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 61.4429 | 81.877  | 43.8749  | 0 | 43.8749  | 149.023 | 149.023 |
| 50 | 0.624952 | 32.0698 | 61.4782 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 32.7132 | 43.5926 | -8.81896 | 0 | -8.81896 | 51.3765 | 51.3765 |

## **Cross Section F-F' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.815525**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.61344    | 55.0986      | 12.9489                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 177.636            | 144.867              | -6.57053                 | 0                   | -6.57053                      | 34.2731                    | 34.2731                         |
| 2            | 1.61344    | 163.003      | 13.6839                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 227.754            | 185.739              | 45.7434                  | 0                   | 45.7434                       | 101.196                    | 101.196                         |
| 3            | 1.61344    | 266.412      | 14.4212                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 274.659            | 223.992              | 94.7048                  | 0                   | 94.7048                       | 165.334                    | 165.334                         |
| 4            | 1.61344    | 395.243      | 15.1609                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 332.55             | 271.203              | 155.132                  | 0                   | 155.132                       | 245.241                    | 245.241                         |
| 5            | 1.61344    | 542.909      | 15.9033                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 397.989            | 324.57               | 223.439                  | 0                   | 223.439                       | 336.834                    | 336.834                         |
| 6            | 1.61344    | 685.825      | 16.6483                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 459.823            | 374.997              | 287.983                  | 0                   | 287.983                       | 425.485                    | 425.485                         |
| 7            | 1.61344    | 823.938      | 17.3963                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 518.115            | 422.536              | 348.83                   | 0                   | 348.83                        | 511.161                    | 511.161                         |
| 8            | 1.61344    | 957.188      | 18.1474                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 572.923            | 467.233              | 406.04                   | 0                   | 406.04                        | 593.825                    | 593.825                         |
| 9            | 1.61344    | 1085.51      | 18.9017                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 624.303            | 509.135              | 459.672                  | 0                   | 459.672                       | 673.44                     | 673.44                          |
| 10           | 1.61344    | 1208.85      | 19.6595                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 672.307            | 548.283              | 509.779                  | 0                   | 509.779                       | 749.963                    | 749.963                         |
| 11           | 1.61344    | 1327.13      | 20.4208                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 716.982            | 584.717              | 556.412                  | 0                   | 556.412                       | 823.351                    | 823.351                         |
| 12           | 1.61344    | 1441.66      | 21.1859                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 758.979            | 618.966              | 600.25                   | 0                   | 600.25                        | 894.424                    | 894.424                         |
| 13           | 1.61344    | 1564.7       | 21.955                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 803.599            | 655.355              | 646.826                  | 0                   | 646.826                       | 970.767                    | 970.767                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 1.61344 | 1685.93 | 22.7283 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 846.364 | 690.231 | 691.462 | 0 | 691.462 | 1045.99 | 1045.99 |
| 15 | 1.61344 | 1801.77 | 23.5059 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 885.796 | 722.389 | 732.624 | 0 | 732.624 | 1117.89 | 1117.89 |
| 16 | 1.61344 | 1912.14 | 24.2882 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 921.934 | 751.86  | 770.343 | 0 | 770.343 | 1186.38 | 1186.38 |
| 17 | 1.61344 | 2016.93 | 25.0754 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 954.808 | 778.67  | 804.662 | 0 | 804.662 | 1251.43 | 1251.43 |
| 18 | 1.61344 | 2116.03 | 25.8676 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 984.452 | 802.845 | 835.601 | 0 | 835.601 | 1312.94 | 1312.94 |
| 19 | 1.61344 | 2209.33 | 26.6652 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1010.89 | 824.407 | 863.202 | 0 | 863.202 | 1370.86 | 1370.86 |
| 20 | 1.61344 | 2294.82 | 27.4684 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1033.41 | 842.769 | 886.703 | 0 | 886.703 | 1423.94 | 1423.94 |
| 21 | 1.61344 | 2349.25 | 28.2775 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1042.97 | 850.568 | 896.687 | 0 | 896.687 | 1457.74 | 1457.74 |
| 22 | 1.61344 | 2389.68 | 29.0928 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1046.62 | 853.545 | 900.494 | 0 | 900.494 | 1482.86 | 1482.86 |
| 23 | 1.61344 | 2423.78 | 29.9147 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1047.47 | 854.239 | 901.386 | 0 | 901.386 | 1504.07 | 1504.07 |
| 24 | 1.61344 | 2451.39 | 30.7433 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1045.54 | 852.665 | 899.369 | 0 | 899.369 | 1521.23 | 1521.23 |
| 25 | 1.61344 | 2472.35 | 31.5792 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1040.84 | 848.835 | 894.469 | 0 | 894.469 | 1534.28 | 1534.28 |
| 26 | 1.61344 | 2486.47 | 32.4226 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1033.4  | 842.763 | 886.697 | 0 | 886.697 | 1543.08 | 1543.08 |
| 27 | 1.61344 | 2493.57 | 33.2739 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1023.21 | 834.457 | 876.064 | 0 | 876.064 | 1547.52 | 1547.52 |
| 28 | 1.61344 | 2493.43 | 34.1337 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1010.3  | 823.928 | 862.589 | 0 | 862.589 | 1547.48 | 1547.48 |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 1.61344 | 2485.86 | 35.0023 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 994.681 | 811.187 | 846.279 | 0 | 846.279 | 1542.82 | 1542.82 |
| 30 | 1.61344 | 2484.5  | 35.8802 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 981.23  | 800.218 | 832.243 | 0 | 832.243 | 1542.02 | 1542.02 |
| 31 | 1.61344 | 2487.42 | 36.768  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 969.19  | 790.399 | 819.673 | 0 | 819.673 | 1543.88 | 1543.88 |
| 32 | 1.61344 | 2482.13 | 37.6662 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 954.209 | 778.181 | 804.035 | 0 | 804.035 | 1540.63 | 1540.63 |
| 33 | 1.61344 | 2468.31 | 38.5753 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 936.288 | 763.566 | 785.33  | 0 | 785.33  | 1532.1  | 1532.1  |
| 34 | 1.61344 | 2445.65 | 39.4962 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 915.43  | 746.556 | 763.554 | 0 | 763.554 | 1518.07 | 1518.07 |
| 35 | 1.61344 | 2413.79 | 40.4294 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 891.632 | 727.148 | 738.714 | 0 | 738.714 | 1498.34 | 1498.34 |
| 36 | 1.61344 | 2372.34 | 41.3758 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 864.894 | 705.343 | 710.806 | 0 | 710.806 | 1472.66 | 1472.66 |
| 37 | 1.61344 | 2320.89 | 42.3361 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 835.213 | 681.137 | 679.824 | 0 | 679.824 | 1440.77 | 1440.77 |
| 38 | 1.61344 | 2243.1  | 43.3113 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 797.624 | 650.482 | 640.587 | 0 | 640.587 | 1392.53 | 1392.53 |
| 39 | 1.61344 | 2136.84 | 44.3025 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 751.873 | 613.171 | 592.83  | 0 | 592.83  | 1326.62 | 1326.62 |
| 40 | 1.55461 | 1953.12 | 45.2919 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 622.24  | 507.452 | 629.63  | 0 | 629.63  | 1258.24 | 1258.24 |
| 41 | 1.55461 | 1843.97 | 46.2803 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 579.644 | 472.714 | 581.817 | 0 | 581.817 | 1187.96 | 1187.96 |
| 42 | 1.55461 | 1723.79 | 47.2868 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 534.713 | 436.072 | 531.381 | 0 | 531.381 | 1110.58 | 1110.58 |
| 43 | 1.55461 | 1591.97 | 48.3129 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 487.452 | 397.529 | 478.333 | 0 | 478.333 | 1025.68 | 1025.68 |
| 44 | 1.55461 | 1447.77 | 49.36   | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 437.865 | 357.09  | 422.671 | 0 | 422.671 | 932.816 | 932.816 |
| 45 | 1.55461 | 1290.4  | 50.43   | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 385.964 | 314.763 | 364.414 | 0 | 364.414 | 831.462 | 831.462 |
| 46 | 1.55461 | 1118.96 | 51.5247 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 331.763 | 270.561 | 303.576 | 0 | 303.576 | 721.028 | 721.028 |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 1.55461 | 928.978 | 52.6464 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 274.383 | 223.766 | 239.169 | 0 | 239.169 | 598.65  | 598.65  |
| 48 | 1.55461 | 691.312 | 53.7977 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 206.679 | 168.552 | 163.172 | 0 | 163.172 | 445.54  | 445.54  |
| 49 | 1.55461 | 428.371 | 54.9815 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 135.294 | 110.336 | 83.0451 | 0 | 83.0451 | 276.133 | 276.133 |
| 50 | 1.55461 | 146.147 | 56.2014 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 62.3427 | 50.842  | 1.15898 | 0 | 1.15898 | 94.2904 | 94.2904 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.754817

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.68123    | 79.3357      | 7.05371                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 219.477            | 165.665              | 20.0499                  | 0                   | 20.0499                       | 47.2072                    | 47.2072                         |
| 2            | 1.68123    | 235.127      | 7.93647                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 300.194            | 226.591              | 98.032                   | 0                   | 98.032                        | 139.882                    | 139.882                         |
| 3            | 1.68123    | 385.141      | 8.82113                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 375.556            | 283.476              | 170.841                  | 0                   | 170.841                       | 229.122                    | 229.122                         |
| 4            | 1.68123    | 529.337      | 9.70791                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 445.74             | 336.452              | 238.647                  | 0                   | 238.647                       | 314.902                    | 314.902                         |
| 5            | 1.68123    | 667.671      | 10.5971                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 510.909            | 385.643              | 301.61                   | 0                   | 301.61                        | 397.197                    | 397.197                         |
| 6            | 1.68123    | 804.662      | 11.4888                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 573.543            | 432.92               | 362.121                  | 0                   | 362.121                       | 478.693                    | 478.693                         |
| 7            | 1.68123    | 978.797      | 12.3833                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 653.023            | 492.913              | 438.909                  | 0                   | 438.909                       | 582.287                    | 582.287                         |
| 8            | 1.68123    | 1157.56      | 13.281                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 732.534            | 552.929              | 515.726                  | 0                   | 515.726                       | 688.633                    | 688.633                         |
| 9            | 1.68123    | 1330.23      | 14.1819                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 806.801            | 608.987              | 587.476                  | 0                   | 587.476                       | 791.358                    | 791.358                         |
| 10           | 1.68123    | 1496.73      | 15.0865                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 875.957            | 661.187              | 654.292                  | 0                   | 654.292                       | 890.422                    | 890.422                         |
| 11           | 1.68123    | 1657.01      | 15.9949                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 940.126            | 709.623              | 716.287                  | 0                   | 716.287                       | 985.774                    | 985.774                         |
| 12           | 1.68123    | 1810.96      | 16.9075                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 999.424            | 754.382              | 773.574                  | 0                   | 773.574                       | 1077.37                    | 1077.37                         |
| 13           | 1.68123    | 1958.5       | 17.8246                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1053.96            | 795.546              | 826.263                  | 0                   | 826.263                       | 1165.15                    | 1165.15                         |
| 14           | 1.68123    | 2099.59      | 18.7463                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1103.85            | 833.204              | 874.462                  | 0                   | 874.462                       | 1249.09                    | 1249.09                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 1.68123 | 2245.44 | 19.6732 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1154.28 | 871.272 | 923.186 | 0 | 923.186 | 1335.87 | 1335.87 |
| 16 | 1.68123 | 2393.33 | 20.6054 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1203.97 | 908.777 | 971.192 | 0 | 971.192 | 1423.86 | 1423.86 |
| 17 | 1.68123 | 2534.38 | 21.5433 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1249    | 942.767 | 1014.69 | 0 | 1014.69 | 1507.78 | 1507.78 |
| 18 | 1.68123 | 2668.44 | 22.4874 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1289.45 | 973.3   | 1053.77 | 0 | 1053.77 | 1587.55 | 1587.55 |
| 19 | 1.68123 | 2795.39 | 23.438  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1325.39 | 1000.43 | 1088.5  | 0 | 1088.5  | 1663.09 | 1663.09 |
| 20 | 1.68123 | 2915.07 | 24.3954 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1356.88 | 1024.2  | 1118.92 | 0 | 1118.92 | 1734.3  | 1734.3  |
| 21 | 1.68123 | 3027.32 | 25.3602 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1383.99 | 1044.66 | 1145.11 | 0 | 1145.11 | 1801.1  | 1801.1  |
| 22 | 1.68123 | 3129.83 | 26.3327 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1405.89 | 1061.19 | 1166.26 | 0 | 1166.26 | 1862.09 | 1862.09 |
| 23 | 1.68123 | 3197.29 | 27.3135 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1412.58 | 1066.24 | 1172.73 | 0 | 1172.73 | 1902.24 | 1902.24 |
| 24 | 1.68123 | 3248.43 | 28.303  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1412.09 | 1065.87 | 1172.26 | 0 | 1172.26 | 1932.68 | 1932.68 |
| 25 | 1.68123 | 3291.35 | 29.3018 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1407.82 | 1062.65 | 1168.14 | 0 | 1168.14 | 1958.23 | 1958.23 |
| 26 | 1.68123 | 3325.81 | 30.3105 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1399.82 | 1056.61 | 1160.41 | 0 | 1160.41 | 1978.74 | 1978.74 |
| 27 | 1.68123 | 3351.53 | 31.3296 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1388.11 | 1047.77 | 1149.09 | 0 | 1149.09 | 1994.06 | 1994.06 |
| 28 | 1.68123 | 3368.24 | 32.36   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1372.71 | 1036.15 | 1134.21 | 0 | 1134.21 | 2004.02 | 2004.02 |
| 29 | 1.68123 | 3375.64 | 33.4022 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1353.64 | 1021.75 | 1115.79 | 0 | 1115.79 | 2008.43 | 2008.43 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 1.68123 | 3373.39 | 34.4571 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1330.93 | 1004.61 | 1093.85 | 0 | 1093.85 | 2007.11 | 2007.11 |
| 31 | 1.68123 | 3363.54 | 35.5255 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1305.44 | 985.37  | 1069.23 | 0 | 1069.23 | 2001.27 | 2001.27 |
| 32 | 1.68123 | 3364.37 | 36.6083 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1283.64 | 968.915 | 1048.16 | 0 | 1048.16 | 2001.77 | 2001.77 |
| 33 | 1.68123 | 3359.21 | 37.7066 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1259.61 | 950.775 | 1024.94 | 0 | 1024.94 | 1998.71 | 1998.71 |
| 34 | 1.68123 | 3342.71 | 38.8213 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1231.62 | 929.649 | 997.906 | 0 | 997.906 | 1988.91 | 1988.91 |
| 35 | 1.68123 | 3314.32 | 39.9539 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1199.67 | 905.532 | 967.036 | 0 | 967.036 | 1972.03 | 1972.03 |
| 36 | 1.68123 | 3273.47 | 41.1055 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1163.75 | 878.422 | 932.336 | 0 | 932.336 | 1947.74 | 1947.74 |
| 37 | 1.68123 | 3219.48 | 42.2777 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1123.86 | 848.311 | 893.798 | 0 | 893.798 | 1915.63 | 1915.63 |
| 38 | 1.68123 | 3151.61 | 43.4721 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1079.98 | 815.189 | 851.404 | 0 | 851.404 | 1875.27 | 1875.27 |
| 39 | 1.68123 | 3060.63 | 44.6906 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1029.54 | 777.112 | 802.666 | 0 | 802.666 | 1821.14 | 1821.14 |
| 40 | 1.68123 | 2928.01 | 45.9354 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 967.453 | 730.25  | 742.686 | 0 | 742.686 | 1742.25 | 1742.25 |
| 41 | 1.68123 | 2776.84 | 47.2088 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 901.267 | 680.292 | 678.744 | 0 | 678.744 | 1652.32 | 1652.32 |
| 42 | 1.68123 | 2607.74 | 48.5135 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 831.543 | 627.663 | 611.379 | 0 | 611.379 | 1551.71 | 1551.71 |
| 43 | 1.7599  | 2535.68 | 49.885  | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 678.474 | 512.124 | 636.058 | 0 | 636.058 | 1441.34 | 1441.34 |
| 44 | 1.7599  | 2322.15 | 51.3291 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 606.882 | 458.085 | 561.681 | 0 | 561.681 | 1319.98 | 1319.98 |
| 45 | 1.7599  | 2083.16 | 52.8202 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 531.52  | 401.2   | 483.387 | 0 | 483.387 | 1184.15 | 1184.15 |
| 46 | 1.7599  | 1816.02 | 54.3644 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 452.417 | 341.492 | 401.205 | 0 | 401.205 | 1032.31 | 1032.31 |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 1.7599 | 1517.43 | 55.9692 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 369.642 | 279.012 | 315.208 | 0 | 315.208 | 862.59  | 862.59  |
| 48 | 1.7599 | 1156.5  | 57.6437 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 277.479 | 209.446 | 219.458 | 0 | 219.458 | 657.433 | 657.433 |
| 49 | 1.7599 | 727.41  | 59.3995 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 176.696 | 133.373 | 114.753 | 0 | 114.753 | 413.523 | 413.523 |
| 50 | 1.7599 | 250.989 | 61.2518 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 73.9126 | 55.7905 | 7.96991 | 0 | 7.96991 | 142.705 | 142.705 |

## ◆ Cross Section E-E' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 0.714409**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.911913   | 11.1948      | 8.38644                   | Landslide Debris | 0                   | 20                        | 5.81859            | 4.15685              | 11.4209                  | 0                   | 11.4209                       | 12.2787                    | 12.2787                         |
| 2            | 0.911913   | 33.087       | 9.05625                   | Landslide Debris | 0                   | 20                        | 17.1004            | 12.2167              | 33.5652                  | 0                   | 33.5652                       | 36.2909                    | 36.2909                         |
| 3            | 0.911913   | 53.9813      | 9.7273                    | Landslide Debris | 0                   | 20                        | 27.7425            | 19.8195              | 54.4536                  | 0                   | 54.4536                       | 59.2093                    | 59.2093                         |
| 4            | 0.911913   | 75.4015      | 10.3997                   | Landslide Debris | 0                   | 20                        | 38.533             | 27.5283              | 75.6333                  | 0                   | 75.6333                       | 82.7052                    | 82.7052                         |
| 5            | 0.911913   | 100.822      | 11.0736                   | Landslide Debris | 0                   | 20                        | 51.2335            | 36.6017              | 100.562                  | 0                   | 100.562                       | 110.589                    | 110.589                         |
| 6            | 0.911913   | 125.616      | 11.749                    | Landslide Debris | 0                   | 20                        | 63.473             | 45.3457              | 124.586                  | 0                   | 124.586                       | 137.788                    | 137.788                         |
| 7            | 0.911913   | 149.386      | 12.426                    | Landslide Debris | 0                   | 20                        | 75.0576            | 53.6218              | 147.325                  | 0                   | 147.325                       | 163.863                    | 163.863                         |
| 8            | 0.911913   | 172.124      | 13.1049                   | Landslide Debris | 0                   | 20                        | 85.9928            | 61.434               | 168.788                  | 0                   | 168.788                       | 188.807                    | 188.807                         |
| 9            | 0.911913   | 193.822      | 13.7856                   | Landslide Debris | 0                   | 20                        | 96.2836            | 68.7859              | 188.988                  | 0                   | 188.988                       | 212.612                    | 212.612                         |
| 10           | 0.911913   | 214.471      | 14.4683                   | Landslide Debris | 0                   | 20                        | 105.935            | 75.6809              | 207.932                  | 0                   | 207.932                       | 235.266                    | 235.266                         |
| 11           | 0.911913   | 234.061      | 15.1531                   | Landslide Debris | 0                   | 20                        | 114.951            | 82.1221              | 225.628                  | 0                   | 225.628                       | 256.759                    | 256.759                         |
| 12           | 0.911913   | 252.583      | 15.8402                   | Landslide Debris | 0                   | 20                        | 123.336            | 88.1124              | 242.087                  | 0                   | 242.087                       | 277.081                    | 277.081                         |
| 13           | 0.911913   | 270.025      | 16.5295                   | Landslide Debris | 0                   | 20                        | 131.094            | 93.6546              | 257.314                  | 0                   | 257.314                       | 296.219                    | 296.219                         |
| 14           | 0.911913   | 286.377      | 17.2214                   | Landslide Debris | 0                   | 20                        | 138.228            | 98.7511              | 271.317                  | 0                   | 271.317                       | 314.162                    | 314.162                         |
| 15           | 0.911913   | 302.752      | 17.9159                   | Landslide Debris | 0                   | 20                        | 145.281            | 103.79               | 285.162                  | 0                   | 285.162                       | 332.131                    | 332.131                         |
| 16           | 0.911913   | 321.295      | 18.613                    | Landslide Debris | 0                   | 20                        | 153.278            | 109.503              | 300.856                  | 0                   | 300.856                       | 352.478                    | 352.478                         |
| 17           | 0.911913   | 338.92       | 19.3131                   | Landslide Debris | 0                   | 20                        | 160.733            | 114.829              | 315.489                  | 0                   | 315.489                       | 371.818                    | 371.818                         |
| 18           | 0.911913   | 355.4        | 20.0162                   | Landslide Debris | 0                   | 20                        | 167.548            | 119.698              | 328.869                  | 0                   | 328.869                       | 389.905                    | 389.905                         |
| 19           | 0.911913   | 370.722      | 20.7224                   | Landslide Debris | 0                   | 20                        | 173.728            | 124.113              | 340.997                  | 0                   | 340.997                       | 406.721                    | 406.721                         |
| 20           | 0.911913   | 384.87       | 21.4319                   | Landslide Debris | 0                   | 20                        | 179.271            | 128.073              | 351.877                  | 0                   | 351.877                       | 422.247                    | 422.247                         |
| 21           | 0.911913   | 397.826      | 22.1449                   | Landslide Debris | 0                   | 20                        | 184.18             | 131.58               | 361.512                  | 0                   | 361.512                       | 436.469                    | 436.469                         |
| 22           | 0.911913   | 409.573      | 22.8616                   | Landslide Debris | 0                   | 20                        | 188.455            | 134.634              | 369.905                  | 0                   | 369.905                       | 449.363                    | 449.363                         |
| 23           | 0.911913   | 420.091      | 23.582                    | Landslide Debris | 0                   | 20                        | 192.099            | 137.237              | 377.056                  | 0                   | 377.056                       | 460.91                     | 460.91                          |
| 24           | 0.911913   | 429.361      | 24.3064                   | Landslide Debris | 0                   | 20                        | 195.11             | 139.388              | 382.966                  | 0                   | 382.966                       | 471.087                    | 471.087                         |
| 25           | 0.911913   | 437.361      | 25.035                    | Landslide Debris | 0                   | 20                        | 197.488            | 141.087              | 387.635                  | 0                   | 387.635                       | 479.872                    | 479.872                         |
| 26           | 0.911913   | 444.069      | 25.7679                   | Landslide Debris | 0                   | 20                        | 199.235            | 142.335              | 391.062                  | 0                   | 391.062                       | 487.238                    | 487.238                         |
| 27           | 0.911913   | 449.461      | 26.5054                   | Landslide Debris | 0                   | 20                        | 200.349            | 143.131              | 393.249                  | 0                   | 393.249                       | 493.162                    | 493.162                         |
| 28           | 0.911913   | 453.513      | 27.2476                   | Landslide Debris | 0                   | 20                        | 200.829            | 143.474              | 394.192                  | 0                   | 394.192                       | 497.615                    | 497.615                         |
| 29           | 0.911913   | 456.196      | 27.9948                   | Landslide Debris | 0                   | 20                        | 200.675            | 143.364              | 393.889                  | 0                   | 393.889                       | 500.567                    | 500.567                         |
| 30           | 0.911913   | 457.483      | 28.7473                   | Landslide Debris | 0                   | 20                        | 199.885            | 142.8                | 392.339                  | 0                   | 392.339                       | 501.987                    | 501.987                         |
| 31           | 0.911913   | 457.344      | 29.5052                   | Landslide Debris | 0                   | 20                        | 198.458            | 141.78               | 389.537                  | 0                   | 389.537                       | 501.843                    | 501.843                         |
| 32           | 0.911913   | 455.748      | 30.2688                   | Landslide Debris | 0                   | 20                        | 196.39             | 140.303              | 385.48                   | 0                   | 385.48                        | 500.098                    | 500.098                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.911913 | 452.659 | 31.0385 | Landslide<br>Debris | 0 | 20 | 193.682 | 138.368 | 380.164 | 0 | 380.164 | 496.716 | 496.716 |
| 34 | 0.911913 | 448.042 | 31.8143 | Landslide<br>Debris | 0 | 20 | 190.329 | 135.973 | 373.583 | 0 | 373.583 | 491.658 | 491.658 |
| 35 | 0.911913 | 444.518 | 32.5968 | Landslide<br>Debris | 0 | 20 | 187.451 | 133.917 | 367.933 | 0 | 367.933 | 487.799 | 487.799 |
| 36 | 0.911913 | 442.498 | 33.3862 | Landslide<br>Debris | 0 | 20 | 185.208 | 132.314 | 363.531 | 0 | 363.531 | 485.589 | 485.589 |
| 37 | 0.911913 | 438.831 | 34.1828 | Landslide<br>Debris | 0 | 20 | 182.277 | 130.22  | 357.778 | 0 | 357.778 | 481.573 | 481.573 |
| 38 | 0.911913 | 433.466 | 34.987  | Landslide<br>Debris | 0 | 20 | 178.651 | 127.63  | 350.661 | 0 | 350.661 | 475.693 | 475.693 |
| 39 | 0.911913 | 426.353 | 35.7991 | Landslide<br>Debris | 0 | 20 | 174.326 | 124.54  | 342.171 | 0 | 342.171 | 467.895 | 467.895 |
| 40 | 0.911913 | 417.438 | 36.6197 | Landslide<br>Debris | 0 | 20 | 169.297 | 120.947 | 332.299 | 0 | 332.299 | 458.12  | 458.12  |
| 41 | 0.911913 | 406.665 | 37.4491 | Landslide<br>Debris | 0 | 20 | 163.556 | 116.846 | 321.033 | 0 | 321.033 | 446.303 | 446.303 |
| 42 | 0.911913 | 393.969 | 38.2878 | Landslide<br>Debris | 0 | 20 | 157.102 | 112.235 | 308.362 | 0 | 308.362 | 432.379 | 432.379 |
| 43 | 0.911913 | 378.806 | 39.1363 | Landslide<br>Debris | 0 | 20 | 149.734 | 106.971 | 293.901 | 0 | 293.901 | 415.744 | 415.744 |
| 44 | 0.911913 | 343.642 | 39.9952 | Landslide<br>Debris | 0 | 20 | 134.614 | 96.1693 | 264.224 | 0 | 264.224 | 377.159 | 377.159 |
| 45 | 0.911913 | 297.244 | 40.865  | Landslide<br>Debris | 0 | 20 | 115.362 | 82.4157 | 226.435 | 0 | 226.435 | 326.241 | 326.241 |
| 46 | 0.911913 | 248.624 | 41.7464 | Landslide<br>Debris | 0 | 20 | 95.5727 | 68.278  | 187.592 | 0 | 187.592 | 272.884 | 272.884 |
| 47 | 0.911913 | 197.689 | 42.64   | Landslide<br>Debris | 0 | 20 | 75.2454 | 53.756  | 147.693 | 0 | 147.693 | 216.982 | 216.982 |
| 48 | 0.911913 | 144.338 | 43.5467 | Landslide<br>Debris | 0 | 20 | 54.3799 | 38.8495 | 106.738 | 0 | 106.738 | 158.427 | 158.427 |
| 49 | 0.911913 | 88.461  | 44.4673 | Landslide<br>Debris | 0 | 20 | 32.9773 | 23.5593 | 64.7286 | 0 | 64.7286 | 97.0983 | 97.0983 |
| 50 | 0.911913 | 29.9385 | 45.4026 | Landslide<br>Debris | 0 | 20 | 11.0388 | 7.88625 | 21.6673 | 0 | 21.6673 | 32.8624 | 32.8624 |



Global Minimum Query (janbu simplified) - Safety Factor: 0.682976

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.722086   | 11.1536      | 4.12809                   | Landslide Debris | 0                   | 20                        | 7.92681            | 5.41382              | 14.8744                  | 0                   | 14.8744                       | 15.4465                    | 15.4465                         |
| 2            | 0.722086   | 33.0743      | 4.97208                   | Landslide Debris | 0                   | 20                        | 23.3283            | 15.9327              | 43.7747                  | 0                   | 43.7747                       | 45.8042                    | 45.8042                         |
| 3            | 0.722086   | 54.2206      | 5.81715                   | Landslide Debris | 0                   | 20                        | 37.9558            | 25.9229              | 71.2226                  | 0                   | 71.2226                       | 75.0894                    | 75.0894                         |
| 4            | 0.722086   | 74.5893      | 6.6635                    | Landslide Debris | 0                   | 20                        | 51.8229            | 35.3938              | 97.2435                  | 0                   | 97.2435                       | 103.298                    | 103.298                         |
| 5            | 0.722086   | 94.1765      | 7.5113                    | Landslide Debris | 0                   | 20                        | 64.9421            | 44.3539              | 121.861                  | 0                   | 121.861                       | 130.424                    | 130.424                         |
| 6            | 0.722086   | 112.978      | 8.36077                   | Landslide Debris | 0                   | 20                        | 77.3253            | 52.8113              | 145.098                  | 0                   | 145.098                       | 156.463                    | 156.463                         |
| 7            | 0.722086   | 130.989      | 9.21209                   | Landslide Debris | 0                   | 20                        | 88.9834            | 60.7735              | 166.974                  | 0                   | 166.974                       | 181.406                    | 181.406                         |
| 8            | 0.722086   | 148.203      | 10.0655                   | Landslide Debris | 0                   | 20                        | 99.9266            | 68.2475              | 187.509                  | 0                   | 187.509                       | 205.246                    | 205.246                         |
| 9            | 0.722086   | 164.616      | 10.9211                   | Landslide Debris | 0                   | 20                        | 110.164            | 75.2396              | 206.719                  | 0                   | 206.719                       | 227.975                    | 227.975                         |
| 10           | 0.722086   | 180.219      | 11.7792                   | Landslide Debris | 0                   | 20                        | 119.706            | 81.756               | 224.623                  | 0                   | 224.623                       | 249.585                    | 249.585                         |
| 11           | 0.722086   | 195.901      | 12.64                     | Landslide Debris | 0                   | 20                        | 129.148            | 88.2048              | 242.34                   | 0                   | 242.34                        | 271.303                    | 271.303                         |
| 12           | 0.722086   | 212.695      | 13.5037                   | Landslide Debris | 0                   | 20                        | 139.166            | 95.0473              | 261.14                   | 0                   | 261.14                        | 294.561                    | 294.561                         |
| 13           | 0.722086   | 228.722      | 14.3706                   | Landslide Debris | 0                   | 20                        | 148.526            | 101.44               | 278.703                  | 0                   | 278.703                       | 316.757                    | 316.757                         |
| 14           | 0.722086   | 243.906      | 15.2408                   | Landslide Debris | 0                   | 20                        | 157.189            | 107.356              | 294.958                  | 0                   | 294.958                       | 337.786                    | 337.786                         |
| 15           | 0.722086   | 258.238      | 16.1147                   | Landslide Debris | 0                   | 20                        | 165.161            | 112.801              | 309.918                  | 0                   | 309.918                       | 357.635                    | 357.635                         |
| 16           | 0.722086   | 271.706      | 16.9924                   | Landslide Debris | 0                   | 20                        | 172.447            | 117.777              | 323.59                   | 0                   | 323.59                        | 376.287                    | 376.287                         |
| 17           | 0.722086   | 284.299      | 17.8742                   | Landslide Debris | 0                   | 20                        | 179.052            | 122.288              | 335.985                  | 0                   | 335.985                       | 393.728                    | 393.728                         |
| 18           | 0.722086   | 296.004      | 18.7605                   | Landslide Debris | 0                   | 20                        | 184.98             | 126.337              | 347.108                  | 0                   | 347.108                       | 409.938                    | 409.938                         |
| 19           | 0.722086   | 306.806      | 19.6514                   | Landslide Debris | 0                   | 20                        | 190.234            | 129.925              | 356.967                  | 0                   | 356.967                       | 424.898                    | 424.898                         |
| 20           | 0.722086   | 316.692      | 20.5473                   | Landslide Debris | 0                   | 20                        | 194.818            | 133.056              | 365.567                  | 0                   | 365.567                       | 438.59                     | 438.59                          |
| 21           | 0.722086   | 325.645      | 21.4485                   | Landslide Debris | 0                   | 20                        | 198.732            | 135.729              | 372.913                  | 0                   | 372.913                       | 450.989                    | 450.989                         |
| 22           | 0.722086   | 333.648      | 22.3553                   | Landslide Debris | 0                   | 20                        | 201.979            | 137.947              | 379.008                  | 0                   | 379.008                       | 462.073                    | 462.073                         |
| 23           | 0.722086   | 340.683      | 23.268                    | Landslide Debris | 0                   | 20                        | 204.562            | 139.711              | 383.853                  | 0                   | 383.853                       | 471.816                    | 471.816                         |
| 24           | 0.722086   | 346.73       | 24.187                    | Landslide Debris | 0                   | 20                        | 206.48             | 141.021              | 387.452                  | 0                   | 387.452                       | 480.192                    | 480.192                         |
| 25           | 0.722086   | 351.769      | 25.1127                   | Landslide Debris | 0                   | 20                        | 207.734            | 141.877              | 389.804                  | 0                   | 389.804                       | 487.17                     | 487.17                          |
| 26           | 0.722086   | 355.775      | 26.0455                   | Landslide Debris | 0                   | 20                        | 208.322            | 142.279              | 390.909                  | 0                   | 390.909                       | 492.72                     | 492.72                          |
| 27           | 0.722086   | 358.726      | 26.9858                   | Landslide Debris | 0                   | 20                        | 208.246            | 142.227              | 390.765                  | 0                   | 390.765                       | 496.806                    | 496.806                         |
| 28           | 0.722086   | 360.594      | 27.9339                   | Landslide Debris | 0                   | 20                        | 207.502            | 141.719              | 389.37                   | 0                   | 389.37                        | 499.394                    | 499.394                         |
| 29           | 0.722086   | 361.352      | 28.8905                   | Landslide Debris | 0                   | 20                        | 206.091            | 140.755              | 386.722                  | 0                   | 386.722                       | 500.445                    | 500.445                         |
| 30           | 0.722086   | 360.969      | 29.856                    | Landslide Debris | 0                   | 20                        | 204.009            | 139.333              | 382.813                  | 0                   | 382.813                       | 499.914                    | 499.914                         |
| 31           | 0.722086   | 359.411      | 30.8309                   | Landslide Debris | 0                   | 20                        | 201.252            | 137.45               | 377.64                   | 0                   | 377.64                        | 497.758                    | 497.758                         |
| 32           | 0.722086   | 356.644      | 31.8158                   | Landslide Debris | 0                   | 20                        | 197.818            | 135.105              | 371.198                  | 0                   | 371.198                       | 493.926                    | 493.926                         |
| 33           | 0.722086   | 352.628      | 32.8114                   | Landslide Debris | 0                   | 20                        | 193.704            | 132.295              | 363.478                  | 0                   | 363.478                       | 488.365                    | 488.365                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.722086 | 347.322 | 33.8182 | Landslide<br>Debris | 0 | 20 | 188.904 | 129.017 | 354.47  | 0 | 354.47  | 481.017 | 481.017 |
| 35 | 0.722086 | 340.68  | 34.837  | Landslide<br>Debris | 0 | 20 | 183.413 | 125.267 | 344.167 | 0 | 344.167 | 471.819 | 471.819 |
| 36 | 0.722086 | 333.986 | 35.8686 | Landslide<br>Debris | 0 | 20 | 177.937 | 121.527 | 333.892 | 0 | 333.892 | 462.548 | 462.548 |
| 37 | 0.722086 | 328.104 | 36.9138 | Landslide<br>Debris | 0 | 20 | 172.93  | 118.107 | 324.497 | 0 | 324.497 | 454.402 | 454.402 |
| 38 | 0.722086 | 320.759 | 37.9736 | Landslide<br>Debris | 0 | 20 | 167.192 | 114.188 | 313.729 | 0 | 313.729 | 444.23  | 444.23  |
| 39 | 0.722086 | 311.849 | 39.0489 | Landslide<br>Debris | 0 | 20 | 160.694 | 109.75  | 301.537 | 0 | 301.537 | 431.891 | 431.891 |
| 40 | 0.722086 | 301.304 | 40.1408 | Landslide<br>Debris | 0 | 20 | 153.429 | 104.788 | 287.903 | 0 | 287.903 | 417.288 | 417.288 |
| 41 | 0.722086 | 289.043 | 41.2505 | Landslide<br>Debris | 0 | 20 | 145.384 | 99.2938 | 272.807 | 0 | 272.807 | 400.308 | 400.308 |
| 42 | 0.722086 | 274.979 | 42.3795 | Landslide<br>Debris | 0 | 20 | 136.551 | 93.2609 | 256.232 | 0 | 256.232 | 380.83  | 380.83  |
| 43 | 0.722086 | 259.014 | 43.5292 | Landslide<br>Debris | 0 | 20 | 126.918 | 86.6818 | 238.156 | 0 | 238.156 | 358.719 | 358.719 |
| 44 | 0.722086 | 241.037 | 44.7012 | Landslide<br>Debris | 0 | 20 | 116.474 | 79.5487 | 218.558 | 0 | 218.558 | 333.823 | 333.823 |
| 45 | 0.722086 | 220.925 | 45.8974 | Landslide<br>Debris | 0 | 20 | 105.206 | 71.8532 | 197.415 | 0 | 197.415 | 305.969 | 305.969 |
| 46 | 0.722086 | 198.538 | 47.1201 | Landslide<br>Debris | 0 | 20 | 93.103  | 63.5871 | 174.704 | 0 | 174.704 | 274.965 | 274.965 |
| 47 | 0.722086 | 168.48  | 48.3715 | Landslide<br>Debris | 0 | 20 | 77.7358 | 53.0917 | 145.868 | 0 | 145.868 | 233.336 | 233.336 |
| 48 | 0.722086 | 124.21  | 49.6545 | Landslide<br>Debris | 0 | 20 | 56.3329 | 38.474  | 105.707 | 0 | 105.707 | 172.025 | 172.025 |
| 49 | 0.722086 | 76.6913 | 50.9723 | Landslide<br>Debris | 0 | 20 | 34.151  | 23.3243 | 64.0829 | 0 | 64.0829 | 106.214 | 106.214 |
| 50 | 0.722086 | 26.0983 | 52.3287 | Landslide<br>Debris | 0 | 20 | 11.3963 | 7.7834  | 21.3847 | 0 | 21.3847 | 36.145  | 36.145  |

## **Cross Section E-E' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.338014**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.0506405  | 0.0639483    | -16.6323                  | Landslide Debris | 0                   | 20                        | 1.99926            | 0.675779             | 1.85669                  | 0                   | 1.85669                       | 1.25945                    | 1.25945                         |
| 2            | 4.03593    | 405.827      | -15.9487                  | Landslide Debris | 0                   | 20                        | 67.6395            | 22.8631              | 119.775                  | 56.9595             | 62.8157                       | 100.445                    | 43.4859                         |
| 3            | 4.03593    | 1176.53      | -14.6027                  | Landslide Debris | 0                   | 20                        | 184.869            | 62.4882              | 339.41                   | 167.725             | 171.685                       | 291.246                    | 123.521                         |
| 4            | 4.03593    | 1906.49      | -13.2649                  | Landslide Debris | 0                   | 20                        | 288.35             | 97.4664              | 539.975                  | 272.19              | 267.785                       | 471.999                    | 199.809                         |
| 5            | 4.03593    | 2596.4       | -11.9344                  | Landslide Debris | 0                   | 20                        | 379.759            | 128.364              | 723.14                   | 370.463             | 352.677                       | 642.874                    | 272.411                         |
| 6            | 4.03593    | 3246.89      | -10.6104                  | Landslide Debris | 0                   | 20                        | 463.265            | 156.59               | 890.796                  | 460.569             | 430.227                       | 804.011                    | 343.442                         |
| 7            | 4.03593    | 3858.49      | -9.29217                  | Landslide Debris | 0                   | 20                        | 546.217            | 184.629              | 1044.91                  | 537.64              | 507.266                       | 955.536                    | 417.896                         |
| 8            | 4.03593    | 4419.76      | -7.97886                  | Landslide Debris | 0                   | 20                        | 616.155            | 208.269              | 1180.98                  | 608.772             | 572.212                       | 1094.62                    | 485.849                         |
| 9            | 4.03593    | 4930.8       | -6.66975                  | Landslide Debris | 0                   | 20                        | 674.176            | 227.881              | 1300.12                  | 674.026             | 626.098                       | 1221.29                    | 547.261                         |
| 10           | 4.03593    | 5404.15      | -5.36413                  | Landslide Debris | 0                   | 20                        | 724.946            | 245.042              | 1406.7                   | 733.454             | 673.248                       | 1338.63                    | 605.178                         |
| 11           | 4.03593    | 5840.1       | -4.0613                   | Landslide Debris | 0                   | 20                        | 769.078            | 259.959              | 1501.33                  | 787.097             | 714.232                       | 1446.72                    | 659.626                         |
| 12           | 4.03593    | 6238.84      | -2.76058                  | Landslide Debris | 0                   | 20                        | 807.091            | 272.808              | 1584.52                  | 834.989             | 749.534                       | 1545.61                    | 710.617                         |
| 13           | 4.03593    | 6600.53      | -1.46127                  | Landslide Debris | 0                   | 20                        | 839.447            | 283.745              | 1656.74                  | 877.152             | 779.583                       | 1635.32                    | 758.169                         |
| 14           | 4.03593    | 6927.67      | -0.16272                  | Landslide Debris | 0                   | 20                        | 867.192            | 293.123              | 1718.95                  | 913.601             | 805.35                        | 1716.49                    | 802.887                         |
| 15           | 4.03593    | 7255.22      | 1.13575                   | Landslide Debris | 0                   | 20                        | 899.744            | 304.126              | 1779.92                  | 944.342             | 835.578                       | 1797.76                    | 853.415                         |
| 16           | 4.03593    | 7558.54      | 2.4348                    | Landslide Debris | 0                   | 20                        | 930.456            | 314.507              | 1833.47                  | 969.37              | 864.103                       | 1873.04                    | 903.666                         |
| 17           | 4.03593    | 7824.85      | 3.73511                   | Landslide Debris | 0                   | 20                        | 956.238            | 323.222              | 1876.72                  | 988.675             | 888.045                       | 1939.15                    | 950.471                         |
| 18           | 4.03593    | 8053.99      | 5.03734                   | Landslide Debris | 0                   | 20                        | 977.371            | 330.365              | 1909.9                   | 1002.23             | 907.673                       | 1996.05                    | 993.824                         |
| 19           | 4.03593    | 8245.78      | 6.3422                    | Landslide Debris | 0                   | 20                        | 994.095            | 336.018              | 1933.22                  | 1010.02             | 923.202                       | 2043.71                    | 1033.69                         |
| 20           | 4.03593    | 8409.68      | 7.65036                   | Landslide Debris | 0                   | 20                        | 1008.9             | 341.023              | 1948.94                  | 1011.99             | 936.951                       | 2084.46                    | 1072.47                         |
| 21           | 4.03593    | 8574.9       | 8.96256                   | Landslide Debris | 0                   | 20                        | 1028.58            | 347.675              | 1963.32                  | 1008.09             | 955.235                       | 2125.55                    | 1117.46                         |
| 22           | 4.03593    | 8705.96      | 10.2795                   | Landslide Debris | 0                   | 20                        | 1044.91            | 353.193              | 1968.67                  | 998.277             | 970.39                        | 2158.17                    | 1159.9                          |
| 23           | 4.03593    | 8798.26      | 11.602                    | Landslide Debris | 0                   | 20                        | 1057.09            | 357.311              | 1964.17                  | 982.467             | 981.704                       | 2181.2                     | 1198.73                         |
| 24           | 4.03593    | 8851.28      | 12.9308                   | Landslide Debris | 0                   | 20                        | 1065.29            | 360.083              | 1949.9                   | 960.583             | 989.319                       | 2194.49                    | 1233.9                          |
| 25           | 4.03593    | 8893.01      | 14.2666                   | Landslide Debris | 0                   | 20                        | 1075.65            | 363.586              | 1931.48                  | 932.532             | 998.944                       | 2204.99                    | 1272.46                         |
| 26           | 4.03593    | 8992.97      | 15.6105                   | Landslide Debris | 0                   | 20                        | 1102.35            | 372.611              | 1921.95                  | 898.21              | 1023.74                       | 2229.95                    | 1331.74                         |
| 27           | 4.03593    | 9059.95      | 16.9632                   | Landslide Debris | 0                   | 20                        | 1126.07            | 380.626              | 1903.26                  | 857.497             | 1045.76                       | 2246.74                    | 1389.24                         |
| 28           | 4.03593    | 9084.72      | 18.3258                   | Landslide Debris | 0                   | 20                        | 1145.18            | 387.088              | 1873.78                  | 810.26              | 1063.52                       | 2253.08                    | 1442.82                         |
| 29           | 4.03593    | 9184.37      | 19.6992                   | Landslide Debris | 0                   | 20                        | 1182.6             | 399.734              | 1854.61                  | 756.348             | 1098.26                       | 2278.02                    | 1521.67                         |
| 30           | 4.03593    | 9392.58      | 21.0844                   | Landslide Debris | 0                   | 20                        | 1243.55            | 420.338              | 1850.46                  | 695.594             | 1154.87                       | 2329.92                    | 1634.33                         |
| 31           | 4.03593    | 9565.3       | 22.4828                   | Landslide Debris | 0                   | 20                        | 1299.94            | 439.399              | 1835.05                  | 627.81              | 1207.24                       | 2373.04                    | 1745.23                         |
| 32           | 4.03593    | 9758.89      | 23.8954                   | Landslide Debris | 0                   | 20                        | 1362.22            | 460.448              | 1817.86                  | 552.787             | 1265.07                       | 2421.38                    | 1868.59                         |

|    |         |         |         |                     |   |    |         |         |         |         |         |         |         |
|----|---------|---------|---------|---------------------|---|----|---------|---------|---------|---------|---------|---------|---------|
| 33 | 4.03593 | 9911.88 | 25.3236 | Landslide<br>Debris | 0 | 20 | 1419.07 | 479.664 | 1788.16 | 470.292 | 1317.87 | 2459.66 | 1989.37 |
| 34 | 4.03593 | 9862.31 | 26.7689 | Landslide<br>Debris | 0 | 20 | 1442.73 | 487.662 | 1719.9  | 380.064 | 1339.84 | 2447.69 | 2067.63 |
| 35 | 4.03593 | 9692.86 | 28.2328 | Landslide<br>Debris | 0 | 20 | 1449.34 | 489.898 | 1627.79 | 281.811 | 1345.98 | 2405.99 | 2124.18 |
| 36 | 4.03593 | 9469.39 | 29.7171 | Landslide<br>Debris | 0 | 20 | 1450.98 | 490.45  | 1522.71 | 175.206 | 1347.5  | 2350.9  | 2175.7  |
| 37 | 4.03593 | 9189.52 | 31.2237 | Landslide<br>Debris | 0 | 20 | 1447.65 | 489.325 | 1404.29 | 59.8794 | 1344.41 | 2281.83 | 2221.95 |
| 38 | 3.89066 | 8538.91 | 32.7267 | Landslide<br>Debris | 0 | 20 | 1399.93 | 473.195 | 1300.09 | 0       | 1300.09 | 2199.75 | 2199.75 |
| 39 | 3.89066 | 8171.23 | 34.2275 | Landslide<br>Debris | 0 | 20 | 1308.4  | 442.256 | 1215.09 | 0       | 1215.09 | 2105.19 | 2105.19 |
| 40 | 3.89066 | 7829.25 | 35.7556 | Landslide<br>Debris | 0 | 20 | 1223.51 | 413.565 | 1136.26 | 0       | 1136.26 | 2017.24 | 2017.24 |
| 41 | 3.89066 | 7464.28 | 37.3136 | Landslide<br>Debris | 0 | 20 | 1137.51 | 384.493 | 1056.39 | 0       | 1056.39 | 1923.36 | 1923.36 |
| 42 | 3.89066 | 7050.9  | 38.9046 | Landslide<br>Debris | 0 | 20 | 1046.82 | 353.84  | 972.168 | 0       | 972.168 | 1816.99 | 1816.99 |
| 43 | 3.89066 | 6628.55 | 40.5322 | Landslide<br>Debris | 0 | 20 | 957.7   | 323.716 | 889.403 | 0       | 889.403 | 1708.29 | 1708.29 |
| 44 | 3.89066 | 6136.06 | 42.2004 | Landslide<br>Debris | 0 | 20 | 861.642 | 291.247 | 800.194 | 0       | 800.194 | 1581.49 | 1581.49 |
| 45 | 3.89066 | 5562.03 | 43.9139 | Landslide<br>Debris | 0 | 20 | 757.963 | 256.202 | 703.909 | 0       | 703.909 | 1433.67 | 1433.67 |
| 46 | 3.89066 | 4899.31 | 45.6783 | Landslide<br>Debris | 0 | 20 | 646.79  | 218.624 | 600.665 | 0       | 600.665 | 1262.95 | 1262.95 |
| 47 | 3.89066 | 4193.65 | 47.5003 | Landslide<br>Debris | 0 | 20 | 535.217 | 180.911 | 497.048 | 0       | 497.048 | 1081.14 | 1081.14 |
| 48 | 3.89066 | 3431.07 | 49.3881 | Landslide<br>Debris | 0 | 20 | 422.275 | 142.735 | 392.16  | 0       | 392.16  | 884.63  | 884.63  |
| 49 | 3.89066 | 2316.73 | 51.3515 | Landslide<br>Debris | 0 | 20 | 274.128 | 92.659  | 254.578 | 0       | 254.578 | 597.377 | 597.377 |
| 50 | 3.89066 | 796.631 | 53.4033 | Landslide<br>Debris | 0 | 20 | 90.2871 | 30.5183 | 83.8482 | 0       | 83.8482 | 205.435 | 205.435 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.305704

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.99959    | 499.407      | -22.9958                  | Landslide Debris | 0                   | 20                        | 126.5              | 38.6716              | 178.522                  | 72.2728             | 106.25                        | 124.837                    | 52.5644                         |
| 2            | 3.99959    | 1472.16      | -21.3955                  | Landslide Debris | 0                   | 20                        | 339.852            | 103.894              | 501.166                  | 215.719             | 285.447                       | 368.01                     | 152.291                         |
| 3            | 3.99959    | 2393.63      | -19.8126                  | Landslide Debris | 0                   | 20                        | 515.404            | 157.561              | 784.059                  | 351.164             | 432.895                       | 598.374                    | 247.21                          |
| 4            | 3.99959    | 3265.4       | -18.2454                  | Landslide Debris | 0                   | 20                        | 661.372            | 202.184              | 1034.35                  | 478.855             | 555.495                       | 816.321                    | 337.466                         |
| 5            | 3.99959    | 4088.85      | -16.6921                  | Landslide Debris | 0                   | 20                        | 786.552            | 240.452              | 1258.05                  | 597.418             | 660.636                       | 1022.2                     | 424.778                         |
| 6            | 3.99959    | 4865.21      | -15.1514                  | Landslide Debris | 0                   | 20                        | 905.045            | 276.676              | 1461.37                  | 701.211             | 760.161                       | 1216.3                     | 515.091                         |
| 7            | 3.99959    | 5585.38      | -13.6218                  | Landslide Debris | 0                   | 20                        | 1001.6             | 306.192              | 1639.08                  | 797.824             | 841.256                       | 1396.36                    | 598.541                         |
| 8            | 3.99959    | 6247         | -12.102                   | Landslide Debris | 0                   | 20                        | 1078.17            | 329.6                | 1792.97                  | 887.403             | 905.57                        | 1561.79                    | 674.391                         |
| 9            | 3.99959    | 6864.29      | -10.5909                  | Landslide Debris | 0                   | 20                        | 1142.63            | 349.307              | 1929.79                  | 970.076             | 959.714                       | 1716.14                    | 746.064                         |
| 10           | 3.99959    | 7438.01      | -9.08719                  | Landslide Debris | 0                   | 20                        | 1196.59            | 365.802              | 2050.98                  | 1045.95             | 1005.03                       | 1859.59                    | 813.645                         |
| 11           | 3.99959    | 7968.75      | -7.58977                  | Landslide Debris | 0                   | 20                        | 1241.3             | 379.47               | 2157.71                  | 1115.12             | 1042.59                       | 1992.31                    | 877.188                         |
| 12           | 3.99959    | 8457         | -6.09754                  | Landslide Debris | 0                   | 20                        | 1277.79            | 390.627              | 2250.9                   | 1177.66             | 1073.24                       | 2114.4                     | 936.738                         |
| 13           | 3.99959    | 8903.96      | -4.60946                  | Landslide Debris | 0                   | 20                        | 1307.18            | 399.61               | 2331.56                  | 1233.64             | 1097.92                       | 2226.17                    | 992.525                         |
| 14           | 3.99959    | 9342.35      | -3.12449                  | Landslide Debris | 0                   | 20                        | 1340.46            | 409.783              | 2408.96                  | 1283.09             | 1125.87                       | 2335.79                    | 1052.7                          |
| 15           | 3.99959    | 9756.69      | -1.64163                  | Landslide Debris | 0                   | 20                        | 1372.37            | 419.538              | 2478.73                  | 1326.06             | 1152.67                       | 2439.4                     | 1113.34                         |
| 16           | 3.99959    | 10129.6      | -0.159857                 | Landslide Debris | 0                   | 20                        | 1397.74            | 427.296              | 2536.55                  | 1362.57             | 1173.98                       | 2532.65                    | 1170.08                         |
| 17           | 3.99959    | 10461.1      | 1.32181                   | Landslide Debris | 0                   | 20                        | 1417.1             | 433.214              | 2582.88                  | 1392.62             | 1190.26                       | 2615.58                    | 1222.96                         |
| 18           | 3.99959    | 10751.2      | 2.80435                   | Landslide Debris | 0                   | 20                        | 1430.88            | 437.426              | 2618.03                  | 1416.22             | 1201.81                       | 2688.12                    | 1271.9                          |
| 19           | 3.99959    | 11004.5      | 4.28878                   | Landslide Debris | 0                   | 20                        | 1440.74            | 440.441              | 2643.43                  | 1433.33             | 1210.1                        | 2751.47                    | 1318.14                         |
| 20           | 3.99959    | 11254.9      | 5.77611                   | Landslide Debris | 0                   | 20                        | 1455.97            | 445.097              | 2666.82                  | 1443.93             | 1222.89                       | 2814.1                     | 1370.17                         |
| 21           | 3.99959    | 11472        | 7.26735                   | Landslide Debris | 0                   | 20                        | 1468.21            | 448.838              | 2681.14                  | 1447.98             | 1233.16                       | 2868.37                    | 1420.39                         |
| 22           | 3.99959    | 11646.6      | 8.76356                   | Landslide Debris | 0                   | 20                        | 1475.4             | 451.035              | 2684.62                  | 1445.41             | 1239.21                       | 2912.06                    | 1466.65                         |
| 23           | 3.99959    | 11778.3      | 10.2658                   | Landslide Debris | 0                   | 20                        | 1477.79            | 451.767              | 2677.37                  | 1436.16             | 1241.21                       | 2945.02                    | 1508.86                         |
| 24           | 3.99959    | 11878.7      | 11.7753                   | Landslide Debris | 0                   | 20                        | 1478.48            | 451.978              | 2661.93                  | 1420.13             | 1241.8                        | 2970.14                    | 1550.01                         |
| 25           | 3.99959    | 12034.1      | 13.293                    | Landslide Debris | 0                   | 20                        | 1497.71            | 457.856              | 2655.16                  | 1397.21             | 1257.95                       | 3009.01                    | 1611.8                          |
| 26           | 3.99959    | 12166.7      | 14.8204                   | Landslide Debris | 0                   | 20                        | 1516.42            | 463.577              | 2640.97                  | 1367.3              | 1273.67                       | 3042.21                    | 1674.91                         |
| 27           | 3.99959    | 12253.5      | 16.3586                   | Landslide Debris | 0                   | 20                        | 1529.58            | 467.598              | 2614.96                  | 1330.23             | 1284.73                       | 3063.93                    | 1733.7                          |
| 28           | 3.99959    | 12354        | 17.909                    | Landslide Debris | 0                   | 20                        | 1550.39            | 473.96               | 2588.04                  | 1285.86             | 1302.18                       | 3089.08                    | 1803.22                         |
| 29           | 3.99959    | 12598.4      | 19.4732                   | Landslide Debris | 0                   | 20                        | 1605.54            | 490.821              | 2582.52                  | 1233.99             | 1348.53                       | 3150.23                    | 1916.24                         |
| 30           | 3.99959    | 12808.9      | 21.0525                   | Landslide Debris | 0                   | 20                        | 1656.12            | 506.281              | 2565.42                  | 1174.42             | 1391                          | 3202.89                    | 2028.47                         |
| 31           | 3.99959    | 13025.7      | 22.6489                   | Landslide Debris | 0                   | 20                        | 1710.35            | 522.862              | 2543.45                  | 1106.9              | 1436.55                       | 3257.11                    | 2150.21                         |
| 32           | 3.99959    | 13220.1      | 24.264                    | Landslide Debris | 0                   | 20                        | 1762.34            | 538.753              | 2511.38                  | 1031.17             | 1480.21                       | 3305.78                    | 2274.61                         |
| 33           | 3.99959    | 13265.1      | 25.9                      | Landslide Debris | 0                   | 20                        | 1788.14            | 546.643              | 2448.8                   | 946.908             | 1501.9                        | 3317.08                    | 2370.17                         |

|    |         |         |         |                     |   |    |         |         |         |         |         |         |         |
|----|---------|---------|---------|---------------------|---|----|---------|---------|---------|---------|---------|---------|---------|
| 34 | 3.99959 | 13126.5 | 27.559  | Landslide<br>Debris | 0 | 20 | 1783.44 | 545.205 | 2351.71 | 853.775 | 1497.94 | 3282.45 | 2428.67 |
| 35 | 3.99959 | 12927.8 | 29.2435 | Landslide<br>Debris | 0 | 20 | 1772.72 | 541.927 | 2240.29 | 751.369 | 1488.92 | 3232.79 | 2481.42 |
| 36 | 3.99959 | 12666.8 | 30.9562 | Landslide<br>Debris | 0 | 20 | 1756.11 | 536.85  | 2114.22 | 639.237 | 1474.98 | 3167.57 | 2528.33 |
| 37 | 3.99959 | 12340.1 | 32.7002 | Landslide<br>Debris | 0 | 20 | 1733.61 | 529.972 | 1972.94 | 516.858 | 1456.09 | 3085.91 | 2569.05 |
| 38 | 3.99959 | 11943.8 | 34.479  | Landslide<br>Debris | 0 | 20 | 1705.19 | 521.283 | 1815.85 | 383.632 | 1432.21 | 2986.87 | 2603.24 |
| 39 | 3.99959 | 11530.4 | 36.2967 | Landslide<br>Debris | 0 | 20 | 1679.79 | 513.519 | 1649.75 | 238.865 | 1410.88 | 2883.53 | 2644.66 |
| 40 | 3.99959 | 11113.9 | 38.1578 | Landslide<br>Debris | 0 | 20 | 1659.45 | 507.302 | 1475.55 | 81.7449 | 1393.8  | 2779.43 | 2697.69 |
| 41 | 3.84492 | 10219.7 | 40.0299 | Landslide<br>Debris | 0 | 20 | 1582.62 | 483.813 | 1329.27 | 0       | 1329.27 | 2658.65 | 2658.65 |
| 42 | 3.84492 | 9741.64 | 41.9168 | Landslide<br>Debris | 0 | 20 | 1458.43 | 445.849 | 1224.96 | 0       | 1224.96 | 2534.31 | 2534.31 |
| 43 | 3.84492 | 9188.97 | 43.8614 | Landslide<br>Debris | 0 | 20 | 1327.39 | 405.789 | 1114.9  | 0       | 1114.9  | 2390.55 | 2390.55 |
| 44 | 3.84492 | 8537.89 | 45.8718 | Landslide<br>Debris | 0 | 20 | 1187.28 | 362.957 | 997.218 | 0       | 997.218 | 2221.19 | 2221.19 |
| 45 | 3.84492 | 7777.46 | 47.9579 | Landslide<br>Debris | 0 | 20 | 1038.22 | 317.389 | 872.018 | 0       | 872.018 | 2023.38 | 2023.38 |
| 46 | 3.84492 | 6920.44 | 50.1322 | Landslide<br>Debris | 0 | 20 | 883.75  | 270.166 | 742.275 | 0       | 742.275 | 1800.44 | 1800.44 |
| 47 | 3.84492 | 5995.08 | 52.4105 | Landslide<br>Debris | 0 | 20 | 729.199 | 222.919 | 612.464 | 0       | 612.464 | 1559.71 | 1559.71 |
| 48 | 3.84492 | 4811.17 | 54.8137 | Landslide<br>Debris | 0 | 20 | 554.288 | 169.448 | 465.555 | 0       | 465.555 | 1251.71 | 1251.71 |
| 49 | 3.84492 | 3075.31 | 57.3702 | Landslide<br>Debris | 0 | 20 | 333.129 | 101.839 | 279.801 | 0       | 279.801 | 800.105 | 800.105 |
| 50 | 3.84492 | 1069.11 | 60.1204 | Landslide<br>Debris | 0 | 20 | 107.795 | 32.9535 | 90.5389 | 0       | 90.5389 | 278.156 | 278.156 |

## Cross Section D-D' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 0.95646**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.940756   | 14.7616      | 1.34937                   | Landslide Debris | 0                   | 20                        | 5.91834            | 5.66066              | 15.5525                  | 0                   | 15.5525                       | 15.6919                    | 15.6919                         |
| 2            | 0.940756   | 43.7062      | 2.09793                   | Landslide Debris | 0                   | 20                        | 17.4374            | 16.6782              | 45.823                   | 0                   | 45.823                        | 46.4618                    | 46.4618                         |
| 3            | 0.940756   | 71.4926      | 2.84686                   | Landslide Debris | 0                   | 20                        | 28.3846            | 27.1487              | 74.5904                  | 0                   | 74.5904                       | 76.0019                    | 76.0019                         |
| 4            | 0.940756   | 98.1189      | 3.59628                   | Landslide Debris | 0                   | 20                        | 38.7669            | 37.079               | 101.874                  | 0                   | 101.874                       | 104.31                     | 104.31                          |
| 5            | 0.940756   | 123.582      | 4.34631                   | Landslide Debris | 0                   | 20                        | 48.5912            | 46.4755              | 127.69                   | 0                   | 127.69                        | 131.383                    | 131.383                         |
| 6            | 0.940756   | 147.88       | 5.09709                   | Landslide Debris | 0                   | 20                        | 57.8638            | 55.3444              | 152.058                  | 0                   | 152.058                       | 157.219                    | 157.219                         |
| 7            | 0.940756   | 171.008      | 5.84874                   | Landslide Debris | 0                   | 20                        | 66.5906            | 63.6912              | 174.991                  | 0                   | 174.991                       | 181.812                    | 181.812                         |
| 8            | 0.940756   | 192.962      | 6.60141                   | Landslide Debris | 0                   | 20                        | 74.7771            | 71.5213              | 196.504                  | 0                   | 196.504                       | 205.158                    | 205.158                         |
| 9            | 0.940756   | 213.738      | 7.35523                   | Landslide Debris | 0                   | 20                        | 82.4291            | 78.8401              | 216.611                  | 0                   | 216.611                       | 227.251                    | 227.251                         |
| 10           | 0.940756   | 236.075      | 8.11033                   | Landslide Debris | 0                   | 20                        | 90.6045            | 86.6596              | 238.096                  | 0                   | 238.096                       | 251.007                    | 251.007                         |
| 11           | 0.940756   | 259.742      | 8.86685                   | Landslide Debris | 0                   | 20                        | 99.2066            | 94.8871              | 260.7                    | 0                   | 260.7                         | 276.177                    | 276.177                         |
| 12           | 0.940756   | 282.21       | 9.62493                   | Landslide Debris | 0                   | 20                        | 107.267            | 102.597              | 281.883                  | 0                   | 281.883                       | 300.073                    | 300.073                         |
| 13           | 0.940756   | 303.473      | 10.3847                   | Landslide Debris | 0                   | 20                        | 114.791            | 109.793              | 301.653                  | 0                   | 301.653                       | 322.69                     | 322.69                          |
| 14           | 0.940756   | 323.52       | 11.1463                   | Landslide Debris | 0                   | 20                        | 121.78             | 116.478              | 320.02                   | 0                   | 320.02                        | 344.015                    | 344.015                         |
| 15           | 0.940756   | 342.344      | 11.91                     | Landslide Debris | 0                   | 20                        | 128.239            | 122.655              | 336.991                  | 0                   | 336.991                       | 364.038                    | 364.038                         |
| 16           | 0.940756   | 359.934      | 12.6758                   | Landslide Debris | 0                   | 20                        | 134.169            | 128.327              | 352.576                  | 0                   | 352.576                       | 382.752                    | 382.752                         |
| 17           | 0.940756   | 376.279      | 13.4439                   | Landslide Debris | 0                   | 20                        | 139.573            | 133.496              | 366.779                  | 0                   | 366.779                       | 400.143                    | 400.143                         |
| 18           | 0.940756   | 391.368      | 14.2144                   | Landslide Debris | 0                   | 20                        | 144.455            | 138.165              | 379.606                  | 0                   | 379.606                       | 416.198                    | 416.198                         |
| 19           | 0.940756   | 405.188      | 14.9877                   | Landslide Debris | 0                   | 20                        | 148.815            | 142.336              | 391.064                  | 0                   | 391.064                       | 430.905                    | 430.905                         |
| 20           | 0.940756   | 417.726      | 15.7637                   | Landslide Debris | 0                   | 20                        | 152.656            | 146.009              | 401.156                  | 0                   | 401.156                       | 444.248                    | 444.248                         |
| 21           | 0.940756   | 428.967      | 16.5427                   | Landslide Debris | 0                   | 20                        | 155.977            | 149.186              | 409.884                  | 0                   | 409.884                       | 456.213                    | 456.213                         |
| 22           | 0.940756   | 438.895      | 17.3248                   | Landslide Debris | 0                   | 20                        | 158.781            | 151.868              | 417.253                  | 0                   | 417.253                       | 466.783                    | 466.783                         |
| 23           | 0.940756   | 447.495      | 18.1103                   | Landslide Debris | 0                   | 20                        | 161.068            | 154.055              | 423.263                  | 0                   | 423.263                       | 475.94                     | 475.94                          |
| 24           | 0.940756   | 454.749      | 18.8993                   | Landslide Debris | 0                   | 20                        | 162.839            | 155.749              | 427.916                  | 0                   | 427.916                       | 483.666                    | 483.666                         |
| 25           | 0.940756   | 460.637      | 19.6921                   | Landslide Debris | 0                   | 20                        | 164.093            | 156.948              | 431.212                  | 0                   | 431.212                       | 489.94                     | 489.94                          |
| 26           | 0.940756   | 465.141      | 20.4888                   | Landslide Debris | 0                   | 20                        | 164.831            | 157.654              | 433.151                  | 0                   | 433.151                       | 494.742                    | 494.742                         |
| 27           | 0.940756   | 468.238      | 21.2897                   | Landslide Debris | 0                   | 20                        | 165.051            | 157.865              | 433.732                  | 0                   | 433.732                       | 498.048                    | 498.048                         |
| 28           | 0.940756   | 469.907      | 22.095                    | Landslide Debris | 0                   | 20                        | 164.754            | 157.581              | 432.951                  | 0                   | 432.951                       | 499.834                    | 499.834                         |
| 29           | 0.940756   | 470.122      | 22.9048                   | Landslide Debris | 0                   | 20                        | 163.939            | 156.801              | 430.809                  | 0                   | 430.809                       | 500.075                    | 500.075                         |
| 30           | 0.940756   | 468.858      | 23.7196                   | Landslide Debris | 0                   | 20                        | 162.604            | 155.524              | 427.298                  | 0                   | 427.298                       | 498.742                    | 498.742                         |
| 31           | 0.940756   | 466.088      | 24.5395                   | Landslide Debris | 0                   | 20                        | 160.746            | 153.747              | 422.417                  | 0                   | 422.417                       | 495.807                    | 495.807                         |
| 32           | 0.940756   | 461.782      | 25.3648                   | Landslide Debris | 0                   | 20                        | 158.365            | 151.47               | 416.161                  | 0                   | 416.161                       | 491.239                    | 491.239                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.940756 | 455.909 | 26.1957 | Landslide<br>Debris | 0 | 20 | 155.459 | 148.69  | 408.523 | 0 | 408.523 | 485.004 | 485.004 |
| 34 | 0.940756 | 448.436 | 27.0326 | Landslide<br>Debris | 0 | 20 | 152.024 | 145.405 | 399.496 | 0 | 399.496 | 477.066 | 477.066 |
| 35 | 0.940756 | 438.958 | 27.8758 | Landslide<br>Debris | 0 | 20 | 147.933 | 141.492 | 388.746 | 0 | 388.746 | 466.993 | 466.993 |
| 36 | 0.940756 | 425.679 | 28.7257 | Landslide<br>Debris | 0 | 20 | 142.598 | 136.389 | 374.724 | 0 | 374.724 | 452.878 | 452.878 |
| 37 | 0.940756 | 410.345 | 29.5825 | Landslide<br>Debris | 0 | 20 | 136.62  | 130.672 | 359.019 | 0 | 359.019 | 436.575 | 436.575 |
| 38 | 0.940756 | 393.254 | 30.4466 | Landslide<br>Debris | 0 | 20 | 130.115 | 124.45  | 341.922 | 0 | 341.922 | 418.403 | 418.403 |
| 39 | 0.940756 | 374.358 | 31.3185 | Landslide<br>Debris | 0 | 20 | 123.076 | 117.717 | 323.423 | 0 | 323.423 | 398.309 | 398.309 |
| 40 | 0.940756 | 353.608 | 32.1985 | Landslide<br>Debris | 0 | 20 | 115.498 | 110.469 | 303.513 | 0 | 303.513 | 376.241 | 376.241 |
| 41 | 0.940756 | 330.95  | 33.0871 | Landslide<br>Debris | 0 | 20 | 107.379 | 102.704 | 282.177 | 0 | 282.177 | 352.142 | 352.142 |
| 42 | 0.940756 | 306.326 | 33.9848 | Landslide<br>Debris | 0 | 20 | 98.7138 | 94.4158 | 259.405 | 0 | 259.405 | 325.95  | 325.95  |
| 43 | 0.940756 | 279.674 | 34.8921 | Landslide<br>Debris | 0 | 20 | 89.4966 | 85.5999 | 235.184 | 0 | 235.184 | 297.599 | 297.599 |
| 44 | 0.940756 | 250.926 | 35.8095 | Landslide<br>Debris | 0 | 20 | 79.7224 | 76.2513 | 209.499 | 0 | 209.499 | 267.017 | 267.017 |
| 45 | 0.940756 | 220.01  | 36.7376 | Landslide<br>Debris | 0 | 20 | 69.3859 | 66.3648 | 182.336 | 0 | 182.336 | 234.125 | 234.125 |
| 46 | 0.940756 | 186.848 | 37.6771 | Landslide<br>Debris | 0 | 20 | 58.4809 | 55.9346 | 153.679 | 0 | 153.679 | 198.841 | 198.841 |
| 47 | 0.940756 | 151.353 | 38.6287 | Landslide<br>Debris | 0 | 20 | 47.0015 | 44.9551 | 123.513 | 0 | 123.513 | 161.072 | 161.072 |
| 48 | 0.940756 | 113.432 | 39.593  | Landslide<br>Debris | 0 | 20 | 34.9415 | 33.4201 | 91.8207 | 0 | 91.8207 | 120.72  | 120.72  |
| 49 | 0.940756 | 71.8976 | 40.571  | Landslide<br>Debris | 0 | 20 | 21.9627 | 21.0064 | 57.7146 | 0 | 57.7146 | 76.5196 | 76.5196 |
| 50 | 0.940756 | 24.4873 | 41.5635 | Landslide<br>Debris | 0 | 20 | 7.41554 | 7.09267 | 19.487  | 0 | 19.487  | 26.0624 | 26.0624 |



Global Minimum Query (janbu simplified) - Safety Factor: 0.928467

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.940756   | 14.7616      | 1.34937                   | Landslide Debris | 0                   | 20                        | 6.09477            | 5.65879              | 15.5474                  | 0                   | 15.5474                       | 15.691                     | 15.691                          |
| 2            | 0.940756   | 43.7062      | 2.09793                   | Landslide Debris | 0                   | 20                        | 17.954             | 16.6697              | 45.7996                  | 0                   | 45.7996                       | 46.4573                    | 46.4573                         |
| 3            | 0.940756   | 71.4926      | 2.84686                   | Landslide Debris | 0                   | 20                        | 29.2202            | 27.13                | 74.539                   | 0                   | 74.539                        | 75.9921                    | 75.9921                         |
| 4            | 0.940756   | 98.1189      | 3.59628                   | Landslide Debris | 0                   | 20                        | 39.901             | 37.0468              | 101.785                  | 0                   | 101.785                       | 104.293                    | 104.293                         |
| 5            | 0.940756   | 123.582      | 4.34631                   | Landslide Debris | 0                   | 20                        | 50.0039            | 46.427               | 127.557                  | 0                   | 127.557                       | 131.357                    | 131.357                         |
| 6            | 0.940756   | 147.88       | 5.09709                   | Landslide Debris | 0                   | 20                        | 59.5358            | 55.277               | 151.872                  | 0                   | 151.872                       | 157.183                    | 157.183                         |
| 7            | 0.940756   | 171.008      | 5.84874                   | Landslide Debris | 0                   | 20                        | 68.5028            | 63.6026              | 174.746                  | 0                   | 174.746                       | 181.763                    | 181.763                         |
| 8            | 0.940756   | 192.962      | 6.60141                   | Landslide Debris | 0                   | 20                        | 76.9112            | 71.4095              | 196.195                  | 0                   | 196.195                       | 205.096                    | 205.096                         |
| 9            | 0.940756   | 213.738      | 7.35523                   | Landslide Debris | 0                   | 20                        | 84.7668            | 78.7032              | 216.235                  | 0                   | 216.235                       | 227.177                    | 227.177                         |
| 10           | 0.940756   | 236.075      | 8.11033                   | Landslide Debris | 0                   | 20                        | 93.1582            | 86.4943              | 237.641                  | 0                   | 237.641                       | 250.917                    | 250.917                         |
| 11           | 0.940756   | 259.742      | 8.86685                   | Landslide Debris | 0                   | 20                        | 101.985            | 94.69                | 260.158                  | 0                   | 260.158                       | 276.068                    | 276.068                         |
| 12           | 0.940756   | 282.21       | 9.62493                   | Landslide Debris | 0                   | 20                        | 110.253            | 102.366              | 281.25                   | 0                   | 281.25                        | 299.947                    | 299.947                         |
| 13           | 0.940756   | 303.473      | 10.3847                   | Landslide Debris | 0                   | 20                        | 117.965            | 109.527              | 300.924                  | 0                   | 300.924                       | 322.543                    | 322.543                         |
| 14           | 0.940756   | 323.52       | 11.1463                   | Landslide Debris | 0                   | 20                        | 125.128            | 116.177              | 319.193                  | 0                   | 319.193                       | 343.847                    | 343.847                         |
| 15           | 0.940756   | 342.344      | 11.91                     | Landslide Debris | 0                   | 20                        | 131.741            | 122.317              | 336.064                  | 0                   | 336.064                       | 363.85                     | 363.85                          |
| 16           | 0.940756   | 359.934      | 12.6758                   | Landslide Debris | 0                   | 20                        | 137.81             | 127.952              | 351.546                  | 0                   | 351.546                       | 382.542                    | 382.542                         |
| 17           | 0.940756   | 376.279      | 13.4439                   | Landslide Debris | 0                   | 20                        | 143.337            | 133.084              | 365.646                  | 0                   | 365.646                       | 399.91                     | 399.91                          |
| 18           | 0.940756   | 391.368      | 14.2144                   | Landslide Debris | 0                   | 20                        | 148.326            | 137.716              | 378.371                  | 0                   | 378.371                       | 415.943                    | 415.943                         |
| 19           | 0.940756   | 405.188      | 14.9877                   | Landslide Debris | 0                   | 20                        | 152.777            | 141.848              | 389.725                  | 0                   | 389.725                       | 430.626                    | 430.626                         |
| 20           | 0.940756   | 417.726      | 15.7637                   | Landslide Debris | 0                   | 20                        | 156.693            | 145.484              | 399.714                  | 0                   | 399.714                       | 443.947                    | 443.947                         |
| 21           | 0.940756   | 428.967      | 16.5427                   | Landslide Debris | 0                   | 20                        | 160.076            | 148.625              | 408.343                  | 0                   | 408.343                       | 455.89                     | 455.89                          |
| 22           | 0.940756   | 438.895      | 17.3248                   | Landslide Debris | 0                   | 20                        | 162.926            | 151.271              | 415.614                  | 0                   | 415.614                       | 466.437                    | 466.437                         |
| 23           | 0.940756   | 447.495      | 18.1103                   | Landslide Debris | 0                   | 20                        | 165.244            | 153.424              | 421.529                  | 0                   | 421.529                       | 475.573                    | 475.573                         |
| 24           | 0.940756   | 454.749      | 18.8993                   | Landslide Debris | 0                   | 20                        | 167.032            | 155.084              | 426.091                  | 0                   | 426.091                       | 483.276                    | 483.276                         |
| 25           | 0.940756   | 460.637      | 19.6921                   | Landslide Debris | 0                   | 20                        | 168.29             | 156.252              | 429.3                    | 0                   | 429.3                         | 489.53                     | 489.53                          |
| 26           | 0.940756   | 465.141      | 20.4888                   | Landslide Debris | 0                   | 20                        | 169.018            | 156.928              | 431.157                  | 0                   | 431.157                       | 494.312                    | 494.312                         |
| 27           | 0.940756   | 468.238      | 21.2897                   | Landslide Debris | 0                   | 20                        | 169.215            | 157.111              | 431.66                   | 0                   | 431.66                        | 497.599                    | 497.599                         |
| 28           | 0.940756   | 469.907      | 22.095                    | Landslide Debris | 0                   | 20                        | 168.883            | 156.802              | 430.809                  | 0                   | 430.809                       | 499.368                    | 499.368                         |
| 29           | 0.940756   | 470.122      | 22.9048                   | Landslide Debris | 0                   | 20                        | 168.017            | 155.998              | 428.601                  | 0                   | 428.601                       | 499.591                    | 499.591                         |
| 30           | 0.940756   | 468.858      | 23.7196                   | Landslide Debris | 0                   | 20                        | 166.619            | 154.7                | 425.035                  | 0                   | 425.035                       | 498.244                    | 498.244                         |
| 31           | 0.940756   | 466.088      | 24.5395                   | Landslide Debris | 0                   | 20                        | 164.687            | 152.906              | 420.106                  | 0                   | 420.106                       | 495.295                    | 495.295                         |
| 32           | 0.940756   | 461.782      | 25.3648                   | Landslide Debris | 0                   | 20                        | 162.219            | 150.615              | 413.81                   | 0                   | 413.81                        | 490.715                    | 490.715                         |
| 33           | 0.940756   | 455.909      | 26.1957                   | Landslide Debris | 0                   | 20                        | 159.213            | 147.824              | 406.142                  | 0                   | 406.142                       | 484.47                     | 484.47                          |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.940756 | 448.436 | 27.0326 | Landslide<br>Debris | 0 | 20 | 155.666 | 144.531 | 397.096 | 0 | 397.096 | 476.524 | 476.524 |
| 35 | 0.940756 | 438.958 | 27.8758 | Landslide<br>Debris | 0 | 20 | 151.45  | 140.616 | 386.34  | 0 | 386.34  | 466.447 | 466.447 |
| 36 | 0.940756 | 425.679 | 28.7257 | Landslide<br>Debris | 0 | 20 | 145.96  | 135.519 | 372.336 | 0 | 372.336 | 452.332 | 452.332 |
| 37 | 0.940756 | 410.345 | 29.5825 | Landslide<br>Debris | 0 | 20 | 139.816 | 129.815 | 356.664 | 0 | 356.664 | 436.034 | 436.034 |
| 38 | 0.940756 | 393.254 | 30.4466 | Landslide<br>Debris | 0 | 20 | 133.133 | 123.61  | 339.615 | 0 | 339.615 | 417.869 | 417.869 |
| 39 | 0.940756 | 374.358 | 31.3185 | Landslide<br>Debris | 0 | 20 | 125.906 | 116.9   | 321.179 | 0 | 321.179 | 397.787 | 397.787 |
| 40 | 0.940756 | 353.608 | 32.1985 | Landslide<br>Debris | 0 | 20 | 118.131 | 109.681 | 301.347 | 0 | 301.347 | 375.734 | 375.734 |
| 41 | 0.940756 | 330.95  | 33.0871 | Landslide<br>Debris | 0 | 20 | 109.806 | 101.951 | 280.108 | 0 | 280.108 | 351.655 | 351.655 |
| 42 | 0.940756 | 306.326 | 33.9848 | Landslide<br>Debris | 0 | 20 | 100.924 | 93.7046 | 257.451 | 0 | 257.451 | 325.486 | 325.486 |
| 43 | 0.940756 | 279.674 | 34.8921 | Landslide<br>Debris | 0 | 20 | 91.4815 | 84.9376 | 233.364 | 0 | 233.364 | 297.164 | 297.164 |
| 44 | 0.940756 | 250.926 | 35.8095 | Landslide<br>Debris | 0 | 20 | 81.4735 | 75.6455 | 207.835 | 0 | 207.835 | 266.616 | 266.616 |
| 45 | 0.940756 | 220.01  | 36.7376 | Landslide<br>Debris | 0 | 20 | 70.8947 | 65.8234 | 180.849 | 0 | 180.849 | 233.764 | 233.764 |
| 46 | 0.940756 | 186.848 | 37.6771 | Landslide<br>Debris | 0 | 20 | 59.7395 | 55.4662 | 152.392 | 0 | 152.392 | 198.526 | 198.526 |
| 47 | 0.940756 | 151.353 | 38.6287 | Landslide<br>Debris | 0 | 20 | 48.0024 | 44.5686 | 122.451 | 0 | 122.451 | 160.811 | 160.811 |
| 48 | 0.940756 | 113.432 | 39.593  | Landslide<br>Debris | 0 | 20 | 35.6774 | 33.1253 | 91.0106 | 0 | 91.0106 | 120.518 | 120.518 |
| 49 | 0.940756 | 71.8976 | 40.571  | Landslide<br>Debris | 0 | 20 | 22.42   | 20.8162 | 57.1919 | 0 | 57.1919 | 76.3885 | 76.3885 |
| 50 | 0.940756 | 24.4873 | 41.5635 | Landslide<br>Debris | 0 | 20 | 7.56812 | 7.02675 | 19.3058 | 0 | 19.3058 | 26.0165 | 26.0165 |

## **Cross Section D-D' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.439952**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.39874    | 22.6403      | 7.1646                    | Landslide Debris | 0                   | 20                        | 12.1331            | 5.338                | 14.666                   | 0                   | 14.666                        | 16.1911                    | 16.1911                         |
| 2            | 1.39874    | 67.0228      | 7.68192                   | Landslide Debris | 0                   | 20                        | 35.6732            | 15.6945              | 43.1203                  | 0                   | 43.1203                       | 47.9321                    | 47.9321                         |
| 3            | 1.39874    | 109.605      | 8.19987                   | Landslide Debris | 0                   | 20                        | 57.9418            | 25.4916              | 70.0377                  | 0                   | 70.0377                       | 78.3871                    | 78.3871                         |
| 4            | 1.39874    | 150.382      | 8.7185                    | Landslide Debris | 0                   | 20                        | 78.9593            | 34.7383              | 95.4428                  | 0                   | 95.4428                       | 107.551                    | 107.551                         |
| 5            | 1.39874    | 189.344      | 9.23785                   | Landslide Debris | 0                   | 20                        | 98.7451            | 43.4431              | 119.359                  | 0                   | 119.359                       | 135.419                    | 135.419                         |
| 6            | 1.39874    | 226.484      | 9.75797                   | Landslide Debris | 0                   | 20                        | 117.318            | 51.6144              | 141.809                  | 0                   | 141.809                       | 161.985                    | 161.985                         |
| 7            | 1.39874    | 261.794      | 10.2789                   | Landslide Debris | 0                   | 20                        | 134.697            | 59.2602              | 162.816                  | 0                   | 162.816                       | 187.243                    | 187.243                         |
| 8            | 1.39874    | 295.266      | 10.8007                   | Landslide Debris | 0                   | 20                        | 150.899            | 66.3881              | 182.4                    | 0                   | 182.4                         | 211.187                    | 211.187                         |
| 9            | 1.39874    | 326.889      | 11.3234                   | Landslide Debris | 0                   | 20                        | 165.94             | 73.0056              | 200.581                  | 0                   | 200.581                       | 233.81                     | 233.81                          |
| 10           | 1.39874    | 356.654      | 11.847                    | Landslide Debris | 0                   | 20                        | 179.838            | 79.1199              | 217.38                   | 0                   | 217.38                        | 255.104                    | 255.104                         |
| 11           | 1.39874    | 384.55       | 12.3717                   | Landslide Debris | 0                   | 20                        | 192.607            | 84.7377              | 232.815                  | 0                   | 232.815                       | 275.063                    | 275.063                         |
| 12           | 1.39874    | 410.567      | 12.8974                   | Landslide Debris | 0                   | 20                        | 204.263            | 89.8659              | 246.905                  | 0                   | 246.905                       | 293.677                    | 293.677                         |
| 13           | 1.39874    | 434.692      | 13.4243                   | Landslide Debris | 0                   | 20                        | 214.821            | 94.5108              | 259.666                  | 0                   | 259.666                       | 310.94                     | 310.94                          |
| 14           | 1.39874    | 456.914      | 13.9522                   | Landslide Debris | 0                   | 20                        | 224.294            | 98.6785              | 271.117                  | 0                   | 271.117                       | 326.841                    | 326.841                         |
| 15           | 1.39874    | 477.219      | 14.4814                   | Landslide Debris | 0                   | 20                        | 232.696            | 102.375              | 281.273                  | 0                   | 281.273                       | 341.372                    | 341.372                         |
| 16           | 1.39874    | 495.932      | 15.0119                   | Landslide Debris | 0                   | 20                        | 240.203            | 105.678              | 290.348                  | 0                   | 290.348                       | 354.764                    | 354.764                         |
| 17           | 1.39874    | 520.653      | 15.5437                   | Landslide Debris | 0                   | 20                        | 250.491            | 110.204              | 302.782                  | 0                   | 302.782                       | 372.455                    | 372.455                         |
| 18           | 1.39874    | 546.771      | 16.0768                   | Landslide Debris | 0                   | 20                        | 261.294            | 114.957              | 315.842                  | 0                   | 315.842                       | 391.146                    | 391.146                         |
| 19           | 1.39874    | 570.914      | 16.6114                   | Landslide Debris | 0                   | 20                        | 271.002            | 119.228              | 327.576                  | 0                   | 327.576                       | 408.424                    | 408.424                         |
| 20           | 1.39874    | 593.067      | 17.1475                   | Landslide Debris | 0                   | 20                        | 279.626            | 123.022              | 338.001                  | 0                   | 338.001                       | 424.279                    | 424.279                         |
| 21           | 1.39874    | 613.212      | 17.6852                   | Landslide Debris | 0                   | 20                        | 287.179            | 126.345              | 347.13                   | 0                   | 347.13                        | 438.698                    | 438.698                         |
| 22           | 1.39874    | 631.331      | 18.2244                   | Landslide Debris | 0                   | 20                        | 293.671            | 129.201              | 354.976                  | 0                   | 354.976                       | 451.669                    | 451.669                         |
| 23           | 1.39874    | 647.406      | 18.7653                   | Landslide Debris | 0                   | 20                        | 299.112            | 131.595              | 361.553                  | 0                   | 361.553                       | 463.177                    | 463.177                         |
| 24           | 1.39874    | 661.417      | 19.308                    | Landslide Debris | 0                   | 20                        | 303.513            | 133.531              | 366.873                  | 0                   | 366.873                       | 473.209                    | 473.209                         |
| 25           | 1.39874    | 673.344      | 19.8525                   | Landslide Debris | 0                   | 20                        | 306.883            | 135.014              | 370.948                  | 0                   | 370.948                       | 481.751                    | 481.751                         |
| 26           | 1.39874    | 683.166      | 20.3988                   | Landslide Debris | 0                   | 20                        | 309.234            | 136.048              | 373.79                   | 0                   | 373.79                        | 488.786                    | 488.786                         |
| 27           | 1.39874    | 690.86       | 20.9471                   | Landslide Debris | 0                   | 20                        | 310.575            | 136.638              | 375.41                   | 0                   | 375.41                        | 494.3                      | 494.3                           |
| 28           | 1.39874    | 696.404      | 21.4974                   | Landslide Debris | 0                   | 20                        | 310.913            | 136.787              | 375.818                  | 0                   | 375.818                       | 498.274                    | 498.274                         |
| 29           | 1.39874    | 699.772      | 22.0498                   | Landslide Debris | 0                   | 20                        | 310.257            | 136.498              | 375.026                  | 0                   | 375.026                       | 500.692                    | 500.692                         |
| 30           | 1.39874    | 700.941      | 22.6044                   | Landslide Debris | 0                   | 20                        | 308.618            | 135.777              | 373.044                  | 0                   | 373.044                       | 501.537                    | 501.537                         |
| 31           | 1.39874    | 699.883      | 23.1612                   | Landslide Debris | 0                   | 20                        | 306.002            | 134.626              | 369.881                  | 0                   | 369.881                       | 500.789                    | 500.789                         |
| 32           | 1.39874    | 696.571      | 23.7203                   | Landslide Debris | 0                   | 20                        | 302.415            | 133.048              | 365.548                  | 0                   | 365.548                       | 498.426                    | 498.426                         |

|    |         |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 1.39874 | 690.954 | 24.2819 | Landslide<br>Debris | 0 | 20 | 297.86  | 131.044 | 360.041 | 0 | 360.041 | 494.416 | 494.416 |
| 34 | 1.39874 | 679.415 | 24.8459 | Landslide<br>Debris | 0 | 20 | 290.804 | 127.94  | 351.514 | 0 | 351.514 | 486.167 | 486.167 |
| 35 | 1.39874 | 662.892 | 25.4125 | Landslide<br>Debris | 0 | 20 | 281.706 | 123.937 | 340.513 | 0 | 340.513 | 474.352 | 474.352 |
| 36 | 1.39874 | 643.991 | 25.9818 | Landslide<br>Debris | 0 | 20 | 271.702 | 119.536 | 328.423 | 0 | 328.423 | 460.834 | 460.834 |
| 37 | 1.39874 | 622.678 | 26.5539 | Landslide<br>Debris | 0 | 20 | 260.806 | 114.742 | 315.251 | 0 | 315.251 | 445.591 | 445.591 |
| 38 | 1.39874 | 598.918 | 27.1288 | Landslide<br>Debris | 0 | 20 | 249.02  | 109.557 | 301.006 | 0 | 301.006 | 428.595 | 428.595 |
| 39 | 1.39874 | 572.673 | 27.7067 | Landslide<br>Debris | 0 | 20 | 236.355 | 103.985 | 285.696 | 0 | 285.696 | 409.821 | 409.821 |
| 40 | 1.39874 | 543.903 | 28.2877 | Landslide<br>Debris | 0 | 20 | 222.813 | 98.0272 | 269.328 | 0 | 269.328 | 389.239 | 389.239 |
| 41 | 1.39874 | 512.568 | 28.8719 | Landslide<br>Debris | 0 | 20 | 208.403 | 91.6873 | 251.909 | 0 | 251.909 | 366.82  | 366.82  |
| 42 | 1.39874 | 478.624 | 29.4594 | Landslide<br>Debris | 0 | 20 | 193.129 | 84.9677 | 233.447 | 0 | 233.447 | 342.534 | 342.534 |
| 43 | 1.39874 | 438.907 | 30.0503 | Landslide<br>Debris | 0 | 20 | 175.751 | 77.3218 | 212.44  | 0 | 212.44  | 314.115 | 314.115 |
| 44 | 1.39874 | 389.799 | 30.6447 | Landslide<br>Debris | 0 | 20 | 154.881 | 68.1404 | 187.214 | 0 | 187.214 | 278.974 | 278.974 |
| 45 | 1.39874 | 337.715 | 31.2429 | Landslide<br>Debris | 0 | 20 | 133.14  | 58.5751 | 160.934 | 0 | 160.934 | 241.702 | 241.702 |
| 46 | 1.39874 | 282.828 | 31.8448 | Landslide<br>Debris | 0 | 20 | 110.622 | 48.6682 | 133.715 | 0 | 133.715 | 202.423 | 202.423 |
| 47 | 1.39874 | 225.082 | 32.4507 | Landslide<br>Debris | 0 | 20 | 87.3334 | 38.4225 | 105.565 | 0 | 105.565 | 161.097 | 161.097 |
| 48 | 1.39874 | 164.421 | 33.0607 | Landslide<br>Debris | 0 | 20 | 63.2812 | 27.8407 | 76.4917 | 0 | 76.4917 | 117.682 | 117.682 |
| 49 | 1.39874 | 100.784 | 33.6749 | Landslide<br>Debris | 0 | 20 | 38.4717 | 16.9257 | 46.5029 | 0 | 46.5029 | 72.136  | 72.136  |
| 50 | 1.39874 | 34.1067 | 34.2936 | Landslide<br>Debris | 0 | 20 | 12.9114 | 5.68041 | 15.6068 | 0 | 15.6068 | 24.4123 | 24.4123 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.431157

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.947513   | 14.9902      | 1.32926                   | Landslide Debris | 0                   | 20                        | 13.0995            | 5.64796              | 15.5176                  | 0                   | 15.5176                       | 15.8216                    | 15.8216                         |
| 2            | 0.947513   | 44.3834      | 2.07806                   | Landslide Debris | 0                   | 20                        | 38.3712            | 16.544               | 45.4544                  | 0                   | 45.4544                       | 46.8467                    | 46.8467                         |
| 3            | 0.947513   | 72.6013      | 2.82722                   | Landslide Debris | 0                   | 20                        | 62.1027            | 26.776               | 73.5666                  | 0                   | 73.5666                       | 76.6335                    | 76.6335                         |
| 4            | 0.947513   | 99.6421      | 3.57687                   | Landslide Debris | 0                   | 20                        | 84.3391            | 36.3634              | 99.9077                  | 0                   | 99.9077                       | 105.18                     | 105.18                          |
| 5            | 0.947513   | 125.503      | 4.32712                   | Landslide Debris | 0                   | 20                        | 105.123            | 45.3245              | 124.528                  | 0                   | 124.528                       | 132.482                    | 132.482                         |
| 6            | 0.947513   | 150.181      | 5.07812                   | Landslide Debris | 0                   | 20                        | 124.494            | 53.6765              | 147.475                  | 0                   | 147.475                       | 158.538                    | 158.538                         |
| 7            | 0.947513   | 173.672      | 5.83                      | Landslide Debris | 0                   | 20                        | 142.49             | 61.4357              | 168.793                  | 0                   | 168.793                       | 183.342                    | 183.342                         |
| 8            | 0.947513   | 195.972      | 6.58289                   | Landslide Debris | 0                   | 20                        | 159.147            | 68.6174              | 188.525                  | 0                   | 188.525                       | 206.89                     | 206.89                          |
| 9            | 0.947513   | 217.076      | 7.33692                   | Landslide Debris | 0                   | 20                        | 174.498            | 75.2359              | 206.709                  | 0                   | 206.709                       | 229.177                    | 229.177                         |
| 10           | 0.947513   | 238.825      | 8.09223                   | Landslide Debris | 0                   | 20                        | 190.044            | 81.939               | 225.126                  | 0                   | 225.126                       | 252.147                    | 252.147                         |
| 11           | 0.947513   | 262.786      | 8.84896                   | Landslide Debris | 0                   | 20                        | 207.011            | 89.2543              | 245.224                  | 0                   | 245.224                       | 277.452                    | 277.452                         |
| 12           | 0.947513   | 285.607      | 9.60725                   | Landslide Debris | 0                   | 20                        | 222.738            | 96.0349              | 263.854                  | 0                   | 263.854                       | 301.556                    | 301.556                         |
| 13           | 0.947513   | 307.204      | 10.3672                   | Landslide Debris | 0                   | 20                        | 237.192            | 102.267              | 280.976                  | 0                   | 280.976                       | 324.369                    | 324.369                         |
| 14           | 0.947513   | 327.569      | 11.1291                   | Landslide Debris | 0                   | 20                        | 250.401            | 107.962              | 296.623                  | 0                   | 296.623                       | 345.882                    | 345.882                         |
| 15           | 0.947513   | 346.692      | 11.8929                   | Landslide Debris | 0                   | 20                        | 262.389            | 113.131              | 310.824                  | 0                   | 310.824                       | 366.084                    | 366.084                         |
| 16           | 0.947513   | 364.563      | 12.6589                   | Landslide Debris | 0                   | 20                        | 273.181            | 117.784              | 323.608                  | 0                   | 323.608                       | 384.966                    | 384.966                         |
| 17           | 0.947513   | 381.172      | 13.4272                   | Landslide Debris | 0                   | 20                        | 282.8              | 121.931              | 335.002                  | 0                   | 335.002                       | 402.516                    | 402.516                         |
| 18           | 0.947513   | 396.506      | 14.198                    | Landslide Debris | 0                   | 20                        | 291.265            | 125.581              | 345.03                   | 0                   | 345.03                        | 418.72                     | 418.72                          |
| 19           | 0.947513   | 410.553      | 14.9714                   | Landslide Debris | 0                   | 20                        | 298.597            | 128.742              | 353.717                  | 0                   | 353.717                       | 433.566                    | 433.566                         |
| 20           | 0.947513   | 423.298      | 15.7476                   | Landslide Debris | 0                   | 20                        | 304.817            | 131.424              | 361.084                  | 0                   | 361.084                       | 447.038                    | 447.038                         |
| 21           | 0.947513   | 434.728      | 16.5267                   | Landslide Debris | 0                   | 20                        | 309.943            | 133.634              | 367.155                  | 0                   | 367.155                       | 459.122                    | 459.122                         |
| 22           | 0.947513   | 444.827      | 17.3091                   | Landslide Debris | 0                   | 20                        | 313.988            | 135.378              | 371.948                  | 0                   | 371.948                       | 469.799                    | 469.799                         |
| 23           | 0.947513   | 453.578      | 18.0948                   | Landslide Debris | 0                   | 20                        | 316.973            | 136.665              | 375.484                  | 0                   | 375.484                       | 479.055                    | 479.055                         |
| 24           | 0.947513   | 460.963      | 18.884                    | Landslide Debris | 0                   | 20                        | 318.912            | 137.501              | 377.78                   | 0                   | 377.78                        | 486.868                    | 486.868                         |
| 25           | 0.947513   | 466.963      | 19.6769                   | Landslide Debris | 0                   | 20                        | 319.816            | 137.891              | 378.852                  | 0                   | 378.852                       | 493.218                    | 493.218                         |
| 26           | 0.947513   | 471.559      | 20.4738                   | Landslide Debris | 0                   | 20                        | 319.705            | 137.843              | 378.719                  | 0                   | 378.719                       | 498.086                    | 498.086                         |
| 27           | 0.947513   | 474.728      | 21.2749                   | Landslide Debris | 0                   | 20                        | 318.585            | 137.36               | 377.395                  | 0                   | 377.395                       | 501.445                    | 501.445                         |
| 28           | 0.947513   | 476.447      | 22.0803                   | Landslide Debris | 0                   | 20                        | 316.474            | 136.45               | 374.894                  | 0                   | 374.894                       | 503.274                    | 503.274                         |
| 29           | 0.947513   | 476.692      | 22.8904                   | Landslide Debris | 0                   | 20                        | 313.382            | 135.117              | 371.23                   | 0                   | 371.23                        | 503.546                    | 503.546                         |
| 30           | 0.947513   | 475.436      | 23.7053                   | Landslide Debris | 0                   | 20                        | 309.319            | 133.365              | 366.417                  | 0                   | 366.417                       | 502.233                    | 502.233                         |
| 31           | 0.947513   | 472.653      | 24.5254                   | Landslide Debris | 0                   | 20                        | 304.295            | 131.199              | 360.468                  | 0                   | 360.468                       | 499.306                    | 499.306                         |
| 32           | 0.947513   | 468.311      | 25.3508                   | Landslide Debris | 0                   | 20                        | 298.323            | 128.624              | 353.392                  | 0                   | 353.392                       | 494.733                    | 494.733                         |
| 33           | 0.947513   | 462.381      | 26.182                    | Landslide Debris | 0                   | 20                        | 291.409            | 125.643              | 345.202                  | 0                   | 345.202                       | 488.479                    | 488.479                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.947513 | 454.827 | 27.0191 | Landslide<br>Debris | 0 | 20 | 283.565 | 122.261 | 335.91  | 0 | 335.91  | 480.512 | 480.512 |
| 35 | 0.947513 | 445.25  | 27.8624 | Landslide<br>Debris | 0 | 20 | 274.573 | 118.384 | 325.259 | 0 | 325.259 | 470.407 | 470.407 |
| 36 | 0.947513 | 431.819 | 28.7124 | Landslide<br>Debris | 0 | 20 | 263.357 | 113.548 | 311.97  | 0 | 311.97  | 456.228 | 456.228 |
| 37 | 0.947513 | 416.291 | 29.5694 | Landslide<br>Debris | 0 | 20 | 251.052 | 108.243 | 297.395 | 0 | 297.395 | 439.835 | 439.835 |
| 38 | 0.947513 | 398.981 | 30.4337 | Landslide<br>Debris | 0 | 20 | 237.888 | 102.567 | 281.8   | 0 | 281.8   | 421.556 | 421.556 |
| 39 | 0.947513 | 379.84  | 31.3057 | Landslide<br>Debris | 0 | 20 | 223.871 | 96.5235 | 265.196 | 0 | 265.196 | 401.342 | 401.342 |
| 40 | 0.947513 | 358.818 | 32.1859 | Landslide<br>Debris | 0 | 20 | 209.01  | 90.116  | 247.591 | 0 | 247.591 | 379.14  | 379.14  |
| 41 | 0.947513 | 335.861 | 33.0747 | Landslide<br>Debris | 0 | 20 | 193.311 | 83.3476 | 228.996 | 0 | 228.996 | 354.892 | 354.892 |
| 42 | 0.947513 | 310.909 | 33.9725 | Landslide<br>Debris | 0 | 20 | 176.784 | 76.2216 | 209.417 | 0 | 209.417 | 328.536 | 328.536 |
| 43 | 0.947513 | 283.901 | 34.88   | Landslide<br>Debris | 0 | 20 | 159.434 | 68.7411 | 188.864 | 0 | 188.864 | 300.004 | 300.004 |
| 44 | 0.947513 | 254.767 | 35.7976 | Landslide<br>Debris | 0 | 20 | 141.27  | 60.9095 | 167.347 | 0 | 167.347 | 269.225 | 269.225 |
| 45 | 0.947513 | 223.434 | 36.7259 | Landslide<br>Debris | 0 | 20 | 122.3   | 52.7304 | 144.876 | 0 | 144.876 | 236.121 | 236.121 |
| 46 | 0.947513 | 189.823 | 37.6655 | Landslide<br>Debris | 0 | 20 | 102.532 | 44.2074 | 121.459 | 0 | 121.459 | 200.606 | 200.606 |
| 47 | 0.947513 | 153.845 | 38.6172 | Landslide<br>Debris | 0 | 20 | 81.9759 | 35.3445 | 97.1082 | 0 | 97.1082 | 162.589 | 162.589 |
| 48 | 0.947513 | 115.407 | 39.5818 | Landslide<br>Debris | 0 | 20 | 60.6415 | 26.146  | 71.8355 | 0 | 71.8355 | 121.97  | 121.97  |
| 49 | 0.947513 | 72.9976 | 40.5599 | Landslide<br>Debris | 0 | 20 | 37.8101 | 16.3021 | 44.7897 | 0 | 44.7897 | 77.151  | 77.151  |
| 50 | 0.947513 | 24.8249 | 41.5526 | Landslide<br>Debris | 0 | 20 | 12.6696 | 5.46258 | 15.0083 | 0 | 15.0083 | 26.2381 | 26.2381 |

## **Cross Section C-C' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.773411**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.961353   | 7.89808      | 7.02348                   | Landslide Debris | 0                   | 20                        | 3.65469            | 2.82658              | 7.76597                  | 0                   | 7.76597                       | 8.21623                    | 8.21623                         |
| 2            | 0.961353   | 23.1329      | 7.70803                   | Landslide Debris | 0                   | 20                        | 10.6469            | 8.23442              | 22.6239                  | 0                   | 22.6239                       | 24.065                     | 24.065                          |
| 3            | 0.961353   | 45.665       | 8.39368                   | Landslide Debris | 0                   | 20                        | 20.9045            | 16.1678              | 44.4206                  | 0                   | 44.4206                       | 47.5052                    | 47.5052                         |
| 4            | 0.961353   | 77.6378      | 9.08055                   | Landslide Debris | 0                   | 20                        | 35.3503            | 27.3403              | 75.117                   | 0                   | 75.117                        | 80.7669                    | 80.7669                         |
| 5            | 0.961353   | 108.506      | 9.76874                   | Landslide Debris | 0                   | 20                        | 49.1405            | 38.0058              | 104.42                   | 0                   | 104.42                        | 112.88                     | 112.88                          |
| 6            | 0.961353   | 138.231      | 10.4584                   | Landslide Debris | 0                   | 20                        | 62.2659            | 48.1571              | 132.311                  | 0                   | 132.311                       | 143.804                    | 143.804                         |
| 7            | 0.961353   | 166.803      | 11.1495                   | Landslide Debris | 0                   | 20                        | 74.7323            | 57.7988              | 158.801                  | 0                   | 158.801                       | 173.53                     | 173.53                          |
| 8            | 0.961353   | 194.216      | 11.8423                   | Landslide Debris | 0                   | 20                        | 86.5454            | 66.9352              | 183.903                  | 0                   | 183.903                       | 202.049                    | 202.049                         |
| 9            | 0.961353   | 220.461      | 12.5369                   | Landslide Debris | 0                   | 20                        | 97.7101            | 75.5701              | 207.628                  | 0                   | 207.628                       | 229.355                    | 229.355                         |
| 10           | 0.961353   | 245.529      | 13.2333                   | Landslide Debris | 0                   | 20                        | 108.231            | 83.7072              | 229.984                  | 0                   | 229.984                       | 255.436                    | 255.436                         |
| 11           | 0.961353   | 269.409      | 13.9317                   | Landslide Debris | 0                   | 20                        | 118.113            | 91.3499              | 250.982                  | 0                   | 250.982                       | 280.281                    | 280.281                         |
| 12           | 0.961353   | 292.092      | 14.6323                   | Landslide Debris | 0                   | 20                        | 127.359            | 98.5012              | 270.63                   | 0                   | 270.63                        | 303.881                    | 303.881                         |
| 13           | 0.961353   | 313.565      | 15.3351                   | Landslide Debris | 0                   | 20                        | 135.974            | 105.164              | 288.936                  | 0                   | 288.936                       | 326.223                    | 326.223                         |
| 14           | 0.961353   | 333.817      | 16.0402                   | Landslide Debris | 0                   | 20                        | 143.961            | 111.341              | 305.906                  | 0                   | 305.906                       | 347.296                    | 347.296                         |
| 15           | 0.961353   | 352.836      | 16.7479                   | Landslide Debris | 0                   | 20                        | 151.322            | 117.034              | 321.549                  | 0                   | 321.549                       | 367.085                    | 367.085                         |
| 16           | 0.961353   | 370.607      | 17.4582                   | Landslide Debris | 0                   | 20                        | 158.061            | 122.246              | 335.866                  | 0                   | 335.866                       | 385.576                    | 385.576                         |
| 17           | 0.961353   | 387.117      | 18.1713                   | Landslide Debris | 0                   | 20                        | 164.178            | 126.977              | 348.867                  | 0                   | 348.867                       | 402.755                    | 402.755                         |
| 18           | 0.961353   | 402.349      | 18.8873                   | Landslide Debris | 0                   | 20                        | 169.678            | 131.231              | 360.555                  | 0                   | 360.555                       | 418.607                    | 418.607                         |
| 19           | 0.961353   | 416.289      | 19.6064                   | Landslide Debris | 0                   | 20                        | 174.562            | 135.008              | 370.932                  | 0                   | 370.932                       | 433.113                    | 433.113                         |
| 20           | 0.961353   | 428.919      | 20.3288                   | Landslide Debris | 0                   | 20                        | 178.831            | 138.31               | 380.003                  | 0                   | 380.003                       | 446.256                    | 446.256                         |
| 21           | 0.961353   | 440.22       | 21.0545                   | Landslide Debris | 0                   | 20                        | 182.485            | 141.136              | 387.768                  | 0                   | 387.768                       | 458.017                    | 458.017                         |
| 22           | 0.961353   | 450.174      | 21.7838                   | Landslide Debris | 0                   | 20                        | 185.527            | 143.489              | 394.232                  | 0                   | 394.232                       | 468.377                    | 468.377                         |
| 23           | 0.961353   | 458.76       | 22.5168                   | Landslide Debris | 0                   | 20                        | 187.957            | 145.368              | 399.395                  | 0                   | 399.395                       | 477.313                    | 477.313                         |
| 24           | 0.961353   | 465.956      | 23.2537                   | Landslide Debris | 0                   | 20                        | 189.774            | 146.773              | 403.256                  | 0                   | 403.256                       | 484.804                    | 484.804                         |
| 25           | 0.961353   | 471.74       | 23.9947                   | Landslide Debris | 0                   | 20                        | 190.979            | 147.705              | 405.817                  | 0                   | 405.817                       | 490.825                    | 490.825                         |
| 26           | 0.961353   | 476.088      | 24.74                     | Landslide Debris | 0                   | 20                        | 191.572            | 148.164              | 407.077                  | 0                   | 407.077                       | 495.353                    | 495.353                         |
| 27           | 0.961353   | 478.974      | 25.4898                   | Landslide Debris | 0                   | 20                        | 191.553            | 148.149              | 407.036                  | 0                   | 407.036                       | 498.36                     | 498.36                          |
| 28           | 0.961353   | 480.371      | 26.2443                   | Landslide Debris | 0                   | 20                        | 190.919            | 147.659              | 405.689                  | 0                   | 405.689                       | 499.816                    | 499.816                         |
| 29           | 0.961353   | 480.249      | 27.0037                   | Landslide Debris | 0                   | 20                        | 189.67             | 146.693              | 403.036                  | 0                   | 403.036                       | 499.693                    | 499.693                         |
| 30           | 0.961353   | 478.579      | 27.7683                   | Landslide Debris | 0                   | 20                        | 187.806            | 145.251              | 399.073                  | 0                   | 399.073                       | 497.959                    | 497.959                         |
| 31           | 0.961353   | 475.328      | 28.5383                   | Landslide Debris | 0                   | 20                        | 185.323            | 143.331              | 393.797                  | 0                   | 393.797                       | 494.58                     | 494.58                          |
| 32           | 0.961353   | 470.461      | 29.314                    | Landslide Debris | 0                   | 20                        | 182.22             | 140.931              | 387.204                  | 0                   | 387.204                       | 489.52                     | 489.52                          |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.961353 | 463.942 | 30.0956 | Landslide<br>Debris | 0 | 20 | 178.495 | 138.05  | 379.289 | 0 | 379.289 | 482.741 | 482.741 |
| 34 | 0.961353 | 455.732 | 30.8835 | Landslide<br>Debris | 0 | 20 | 174.145 | 134.686 | 370.046 | 0 | 370.046 | 474.201 | 474.201 |
| 35 | 0.961353 | 445.789 | 31.6779 | Landslide<br>Debris | 0 | 20 | 169.167 | 130.836 | 359.469 | 0 | 359.469 | 463.858 | 463.858 |
| 36 | 0.961353 | 434.068 | 32.4791 | Landslide<br>Debris | 0 | 20 | 163.559 | 126.498 | 347.551 | 0 | 347.551 | 451.666 | 451.666 |
| 37 | 0.961353 | 420.523 | 33.2876 | Landslide<br>Debris | 0 | 20 | 157.316 | 121.67  | 334.287 | 0 | 334.287 | 437.575 | 437.575 |
| 38 | 0.961353 | 405.102 | 34.1036 | Landslide<br>Debris | 0 | 20 | 150.436 | 116.349 | 319.666 | 0 | 319.666 | 421.532 | 421.532 |
| 39 | 0.961353 | 387.752 | 34.9275 | Landslide<br>Debris | 0 | 20 | 142.914 | 110.531 | 303.682 | 0 | 303.682 | 403.482 | 403.482 |
| 40 | 0.961353 | 368.414 | 35.7599 | Landslide<br>Debris | 0 | 20 | 134.746 | 104.214 | 286.325 | 0 | 286.325 | 383.363 | 383.363 |
| 41 | 0.961353 | 347.025 | 36.601  | Landslide<br>Debris | 0 | 20 | 125.926 | 97.3929 | 267.585 | 0 | 267.585 | 361.109 | 361.109 |
| 42 | 0.961353 | 323.52  | 37.4514 | Landslide<br>Debris | 0 | 20 | 116.452 | 90.0653 | 247.453 | 0 | 247.453 | 336.653 | 336.653 |
| 43 | 0.961353 | 297.824 | 38.3116 | Landslide<br>Debris | 0 | 20 | 106.317 | 82.2271 | 225.917 | 0 | 225.917 | 309.916 | 309.916 |
| 44 | 0.961353 | 269.628 | 39.1821 | Landslide<br>Debris | 0 | 20 | 95.435  | 73.8105 | 202.792 | 0 | 202.792 | 280.578 | 280.578 |
| 45 | 0.961353 | 236.046 | 40.0635 | Landslide<br>Debris | 0 | 20 | 82.8188 | 64.053  | 175.984 | 0 | 175.984 | 245.634 | 245.634 |
| 46 | 0.961353 | 199.084 | 40.9565 | Landslide<br>Debris | 0 | 20 | 69.2218 | 53.5369 | 147.092 | 0 | 147.092 | 207.173 | 207.173 |
| 47 | 0.961353 | 159.579 | 41.8618 | Landslide<br>Debris | 0 | 20 | 54.9704 | 42.5147 | 116.808 | 0 | 116.808 | 166.064 | 166.064 |
| 48 | 0.961353 | 117.421 | 42.78   | Landslide<br>Debris | 0 | 20 | 40.0597 | 30.9826 | 85.1241 | 0 | 85.1241 | 122.194 | 122.194 |
| 49 | 0.961353 | 72.4906 | 43.7121 | Landslide<br>Debris | 0 | 20 | 24.4853 | 18.9372 | 52.0295 | 0 | 52.0295 | 75.4381 | 75.4381 |
| 50 | 0.961353 | 24.6586 | 44.659  | Landslide<br>Debris | 0 | 20 | 8.24308 | 6.37529 | 17.516  | 0 | 17.516  | 25.6615 | 25.6615 |



Global Minimum Query (janbu simplified) - Safety Factor: 0.752676

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.948145   | 7.54249      | 7.19927                   | Landslide Debris | 0                   | 20                        | 3.6241             | 2.72777              | 7.49449                  | 0                   | 7.49449                       | 7.95228                    | 7.95228                         |
| 2            | 0.948145   | 26.5119      | 7.8819                    | Landslide Debris | 0                   | 20                        | 12.6684            | 9.53518              | 26.1977                  | 0                   | 26.1977                       | 27.9515                    | 27.9515                         |
| 3            | 0.948145   | 57.589       | 8.56566                   | Landslide Debris | 0                   | 20                        | 27.3662            | 20.5979              | 56.5921                  | 0                   | 56.5921                       | 60.7141                    | 60.7141                         |
| 4            | 0.948145   | 88.4467      | 9.25065                   | Landslide Debris | 0                   | 20                        | 41.7977            | 31.4601              | 86.4358                  | 0                   | 86.4358                       | 93.2434                    | 93.2434                         |
| 5            | 0.948145   | 118.2        | 9.93698                   | Landslide Debris | 0                   | 20                        | 55.5498            | 41.811               | 114.875                  | 0                   | 114.875                       | 124.607                    | 124.607                         |
| 6            | 0.948145   | 146.842      | 10.6248                   | Landslide Debris | 0                   | 20                        | 68.6291            | 51.6555              | 141.922                  | 0                   | 141.922                       | 154.796                    | 154.796                         |
| 7            | 0.948145   | 174.366      | 11.3141                   | Landslide Debris | 0                   | 20                        | 81.0418            | 60.9982              | 167.591                  | 0                   | 167.591                       | 183.806                    | 183.806                         |
| 8            | 0.948145   | 200.763      | 12.0051                   | Landslide Debris | 0                   | 20                        | 92.7936            | 69.8435              | 191.893                  | 0                   | 191.893                       | 211.626                    | 211.626                         |
| 9            | 0.948145   | 226.026      | 12.6978                   | Landslide Debris | 0                   | 20                        | 103.89             | 78.1953              | 214.84                   | 0                   | 214.84                        | 238.248                    | 238.248                         |
| 10           | 0.948145   | 250.145      | 13.3925                   | Landslide Debris | 0                   | 20                        | 114.335            | 86.0575              | 236.441                  | 0                   | 236.441                       | 263.664                    | 263.664                         |
| 11           | 0.948145   | 273.11       | 14.0892                   | Landslide Debris | 0                   | 20                        | 124.135            | 93.4334              | 256.706                  | 0                   | 256.706                       | 287.861                    | 287.861                         |
| 12           | 0.948145   | 294.912      | 14.788                    | Landslide Debris | 0                   | 20                        | 133.292            | 100.326              | 275.644                  | 0                   | 275.644                       | 310.832                    | 310.832                         |
| 13           | 0.948145   | 315.539      | 15.489                    | Landslide Debris | 0                   | 20                        | 141.813            | 106.739              | 293.263                  | 0                   | 293.263                       | 332.562                    | 332.562                         |
| 14           | 0.948145   | 334.979      | 16.1925                   | Landslide Debris | 0                   | 20                        | 149.699            | 112.675              | 309.571                  | 0                   | 309.571                       | 353.041                    | 353.041                         |
| 15           | 0.948145   | 353.22       | 16.8984                   | Landslide Debris | 0                   | 20                        | 156.953            | 118.135              | 324.573                  | 0                   | 324.573                       | 372.255                    | 372.255                         |
| 16           | 0.948145   | 370.249      | 17.607                    | Landslide Debris | 0                   | 20                        | 163.58             | 123.123              | 338.278                  | 0                   | 338.278                       | 390.191                    | 390.191                         |
| 17           | 0.948145   | 386.052      | 18.3185                   | Landslide Debris | 0                   | 20                        | 169.582            | 127.64               | 350.688                  | 0                   | 350.688                       | 406.832                    | 406.832                         |
| 18           | 0.948145   | 400.613      | 19.0328                   | Landslide Debris | 0                   | 20                        | 174.96             | 131.688              | 361.809                  | 0                   | 361.809                       | 422.165                    | 422.165                         |
| 19           | 0.948145   | 413.918      | 19.7502                   | Landslide Debris | 0                   | 20                        | 179.716            | 135.268              | 371.647                  | 0                   | 371.647                       | 436.172                    | 436.172                         |
| 20           | 0.948145   | 425.949      | 20.4709                   | Landslide Debris | 0                   | 20                        | 183.853            | 138.382              | 380.202                  | 0                   | 380.202                       | 448.836                    | 448.836                         |
| 21           | 0.948145   | 436.688      | 21.195                    | Landslide Debris | 0                   | 20                        | 187.373            | 141.031              | 387.48                   | 0                   | 387.48                        | 460.138                    | 460.138                         |
| 22           | 0.948145   | 446.117      | 21.9226                   | Landslide Debris | 0                   | 20                        | 190.276            | 143.216              | 393.483                  | 0                   | 393.483                       | 470.06                     | 470.06                          |
| 23           | 0.948145   | 454.216      | 22.654                    | Landslide Debris | 0                   | 20                        | 192.562            | 144.937              | 398.21                   | 0                   | 398.21                        | 478.579                    | 478.579                         |
| 24           | 0.948145   | 460.963      | 23.3893                   | Landslide Debris | 0                   | 20                        | 194.232            | 146.194              | 401.666                  | 0                   | 401.666                       | 485.675                    | 485.675                         |
| 25           | 0.948145   | 466.337      | 24.1287                   | Landslide Debris | 0                   | 20                        | 195.289            | 146.989              | 403.848                  | 0                   | 403.848                       | 491.322                    | 491.322                         |
| 26           | 0.948145   | 470.314      | 24.8724                   | Landslide Debris | 0                   | 20                        | 195.728            | 147.32               | 404.758                  | 0                   | 404.758                       | 495.497                    | 495.497                         |
| 27           | 0.948145   | 472.869      | 25.6206                   | Landslide Debris | 0                   | 20                        | 195.552            | 147.187              | 404.394                  | 0                   | 404.394                       | 498.173                    | 498.173                         |
| 28           | 0.948145   | 473.975      | 26.3735                   | Landslide Debris | 0                   | 20                        | 194.76             | 146.591              | 402.756                  | 0                   | 402.756                       | 499.324                    | 499.324                         |
| 29           | 0.948145   | 473.605      | 27.1314                   | Landslide Debris | 0                   | 20                        | 193.35             | 145.53               | 399.841                  | 0                   | 399.841                       | 498.917                    | 498.917                         |
| 30           | 0.948145   | 471.727      | 27.8944                   | Landslide Debris | 0                   | 20                        | 191.323            | 144.004              | 395.648                  | 0                   | 395.648                       | 496.925                    | 496.925                         |
| 31           | 0.948145   | 468.312      | 28.6629                   | Landslide Debris | 0                   | 20                        | 188.675            | 142.011              | 390.173                  | 0                   | 390.173                       | 493.31                     | 493.31                          |
| 32           | 0.948145   | 463.324      | 29.437                    | Landslide Debris | 0                   | 20                        | 185.406            | 139.551              | 383.412                  | 0                   | 383.412                       | 488.041                    | 488.041                         |
| 33           | 0.948145   | 456.728      | 30.2171                   | Landslide Debris | 0                   | 20                        | 181.514            | 136.621              | 375.363                  | 0                   | 375.363                       | 481.079                    | 481.079                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.948145 | 448.487 | 31.0034 | Landslide<br>Debris | 0 | 20 | 176.995 | 133.22  | 366.019 | 0 | 366.019 | 472.383 | 472.383 |
| 35 | 0.948145 | 438.558 | 31.7963 | Landslide<br>Debris | 0 | 20 | 171.848 | 129.346 | 355.376 | 0 | 355.376 | 461.911 | 461.911 |
| 36 | 0.948145 | 426.9   | 32.596  | Landslide<br>Debris | 0 | 20 | 166.07  | 124.997 | 343.427 | 0 | 343.427 | 449.617 | 449.617 |
| 37 | 0.948145 | 413.466 | 33.4029 | Landslide<br>Debris | 0 | 20 | 159.658 | 120.171 | 330.167 | 0 | 330.167 | 435.454 | 435.454 |
| 38 | 0.948145 | 398.206 | 34.2174 | Landslide<br>Debris | 0 | 20 | 152.607 | 114.864 | 315.587 | 0 | 315.587 | 419.367 | 419.367 |
| 39 | 0.948145 | 381.067 | 35.0399 | Landslide<br>Debris | 0 | 20 | 144.916 | 109.075 | 299.683 | 0 | 299.683 | 401.304 | 401.304 |
| 40 | 0.948145 | 361.994 | 35.8707 | Landslide<br>Debris | 0 | 20 | 136.581 | 102.801 | 282.443 | 0 | 282.443 | 381.204 | 381.204 |
| 41 | 0.948145 | 340.924 | 36.7103 | Landslide<br>Debris | 0 | 20 | 127.595 | 96.0377 | 263.862 | 0 | 263.862 | 359.004 | 359.004 |
| 42 | 0.948145 | 317.792 | 37.5592 | Landslide<br>Debris | 0 | 20 | 117.956 | 88.7826 | 243.929 | 0 | 243.929 | 334.633 | 334.633 |
| 43 | 0.948145 | 292.527 | 38.4179 | Landslide<br>Debris | 0 | 20 | 107.659 | 81.0323 | 222.634 | 0 | 222.634 | 308.019 | 308.019 |
| 44 | 0.948145 | 264.535 | 39.2869 | Landslide<br>Debris | 0 | 20 | 96.5095 | 72.6404 | 199.578 | 0 | 199.578 | 278.533 | 278.533 |
| 45 | 0.948145 | 231.186 | 40.1669 | Landslide<br>Debris | 0 | 20 | 83.5879 | 62.9146 | 172.856 | 0 | 172.856 | 243.411 | 243.411 |
| 46 | 0.948145 | 194.955 | 41.0584 | Landslide<br>Debris | 0 | 20 | 69.8378 | 52.5652 | 144.421 | 0 | 144.421 | 205.255 | 205.255 |
| 47 | 0.948145 | 156.245 | 41.9621 | Landslide<br>Debris | 0 | 20 | 55.4381 | 41.7269 | 114.644 | 0 | 114.644 | 164.494 | 164.494 |
| 48 | 0.948145 | 114.951 | 42.8789 | Landslide<br>Debris | 0 | 20 | 40.385  | 30.3968 | 83.5149 | 0 | 83.5149 | 121.015 | 121.015 |
| 49 | 0.948145 | 70.9567 | 43.8095 | Landslide<br>Debris | 0 | 20 | 24.6748 | 18.5721 | 51.0265 | 0 | 51.0265 | 74.6966 | 74.6966 |
| 50 | 0.948145 | 24.1346 | 44.7549 | Landslide<br>Debris | 0 | 20 | 8.30401 | 6.25023 | 17.1724 | 0 | 17.1724 | 25.4056 | 25.4056 |

## **Cross Section C-C' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.383635**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.979956   | 8.40844      | 6.78623                   | Landslide Debris | 0                   | 20                        | 7.32053            | 2.80841              | 7.71603                  | 0                   | 7.71603                       | 8.58717                    | 8.58717                         |
| 2            | 0.979956   | 24.6404      | 7.47337                   | Landslide Debris | 0                   | 20                        | 21.2334            | 8.14588              | 22.3806                  | 0                   | 22.3806                       | 25.166                     | 25.166                          |
| 3            | 0.979956   | 39.7         | 8.16159                   | Landslide Debris | 0                   | 20                        | 33.8634            | 12.9912              | 35.693                   | 0                   | 35.693                        | 40.5496                    | 40.5496                         |
| 4            | 0.979956   | 62.1847      | 8.85099                   | Landslide Debris | 0                   | 20                        | 52.5067            | 20.1434              | 55.3436                  | 0                   | 55.3436                       | 63.5199                    | 63.5199                         |
| 5            | 0.979956   | 94.6079      | 9.5417                    | Landslide Debris | 0                   | 20                        | 79.0806            | 30.3381              | 83.3531                  | 0                   | 83.3531                       | 96.6459                    | 96.6459                         |
| 6            | 0.979956   | 125.884      | 10.2338                   | Landslide Debris | 0                   | 20                        | 104.17             | 39.9631              | 109.797                  | 0                   | 109.797                       | 128.604                    | 128.604                         |
| 7            | 0.979956   | 155.961      | 10.9274                   | Landslide Debris | 0                   | 20                        | 127.77             | 49.0172              | 134.673                  | 0                   | 134.673                       | 159.341                    | 159.341                         |
| 8            | 0.979956   | 184.83       | 11.6227                   | Landslide Debris | 0                   | 20                        | 149.915            | 57.5126              | 158.015                  | 0                   | 158.015                       | 188.85                     | 188.85                          |
| 9            | 0.979956   | 212.484      | 12.3196                   | Landslide Debris | 0                   | 20                        | 170.634            | 65.4611              | 179.853                  | 0                   | 179.853                       | 217.118                    | 217.118                         |
| 10           | 0.979956   | 238.911      | 13.0185                   | Landslide Debris | 0                   | 20                        | 189.956            | 72.8737              | 200.219                  | 0                   | 200.219                       | 244.139                    | 244.139                         |
| 11           | 0.979956   | 264.103      | 13.7193                   | Landslide Debris | 0                   | 20                        | 207.909            | 79.761               | 219.142                  | 0                   | 219.142                       | 269.898                    | 269.898                         |
| 12           | 0.979956   | 288.049      | 14.4222                   | Landslide Debris | 0                   | 20                        | 224.518            | 86.1329              | 236.649                  | 0                   | 236.649                       | 294.388                    | 294.388                         |
| 13           | 0.979956   | 310.736      | 15.1274                   | Landslide Debris | 0                   | 20                        | 239.809            | 91.9991              | 252.765                  | 0                   | 252.765                       | 317.593                    | 317.593                         |
| 14           | 0.979956   | 332.153      | 15.8349                   | Landslide Debris | 0                   | 20                        | 253.805            | 97.3685              | 267.518                  | 0                   | 267.518                       | 339.504                    | 339.504                         |
| 15           | 0.979956   | 352.286      | 16.5448                   | Landslide Debris | 0                   | 20                        | 266.529            | 102.25               | 280.929                  | 0                   | 280.929                       | 360.105                    | 360.105                         |
| 16           | 0.979956   | 371.122      | 17.2574                   | Landslide Debris | 0                   | 20                        | 278.001            | 106.651              | 293.02                   | 0                   | 293.02                        | 379.381                    | 379.381                         |
| 17           | 0.979956   | 388.645      | 17.9728                   | Landslide Debris | 0                   | 20                        | 288.24             | 110.579              | 303.814                  | 0                   | 303.814                       | 397.318                    | 397.318                         |
| 18           | 0.979956   | 404.841      | 18.6911                   | Landslide Debris | 0                   | 20                        | 297.27             | 114.043              | 313.331                  | 0                   | 313.331                       | 413.9                      | 413.9                           |
| 19           | 0.979956   | 419.692      | 19.4124                   | Landslide Debris | 0                   | 20                        | 305.105            | 117.049              | 321.589                  | 0                   | 321.589                       | 429.108                    | 429.108                         |
| 20           | 0.979956   | 433.18       | 20.137                    | Landslide Debris | 0                   | 20                        | 311.765            | 119.604              | 328.608                  | 0                   | 328.608                       | 442.926                    | 442.926                         |
| 21           | 0.979956   | 445.288      | 20.8649                   | Landslide Debris | 0                   | 20                        | 317.263            | 121.713              | 334.404                  | 0                   | 334.404                       | 455.332                    | 455.332                         |
| 22           | 0.979956   | 455.995      | 21.5964                   | Landslide Debris | 0                   | 20                        | 321.618            | 123.384              | 338.994                  | 0                   | 338.994                       | 466.308                    | 466.308                         |
| 23           | 0.979956   | 465.279      | 22.3316                   | Landslide Debris | 0                   | 20                        | 324.843            | 124.621              | 342.393                  | 0                   | 342.393                       | 475.83                     | 475.83                          |
| 24           | 0.979956   | 473.12       | 23.0707                   | Landslide Debris | 0                   | 20                        | 326.951            | 125.43               | 344.616                  | 0                   | 344.616                       | 483.875                    | 483.875                         |
| 25           | 0.979956   | 479.493      | 23.8138                   | Landslide Debris | 0                   | 20                        | 327.96             | 125.817              | 345.679                  | 0                   | 345.679                       | 490.422                    | 490.422                         |
| 26           | 0.979956   | 484.373      | 24.5613                   | Landslide Debris | 0                   | 20                        | 327.879            | 125.786              | 345.594                  | 0                   | 345.594                       | 495.441                    | 495.441                         |
| 27           | 0.979956   | 487.734      | 25.3132                   | Landslide Debris | 0                   | 20                        | 326.722            | 125.342              | 344.374                  | 0                   | 344.374                       | 498.907                    | 498.907                         |
| 28           | 0.979956   | 489.548      | 26.0699                   | Landslide Debris | 0                   | 20                        | 324.499            | 124.489              | 342.032                  | 0                   | 342.032                       | 500.791                    | 500.791                         |
| 29           | 0.979956   | 489.785      | 26.8314                   | Landslide Debris | 0                   | 20                        | 321.225            | 123.233              | 338.579                  | 0                   | 338.579                       | 501.062                    | 501.062                         |
| 30           | 0.979956   | 488.413      | 27.5981                   | Landslide Debris | 0                   | 20                        | 316.903            | 121.575              | 334.025                  | 0                   | 334.025                       | 499.685                    | 499.685                         |
| 31           | 0.979956   | 485.399      | 28.3702                   | Landslide Debris | 0                   | 20                        | 311.551            | 119.522              | 328.384                  | 0                   | 328.384                       | 496.63                     | 496.63                          |
| 32           | 0.979956   | 480.707      | 29.148                    | Landslide Debris | 0                   | 20                        | 305.175            | 117.076              | 321.664                  | 0                   | 321.664                       | 491.858                    | 491.858                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.979956 | 474.299 | 29.9317 | Landslide<br>Debris | 0 | 20 | 297.786 | 114.241 | 313.874 | 0 | 313.874 | 485.328 | 485.328 |
| 34 | 0.979956 | 466.135 | 30.7217 | Landslide<br>Debris | 0 | 20 | 289.39  | 111.02  | 305.026 | 0 | 305.026 | 477.001 | 477.001 |
| 35 | 0.979956 | 456.172 | 31.5181 | Landslide<br>Debris | 0 | 20 | 279.998 | 107.417 | 295.126 | 0 | 295.126 | 466.831 | 466.831 |
| 36 | 0.979956 | 444.363 | 32.3214 | Landslide<br>Debris | 0 | 20 | 269.618 | 103.435 | 284.186 | 0 | 284.186 | 454.772 | 454.772 |
| 37 | 0.979956 | 430.66  | 33.1319 | Landslide<br>Debris | 0 | 20 | 258.259 | 99.0771 | 272.212 | 0 | 272.212 | 440.774 | 440.774 |
| 38 | 0.979956 | 415.011 | 33.95   | Landslide<br>Debris | 0 | 20 | 245.927 | 94.3461 | 259.214 | 0 | 259.214 | 424.781 | 424.781 |
| 39 | 0.979956 | 397.358 | 34.776  | Landslide<br>Debris | 0 | 20 | 232.63  | 89.2451 | 245.199 | 0 | 245.199 | 406.737 | 406.737 |
| 40 | 0.979956 | 377.643 | 35.6104 | Landslide<br>Debris | 0 | 20 | 218.377 | 83.7772 | 230.176 | 0 | 230.176 | 386.579 | 386.579 |
| 41 | 0.979956 | 355.8   | 36.4535 | Landslide<br>Debris | 0 | 20 | 203.176 | 77.9453 | 214.153 | 0 | 214.153 | 364.24  | 364.24  |
| 42 | 0.979956 | 331.76  | 37.3059 | Landslide<br>Debris | 0 | 20 | 187.033 | 71.7524 | 197.138 | 0 | 197.138 | 339.65  | 339.65  |
| 43 | 0.979956 | 305.449 | 38.1682 | Landslide<br>Debris | 0 | 20 | 169.958 | 65.2017 | 179.14  | 0 | 179.14  | 312.73  | 312.73  |
| 44 | 0.979956 | 276.755 | 39.0407 | Landslide<br>Debris | 0 | 20 | 151.942 | 58.2903 | 160.151 | 0 | 160.151 | 283.37  | 283.37  |
| 45 | 0.979956 | 242.996 | 39.9241 | Landslide<br>Debris | 0 | 20 | 131.589 | 50.4823 | 138.699 | 0 | 138.699 | 248.819 | 248.819 |
| 46 | 0.979956 | 204.991 | 40.8191 | Landslide<br>Debris | 0 | 20 | 109.457 | 41.9916 | 115.371 | 0 | 115.371 | 209.916 | 209.916 |
| 47 | 0.979956 | 164.347 | 41.7264 | Landslide<br>Debris | 0 | 20 | 86.4963 | 33.183  | 91.1693 | 0 | 91.1693 | 168.306 | 168.306 |
| 48 | 0.979956 | 120.953 | 42.6466 | Landslide<br>Debris | 0 | 20 | 62.7187 | 24.0611 | 66.1073 | 0 | 66.1073 | 123.874 | 123.874 |
| 49 | 0.979956 | 74.685  | 43.5807 | Landslide<br>Debris | 0 | 20 | 38.1386 | 14.6313 | 40.1992 | 0 | 40.1992 | 76.4936 | 76.4936 |
| 50 | 0.979956 | 25.4082 | 44.5295 | Landslide<br>Debris | 0 | 20 | 12.7716 | 4.89963 | 13.4616 | 0 | 13.4616 | 26.0252 | 26.0252 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.368733

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.958837   | 7.8238       | 7.06398                   | Landslide Debris | 0                   | 20                        | 7.18208            | 2.64827              | 7.27607                  | 0                   | 7.27607                       | 8.16606                    | 8.16606                         |
| 2            | 0.958837   | 23.051       | 7.74808                   | Landslide Debris | 0                   | 20                        | 20.9382            | 7.72059              | 21.2122                  | 0                   | 21.2122                       | 24.061                     | 24.061                          |
| 3            | 0.958837   | 48.6311      | 8.4333                    | Landslide Debris | 0                   | 20                        | 43.7124            | 16.1182              | 44.2844                  | 0                   | 44.2844                       | 50.7653                    | 50.7653                         |
| 4            | 0.958837   | 80.4049      | 9.11974                   | Landslide Debris | 0                   | 20                        | 71.5219            | 26.3725              | 72.4579                  | 0                   | 72.4579                       | 83.9392                    | 83.9392                         |
| 5            | 0.958837   | 111.048      | 9.8075                    | Landslide Debris | 0                   | 20                        | 97.7583            | 36.0467              | 99.0375                  | 0                   | 99.0375                       | 115.936                    | 115.936                         |
| 6            | 0.958837   | 140.553      | 10.4967                   | Landslide Debris | 0                   | 20                        | 122.458            | 45.1544              | 124.061                  | 0                   | 124.061                       | 146.75                     | 146.75                          |
| 7            | 0.958837   | 168.913      | 11.1874                   | Landslide Debris | 0                   | 20                        | 145.657            | 53.7087              | 147.563                  | 0                   | 147.563                       | 176.371                    | 176.371                         |
| 8            | 0.958837   | 196.12       | 11.8798                   | Landslide Debris | 0                   | 20                        | 167.389            | 61.7218              | 169.58                   | 0                   | 169.58                        | 204.792                    | 204.792                         |
| 9            | 0.958837   | 222.165      | 12.5739                   | Landslide Debris | 0                   | 20                        | 187.684            | 69.2053              | 190.14                   | 0                   | 190.14                        | 232.002                    | 232.002                         |
| 10           | 0.958837   | 247.039      | 13.27                     | Landslide Debris | 0                   | 20                        | 206.573            | 76.1704              | 209.277                  | 0                   | 209.277                       | 257.994                    | 257.994                         |
| 11           | 0.958837   | 270.732      | 13.968                    | Landslide Debris | 0                   | 20                        | 224.085            | 82.6275              | 227.017                  | 0                   | 227.017                       | 282.755                    | 282.755                         |
| 12           | 0.958837   | 293.235      | 14.6681                   | Landslide Debris | 0                   | 20                        | 240.246            | 88.5867              | 243.39                   | 0                   | 243.39                        | 306.274                    | 306.274                         |
| 13           | 0.958837   | 314.534      | 15.3705                   | Landslide Debris | 0                   | 20                        | 255.082            | 94.0573              | 258.42                   | 0                   | 258.42                        | 328.54                     | 328.54                          |
| 14           | 0.958837   | 334.62       | 16.0753                   | Landslide Debris | 0                   | 20                        | 268.618            | 99.0484              | 272.133                  | 0                   | 272.133                       | 349.54                     | 349.54                          |
| 15           | 0.958837   | 353.478      | 16.7826                   | Landslide Debris | 0                   | 20                        | 280.878            | 103.569              | 284.552                  | 0                   | 284.552                       | 369.261                    | 369.261                         |
| 16           | 0.958837   | 371.096      | 17.4925                   | Landslide Debris | 0                   | 20                        | 291.881            | 107.626              | 295.7                    | 0                   | 295.7                         | 387.687                    | 387.687                         |
| 17           | 0.958837   | 387.459      | 18.2052                   | Landslide Debris | 0                   | 20                        | 301.649            | 111.228              | 305.597                  | 0                   | 305.597                       | 404.805                    | 404.805                         |
| 18           | 0.958837   | 402.552      | 18.9209                   | Landslide Debris | 0                   | 20                        | 310.205            | 114.383              | 314.264                  | 0                   | 314.264                       | 420.597                    | 420.597                         |
| 19           | 0.958837   | 416.358      | 19.6396                   | Landslide Debris | 0                   | 20                        | 317.563            | 117.096              | 321.72                   | 0                   | 321.72                        | 435.046                    | 435.046                         |
| 20           | 0.958837   | 428.862      | 20.3615                   | Landslide Debris | 0                   | 20                        | 323.746            | 119.376              | 327.983                  | 0                   | 327.983                       | 448.136                    | 448.136                         |
| 21           | 0.958837   | 440.045      | 21.0868                   | Landslide Debris | 0                   | 20                        | 328.769            | 121.228              | 333.071                  | 0                   | 333.071                       | 459.845                    | 459.845                         |
| 22           | 0.958837   | 449.887      | 21.8157                   | Landslide Debris | 0                   | 20                        | 332.647            | 122.658              | 337.001                  | 0                   | 337.001                       | 470.156                    | 470.156                         |
| 23           | 0.958837   | 458.368      | 22.5484                   | Landslide Debris | 0                   | 20                        | 335.397            | 123.672              | 339.787                  | 0                   | 339.787                       | 479.045                    | 479.045                         |
| 24           | 0.958837   | 465.468      | 23.2849                   | Landslide Debris | 0                   | 20                        | 337.035            | 124.276              | 341.446                  | 0                   | 341.446                       | 486.491                    | 486.491                         |
| 25           | 0.958837   | 471.162      | 24.0255                   | Landslide Debris | 0                   | 20                        | 337.575            | 124.475              | 341.992                  | 0                   | 341.992                       | 492.47                     | 492.47                          |
| 26           | 0.958837   | 475.428      | 24.7705                   | Landslide Debris | 0                   | 20                        | 337.027            | 124.273              | 341.437                  | 0                   | 341.437                       | 496.955                    | 496.955                         |
| 27           | 0.958837   | 478.239      | 25.5199                   | Landslide Debris | 0                   | 20                        | 335.408            | 123.676              | 339.796                  | 0                   | 339.796                       | 499.921                    | 499.921                         |
| 28           | 0.958837   | 479.569      | 26.274                    | Landslide Debris | 0                   | 20                        | 332.726            | 122.687              | 337.08                   | 0                   | 337.08                        | 501.336                    | 501.336                         |
| 29           | 0.958837   | 479.389      | 27.0331                   | Landslide Debris | 0                   | 20                        | 328.997            | 121.312              | 333.303                  | 0                   | 333.303                       | 501.175                    | 501.175                         |
| 30           | 0.958837   | 477.668      | 27.7974                   | Landslide Debris | 0                   | 20                        | 324.229            | 119.554              | 328.473                  | 0                   | 328.473                       | 499.401                    | 499.401                         |
| 31           | 0.958837   | 474.374      | 28.567                    | Landslide Debris | 0                   | 20                        | 318.436            | 117.418              | 322.604                  | 0                   | 322.604                       | 495.983                    | 495.983                         |
| 32           | 0.958837   | 469.473      | 29.3423                   | Landslide Debris | 0                   | 20                        | 311.627            | 114.907              | 315.705                  | 0                   | 315.705                       | 490.885                    | 490.885                         |
| 33           | 0.958837   | 462.929      | 30.1236                   | Landslide Debris | 0                   | 20                        | 303.811            | 112.025              | 307.787                  | 0                   | 307.787                       | 484.067                    | 484.067                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.958837 | 454.701 | 30.9111 | Landslide<br>Debris | 0 | 20 | 294.999 | 108.776 | 298.859 | 0 | 298.859 | 475.49  | 475.49  |
| 35 | 0.958837 | 444.75  | 31.7051 | Landslide<br>Debris | 0 | 20 | 285.198 | 105.162 | 288.93  | 0 | 288.93  | 465.107 | 465.107 |
| 36 | 0.958837 | 433.03  | 32.506  | Landslide<br>Debris | 0 | 20 | 274.418 | 101.187 | 278.01  | 0 | 278.01  | 452.874 | 452.874 |
| 37 | 0.958837 | 419.494 | 33.3141 | Landslide<br>Debris | 0 | 20 | 262.67  | 96.8552 | 266.108 | 0 | 266.108 | 438.743 | 438.743 |
| 38 | 0.958837 | 404.093 | 34.1298 | Landslide<br>Debris | 0 | 20 | 249.961 | 92.1687 | 253.231 | 0 | 253.231 | 422.657 | 422.657 |
| 39 | 0.958837 | 386.772 | 34.9534 | Landslide<br>Debris | 0 | 20 | 236.298 | 87.1309 | 239.39  | 0 | 239.39  | 404.561 | 404.561 |
| 40 | 0.958837 | 367.473 | 35.7854 | Landslide<br>Debris | 0 | 20 | 221.692 | 81.745  | 224.593 | 0 | 224.593 | 384.396 | 384.396 |
| 41 | 0.958837 | 346.134 | 36.6262 | Landslide<br>Debris | 0 | 20 | 206.149 | 76.0141 | 208.847 | 0 | 208.847 | 362.093 | 362.093 |
| 42 | 0.958837 | 322.688 | 37.4762 | Landslide<br>Debris | 0 | 20 | 189.681 | 69.9415 | 192.163 | 0 | 192.163 | 337.585 | 337.585 |
| 43 | 0.958837 | 297.063 | 38.3361 | Landslide<br>Debris | 0 | 20 | 172.294 | 63.5304 | 174.549 | 0 | 174.549 | 310.794 | 310.794 |
| 44 | 0.958837 | 268.842 | 39.2062 | Landslide<br>Debris | 0 | 20 | 153.804 | 56.7125 | 155.816 | 0 | 155.816 | 281.283 | 281.283 |
| 45 | 0.958837 | 235.184 | 40.0873 | Landslide<br>Debris | 0 | 20 | 132.674 | 48.9213 | 134.41  | 0 | 134.41  | 246.082 | 246.082 |
| 46 | 0.958837 | 198.35  | 40.98   | Landslide<br>Debris | 0 | 20 | 110.297 | 40.6703 | 111.74  | 0 | 111.74  | 207.553 | 207.553 |
| 47 | 0.958837 | 158.985 | 41.8849 | Landslide<br>Debris | 0 | 20 | 87.1115 | 32.1209 | 88.2511 | 0 | 88.2511 | 166.37  | 166.37  |
| 48 | 0.958837 | 116.98  | 42.8028 | Landslide<br>Debris | 0 | 20 | 63.1302 | 23.2782 | 63.9562 | 0 | 63.9562 | 122.421 | 122.421 |
| 49 | 0.958837 | 72.2162 | 43.7346 | Landslide<br>Debris | 0 | 20 | 38.3681 | 14.1476 | 38.8702 | 0 | 38.8702 | 75.5799 | 75.5799 |
| 50 | 0.958837 | 24.5647 | 44.6811 | Landslide<br>Debris | 0 | 20 | 12.8423 | 4.73538 | 13.0103 | 0 | 13.0103 | 25.7104 | 25.7104 |

## ◆ Cross Section B-B' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 0.997343**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.927112   | 8.42603      | 0.225762                  | Landslide Debris | 0                   | 20                        | 3.31199            | 3.30319              | 9.07545                  | 0                   | 9.07545                       | 9.0885                     | 9.0885                          |
| 2            | 0.927112   | 24.7066      | 0.987561                  | Landslide Debris | 0                   | 20                        | 9.66464            | 9.63896              | 26.4828                  | 0                   | 26.4828                       | 26.6494                    | 26.6494                         |
| 3            | 0.927112   | 41.7327      | 1.74953                   | Landslide Debris | 0                   | 20                        | 16.2467            | 16.2035              | 44.5187                  | 0                   | 44.5187                       | 45.015                     | 45.015                          |
| 4            | 0.927112   | 71.536       | 2.51182                   | Landslide Debris | 0                   | 20                        | 27.7162            | 27.6426              | 75.9474                  | 0                   | 75.9474                       | 77.1633                    | 77.1633                         |
| 5            | 0.927112   | 103.006      | 3.27455                   | Landslide Debris | 0                   | 20                        | 39.7191            | 39.6136              | 108.838                  | 0                   | 108.838                       | 111.11                     | 111.11                          |
| 6            | 0.927112   | 133.327      | 4.03786                   | Landslide Debris | 0                   | 20                        | 51.1671            | 51.0311              | 140.207                  | 0                   | 140.207                       | 143.819                    | 143.819                         |
| 7            | 0.927112   | 162.497      | 4.80188                   | Landslide Debris | 0                   | 20                        | 62.0662            | 61.9013              | 170.073                  | 0                   | 170.073                       | 175.287                    | 175.287                         |
| 8            | 0.927112   | 190.512      | 5.56677                   | Landslide Debris | 0                   | 20                        | 72.4223            | 72.2299              | 198.45                   | 0                   | 198.45                        | 205.508                    | 205.508                         |
| 9            | 0.927112   | 217.368      | 6.33265                   | Landslide Debris | 0                   | 20                        | 82.2408            | 82.0223              | 225.355                  | 0                   | 225.355                       | 234.482                    | 234.482                         |
| 10           | 0.927112   | 243.06       | 7.09967                   | Landslide Debris | 0                   | 20                        | 91.5267            | 91.2835              | 250.8                    | 0                   | 250.8                         | 262.199                    | 262.199                         |
| 11           | 0.927112   | 267.582      | 7.86797                   | Landslide Debris | 0                   | 20                        | 100.284            | 100.018              | 274.797                  | 0                   | 274.797                       | 288.656                    | 288.656                         |
| 12           | 0.927112   | 290.929      | 8.6377                    | Landslide Debris | 0                   | 20                        | 108.518            | 108.23               | 297.36                   | 0                   | 297.36                        | 313.845                    | 313.845                         |
| 13           | 0.927112   | 313.092      | 9.40901                   | Landslide Debris | 0                   | 20                        | 116.233            | 115.924              | 318.497                  | 0                   | 318.497                       | 337.758                    | 337.758                         |
| 14           | 0.927112   | 334.066      | 10.182                    | Landslide Debris | 0                   | 20                        | 123.43             | 123.102              | 338.22                   | 0                   | 338.22                        | 360.388                    | 360.388                         |
| 15           | 0.927112   | 353.841      | 10.9569                   | Landslide Debris | 0                   | 20                        | 130.114            | 129.768              | 356.535                  | 0                   | 356.535                       | 381.725                    | 381.725                         |
| 16           | 0.927112   | 372.054      | 11.7339                   | Landslide Debris | 0                   | 20                        | 136.159            | 135.797              | 373.097                  | 0                   | 373.097                       | 401.379                    | 401.379                         |
| 17           | 0.927112   | 386.983      | 12.513                    | Landslide Debris | 0                   | 20                        | 140.943            | 140.569              | 386.21                   | 0                   | 386.21                        | 417.49                     | 417.49                          |
| 18           | 0.927112   | 400.349      | 13.2945                   | Landslide Debris | 0                   | 20                        | 145.11             | 144.724              | 397.627                  | 0                   | 397.627                       | 431.914                    | 431.914                         |
| 19           | 0.927112   | 412.476      | 14.0785                   | Landslide Debris | 0                   | 20                        | 148.782            | 148.387              | 407.69                   | 0                   | 407.69                        | 445.002                    | 445.002                         |
| 20           | 0.927112   | 423.349      | 14.8653                   | Landslide Debris | 0                   | 20                        | 151.963            | 151.559              | 416.404                  | 0                   | 416.404                       | 456.739                    | 456.739                         |
| 21           | 0.927112   | 432.957      | 15.6549                   | Landslide Debris | 0                   | 20                        | 154.651            | 154.24               | 423.772                  | 0                   | 423.772                       | 467.111                    | 467.111                         |
| 22           | 0.927112   | 441.285      | 16.4475                   | Landslide Debris | 0                   | 20                        | 156.85             | 156.433              | 429.797                  | 0                   | 429.797                       | 476.101                    | 476.101                         |
| 23           | 0.927112   | 448.318      | 17.2434                   | Landslide Debris | 0                   | 20                        | 158.559            | 158.138              | 434.48                   | 0                   | 434.48                        | 483.694                    | 483.694                         |
| 24           | 0.927112   | 454.038      | 18.0428                   | Landslide Debris | 0                   | 20                        | 159.78             | 159.355              | 437.824                  | 0                   | 437.824                       | 489.872                    | 489.872                         |
| 25           | 0.927112   | 458.429      | 18.8458                   | Landslide Debris | 0                   | 20                        | 160.511            | 160.085              | 439.83                   | 0                   | 439.83                        | 494.616                    | 494.616                         |
| 26           | 0.927112   | 461.471      | 19.6527                   | Landslide Debris | 0                   | 20                        | 160.754            | 160.327              | 440.495                  | 0                   | 440.495                       | 497.904                    | 497.904                         |
| 27           | 0.927112   | 463.145      | 20.4636                   | Landslide Debris | 0                   | 20                        | 160.507            | 160.081              | 439.82                   | 0                   | 439.82                        | 499.715                    | 499.715                         |
| 28           | 0.927112   | 463.429      | 21.2789                   | Landslide Debris | 0                   | 20                        | 159.772            | 159.347              | 437.803                  | 0                   | 437.803                       | 500.028                    | 500.028                         |
| 29           | 0.927112   | 462.301      | 22.0987                   | Landslide Debris | 0                   | 20                        | 158.545            | 158.124              | 434.442                  | 0                   | 434.442                       | 498.817                    | 498.817                         |
| 30           | 0.927112   | 459.735      | 22.9233                   | Landslide Debris | 0                   | 20                        | 156.827            | 156.41               | 429.733                  | 0                   | 429.733                       | 496.054                    | 496.054                         |
| 31           | 0.927112   | 455.706      | 23.7529                   | Landslide Debris | 0                   | 20                        | 154.615            | 154.204              | 423.672                  | 0                   | 423.672                       | 491.714                    | 491.714                         |
| 32           | 0.927112   | 450.187      | 24.5879                   | Landslide Debris | 0                   | 20                        | 151.908            | 151.504              | 416.255                  | 0                   | 416.255                       | 485.765                    | 485.765                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.927112 | 443.148 | 25.4285 | Landslide<br>Debris | 0 | 20 | 148.704 | 148.309 | 407.475 | 0 | 407.475 | 478.175 | 478.175 |
| 34 | 0.927112 | 434.557 | 26.275  | Landslide<br>Debris | 0 | 20 | 145     | 144.615 | 397.326 | 0 | 397.326 | 468.911 | 468.911 |
| 35 | 0.927112 | 424.38  | 27.1277 | Landslide<br>Debris | 0 | 20 | 140.794 | 140.42  | 385.802 | 0 | 385.802 | 457.936 | 457.936 |
| 36 | 0.927112 | 412.582 | 27.9869 | Landslide<br>Debris | 0 | 20 | 136.084 | 135.722 | 372.893 | 0 | 372.893 | 445.211 | 445.211 |
| 37 | 0.927112 | 399.124 | 28.8531 | Landslide<br>Debris | 0 | 20 | 130.865 | 130.517 | 358.592 | 0 | 358.592 | 430.694 | 430.694 |
| 38 | 0.927112 | 383.965 | 29.7265 | Landslide<br>Debris | 0 | 20 | 125.133 | 124.801 | 342.889 | 0 | 342.889 | 414.341 | 414.341 |
| 39 | 0.927112 | 367.06  | 30.6076 | Landslide<br>Debris | 0 | 20 | 118.888 | 118.572 | 325.773 | 0 | 325.773 | 396.104 | 396.104 |
| 40 | 0.927112 | 348.362 | 31.4969 | Landslide<br>Debris | 0 | 20 | 112.121 | 111.823 | 307.232 | 0 | 307.232 | 375.931 | 375.931 |
| 41 | 0.927112 | 327.819 | 32.3946 | Landslide<br>Debris | 0 | 20 | 104.831 | 104.552 | 287.255 | 0 | 287.255 | 353.769 | 353.769 |
| 42 | 0.927112 | 305.378 | 33.3014 | Landslide<br>Debris | 0 | 20 | 97.0113 | 96.7535 | 265.828 | 0 | 265.828 | 329.556 | 329.556 |
| 43 | 0.927112 | 280.979 | 34.2177 | Landslide<br>Debris | 0 | 20 | 88.6576 | 88.422  | 242.938 | 0 | 242.938 | 303.229 | 303.229 |
| 44 | 0.927112 | 254.085 | 35.144  | Landslide<br>Debris | 0 | 20 | 79.6164 | 79.4049 | 218.163 | 0 | 218.163 | 274.21  | 274.21  |
| 45 | 0.927112 | 221.801 | 36.0811 | Landslide<br>Debris | 0 | 20 | 69.0054 | 68.8221 | 189.087 | 0 | 189.087 | 239.372 | 239.372 |
| 46 | 0.927112 | 186.714 | 37.0294 | Landslide<br>Debris | 0 | 20 | 57.664  | 57.5108 | 158.01  | 0 | 158.01  | 201.509 | 201.509 |
| 47 | 0.927112 | 149.381 | 37.9898 | Landslide<br>Debris | 0 | 20 | 45.7858 | 45.6641 | 125.461 | 0 | 125.461 | 161.219 | 161.219 |
| 48 | 0.927112 | 109.711 | 38.9629 | Landslide<br>Debris | 0 | 20 | 33.3649 | 33.2762 | 91.4257 | 0 | 91.4257 | 118.408 | 118.408 |
| 49 | 0.927112 | 67.6092 | 39.9495 | Landslide<br>Debris | 0 | 20 | 20.3953 | 20.3411 | 55.8867 | 0 | 55.8867 | 72.9698 | 72.9698 |
| 50 | 0.927112 | 22.9687 | 40.9507 | Landslide<br>Debris | 0 | 20 | 6.87101 | 6.85275 | 18.8278 | 0 | 18.8278 | 24.7903 | 24.7903 |



Global Minimum Query (janbu simplified) - Safety Factor: 0.968445

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.927112   | 8.42603      | 0.225762                  | Landslide Debris | 0                   | 20                        | 3.41066            | 3.30304              | 9.07502                  | 0                   | 9.07502                       | 9.08846                    | 9.08846                         |
| 2            | 0.927112   | 24.7066      | 0.987561                  | Landslide Debris | 0                   | 20                        | 9.95095            | 9.63695              | 26.4773                  | 0                   | 26.4773                       | 26.6489                    | 26.6489                         |
| 3            | 0.927112   | 41.7327      | 1.74953                   | Landslide Debris | 0                   | 20                        | 16.7253            | 16.1975              | 44.5023                  | 0                   | 44.5023                       | 45.0132                    | 45.0132                         |
| 4            | 0.927112   | 71.536       | 2.51182                   | Landslide Debris | 0                   | 20                        | 28.5283            | 27.6281              | 75.9074                  | 0                   | 75.9074                       | 77.1589                    | 77.1589                         |
| 5            | 0.927112   | 103.006      | 3.27455                   | Landslide Debris | 0                   | 20                        | 40.8765            | 39.5866              | 108.764                  | 0                   | 108.764                       | 111.102                    | 111.102                         |
| 6            | 0.927112   | 133.327      | 4.03786                   | Landslide Debris | 0                   | 20                        | 52.6498            | 50.9884              | 140.09                   | 0                   | 140.09                        | 143.806                    | 143.806                         |
| 7            | 0.927112   | 162.497      | 4.80188                   | Landslide Debris | 0                   | 20                        | 63.8548            | 61.8399              | 169.904                  | 0                   | 169.904                       | 175.268                    | 175.268                         |
| 8            | 0.927112   | 190.512      | 5.56677                   | Landslide Debris | 0                   | 20                        | 74.498             | 72.1472              | 198.223                  | 0                   | 198.223                       | 205.484                    | 205.484                         |
| 9            | 0.927112   | 217.368      | 6.33265                   | Landslide Debris | 0                   | 20                        | 84.585             | 81.9159              | 225.062                  | 0                   | 225.062                       | 234.449                    | 234.449                         |
| 10           | 0.927112   | 243.06       | 7.09967                   | Landslide Debris | 0                   | 20                        | 94.1212            | 91.1512              | 250.436                  | 0                   | 250.436                       | 262.159                    | 262.159                         |
| 11           | 0.927112   | 267.582      | 7.86797                   | Landslide Debris | 0                   | 20                        | 103.112            | 99.858               | 274.358                  | 0                   | 274.358                       | 288.607                    | 288.607                         |
| 12           | 0.927112   | 290.929      | 8.6377                    | Landslide Debris | 0                   | 20                        | 111.561            | 108.041              | 296.84                   | 0                   | 296.84                        | 313.787                    | 313.787                         |
| 13           | 0.927112   | 313.092      | 9.40901                   | Landslide Debris | 0                   | 20                        | 119.473            | 115.703              | 317.892                  | 0                   | 317.892                       | 337.69                     | 337.69                          |
| 14           | 0.927112   | 334.066      | 10.182                    | Landslide Debris | 0                   | 20                        | 126.853            | 122.85               | 337.526                  | 0                   | 337.526                       | 360.31                     | 360.31                          |
| 15           | 0.927112   | 353.841      | 10.9569                   | Landslide Debris | 0                   | 20                        | 133.702            | 129.483              | 355.752                  | 0                   | 355.752                       | 381.636                    | 381.636                         |
| 16           | 0.927112   | 372.054      | 11.7339                   | Landslide Debris | 0                   | 20                        | 139.892            | 135.478              | 372.223                  | 0                   | 372.223                       | 401.28                     | 401.28                          |
| 17           | 0.927112   | 386.983      | 12.513                    | Landslide Debris | 0                   | 20                        | 144.787            | 140.218              | 385.246                  | 0                   | 385.246                       | 417.379                    | 417.379                         |
| 18           | 0.927112   | 400.349      | 13.2945                   | Landslide Debris | 0                   | 20                        | 149.045            | 144.342              | 396.577                  | 0                   | 396.577                       | 431.795                    | 431.795                         |
| 19           | 0.927112   | 412.476      | 14.0785                   | Landslide Debris | 0                   | 20                        | 152.794            | 147.973              | 406.553                  | 0                   | 406.553                       | 444.871                    | 444.871                         |
| 20           | 0.927112   | 423.349      | 14.8653                   | Landslide Debris | 0                   | 20                        | 156.037            | 151.113              | 415.18                   | 0                   | 415.18                        | 456.597                    | 456.597                         |
| 21           | 0.927112   | 432.957      | 15.6549                   | Landslide Debris | 0                   | 20                        | 158.774            | 153.764              | 422.463                  | 0                   | 422.463                       | 466.958                    | 466.958                         |
| 22           | 0.927112   | 441.285      | 16.4475                   | Landslide Debris | 0                   | 20                        | 161.008            | 155.927              | 428.406                  | 0                   | 428.406                       | 475.938                    | 475.938                         |
| 23           | 0.927112   | 448.318      | 17.2434                   | Landslide Debris | 0                   | 20                        | 162.738            | 157.603              | 433.01                   | 0                   | 433.01                        | 483.521                    | 483.521                         |
| 24           | 0.927112   | 454.038      | 18.0428                   | Landslide Debris | 0                   | 20                        | 163.966            | 158.792              | 436.278                  | 0                   | 436.278                       | 489.689                    | 489.689                         |
| 25           | 0.927112   | 458.429      | 18.8458                   | Landslide Debris | 0                   | 20                        | 164.692            | 159.495              | 438.21                   | 0                   | 438.21                        | 494.422                    | 494.422                         |
| 26           | 0.927112   | 461.471      | 19.6527                   | Landslide Debris | 0                   | 20                        | 164.916            | 159.712              | 438.807                  | 0                   | 438.807                       | 497.702                    | 497.702                         |
| 27           | 0.927112   | 463.145      | 20.4636                   | Landslide Debris | 0                   | 20                        | 164.639            | 159.444              | 438.068                  | 0                   | 438.068                       | 499.505                    | 499.505                         |
| 28           | 0.927112   | 463.429      | 21.2789                   | Landslide Debris | 0                   | 20                        | 163.859            | 158.688              | 435.993                  | 0                   | 435.993                       | 499.809                    | 499.809                         |
| 29           | 0.927112   | 462.301      | 22.0987                   | Landslide Debris | 0                   | 20                        | 162.576            | 157.446              | 432.579                  | 0                   | 432.579                       | 498.59                     | 498.59                          |
| 30           | 0.927112   | 459.735      | 22.9233                   | Landslide Debris | 0                   | 20                        | 160.789            | 155.715              | 427.824                  | 0                   | 427.824                       | 495.821                    | 495.821                         |
| 31           | 0.927112   | 455.706      | 23.7529                   | Landslide Debris | 0                   | 20                        | 158.496            | 153.495              | 421.724                  | 0                   | 421.724                       | 491.474                    | 491.474                         |
| 32           | 0.927112   | 450.187      | 24.5879                   | Landslide Debris | 0                   | 20                        | 155.697            | 150.784              | 414.276                  | 0                   | 414.276                       | 485.52                     | 485.52                          |
| 33           | 0.927112   | 443.148      | 25.4285                   | Landslide Debris | 0                   | 20                        | 152.389            | 147.58               | 405.474                  | 0                   | 405.474                       | 477.926                    | 477.926                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.927112 | 434.557 | 26.275  | Landslide<br>Debris | 0 | 20 | 148.57  | 143.882 | 395.312 | 0 | 395.312 | 468.659 | 468.659 |
| 35 | 0.927112 | 424.38  | 27.1277 | Landslide<br>Debris | 0 | 20 | 144.237 | 139.686 | 383.784 | 0 | 383.784 | 457.682 | 457.682 |
| 36 | 0.927112 | 412.582 | 27.9869 | Landslide<br>Debris | 0 | 20 | 139.388 | 134.99  | 370.883 | 0 | 370.883 | 444.956 | 444.956 |
| 37 | 0.927112 | 399.124 | 28.8531 | Landslide<br>Debris | 0 | 20 | 134.021 | 129.792 | 356.6   | 0 | 356.6   | 430.44  | 430.44  |
| 38 | 0.927112 | 383.965 | 29.7265 | Landslide<br>Debris | 0 | 20 | 128.13  | 124.087 | 340.927 | 0 | 340.927 | 414.09  | 414.09  |
| 39 | 0.927112 | 367.06  | 30.6076 | Landslide<br>Debris | 0 | 20 | 121.714 | 117.873 | 323.853 | 0 | 323.853 | 395.856 | 395.856 |
| 40 | 0.927112 | 348.362 | 31.4969 | Landslide<br>Debris | 0 | 20 | 114.766 | 111.145 | 305.369 | 0 | 305.369 | 375.69  | 375.69  |
| 41 | 0.927112 | 327.819 | 32.3946 | Landslide<br>Debris | 0 | 20 | 107.285 | 103.9   | 285.463 | 0 | 285.463 | 353.534 | 353.534 |
| 42 | 0.927112 | 305.378 | 33.3014 | Landslide<br>Debris | 0 | 20 | 99.2652 | 96.1329 | 264.123 | 0 | 264.123 | 329.332 | 329.332 |
| 43 | 0.927112 | 280.979 | 34.2177 | Landslide<br>Debris | 0 | 20 | 90.7011 | 87.839  | 241.336 | 0 | 241.336 | 303.017 | 303.017 |
| 44 | 0.927112 | 254.085 | 35.144  | Landslide<br>Debris | 0 | 20 | 81.4364 | 78.8667 | 216.685 | 0 | 216.685 | 274.013 | 274.013 |
| 45 | 0.927112 | 221.801 | 36.0811 | Landslide<br>Debris | 0 | 20 | 70.5696 | 68.3428 | 187.771 | 0 | 187.771 | 239.195 | 239.195 |
| 46 | 0.927112 | 186.714 | 37.0294 | Landslide<br>Debris | 0 | 20 | 58.9598 | 57.0993 | 156.879 | 0 | 156.879 | 201.356 | 201.356 |
| 47 | 0.927112 | 149.381 | 37.9898 | Landslide<br>Debris | 0 | 20 | 46.8054 | 45.3285 | 124.539 | 0 | 124.539 | 161.094 | 161.094 |
| 48 | 0.927112 | 109.711 | 38.9629 | Landslide<br>Debris | 0 | 20 | 34.1011 | 33.025  | 90.7354 | 0 | 90.7354 | 118.313 | 118.313 |
| 49 | 0.927112 | 67.6092 | 39.9495 | Landslide<br>Debris | 0 | 20 | 20.841  | 20.1834 | 55.4533 | 0 | 55.4533 | 72.9097 | 72.9097 |
| 50 | 0.927112 | 22.9687 | 40.9507 | Landslide<br>Debris | 0 | 20 | 7.01967 | 6.79816 | 18.6778 | 0 | 18.6778 | 24.7693 | 24.7693 |

## ◆ Cross Section B-B' - Seismic

**Global Minimum Query (bishop simplified) - Safety Factor: 0.45648**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.2322     | 7.77923      | 5.57033                   | Landslide Debris | 0                   | 20                        | 4.67149            | 2.13244              | 5.85883                  | 0                   | 5.85883                       | 6.31443                    | 6.31443                         |
| 2            | 1.2322     | 22.6283      | 6.10021                   | Landslide Debris | 0                   | 20                        | 13.4954            | 6.16036              | 16.9255                  | 0                   | 16.9255                       | 18.3677                    | 18.3677                         |
| 3            | 1.2322     | 36.0564      | 6.63062                   | Landslide Debris | 0                   | 20                        | 21.357             | 9.74906              | 26.7853                  | 0                   | 26.7853                       | 29.268                     | 29.268                          |
| 4            | 1.2322     | 55.2447      | 7.1616                    | Landslide Debris | 0                   | 20                        | 32.5002            | 14.8357              | 40.7608                  | 0                   | 40.7608                       | 44.8444                    | 44.8444                         |
| 5            | 1.2322     | 96.8232      | 7.6932                    | Landslide Debris | 0                   | 20                        | 56.5747            | 25.8252              | 70.9543                  | 0                   | 70.9543                       | 78.5966                    | 78.5966                         |
| 6            | 1.2322     | 138.857      | 8.22547                   | Landslide Debris | 0                   | 20                        | 80.5875            | 36.7866              | 101.07                   | 0                   | 101.07                        | 112.72                     | 112.72                          |
| 7            | 1.2322     | 179.45       | 8.75845                   | Landslide Debris | 0                   | 20                        | 103.444            | 47.2203              | 129.737                  | 0                   | 129.737                       | 145.674                    | 145.674                         |
| 8            | 1.2322     | 218.596      | 9.2922                    | Landslide Debris | 0                   | 20                        | 125.163            | 57.1345              | 156.975                  | 0                   | 156.975                       | 177.454                    | 177.454                         |
| 9            | 1.2322     | 256.289      | 9.82676                   | Landslide Debris | 0                   | 20                        | 145.761            | 66.5369              | 182.809                  | 0                   | 182.809                       | 208.056                    | 208.056                         |
| 10           | 1.2322     | 292.521      | 10.3622                   | Landslide Debris | 0                   | 20                        | 165.254            | 75.435               | 207.256                  | 0                   | 207.256                       | 237.473                    | 237.473                         |
| 11           | 1.2322     | 327.286      | 10.8985                   | Landslide Debris | 0                   | 20                        | 183.658            | 83.836               | 230.338                  | 0                   | 230.338                       | 265.7                      | 265.7                           |
| 12           | 1.2322     | 360.575      | 11.4359                   | Landslide Debris | 0                   | 20                        | 200.987            | 91.7467              | 252.072                  | 0                   | 252.072                       | 292.729                    | 292.729                         |
| 13           | 1.2322     | 392.381      | 11.9742                   | Landslide Debris | 0                   | 20                        | 217.257            | 99.1737              | 272.477                  | 0                   | 272.477                       | 318.554                    | 318.554                         |
| 14           | 1.2322     | 420.625      | 12.5136                   | Landslide Debris | 0                   | 20                        | 231.344            | 105.604              | 290.144                  | 0                   | 290.144                       | 341.49                     | 341.49                          |
| 15           | 1.2322     | 444.585      | 13.0541                   | Landslide Debris | 0                   | 20                        | 242.893            | 110.876              | 304.629                  | 0                   | 304.629                       | 360.947                    | 360.947                         |
| 16           | 1.2322     | 467.02       | 13.5959                   | Landslide Debris | 0                   | 20                        | 253.45             | 115.695              | 317.87                   | 0                   | 317.87                        | 379.167                    | 379.167                         |
| 17           | 1.2322     | 487.933      | 14.1388                   | Landslide Debris | 0                   | 20                        | 263.037            | 120.071              | 329.891                  | 0                   | 329.891                       | 396.151                    | 396.151                         |
| 18           | 1.2322     | 507.314      | 14.6831                   | Landslide Debris | 0                   | 20                        | 271.661            | 124.008              | 340.709                  | 0                   | 340.709                       | 411.892                    | 411.892                         |
| 19           | 1.2322     | 525.152      | 15.2287                   | Landslide Debris | 0                   | 20                        | 279.338            | 127.512              | 350.336                  | 0                   | 350.336                       | 426.381                    | 426.381                         |
| 20           | 1.2322     | 541.434      | 15.7758                   | Landslide Debris | 0                   | 20                        | 286.076            | 130.588              | 358.787                  | 0                   | 358.787                       | 439.607                    | 439.607                         |
| 21           | 1.2322     | 556.15       | 16.3243                   | Landslide Debris | 0                   | 20                        | 291.886            | 133.24               | 366.074                  | 0                   | 366.074                       | 451.561                    | 451.561                         |
| 22           | 1.2322     | 569.284      | 16.8743                   | Landslide Debris | 0                   | 20                        | 296.778            | 135.473              | 372.209                  | 0                   | 372.209                       | 462.232                    | 462.232                         |
| 23           | 1.2322     | 580.825      | 17.426                    | Landslide Debris | 0                   | 20                        | 300.762            | 137.292              | 377.205                  | 0                   | 377.205                       | 471.608                    | 471.608                         |
| 24           | 1.2322     | 590.757      | 17.9794                   | Landslide Debris | 0                   | 20                        | 303.847            | 138.7                | 381.075                  | 0                   | 381.075                       | 479.68                     | 479.68                          |
| 25           | 1.2322     | 599.065      | 18.5344                   | Landslide Debris | 0                   | 20                        | 306.042            | 139.702              | 383.828                  | 0                   | 383.828                       | 486.433                    | 486.433                         |
| 26           | 1.2322     | 605.735      | 19.0913                   | Landslide Debris | 0                   | 20                        | 307.356            | 140.302              | 385.476                  | 0                   | 385.476                       | 491.855                    | 491.855                         |
| 27           | 1.2322     | 610.749      | 19.6501                   | Landslide Debris | 0                   | 20                        | 307.797            | 140.503              | 386.028                  | 0                   | 386.028                       | 495.933                    | 495.933                         |
| 28           | 1.2322     | 614.091      | 20.2108                   | Landslide Debris | 0                   | 20                        | 307.372            | 140.309              | 385.496                  | 0                   | 385.496                       | 498.653                    | 498.653                         |
| 29           | 1.2322     | 615.742      | 20.7736                   | Landslide Debris | 0                   | 20                        | 306.09             | 139.724              | 383.889                  | 0                   | 383.889                       | 500                        | 500                             |
| 30           | 1.2322     | 615.684      | 21.3384                   | Landslide Debris | 0                   | 20                        | 303.959            | 138.751              | 381.216                  | 0                   | 381.216                       | 499.96                     | 499.96                          |
| 31           | 1.2322     | 613.898      | 21.9055                   | Landslide Debris | 0                   | 20                        | 300.986            | 137.394              | 377.487                  | 0                   | 377.487                       | 498.516                    | 498.516                         |
| 32           | 1.2322     | 610.362      | 22.4748                   | Landslide Debris | 0                   | 20                        | 297.176            | 135.655              | 372.709                  | 0                   | 372.709                       | 495.65                     | 495.65                          |

|    |        |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 1.2322 | 605.055 | 23.0464 | Landslide<br>Debris | 0 | 20 | 292.539 | 133.538 | 366.892 | 0 | 366.892 | 491.348 | 491.348 |
| 34 | 1.2322 | 597.956 | 23.6205 | Landslide<br>Debris | 0 | 20 | 287.079 | 131.046 | 360.045 | 0 | 360.045 | 485.589 | 485.589 |
| 35 | 1.2322 | 586.411 | 24.1972 | Landslide<br>Debris | 0 | 20 | 279.55  | 127.609 | 350.602 | 0 | 350.602 | 476.22  | 476.22  |
| 36 | 1.2322 | 567.992 | 24.7764 | Landslide<br>Debris | 0 | 20 | 268.846 | 122.723 | 337.178 | 0 | 337.178 | 461.268 | 461.268 |
| 37 | 1.2322 | 547.582 | 25.3584 | Landslide<br>Debris | 0 | 20 | 257.332 | 117.467 | 322.737 | 0 | 322.737 | 444.699 | 444.699 |
| 38 | 1.2322 | 525.28  | 25.9431 | Landslide<br>Debris | 0 | 20 | 245.073 | 111.871 | 307.363 | 0 | 307.363 | 426.592 | 426.592 |
| 39 | 1.2322 | 501.055 | 26.5308 | Landslide<br>Debris | 0 | 20 | 232.074 | 105.937 | 291.06  | 0 | 291.06  | 406.924 | 406.924 |
| 40 | 1.2322 | 474.881 | 27.1215 | Landslide<br>Debris | 0 | 20 | 218.342 | 99.6687 | 273.837 | 0 | 273.837 | 385.672 | 385.672 |
| 41 | 1.2322 | 446.724 | 27.7154 | Landslide<br>Debris | 0 | 20 | 203.88  | 93.0673 | 255.701 | 0 | 255.701 | 362.81  | 362.81  |
| 42 | 1.2322 | 416.554 | 28.3125 | Landslide<br>Debris | 0 | 20 | 188.696 | 86.1358 | 236.657 | 0 | 236.657 | 338.312 | 338.312 |
| 43 | 1.2322 | 384.337 | 28.913  | Landslide<br>Debris | 0 | 20 | 172.793 | 78.8766 | 216.712 | 0 | 216.712 | 312.15  | 312.15  |
| 44 | 1.2322 | 350.036 | 29.517  | Landslide<br>Debris | 0 | 20 | 156.178 | 71.292  | 195.874 | 0 | 195.874 | 284.296 | 284.296 |
| 45 | 1.2322 | 313.616 | 30.1246 | Landslide<br>Debris | 0 | 20 | 138.855 | 63.3845 | 174.148 | 0 | 174.148 | 254.719 | 254.719 |
| 46 | 1.2322 | 275.036 | 30.7359 | Landslide<br>Debris | 0 | 20 | 120.83  | 55.1564 | 151.541 | 0 | 151.541 | 223.387 | 223.387 |
| 47 | 1.2322 | 230     | 31.3512 | Landslide<br>Debris | 0 | 20 | 100.253 | 45.7633 | 125.734 | 0 | 125.734 | 186.811 | 186.811 |
| 48 | 1.2322 | 167.984 | 31.9705 | Landslide<br>Debris | 0 | 20 | 72.6404 | 33.1589 | 91.1033 | 0 | 91.1033 | 136.442 | 136.442 |
| 49 | 1.2322 | 102.428 | 32.594  | Landslide<br>Debris | 0 | 20 | 43.9369 | 20.0563 | 55.1043 | 0 | 55.1043 | 83.1967 | 83.1967 |
| 50 | 1.2322 | 34.5363 | 33.2219 | Landslide<br>Debris | 0 | 20 | 14.694  | 6.7075  | 18.4287 | 0 | 18.4287 | 28.0522 | 28.0522 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.443509

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.933101   | 8.60018      | 0.14029                   | Landslide Debris | 0                   | 20                        | 7.54871            | 3.34792              | 9.19835                  | 0                   | 9.19835                       | 9.21683                    | 9.21683                         |
| 2            | 0.933101   | 25.2209      | 0.903103                  | Landslide Debris | 0                   | 20                        | 21.8992            | 9.71251              | 26.6849                  | 0                   | 26.6849                       | 27.0301                    | 27.0301                         |
| 3            | 0.933101   | 40.7384      | 1.66608                   | Landslide Debris | 0                   | 20                        | 34.9964            | 15.5212              | 42.6442                  | 0                   | 42.6442                       | 43.6622                    | 43.6622                         |
| 4            | 0.933101   | 65.8742      | 2.42935                   | Landslide Debris | 0                   | 20                        | 55.9926            | 24.8332              | 68.2286                  | 0                   | 68.2286                       | 70.6041                    | 70.6041                         |
| 5            | 0.933101   | 97.8769      | 3.19305                   | Landslide Debris | 0                   | 20                        | 82.3246            | 36.5117              | 100.315                  | 0                   | 100.315                       | 104.908                    | 104.908                         |
| 6            | 0.933101   | 128.715      | 3.95732                   | Landslide Debris | 0                   | 20                        | 107.14             | 47.5175              | 130.553                  | 0                   | 130.553                       | 137.964                    | 137.964                         |
| 7            | 0.933101   | 158.385      | 4.72229                   | Landslide Debris | 0                   | 20                        | 130.48             | 57.8691              | 158.994                  | 0                   | 158.994                       | 169.773                    | 169.773                         |
| 8            | 0.933101   | 186.885      | 5.48811                   | Landslide Debris | 0                   | 20                        | 152.385            | 67.5839              | 185.685                  | 0                   | 185.685                       | 200.326                    | 200.326                         |
| 9            | 0.933101   | 214.209      | 6.25492                   | Landslide Debris | 0                   | 20                        | 172.891            | 76.6785              | 210.673                  | 0                   | 210.673                       | 229.622                    | 229.622                         |
| 10           | 0.933101   | 240.352      | 7.02285                   | Landslide Debris | 0                   | 20                        | 192.033            | 85.1682              | 233.998                  | 0                   | 233.998                       | 257.654                    | 257.654                         |
| 11           | 0.933101   | 265.31       | 7.79205                   | Landslide Debris | 0                   | 20                        | 209.844            | 93.0675              | 255.701                  | 0                   | 255.701                       | 284.416                    | 284.416                         |
| 12           | 0.933101   | 289.077      | 8.56267                   | Landslide Debris | 0                   | 20                        | 226.354            | 100.39               | 275.82                   | 0                   | 275.82                        | 309.902                    | 309.902                         |
| 13           | 0.933101   | 311.644      | 9.33485                   | Landslide Debris | 0                   | 20                        | 241.594            | 107.149              | 294.39                   | 0                   | 294.39                        | 334.103                    | 334.103                         |
| 14           | 0.933101   | 333.004      | 10.1087                   | Landslide Debris | 0                   | 20                        | 255.591            | 113.357              | 311.445                  | 0                   | 311.445                       | 357.013                    | 357.013                         |
| 15           | 0.933101   | 353.15       | 10.8845                   | Landslide Debris | 0                   | 20                        | 268.369            | 119.024              | 327.016                  | 0                   | 327.016                       | 378.62                     | 378.62                          |
| 16           | 0.933101   | 372.006      | 11.6623                   | Landslide Debris | 0                   | 20                        | 279.904            | 124.14               | 341.073                  | 0                   | 341.073                       | 398.846                    | 398.846                         |
| 17           | 0.933101   | 387.758      | 12.4423                   | Landslide Debris | 0                   | 20                        | 288.878            | 128.12               | 352.008                  | 0                   | 352.008                       | 415.746                    | 415.746                         |
| 18           | 0.933101   | 401.41       | 13.2246                   | Landslide Debris | 0                   | 20                        | 296.102            | 131.324              | 360.809                  | 0                   | 360.809                       | 430.394                    | 430.394                         |
| 19           | 0.933101   | 413.805      | 14.0095                   | Landslide Debris | 0                   | 20                        | 302.237            | 134.045              | 368.285                  | 0                   | 368.285                       | 443.694                    | 443.694                         |
| 20           | 0.933101   | 424.931      | 14.797                    | Landslide Debris | 0                   | 20                        | 307.304            | 136.292              | 374.459                  | 0                   | 374.459                       | 455.635                    | 455.635                         |
| 21           | 0.933101   | 434.775      | 15.5874                   | Landslide Debris | 0                   | 20                        | 311.319            | 138.073              | 379.353                  | 0                   | 379.353                       | 466.201                    | 466.201                         |
| 22           | 0.933101   | 443.321      | 16.3809                   | Landslide Debris | 0                   | 20                        | 314.303            | 139.396              | 382.987                  | 0                   | 382.987                       | 475.377                    | 475.377                         |
| 23           | 0.933101   | 450.554      | 17.1776                   | Landslide Debris | 0                   | 20                        | 316.266            | 140.267              | 385.379                  | 0                   | 385.379                       | 483.145                    | 483.145                         |
| 24           | 0.933101   | 456.458      | 17.9777                   | Landslide Debris | 0                   | 20                        | 317.227            | 140.693              | 386.55                   | 0                   | 386.55                        | 489.487                    | 489.487                         |
| 25           | 0.933101   | 461.015      | 18.7815                   | Landslide Debris | 0                   | 20                        | 317.198            | 140.68               | 386.516                  | 0                   | 386.516                       | 494.384                    | 494.384                         |
| 26           | 0.933101   | 464.206      | 19.5892                   | Landslide Debris | 0                   | 20                        | 316.194            | 140.235              | 385.293                  | 0                   | 385.293                       | 497.817                    | 497.817                         |
| 27           | 0.933101   | 466.01       | 20.4009                   | Landslide Debris | 0                   | 20                        | 314.228            | 139.363              | 382.898                  | 0                   | 382.898                       | 499.764                    | 499.764                         |
| 28           | 0.933101   | 466.406      | 21.2169                   | Landslide Debris | 0                   | 20                        | 311.313            | 138.07               | 379.344                  | 0                   | 379.344                       | 500.2                      | 500.2                           |
| 29           | 0.933101   | 465.371      | 22.0374                   | Landslide Debris | 0                   | 20                        | 307.457            | 136.36               | 374.647                  | 0                   | 374.647                       | 499.102                    | 499.102                         |
| 30           | 0.933101   | 462.881      | 22.8628                   | Landslide Debris | 0                   | 20                        | 302.675            | 134.239              | 368.819                  | 0                   | 368.819                       | 496.442                    | 496.442                         |
| 31           | 0.933101   | 458.909      | 23.6932                   | Landslide Debris | 0                   | 20                        | 296.975            | 131.711              | 361.873                  | 0                   | 361.873                       | 492.193                    | 492.193                         |
| 32           | 0.933101   | 453.426      | 24.5289                   | Landslide Debris | 0                   | 20                        | 290.366            | 128.78               | 353.82                   | 0                   | 353.82                        | 486.325                    | 486.325                         |
| 33           | 0.933101   | 446.404      | 25.3702                   | Landslide Debris | 0                   | 20                        | 282.858            | 125.45               | 344.673                  | 0                   | 344.673                       | 478.803                    | 478.803                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.933101 | 437.81  | 26.2174 | Landslide<br>Debris | 0 | 20 | 274.461 | 121.726 | 334.44  | 0 | 334.44  | 469.595 | 469.595 |
| 35 | 0.933101 | 427.611 | 27.0708 | Landslide<br>Debris | 0 | 20 | 265.185 | 117.612 | 323.135 | 0 | 323.135 | 458.667 | 458.667 |
| 36 | 0.933101 | 415.769 | 27.9308 | Landslide<br>Debris | 0 | 20 | 255.034 | 113.11  | 310.766 | 0 | 310.766 | 445.976 | 445.976 |
| 37 | 0.933101 | 402.246 | 28.7977 | Landslide<br>Debris | 0 | 20 | 244.018 | 108.224 | 297.342 | 0 | 297.342 | 431.479 | 431.479 |
| 38 | 0.933101 | 387     | 29.6718 | Landslide<br>Debris | 0 | 20 | 232.144 | 102.958 | 282.874 | 0 | 282.874 | 415.135 | 415.135 |
| 39 | 0.933101 | 369.986 | 30.5536 | Landslide<br>Debris | 0 | 20 | 219.419 | 97.3142 | 267.369 | 0 | 267.369 | 396.893 | 396.893 |
| 40 | 0.933101 | 351.157 | 31.4435 | Landslide<br>Debris | 0 | 20 | 205.851 | 91.2969 | 250.836 | 0 | 250.836 | 376.703 | 376.703 |
| 41 | 0.933101 | 330.46  | 32.342  | Landslide<br>Debris | 0 | 20 | 191.447 | 84.9086 | 233.285 | 0 | 233.285 | 354.509 | 354.509 |
| 42 | 0.933101 | 307.841 | 33.2494 | Landslide<br>Debris | 0 | 20 | 176.214 | 78.1526 | 214.723 | 0 | 214.723 | 330.251 | 330.251 |
| 43 | 0.933101 | 283.239 | 34.1664 | Landslide<br>Debris | 0 | 20 | 160.159 | 71.0319 | 195.158 | 0 | 195.158 | 303.865 | 303.865 |
| 44 | 0.933101 | 256.311 | 35.0935 | Landslide<br>Debris | 0 | 20 | 143.133 | 63.4808 | 174.412 | 0 | 174.412 | 274.983 | 274.983 |
| 45 | 0.933101 | 224.015 | 36.0312 | Landslide<br>Debris | 0 | 20 | 123.51  | 54.7779 | 150.501 | 0 | 150.501 | 240.339 | 240.339 |
| 46 | 0.933101 | 188.59  | 36.9802 | Landslide<br>Debris | 0 | 20 | 102.629 | 45.517  | 125.057 | 0 | 125.057 | 202.338 | 202.338 |
| 47 | 0.933101 | 150.891 | 37.9412 | Landslide<br>Debris | 0 | 20 | 81.0216 | 35.9338 | 98.7277 | 0 | 98.7277 | 161.895 | 161.895 |
| 48 | 0.933101 | 110.827 | 38.915  | Landslide<br>Debris | 0 | 20 | 58.6969 | 26.0326 | 71.5239 | 0 | 71.5239 | 118.912 | 118.912 |
| 49 | 0.933101 | 68.3002 | 39.9023 | Landslide<br>Debris | 0 | 20 | 35.6662 | 15.8183 | 43.4605 | 0 | 43.4605 | 73.2845 | 73.2845 |
| 50 | 0.933101 | 23.2043 | 40.904  | Landslide<br>Debris | 0 | 20 | 11.9423 | 5.29652 | 14.5521 | 0 | 14.5521 | 24.8983 | 24.8983 |

## **Cross Section A-A' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 2.42159**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.23949    | 86.3726      | -13.4916                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 91.5085            | 221.596              | 91.6391                  | 0                   | 91.6391                       | 69.6841                    | 69.6841                         |
| 2            | 0.882939   | 165.377      | -11.8728                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 128.345            | 310.8                | 214.287                  | 8.47184             | 205.815                       | 187.304                    | 178.832                         |
| 3            | 0.882939   | 248.794      | -10.5341                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 154.113            | 373.199              | 310.437                  | 24.7559             | 285.682                       | 281.779                    | 257.023                         |
| 4            | 0.882939   | 329.766      | -9.2012                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 178.984            | 433.426              | 402.48                   | 39.7107             | 362.769                       | 373.487                    | 333.776                         |
| 5            | 0.882939   | 406.592      | -7.8733                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 202.329            | 489.957              | 488.477                  | 53.3524             | 435.125                       | 460.498                    | 407.146                         |
| 6            | 0.882939   | 459.593      | -6.54964                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 216.714            | 524.793              | 545.409                  | 65.6946             | 479.714                       | 520.527                    | 454.832                         |
| 7            | 0.882939   | 503.831      | -5.22949                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 228.018            | 552.167              | 591.499                  | 76.7486             | 514.75                        | 570.629                    | 493.88                          |
| 8            | 0.882939   | 545.716      | -3.91212                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 238.703            | 578.041              | 634.391                  | 86.5236             | 547.868                       | 618.068                    | 531.544                         |
| 9            | 0.882939   | 585.261      | -2.59681                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 248.784            | 602.452              | 674.139                  | 95.0268             | 579.112                       | 662.855                    | 567.829                         |
| 10           | 0.882939   | 622.476      | -1.28288                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 258.273            | 625.432              | 710.788                  | 102.263             | 608.525                       | 705.005                    | 602.742                         |
| 11           | 0.882939   | 657.366      | 0.0303783                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 267.184            | 647.01               | 744.379                  | 108.235             | 636.144                       | 744.52                     | 636.285                         |
| 12           | 0.882939   | 689.932      | 1.34365                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 275.525            | 667.209              | 774.941                  | 112.944             | 661.997                       | 781.404                    | 668.46                          |
| 13           | 0.882939   | 720.173      | 2.65763                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 283.306            | 686.052              | 802.504                  | 116.389             | 686.115                       | 815.655                    | 699.266                         |

|    |          |         |         |                                                      |     |    |         |         |         |         |         |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---------|---------|---------|---------|
| 14 | 0.882939 | 748.084 | 3.97302 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 290.535 | 703.556 | 827.087 | 118.567 | 708.52  | 847.265 | 728.698 |
| 15 | 0.882939 | 773.654 | 5.2905  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 297.217 | 719.738 | 848.703 | 119.473 | 729.23  | 876.226 | 756.753 |
| 16 | 0.882939 | 796.871 | 6.6108  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 303.358 | 734.608 | 867.364 | 119.099 | 748.265 | 902.521 | 783.422 |
| 17 | 0.882939 | 817.717 | 7.93464 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 308.961 | 748.178 | 883.069 | 117.437 | 765.632 | 926.132 | 808.695 |
| 18 | 0.882939 | 836.172 | 9.26275 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 314.03  | 760.453 | 895.819 | 114.474 | 781.345 | 947.034 | 832.56  |
| 19 | 0.882939 | 852.21  | 10.5959 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 318.567 | 771.439 | 905.603 | 110.198 | 795.405 | 965.198 | 855     |
| 20 | 0.882939 | 865.802 | 11.9349 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 322.572 | 781.137 | 912.41  | 104.592 | 807.818 | 980.591 | 875.999 |
| 21 | 0.882939 | 876.913 | 13.2805 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 326.044 | 789.546 | 916.219 | 97.6369 | 818.582 | 993.176 | 895.539 |
| 22 | 0.882939 | 888.67  | 14.6337 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 330.051 | 799.249 | 920.313 | 89.3117 | 831.001 | 1006.49 | 917.18  |
| 23 | 0.882939 | 934.779 | 15.9952 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 345.854 | 837.517 | 959.573 | 79.5919 | 879.981 | 1058.71 | 979.122 |
| 24 | 0.882939 | 988.861 | 17.3661 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 364.427 | 882.493 | 1006    | 68.45   | 937.548 | 1119.97 | 1051.52 |
| 25 | 0.882939 | 1040.27 | 18.7474 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 382.194 | 925.518 | 1048.47 | 55.8551 | 992.619 | 1178.19 | 1122.34 |
| 26 | 0.882939 | 1088.94 | 20.14   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 399.147 | 966.57  | 1086.93 | 41.7723 | 1045.16 | 1233.32 | 1191.55 |
| 27 | 0.882939 | 1134.81 | 21.5452 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 415.272 | 1005.62 | 1121.3  | 26.1629 | 1095.14 | 1285.26 | 1259.09 |
| 28 | 0.882939 | 1177.78 | 22.9641 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 430.555 | 1042.63 | 1151.5  | 8.98338 | 1142.51 | 1333.94 | 1324.95 |



|    |          |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 0.869258 | 1194.49 | 24.3869 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 440.813 | 1067.47 | 1174.3  | 0 | 1174.3  | 1374.14 | 1374.14 |
| 30 | 0.869258 | 1205.78 | 25.8146 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 440.702 | 1067.2  | 1173.96 | 0 | 1173.96 | 1387.14 | 1387.14 |
| 31 | 0.869258 | 1211.29 | 27.2598 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 438.612 | 1062.14 | 1167.49 | 0 | 1167.49 | 1393.48 | 1393.48 |
| 32 | 0.869258 | 1213.64 | 28.724  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 435.411 | 1054.39 | 1157.57 | 0 | 1157.57 | 1396.18 | 1396.18 |
| 33 | 0.869258 | 1212.7  | 30.209  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 431.073 | 1043.88 | 1144.12 | 0 | 1144.12 | 1395.1  | 1395.1  |
| 34 | 0.869258 | 1208.32 | 31.7168 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 425.568 | 1030.55 | 1127.05 | 0 | 1127.05 | 1390.06 | 1390.06 |
| 35 | 0.869258 | 1200.34 | 33.2496 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 418.862 | 1014.31 | 1106.27 | 0 | 1106.27 | 1380.88 | 1380.88 |
| 36 | 0.869258 | 1188.56 | 34.8098 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 410.915 | 995.067 | 1081.63 | 0 | 1081.63 | 1367.33 | 1367.33 |
| 37 | 0.869258 | 1172.78 | 36.4001 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 401.684 | 972.713 | 1053.02 | 0 | 1053.02 | 1349.17 | 1349.17 |
| 38 | 0.869258 | 1152.73 | 38.0237 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 391.118 | 947.128 | 1020.28 | 0 | 1020.28 | 1326.12 | 1326.12 |
| 39 | 0.869258 | 1127.59 | 39.6842 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 378.999 | 917.779 | 982.711 | 0 | 982.711 | 1297.18 | 1297.18 |
| 40 | 0.869258 | 1078.66 | 41.3856 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 359.961 | 871.679 | 923.706 | 0 | 923.706 | 1240.89 | 1240.89 |
| 41 | 0.869258 | 1015.21 | 43.1329 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 336.913 | 815.866 | 852.268 | 0 | 852.268 | 1167.91 | 1167.91 |
| 42 | 0.869258 | 946.052 | 44.9316 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 312.498 | 756.742 | 776.594 | 0 | 776.594 | 1088.35 | 1088.35 |
| 43 | 0.869258 | 870.623 | 46.7888 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 286.641 | 694.127 | 696.451 | 0 | 696.451 | 1001.57 | 1001.57 |

|    |          |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 44 | 0.869258 | 788.261 | 48.7124 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 259.26  | 627.822 | 611.585  | 0 | 611.585  | 906.823 | 906.823 |
| 45 | 0.869258 | 698.147 | 50.7129 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 230.261 | 557.598 | 521.702  | 0 | 521.702  | 803.155 | 803.155 |
| 46 | 0.869258 | 599.25  | 52.8029 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 199.537 | 483.198 | 426.474  | 0 | 426.474  | 689.383 | 689.383 |
| 47 | 0.869258 | 490.246 | 54.9991 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 166.971 | 404.335 | 325.534  | 0 | 325.534  | 563.984 | 563.984 |
| 48 | 0.869258 | 369.383 | 57.3233 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 132.43  | 320.692 | 218.477  | 0 | 218.477  | 424.942 | 424.942 |
| 49 | 0.869258 | 234.254 | 59.8058 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 95.781  | 231.942 | 104.881  | 0 | 104.881  | 269.488 | 269.488 |
| 50 | 0.869258 | 81.3858 | 62.4906 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 56.8995 | 137.787 | -15.6317 | 0 | -15.6317 | 93.6276 | 93.6276 |

Global Minimum Query (janbu simplified) - Safety Factor: 2.18761

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                            | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.937728   | 56.2434      | -19.7492                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 103.223            | 225.813              | 97.0358                  | 0                   | 97.0358                       | 59.9764                    | 59.9764                         |
| 2            | 0.859205   | 148.758      | -18.1172                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 143.052            | 312.943              | 219.936                  | 11.3789             | 208.557                       | 173.131                    | 161.752                         |
| 3            | 0.859205   | 238.718      | -16.5709                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 174.418            | 381.558              | 329.732                  | 33.352              | 296.38                        | 277.833                    | 244.481                         |
| 4            | 0.859205   | 325.868      | -15.0369                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 204.435            | 447.223              | 434.183                  | 53.7558             | 380.427                       | 379.264                    | 325.508                         |
| 5            | 0.859205   | 410.273      | -13.514                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 233.18             | 510.107              | 533.542                  | 72.6255             | 460.917                       | 477.501                    | 404.875                         |
| 6            | 0.859205   | 480.352      | -12.0007                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 255.488            | 558.909              | 613.372                  | 89.9922             | 523.379                       | 559.063                    | 469.071                         |
| 7            | 0.859205   | 531.541      | -10.4958                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 269.528            | 589.623              | 668.574                  | 105.882             | 562.692                       | 618.64                     | 512.758                         |
| 8            | 0.859205   | 580.02       | -8.99827                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 282.677            | 618.386              | 719.827                  | 120.319             | 599.508                       | 675.064                    | 554.745                         |
| 9            | 0.859205   | 625.932      | -7.5069                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 295.014            | 645.376              | 767.375                  | 133.322             | 634.053                       | 728.499                    | 595.177                         |
| 10           | 0.859205   | 669.306      | -6.02062                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 306.569            | 670.654              | 811.315                  | 144.908             | 666.407                       | 778.982                    | 634.074                         |
| 11           | 0.859205   | 710.166      | -4.53841                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 317.367            | 694.275              | 851.728                  | 155.088             | 696.64                        | 826.537                    | 671.449                         |
| 12           | 0.859205   | 748.529      | -3.05924                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 327.428            | 716.285              | 888.687                  | 163.874             | 724.813                       | 871.188                    | 707.314                         |
| 13           | 0.859205   | 784.409      | -1.5821                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 336.773            | 736.727              | 922.249                  | 171.273             | 750.976                       | 912.947                    | 741.674                         |
| 14           | 0.859205   | 817.814      | -0.106018                 | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 345.415            | 755.634              | 952.465                  | 177.289             | 775.176                       | 951.826                    | 774.537                         |

|    |          |         |         |                                                      |     |    |         |         |         |         |         |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---------|---------|---------|---------|
| 15 | 0.859205 | 848.745 | 1.36999 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 353.371 | 773.038 | 979.376 | 181.923 | 797.453 | 987.827 | 805.904 |
| 16 | 0.859205 | 877.201 | 2.84692 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 360.652 | 788.965 | 1003.01 | 185.174 | 817.837 | 1020.95 | 835.772 |
| 17 | 0.859205 | 903.175 | 4.32574 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 367.266 | 803.434 | 1023.4  | 187.039 | 836.357 | 1051.18 | 864.138 |
| 18 | 0.859205 | 926.655 | 5.80745 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 373.222 | 816.465 | 1040.55 | 187.51  | 853.036 | 1078.51 | 890.995 |
| 19 | 0.859205 | 947.624 | 7.29308 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 378.527 | 828.069 | 1054.47 | 186.578 | 867.888 | 1102.91 | 916.332 |
| 20 | 0.859205 | 966.058 | 8.78365 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 383.183 | 838.256 | 1065.16 | 184.231 | 880.927 | 1124.37 | 940.135 |
| 21 | 0.859205 | 981.93  | 10.2803 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 387.195 | 847.032 | 1072.61 | 180.452 | 892.161 | 1142.84 | 962.388 |
| 22 | 0.859205 | 995.207 | 11.784  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 390.563 | 854.4   | 1076.81 | 175.223 | 901.59  | 1158.29 | 983.069 |
| 23 | 0.859205 | 1010.79 | 13.296  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 395.18  | 864.5   | 1083.04 | 168.521 | 914.518 | 1176.43 | 1007.91 |
| 24 | 0.859205 | 1059.57 | 14.8175 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 412.744 | 902.923 | 1124.02 | 160.32  | 963.697 | 1233.2  | 1072.88 |
| 25 | 0.859205 | 1112.77 | 16.3498 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 432.061 | 945.182 | 1168.38 | 150.59  | 1017.79 | 1295.13 | 1144.54 |
| 26 | 0.859205 | 1163.18 | 17.8942 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 450.38  | 985.256 | 1208.38 | 139.295 | 1069.08 | 1353.79 | 1214.5  |
| 27 | 0.859205 | 1210.71 | 19.4522 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 467.688 | 1023.12 | 1243.94 | 126.398 | 1117.54 | 1409.12 | 1282.72 |
| 28 | 0.859205 | 1255.3  | 21.0253 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 483.971 | 1058.74 | 1274.99 | 111.852 | 1163.13 | 1461.01 | 1349.16 |
| 29 | 0.859205 | 1296.84 | 22.6152 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 499.208 | 1092.07 | 1301.4  | 95.6061 | 1205.8  | 1509.36 | 1413.75 |

|    |          |         |         |                                                      |     |    |         |         |         |         |         |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---------|---------|---------|---------|
| 30 | 0.859205 | 1332.28 | 24.2237 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 512.319 | 1120.76 | 1320.11 | 77.6035 | 1242.51 | 1550.61 | 1473.01 |
| 31 | 0.859205 | 1344.5  | 25.8528 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 517.28  | 1131.61 | 1314.17 | 57.7785 | 1256.39 | 1564.82 | 1507.05 |
| 32 | 0.859205 | 1349.58 | 27.5047 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 519.976 | 1137.51 | 1300.01 | 36.0566 | 1263.95 | 1570.75 | 1534.69 |
| 33 | 0.859205 | 1351.11 | 29.1818 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 521.715 | 1141.31 | 1281.17 | 12.3535 | 1268.81 | 1572.53 | 1560.17 |
| 34 | 0.867561 | 1362.02 | 30.8953 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 518.464 | 1134.2  | 1259.72 | 0       | 1259.72 | 1569.96 | 1569.96 |
| 35 | 0.867561 | 1355.75 | 32.6485 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 509.987 | 1115.65 | 1235.98 | 0       | 1235.98 | 1562.74 | 1562.74 |
| 36 | 0.867561 | 1345.22 | 34.4368 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 499.929 | 1093.65 | 1207.81 | 0       | 1207.81 | 1550.6  | 1550.6  |
| 37 | 0.867561 | 1330.15 | 36.2643 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 488.227 | 1068.05 | 1175.05 | 0       | 1175.05 | 1533.22 | 1533.22 |
| 38 | 0.867561 | 1310.21 | 38.1357 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 474.804 | 1038.68 | 1137.47 | 0       | 1137.47 | 1510.24 | 1510.24 |
| 39 | 0.867561 | 1285.02 | 40.0564 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 459.57  | 1005.36 | 1094.81 | 0       | 1094.81 | 1481.21 | 1481.21 |
| 40 | 0.867561 | 1254.09 | 42.033  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 442.405 | 967.809 | 1046.75 | 0       | 1046.75 | 1445.55 | 1445.55 |
| 41 | 0.867561 | 1200.92 | 44.0733 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 418.309 | 915.098 | 979.277 | 0       | 979.277 | 1384.27 | 1384.27 |
| 42 | 0.867561 | 1128.31 | 46.1866 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 388.456 | 849.79  | 895.689 | 0       | 895.689 | 1300.58 | 1300.58 |
| 43 | 0.867561 | 1048    | 48.3848 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 356.619 | 780.143 | 806.547 | 0       | 806.547 | 1208    | 1208    |
| 44 | 0.867561 | 958.935 | 50.6827 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 322.638 | 705.807 | 711.4   | 0       | 711.4   | 1105.34 | 1105.34 |

|    |          |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 45 | 0.867561 | 859.79  | 53.0996 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 286.324 | 626.366 | 609.721  | 0 | 609.721  | 991.064 | 991.064 |
| 46 | 0.867561 | 748.766 | 55.6615 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 247.448 | 541.32  | 500.866  | 0 | 500.866  | 863.089 | 863.089 |
| 47 | 0.867561 | 623.361 | 58.4047 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 205.733 | 450.063 | 384.064  | 0 | 384.064  | 718.539 | 718.539 |
| 48 | 0.867561 | 479.905 | 61.3827 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 160.846 | 351.869 | 258.38   | 0 | 258.38   | 553.182 | 553.182 |
| 49 | 0.867561 | 312.579 | 64.681  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 112.4   | 245.887 | 122.729  | 0 | 122.729  | 360.309 | 360.309 |
| 50 | 0.867561 | 111.022 | 68.4524 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 60.0038 | 131.265 | -23.9798 | 0 | -23.9798 | 127.979 | 127.979 |

## Cross Section A-A' - Seismic

**Global Minimum Query (bishop simplified) - Safety Factor: 1.24908**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.53326    | 122.043      | -9.85226                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 190.543            | 238.003              | 112.639                  | 0                   | 112.639                       | 79.5472                    | 79.5472                         |
| 2            | 1.07013    | 227.922      | -8.43635                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 273.514            | 341.641              | 253.491                  | 8.2015              | 245.289                       | 212.924                    | 204.723                         |
| 3            | 1.07013    | 341.513      | -7.27669                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 331.145            | 413.627              | 361.352                  | 23.9251             | 337.427                       | 319.068                    | 295.143                         |
| 4            | 1.07013    | 450.664      | -6.12002                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 385.364            | 481.351              | 462.387                  | 38.2767             | 424.11                        | 421.067                    | 382.79                          |
| 5            | 1.07013    | 526.877      | -4.96584                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 418.702            | 522.992              | 528.674                  | 51.266              | 477.408                       | 492.294                    | 441.028                         |
| 6            | 1.07013    | 587.931      | -3.81369                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 442.824            | 553.123              | 578.875                  | 62.901              | 515.974                       | 549.356                    | 486.455                         |
| 7            | 1.07013    | 645.98       | -2.66307                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 465.403            | 581.326              | 625.26                   | 73.188              | 552.072                       | 603.613                    | 530.425                         |
| 8            | 1.07013    | 701.034      | -1.51353                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 486.496            | 607.673              | 667.926                  | 82.1315             | 585.794                       | 655.071                    | 572.94                          |
| 9            | 1.07013    | 753.099      | -0.364603                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 506.156            | 632.229              | 706.96                   | 89.7345             | 617.226                       | 703.739                    | 614.005                         |
| 10           | 1.07013    | 802.178      | 0.78418                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 524.43             | 655.055              | 742.439                  | 95.9983             | 646.441                       | 749.617                    | 653.619                         |
| 11           | 1.07013    | 848.271      | 1.93328                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 541.362            | 676.204              | 774.433                  | 100.923             | 673.51                        | 792.706                    | 691.783                         |
| 12           | 1.07013    | 891.374      | 3.08316                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 556.989            | 695.724              | 803.001                  | 104.506             | 698.495                       | 833.002                    | 728.496                         |
| 13           | 1.07013    | 931.478      | 4.23428                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 571.349            | 713.66               | 828.196                  | 106.744             | 721.452                       | 870.496                    | 763.752                         |

|    |         |         |         |                                                      |     |    |         |         |         |         |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---------|---------|---------|---------|
| 14 | 1.07013 | 968.572 | 5.38712 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 584.471 | 730.051 | 850.062 | 107.631 | 742.431 | 905.178 | 797.547 |
| 15 | 1.07013 | 1002.64 | 6.54215 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 596.385 | 744.932 | 868.64  | 107.162 | 761.478 | 937.034 | 829.872 |
| 16 | 1.07013 | 1033.66 | 7.69986 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 607.116 | 758.336 | 883.962 | 105.327 | 778.635 | 966.045 | 860.718 |
| 17 | 1.07013 | 1061.62 | 8.86074 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 616.687 | 770.291 | 896.053 | 102.117 | 793.936 | 992.191 | 890.074 |
| 18 | 1.07013 | 1088.54 | 10.0253 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 626.203 | 782.178 | 906.668 | 97.5174 | 809.151 | 1017.37 | 919.853 |
| 19 | 1.07013 | 1162.95 | 11.1941 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 660.9   | 825.517 | 956.141 | 91.5159 | 864.625 | 1086.93 | 995.415 |
| 20 | 1.07013 | 1255.96 | 12.3676 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 705.038 | 880.649 | 1019.28 | 84.0958 | 935.186 | 1173.88 | 1089.78 |
| 21 | 1.07013 | 1345.76 | 13.5464 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 747.187 | 933.296 | 1077.82 | 75.2387 | 1002.58 | 1257.84 | 1182.6  |
| 22 | 1.07013 | 1432.32 | 14.731  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 787.37  | 983.488 | 1131.74 | 64.9241 | 1066.81 | 1338.76 | 1273.83 |
| 23 | 1.07013 | 1515.57 | 15.9222 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 825.606 | 1031.25 | 1181.08 | 53.1291 | 1127.95 | 1416.6  | 1363.47 |
| 24 | 1.07013 | 1587.3  | 17.1205 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 857.905 | 1071.59 | 1219.41 | 39.828  | 1179.59 | 1483.68 | 1443.85 |
| 25 | 1.07013 | 1625.28 | 18.3265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 873.686 | 1091.3  | 1229.81 | 24.9926 | 1204.81 | 1519.2  | 1494.21 |
| 26 | 1.07013 | 1656.91 | 19.541  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 886.636 | 1107.48 | 1234.1  | 8.59144 | 1225.51 | 1548.79 | 1540.2  |
| 27 | 1.0871  | 1711.89 | 20.7745 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 893.396 | 1115.92 | 1236.32 | 0       | 1236.32 | 1575.24 | 1575.24 |
| 28 | 1.0871  | 1737.02 | 22.028  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 893.697 | 1116.3  | 1236.8  | 0       | 1236.8  | 1598.39 | 1598.39 |



|    |        |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 1.0871 | 1758.23 | 23.2926 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 891.908 | 1114.07 | 1233.95 | 0 | 1233.95 | 1617.93 | 1617.93 |
| 30 | 1.0871 | 1775.39 | 24.5694 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 888.03  | 1109.22 | 1227.74 | 0 | 1227.74 | 1633.74 | 1633.74 |
| 31 | 1.0871 | 1788.39 | 25.8594 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 882.06  | 1101.76 | 1218.2  | 0 | 1218.2  | 1645.73 | 1645.73 |
| 32 | 1.0871 | 1794.95 | 27.1636 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 873.06  | 1090.52 | 1203.81 | 0 | 1203.81 | 1651.81 | 1651.81 |
| 33 | 1.0871 | 1765.02 | 28.4832 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 848.206 | 1059.48 | 1164.08 | 0 | 1164.08 | 1624.29 | 1624.29 |
| 34 | 1.0871 | 1719.75 | 29.8195 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 817.092 | 1020.61 | 1114.34 | 0 | 1114.34 | 1582.66 | 1582.66 |
| 35 | 1.0871 | 1669.67 | 31.174  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 784.389 | 979.764 | 1062.05 | 0 | 1062.05 | 1536.6  | 1536.6  |
| 36 | 1.0871 | 1614.6  | 32.5481 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 750.086 | 936.917 | 1007.21 | 0 | 1007.21 | 1485.95 | 1485.95 |
| 37 | 1.0871 | 1554.3  | 33.9437 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 714.172 | 892.058 | 949.792 | 0 | 949.792 | 1430.49 | 1430.49 |
| 38 | 1.0871 | 1488.51 | 35.3625 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 676.633 | 845.169 | 889.772 | 0 | 889.772 | 1369.96 | 1369.96 |
| 39 | 1.0871 | 1416.95 | 36.8067 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 637.454 | 796.231 | 827.137 | 0 | 827.137 | 1304.13 | 1304.13 |
| 40 | 1.0871 | 1339.28 | 38.2787 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 596.619 | 745.225 | 761.854 | 0 | 761.854 | 1232.68 | 1232.68 |
| 41 | 1.0871 | 1255.13 | 39.7812 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 554.111 | 692.129 | 693.894 | 0 | 693.894 | 1155.25 | 1155.25 |
| 42 | 1.0871 | 1164.07 | 41.3173 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 509.914 | 636.923 | 623.232 | 0 | 623.232 | 1071.48 | 1071.48 |
| 43 | 1.0871 | 1065.62 | 42.8906 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 464.009 | 579.584 | 549.843 | 0 | 549.843 | 980.884 | 980.884 |

|    |        |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|--------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 44 | 1.0871 | 959.188 | 44.5051 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 416.382 | 520.094 | 473.699  | 0 | 473.699  | 882.948 | 882.948 |
| 45 | 1.0871 | 844.11  | 46.1657 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 367.021 | 458.438 | 394.783  | 0 | 394.783  | 777.05  | 777.05  |
| 46 | 1.0871 | 719.583 | 47.8781 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 315.92  | 394.609 | 313.085  | 0 | 313.085  | 662.451 | 662.451 |
| 47 | 1.0871 | 584.647 | 49.6492 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 263.082 | 328.61  | 228.61   | 0 | 228.61   | 538.268 | 538.268 |
| 48 | 1.0871 | 438.133 | 51.4874 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 208.525 | 260.464 | 141.387  | 0 | 141.387  | 403.421 | 403.421 |
| 49 | 1.0871 | 278.589 | 53.4032 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 152.293 | 190.227 | 51.4879  | 0 | 51.4879  | 256.575 | 256.575 |
| 50 | 1.0871 | 98.7786 | 55.4097 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 92.8405 | 115.965 | -43.5626 | 0 | -43.5626 | 91.066  | 91.066  |

**Global Minimum Query (janbu simplified) - Safety Factor: 1.09972**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.776353   | 47.2498      | -30.1591                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 305.889            | 336.392              | 238.57                   | 0                   | 238.57                        | 60.8312                    | 60.8312                         |
| 2            | 1.52243    | 362.091      | -28.7393                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 464.516            | 510.837              | 492.524                  | 30.6727             | 461.851                       | 237.795                    | 207.122                         |
| 3            | 1.52243    | 709.407      | -26.8834                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 630.51             | 693.385              | 785.559                  | 90.0602             | 695.499                       | 465.913                    | 375.853                         |
| 4            | 1.52243    | 1022.41      | -25.0575                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 763.672            | 839.825              | 1028.55                  | 145.608             | 882.938                       | 671.507                    | 525.899                         |
| 5            | 1.52243    | 1261.74      | -23.2585                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 841.926            | 925.883              | 1190.57                  | 197.49              | 993.084                       | 828.707                    | 631.217                         |
| 6            | 1.52243    | 1486.23      | -21.4834                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 909.557            | 1000.26              | 1334.14                  | 245.86              | 1088.28                       | 976.16                     | 730.3                           |
| 7            | 1.52243    | 1699.99      | -19.7298                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 970.232            | 1066.98              | 1464.54                  | 290.849             | 1173.69                       | 1116.57                    | 825.723                         |
| 8            | 1.52243    | 1903.4       | -17.9952                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1024.8             | 1126.99              | 1583.07                  | 332.573             | 1250.49                       | 1250.18                    | 917.609                         |
| 9            | 1.52243    | 2096.77      | -16.2776                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1073.93            | 1181.02              | 1690.78                  | 371.131             | 1319.65                       | 1377.2                     | 1006.07                         |
| 10           | 1.52243    | 2280.37      | -14.5749                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1118.18            | 1229.68              | 1788.53                  | 406.611             | 1381.92                       | 1497.8                     | 1091.18                         |
| 11           | 1.52243    | 2454.44      | -12.8852                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1157.98            | 1273.45              | 1877.04                  | 439.086             | 1437.95                       | 1612.14                    | 1173.05                         |
| 12           | 1.52243    | 2619.2       | -11.2069                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1193.71            | 1312.75              | 1956.87                  | 468.623             | 1488.25                       | 1720.36                    | 1251.74                         |
| 13           | 1.52243    | 2774.8       | -9.53824                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1225.68            | 1347.91              | 2028.52                  | 495.274             | 1533.25                       | 1822.57                    | 1327.3                          |
| 14           | 1.52243    | 2976.72      | -7.87774                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1282.78            | 1410.7               | 2132.7                   | 519.087             | 1613.62                       | 1955.21                    | 1436.12                         |

|    |         |         |          |                                                      |     |    |         |         |         |         |         |         |         |
|----|---------|---------|----------|------------------------------------------------------|-----|----|---------|---------|---------|---------|---------|---------|---------|
| 15 | 1.52243 | 3263.55 | -6.22389 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1382.73 | 1520.62 | 2294.41 | 540.099 | 1754.31 | 2143.62 | 1603.52 |
| 16 | 1.52243 | 3543.14 | -4.57522 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1477.09 | 1624.39 | 2445.47 | 558.339 | 1887.13 | 2327.27 | 1768.93 |
| 17 | 1.52243 | 3814    | -2.93035 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1565.44 | 1721.55 | 2585.32 | 573.831 | 2011.49 | 2505.19 | 1931.36 |
| 18 | 1.59266 | 4226.35 | -1.25005 | D-VD<br>SAND                                         | 0   | 38 | 1491.47 | 1640.2  | 2686.18 | 586.819 | 2099.36 | 2653.63 | 2066.81 |
| 19 | 1.59266 | 4401.95 | 0.467075 | D-VD<br>SAND                                         | 0   | 38 | 1530.45 | 1683.07 | 2751.42 | 597.185 | 2154.24 | 2763.9  | 2166.71 |
| 20 | 1.59266 | 4568.14 | 2.18461  | D-VD<br>SAND                                         | 0   | 38 | 1565.77 | 1721.91 | 2808.52 | 604.57  | 2203.95 | 2868.25 | 2263.68 |
| 21 | 1.59266 | 4725.18 | 3.90412  | D-VD<br>SAND                                         | 0   | 38 | 1597.68 | 1757    | 2857.83 | 608.97  | 2248.86 | 2966.86 | 2357.89 |
| 22 | 1.59266 | 4873.03 | 5.62716  | D-VD<br>SAND                                         | 0   | 38 | 1626.27 | 1788.44 | 2899.46 | 610.369 | 2289.1  | 3059.7  | 2449.33 |
| 23 | 1.59266 | 5008.14 | 7.35533  | D-VD<br>SAND                                         | 0   | 38 | 1650.2  | 1814.76 | 2931.53 | 608.745 | 2322.78 | 3144.54 | 2535.8  |
| 24 | 1.59266 | 5066.73 | 9.09026  | D-VD<br>SAND                                         | 0   | 38 | 1644.11 | 1808.06 | 2918.29 | 604.066 | 2314.22 | 3181.34 | 2577.28 |
| 25 | 1.59266 | 5090.07 | 10.8336  | D-VD<br>SAND                                         | 0   | 38 | 1625.89 | 1788.02 | 2884.86 | 596.292 | 2288.57 | 3196    | 2599.71 |
| 26 | 1.59266 | 5103.77 | 12.5873  | D-VD<br>SAND                                         | 0   | 38 | 1606.04 | 1766.19 | 2846    | 585.374 | 2260.62 | 3204.61 | 2619.24 |
| 27 | 1.59266 | 5107.65 | 14.3529  | D-VD<br>SAND                                         | 0   | 38 | 1584.54 | 1742.55 | 2801.6  | 571.249 | 2230.36 | 3207.06 | 2635.81 |
| 28 | 1.59266 | 5101.5  | 16.1327  | D-VD<br>SAND                                         | 0   | 38 | 1561.35 | 1717.05 | 2751.58 | 553.847 | 2197.73 | 3203.2  | 2649.36 |
| 29 | 1.59266 | 5085.05 | 17.9286  | D-VD<br>SAND                                         | 0   | 38 | 1536.46 | 1689.68 | 2695.77 | 533.083 | 2162.69 | 3192.88 | 2659.8  |
| 30 | 1.59266 | 5058    | 19.7429  | D-VD<br>SAND                                         | 0   | 38 | 1509.81 | 1660.37 | 2634.04 | 508.858 | 2125.18 | 3175.9  | 2667.04 |
| 31 | 1.59266 | 5019.99 | 21.5781  | D-VD<br>SAND                                         | 0   | 38 | 1481.36 | 1629.08 | 2566.19 | 481.058 | 2085.13 | 3152.05 | 2670.99 |
| 32 | 1.59266 | 4970.64 | 23.4369  | D-VD<br>SAND                                         | 0   | 38 | 1451.06 | 1595.76 | 2492.03 | 449.551 | 2042.48 | 3121.07 | 2671.52 |
| 33 | 1.59266 | 4909.46 | 25.3222  | D-VD<br>SAND                                         | 0   | 38 | 1418.83 | 1560.32 | 2411.31 | 414.184 | 1997.12 | 3082.66 | 2668.48 |
| 34 | 1.59266 | 4835.91 | 27.2374  | D-VD<br>SAND                                         | 0   | 38 | 1384.63 | 1522.7  | 2323.75 | 374.779 | 1948.97 | 3036.49 | 2661.71 |
| 35 | 1.59266 | 4747.48 | 29.1862  | D-VD<br>SAND                                         | 0   | 38 | 1347.73 | 1482.13 | 2228.17 | 331.131 | 1897.04 | 2980.97 | 2649.84 |
| 36 | 1.59266 | 4621.48 | 31.1729  | D-VD<br>SAND                                         | 0   | 38 | 1301.49 | 1431.28 | 2114.5  | 282.54  | 1831.96 | 2901.87 | 2619.33 |
| 37 | 1.59266 | 4473.71 | 33.2021  | D-VD<br>SAND                                         | 0   | 38 | 1251.2  | 1375.97 | 1990.26 | 229.097 | 1761.16 | 2809.09 | 2579.99 |
| 38 | 1.59266 | 4310.32 | 35.2797  | D-VD<br>SAND                                         | 0   | 38 | 1198.98 | 1318.54 | 1858.22 | 170.559 | 1687.66 | 2706.5  | 2535.94 |
| 39 | 1.59266 | 4130.13 | 37.4121  | D-VD<br>SAND                                         | 0   | 38 | 1144.71 | 1258.86 | 1717.79 | 106.533 | 1611.26 | 2593.37 | 2486.84 |
| 40 | 1.59266 | 3931.68 | 39.6071  | D-VD<br>SAND                                         | 0   | 38 | 1088.21 | 1196.73 | 1568.29 | 36.5445 | 1531.75 | 2468.77 | 2432.23 |
| 41 | 1.21113 | 2845.31 | 41.5943  | D-VD<br>SAND                                         | 0   | 38 | 1023.62 | 1125.7  | 1440.82 | 0       | 1440.82 | 2349.46 | 2349.46 |
| 42 | 1.21113 | 2709.45 | 43.3651  | D-VD<br>SAND                                         | 0   | 38 | 951.188 | 1046.04 | 1338.87 | 0       | 1338.87 | 2237.27 | 2237.27 |
| 43 | 1.55338 | 3250.7  | 45.4567  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 942.715 | 1036.72 | 1134.96 | 0       | 1134.96 | 2092.82 | 2092.82 |
| 44 | 1.55338 | 2968.35 | 47.8993  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 836.442 | 919.852 | 985.364 | 0       | 985.364 | 1911.05 | 1911.05 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 45 | 1.55338 | 2655.34 | 50.4636 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 726.026 | 798.425 | 829.947  | 0 | 829.947  | 1709.55 | 1709.55 |
| 46 | 1.55338 | 2306.44 | 53.1759 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 611.314 | 672.274 | 668.48   | 0 | 668.48   | 1484.92 | 1484.92 |
| 47 | 1.55338 | 1914.39 | 56.0732 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 492.192 | 541.273 | 500.806  | 0 | 500.806  | 1232.53 | 1232.53 |
| 48 | 1.55338 | 1468.6  | 59.2092 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 368.642 | 405.403 | 326.901  | 0 | 326.901  | 945.53  | 945.53  |
| 49 | 1.55338 | 952.52  | 62.6688 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 240.92  | 264.944 | 147.121  | 0 | 147.121  | 613.271 | 613.271 |
| 50 | 1.55338 | 337.172 | 66.6013 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 110.012 | 120.983 | -37.1403 | 0 | -37.1403 | 217.1   | 217.1   |

## Discharge Sections

### Entity Information

#### ◆ Cross Section F-F'

##### Shared Entities

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 200            |
|                   | 470, 200          |
|                   | 470, 368          |
|                   | 470, 380          |
|                   | 470, 385          |
|                   | 390, 380          |
|                   | 306, 375          |
|                   | 236, 370          |
|                   | 200, 365          |
|                   | 182, 360          |
|                   | 168.265, 352.771  |
|                   | 163, 350          |
|                   | 148, 340          |
|                   | 135, 330          |
|                   | 120, 320          |
|                   | 107, 310          |
|                   | 93, 300           |
|                   | 75, 290           |
|                   | 52, 280           |
|                   | 42, 275           |
|                   | 0, 275            |
| Material Boundary | 168.265, 352.771  |
|                   | 350, 368          |
|                   | 470, 380          |
| Material Boundary | 135, 330          |
|                   | 350, 354          |
|                   | 470, 368          |

#### ◆ Cross Section E-E'

##### Shared Entities

| Type | Coordinates (x,y) |
|------|-------------------|
|------|-------------------|

|                   |                  |
|-------------------|------------------|
| External Boundary | 0, 150           |
|                   | 185.855, 150     |
|                   | 205.448, 150     |
|                   | 1255, 150        |
|                   | 1342, 150        |
|                   | 1342, 252        |
|                   | 1342, 358        |
|                   | 1342, 375        |
|                   | 1255, 375        |
|                   | 1037, 370        |
|                   | 935, 365         |
|                   | 854, 360         |
|                   | 803, 355         |
|                   | 756, 350         |
|                   | 706, 345         |
|                   | 690.403, 343.143 |
|                   | 664, 340         |
|                   | 635, 335         |
|                   | 572, 330         |
|                   | 523, 325         |
|                   | 487, 320         |
|                   | 392, 315         |
|                   | 375, 310         |
|                   | 367, 305         |
|                   | 358, 300         |
|                   | 349, 295         |
|                   | 339, 290         |
|                   | 327, 285         |
|                   | 315, 280         |
|                   | 306, 275         |
|                   | 296, 270         |
|                   | 281, 265         |
|                   | 261, 260         |
|                   | 238, 255         |
|                   | 211, 250         |
|                   | 186, 245         |
|                   | 163, 240         |
|                   | 142, 235         |
|                   | 96, 230          |
|                   | 67, 225          |
|                   | 50, 220          |
|                   | 34, 215          |
|                   | 19, 210          |
|                   | 0, 205           |
|                   | 0, 158.836       |
| Material Boundary | 695, 336         |
|                   | 978, 346         |
|                   | 1342, 358        |
| Material Boundary | 564, 285         |
|                   | 978, 267         |
|                   | 1342, 252        |
| Material Boundary | 564, 285         |
|                   | 695, 336         |
| Material Boundary | 0, 158.836       |
|                   | 80, 180          |
|                   | 564, 310         |
| Material Boundary | 564, 310         |
|                   | 690.403, 343.143 |

|                   |                                      |
|-------------------|--------------------------------------|
| Material Boundary | 205.448, 150<br>288, 180<br>564, 285 |
|-------------------|--------------------------------------|

Scenario-based Entities

| Type        | Coordinates (x,y) | Master Scenario                                                                                                           | Seismic                                                                                                                     |
|-------------|-------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Water Table | 163, 240          | Assigned to:                                                                                                              | Assigned to:                                                                                                                |
|             | 186, 245          |  MD-VD Silty SAND/Silty SAND with gravel |  MD-VD Silty SAND/Silty SAND with gravel |
|             | 204, 248          |                                                                                                                           |                                                                                                                             |
|             | 564, 295          |  D-VD SAND                               |  D-VD SAND                               |
|             | 978, 270          |                                                                                                                           |                                                                                                                             |
|             | 1342, 270         |  Landslide Debris                        |  Landslide Debris                        |

 **Cross Section D-D'**

Shared Entities

| Type | Coordinates (x,y) |
|------|-------------------|
|------|-------------------|



|                   |                  |
|-------------------|------------------|
| External Boundary | 0, 100           |
|                   | 1748, 100        |
|                   | 1748, 297        |
|                   | 1748, 354        |
|                   | 1748, 375        |
|                   | 1706, 375        |
|                   | 1598, 370        |
|                   | 1515, 365        |
|                   | 1375, 360        |
|                   | 1205, 360        |
|                   | 1162, 355        |
|                   | 1142, 350        |
|                   | 1120, 345        |
|                   | 1100, 340        |
|                   | 1084, 335        |
|                   | 1057, 330        |
|                   | 1017, 325        |
|                   | 931, 320         |
|                   | 810, 315         |
|                   | 809.814, 314.978 |
|                   | 767, 310         |
|                   | 721.249, 306.31  |
|                   | 705, 305         |
|                   | 674, 300         |
|                   | 653, 295         |
|                   | 622, 290         |
|                   | 593, 285         |
|                   | 570, 280         |
|                   | 541, 275         |
|                   | 526, 270         |
|                   | 513, 265         |
|                   | 501, 260         |
|                   | 489, 255         |
|                   | 475, 250         |
|                   | 461, 245         |
|                   | 444, 240         |
|                   | 420, 235         |
|                   | 396, 230         |
|                   | 369, 225         |
|                   | 347, 220         |
|                   | 325, 215         |
|                   | 301, 210         |
|                   | 264, 205         |
|                   | 212, 200         |
|                   | 138, 195         |
|                   | 75, 190          |
|                   | 63.7745, 187.995 |
|                   | 47, 185          |
|                   | 29, 180          |
|                   | 0, 175           |
|                   | 0, 174           |
| Material Boundary | 0, 174           |
|                   | 233, 187         |
|                   | 509, 208         |
|                   | 804.392, 228.998 |
|                   | 1339, 267        |
|                   | 1748, 297        |

|                   |                                                                              |
|-------------------|------------------------------------------------------------------------------|
| Material Boundary | 63.7745, 187.995<br>233, 187<br>457, 228<br>509, 247<br>651, 287<br>720, 306 |
| Material Boundary | 509, 247<br>736, 299<br>809.814, 314.978                                     |
| Material Boundary | 894, 309<br>1188, 344<br>1339, 347<br>1748, 354                              |
| Material Boundary | 804.392, 228.998<br>873.484, 253.945<br>802.178, 288.994<br>894, 309         |
| Material Boundary | 720, 306<br>721.249, 306.31                                                  |

**Scenario-based Entities**

| Type        | Coordinates (x,y)                                                                 | Master Scenario                                                                                                                                                                                                                                                                                                                                    | Seismic                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table | 75, 190<br>233, 190<br>457, 232<br>509, 249<br>736, 266<br>1339, 270<br>1748, 300 | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> D-VD SAND<br> Landslide Debris | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> D-VD SAND<br> Landslide Debris |

 **Cross Section C-C'****Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 100<br>688, 100<br>688, 314.792<br>665.2, 312.417<br>642, 310<br>590, 305<br>528.064, 300.978<br>513, 300<br>464, 295<br>410, 290<br>380, 285<br>369, 280<br>359, 275<br>349, 270<br>339, 265<br>329, 260<br>312, 255<br>295, 250<br>281, 245<br>268, 240<br>253, 235<br>235, 230<br>202, 225<br>138, 220<br>0, 215<br>0, 194 |
| Material Boundary | 0, 194<br>185, 214<br>428, 263<br>665.2, 312.417                                                                                                                                                                                                                                                                                 |
| Material Boundary | 185, 214<br>428, 275<br>528.064, 300.978                                                                                                                                                                                                                                                                                         |

### Scenario-based Entities

| Type        | Coordinates (x,y)    | Master Scenario                                                                                                                                                                                                       | Seismic                                                                                                                                                                                                                   |
|-------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table | 270, 240<br>428, 272 | Assigned to:<br> D-VD SAND<br> Landslide Debris | Assigned to:<br> D-VD SAND<br> Landslide Debris |

### ◆ Cross Section B-B'

#### Shared Entities

| Type              | Coordinates (x,y)                                                                                                                                                                                                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 100<br>767, 100<br>767, 247<br>767, 296.45<br>680, 295<br>619.769, 292.076<br>577, 290<br>518, 285<br>447, 280<br>423, 275<br>398, 270<br>383, 265<br>370, 260<br>357, 255<br>345, 250<br>320, 245<br>280, 240<br>252, 235<br>224, 230<br>192, 225<br>127, 220<br>93, 215<br>53, 210<br>25, 205<br>0, 200<br>0, 181 |
| Material Boundary | 0, 181<br>105, 196<br>275, 218<br>389, 234<br>420, 235<br>441.087, 252.668<br>457, 266<br>507, 276<br>619.769, 292.076                                                                                                                                                                                                 |
| Material Boundary | 420, 235<br>457, 243<br>480, 225<br>767, 247                                                                                                                                                                                                                                                                           |
| Material Boundary | 441.087, 252.668<br>457, 254<br>480, 255<br>767, 247                                                                                                                                                                                                                                                                   |

**Scenario-based Entities**

| Type        | Coordinates (x,y)                             | Master Scenario                                                                                                                                                                                                                                                                                                                                                 | Seismic                                                                                                                                                                                                                                                                                                                                                               |
|-------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table | 0, 186.21<br>389, 239<br>480, 259<br>767, 271 | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> MD-D SAND/Silty SAND<br> Landslide Debris | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> MD-D SAND/Silty SAND<br> Landslide Debris |

◆ **Cross Section A-A'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 100<br>496, 100<br>496, 261.336<br>496, 299.157<br>496, 300<br>352, 295<br>212, 290<br>146, 285<br>115, 280<br>96, 275<br>87, 270<br>81, 265<br>66, 260<br>58, 255<br>50, 250<br>43, 245<br>25, 240<br>13, 235<br>0, 230<br>0, 215.82<br>0, 197.164 |
| Material Boundary | 115, 261<br>186, 287<br>463, 298<br>496, 299.157                                                                                                                                                                                                       |
| Material Boundary | 0, 215.82<br>115, 261                                                                                                                                                                                                                                  |
| Material Boundary | 115, 242<br>463, 260<br>496, 261.336                                                                                                                                                                                                                   |
| Material Boundary | 0, 197.164<br>115, 242                                                                                                                                                                                                                                 |

**Scenario-based Entities**

| Type        | Coordinates (x,y)                                    | Master Scenario                                                                                                                                                                                                                              | Seismic                                                                                                                                                                                                                                          |
|-------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table | 60.7382, 256.711<br>115, 262<br>463, 294<br>496, 297 | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> D-VD SAND | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> D-VD SAND |



Cross Sections - Post Construction Conditions

Arlington 360

Terra Associates, Inc.

Date Created: June 26, 2024

Software Version: 9.032

# Table of Contents

|                                            |    |
|--------------------------------------------|----|
| Project Summary .....                      | 6  |
| Currently Open Scenarios .....             | 6  |
| General Settings .....                     | 8  |
| Analysis Options .....                     | 9  |
| All Open Scenarios .....                   | 9  |
| Groundwater Analysis .....                 | 10 |
| All Open Scenarios .....                   | 10 |
| Random Numbers .....                       | 11 |
| All Open Scenarios .....                   | 11 |
| Surface Options .....                      | 12 |
| Cross Section B-B' .....                   | 12 |
| Cross Section C-C' .....                   | 12 |
| Cross Section D-D' .....                   | 12 |
| Cross Section E-E' .....                   | 12 |
| Cross Section H-H' .....                   | 13 |
| Cross Section I-I' .....                   | 13 |
| Seismic Loading .....                      | 14 |
| Cross Section B-B' - Master Scenario ..... | 14 |
| Cross Section B-B' - Seismic .....         | 14 |
| Cross Section C-C' - Master Scenario ..... | 14 |
| Cross Section C-C' - Seismic .....         | 14 |
| Cross Section D-D' - Master Scenario ..... | 14 |
| Cross Section D-D' - Seismic .....         | 14 |
| Cross Section E-E' - Master Scenario ..... | 14 |
| Cross Section E-E' - Seismic .....         | 14 |
| Cross Section H-H' - Master Scenario ..... | 14 |
| Cross Section H-H' - Seismic .....         | 14 |
| Cross Section I-I' - Master Scenario ..... | 15 |
| Cross Section I-I' - Seismic .....         | 15 |
| Loading .....                              | 16 |
| Cross Section B-B' .....                   | 16 |
| Cross Section D-D' .....                   | 16 |
| Cross Section E-E' .....                   | 16 |
| Cross Section H-H' .....                   | 16 |
| Cross Section I-I' .....                   | 16 |
| Materials .....                            | 17 |
| Materials In Use .....                     | 18 |
| Global Minimums .....                      | 20 |
| Cross Section B-B' - Master Scenario ..... | 20 |
| Method: bishop simplified .....            | 20 |
| Method: janbu simplified .....             | 20 |
| Cross Section B-B' - Seismic .....         | 20 |

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| Method: bishop simplified .....                                          | 20 |
| Method: janbu simplified .....                                           | 20 |
| Cross Section C-C' - Master Scenario .....                               | 21 |
| Method: bishop simplified .....                                          | 21 |
| Method: janbu simplified .....                                           | 21 |
| Cross Section C-C' - Seismic .....                                       | 21 |
| Method: bishop simplified .....                                          | 21 |
| Method: janbu simplified .....                                           | 21 |
| Cross Section D-D' - Master Scenario .....                               | 22 |
| Method: bishop simplified .....                                          | 22 |
| Method: janbu simplified .....                                           | 22 |
| Cross Section D-D' - Seismic .....                                       | 22 |
| Method: bishop simplified .....                                          | 22 |
| Method: janbu simplified .....                                           | 22 |
| Cross Section E-E' - Master Scenario .....                               | 23 |
| Method: bishop simplified .....                                          | 23 |
| Method: janbu simplified .....                                           | 23 |
| Cross Section E-E' - Seismic .....                                       | 23 |
| Method: bishop simplified .....                                          | 23 |
| Method: janbu simplified .....                                           | 23 |
| Cross Section H-H' - Master Scenario .....                               | 24 |
| Method: bishop simplified .....                                          | 24 |
| Method: janbu simplified .....                                           | 24 |
| Cross Section H-H' - Seismic .....                                       | 24 |
| Method: bishop simplified .....                                          | 24 |
| Method: janbu simplified .....                                           | 24 |
| Cross Section I-I' - Master Scenario .....                               | 25 |
| Method: bishop simplified .....                                          | 25 |
| Method: janbu simplified .....                                           | 25 |
| Cross Section I-I' - Seismic .....                                       | 25 |
| Method: bishop simplified .....                                          | 25 |
| Method: janbu simplified .....                                           | 25 |
| Global Minimum Support Data .....                                        | 27 |
| All Open Scenarios .....                                                 | 27 |
| Slice Data .....                                                         | 28 |
| Cross Section B-B' - Master Scenario .....                               | 28 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.10688 .....  | 28 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.04431 .....   | 30 |
| Cross Section B-B' - Seismic .....                                       | 32 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.23511 .....  | 32 |
| Global Minimum Query (janbu simplified) - Safety Factor: 2.00154 .....   | 35 |
| Cross Section C-C' - Master Scenario .....                               | 38 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.773411 ..... | 38 |



|                                                                          |    |
|--------------------------------------------------------------------------|----|
| Global Minimum Query (janbu simplified) - Safety Factor: 0.752676 .....  | 40 |
| Cross Section C-C' - Seismic .....                                       | 42 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.383641 ..... | 42 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.368722 .....  | 44 |
| Cross Section D-D' - Master Scenario .....                               | 46 |
| Global Minimum Query (bishop simplified) - Safety Factor: 3.62201 .....  | 46 |
| Global Minimum Query (janbu simplified) - Safety Factor: 3.48343 .....   | 49 |
| Cross Section D-D' - Seismic .....                                       | 51 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.38529 .....  | 51 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.33668 .....   | 54 |
| Cross Section E-E' - Master Scenario .....                               | 56 |
| Global Minimum Query (bishop simplified) - Safety Factor: 5.47617 .....  | 56 |
| Global Minimum Query (janbu simplified) - Safety Factor: 5.15868 .....   | 59 |
| Cross Section E-E' - Seismic .....                                       | 62 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.74933 .....  | 62 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.71729 .....   | 65 |
| Cross Section H-H' - Master Scenario .....                               | 68 |
| Global Minimum Query (bishop simplified) - Safety Factor: 10.2193 .....  | 68 |
| Global Minimum Query (janbu simplified) - Safety Factor: 9.29804 .....   | 69 |
| Cross Section H-H' - Seismic .....                                       | 70 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.95955 .....  | 70 |
| Global Minimum Query (janbu simplified) - Safety Factor: 2.71567 .....   | 72 |
| Cross Section I-I' - Master Scenario .....                               | 74 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.61846 .....  | 74 |
| Global Minimum Query (janbu simplified) - Safety Factor: 2.39437 .....   | 75 |
| Cross Section I-I' - Seismic .....                                       | 76 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.29888 .....  | 76 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.1782 .....    | 77 |
| Entity Information .....                                                 | 78 |
| Cross Section B-B' .....                                                 | 78 |
| Shared Entities .....                                                    | 78 |
| Scenario-based Entities .....                                            | 79 |
| Cross Section C-C' .....                                                 | 79 |
| Shared Entities .....                                                    | 79 |
| Cross Section D-D' .....                                                 | 80 |
| Shared Entities .....                                                    | 80 |
| Scenario-based Entities .....                                            | 82 |
| Cross Section E-E' .....                                                 | 83 |
| Shared Entities .....                                                    | 83 |
| Scenario-based Entities .....                                            | 85 |
| Cross Section H-H' .....                                                 | 85 |
| Shared Entities .....                                                    | 85 |
| Scenario-based Entities .....                                            | 87 |

Cross Section I-I' ..... 87

    Shared Entities ..... 87

    Scenario-based Entities ..... 88

# Slide2 Analysis Information

## Cross Sections - Post Construction Conditions

### Project Summary

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|                         |                                                    |
|-------------------------|----------------------------------------------------|
| File Name:              | Cross Sections - Post Construction Conditions.slmd |
| Slide2 Modeler Version: | 9.032                                              |
| Project Title:          | Arlington 360                                      |
| Analysis:               | North Slope                                        |
| Author:                 | C. Decker                                          |
| Company:                | Terra Associates, Inc.                             |
| Date Created:           | June 26, 2024                                      |

### Currently Open Scenarios

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| Group Name                                                                                                 | Scenario Name   | Global Minimum                                                   | Compute Time    |
|------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------|-----------------|
| Cross Section B <br>-B'   | Master Scenario | Bishop Simplified:<br>1.106880<br>Janbu Simplified:<br>1.044310  | 00h:00m:01.145s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>2.235110<br>Janbu Simplified:<br>2.001540  | 00h:00m:00.641s |
| Cross Section C <br>-C'   | Master Scenario | Bishop Simplified:<br>0.773411<br>Janbu Simplified:<br>0.752676  | 00h:00m:01.118s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>0.383641<br>Janbu Simplified:<br>0.368722  | 00h:00m:01.111s |
| Cross Section D <br>-D'   | Master Scenario | Bishop Simplified:<br>3.622010<br>Janbu Simplified:<br>3.483430  | 00h:00m:01.162s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>1.385290<br>Janbu Simplified:<br>1.336680  | 00h:00m:01.115s |
| Cross Section E <br>-E' | Master Scenario | Bishop Simplified:<br>5.476170<br>Janbu Simplified:<br>5.158680  | 00h:00m:01.338s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>1.749330<br>Janbu Simplified:<br>1.717290  | 00h:00m:01.386s |
| Cross Section H <br>-H' | Master Scenario | Bishop Simplified:<br>10.219300<br>Janbu Simplified:<br>9.298040 | 00h:00m:00.683s |
|                                                                                                            | Seismic         | Bishop Simplified:<br>2.959550<br>Janbu Simplified:<br>2.715670  | 00h:00m:00.858s |
| Cross Section I <br>-I' | Master Scenario | Bishop Simplified:<br>2.618460<br>Janbu Simplified:<br>2.394370  | 00h:00m:01.18s  |
|                                                                                                            | Seismic         | Bishop Simplified:<br>1.298880<br>Janbu Simplified:<br>1.178200  | 00h:00m:01.132s |

# General Settings

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|                       |                |
|-----------------------|----------------|
| Units of Measurement: | Imperial Units |
| Time Units:           | days           |
| Permeability Units:   | feet/second    |
| Data Output:          | Standard       |
| Failure Direction:    | Right to Left  |

# Analysis Options

---

## All Open Scenarios

|                                                                                |                   |
|--------------------------------------------------------------------------------|-------------------|
| Slices Type:                                                                   | Vertical          |
| <b>Analysis Methods Used</b>                                                   |                   |
|                                                                                | Bishop simplified |
|                                                                                | Janbu simplified  |
| Number of slices:                                                              | 50                |
| Tolerance:                                                                     | 0.005             |
| Maximum number of iterations:                                                  | 75                |
| Check malpha < 0.2:                                                            | Yes               |
| Create Interslice boundaries at intersections with<br>water tables and piezos: | Yes               |
| Initial trial value of FS:                                                     | 1                 |
| Steffensen Iteration:                                                          | Yes               |

# Groundwater Analysis

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**All Open Scenarios**

|                                   |                |
|-----------------------------------|----------------|
| Groundwater Method:               | Water Surfaces |
| Pore Fluid Unit Weight [lbs/ft3]: | 62.4           |
| Advanced Groundwater Method:      | None           |

# Random Numbers

---

## **All Open Scenarios**

|                                  |                     |
|----------------------------------|---------------------|
| Pseudo-random Seed:              | 10116               |
| Random Number Generation Method: | Park and Miller v.3 |



## Surface Options

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### ◆ **Cross Section B-B'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 10                 |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section C-C'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section D-D'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section E-E'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section H-H'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section I-I'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

## Seismic Loading

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### ◆ **Cross Section B-B' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section B-B' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

### ◆ **Cross Section C-C' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section C-C' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

### ◆ **Cross Section D-D' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section D-D' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

### ◆ **Cross Section E-E' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section E-E' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

### ◆ **Cross Section H-H' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section H-H' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

**◆ Cross Section I-I' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section I-I' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.35 |

## Loading

---

### ◆ **Cross Section B-B'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

### ◆ **Cross Section D-D'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

### ◆ **Cross Section E-E'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

### ◆ **Cross Section H-H'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

### ◆ **Cross Section I-I'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

# Materials

## MD-VD Silty SAND/Silty SAND with gravel

|                                                     |                                                                                   |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                      |
| Unit Weight                                         | 130 lbs/ft <sup>3</sup>                                                           |
| Cohesion                                            | 150 psf                                                                           |
| Phi                                                 | 38 °                                                                              |
| Water Surface                                       | Assigned per scenario                                                             |
| Hu Type                                             | Custom                                                                            |
| Hu                                                  | 1                                                                                 |
| Specify alternate strength type above water surface | No                                                                                |

## D SILT

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 110 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 500 psf                                                                           |
| Phi           | 32 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

## Hard SILT

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 110 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 1500 psf                                                                            |
| Phi           | 32 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## D-VD SAND

|                                                     |                                                                                     |
|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                        |
| Unit Weight                                         | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion                                            | 0 psf                                                                               |
| Phi                                                 | 38 °                                                                                |
| Water Surface                                       | Assigned per scenario                                                               |
| Hu Type                                             | Custom                                                                              |
| Hu                                                  | 1                                                                                   |
| Specify alternate strength type above water surface | No                                                                                  |

**MD-D SAND/Silty SAND**

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 125 lbs/ft3                                                                       |
| Cohesion      | 50 psf                                                                            |
| Phi           | 36 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

**Landslide Debris**

|                                                     |                                                                                   |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                      |
| Unit Weight                                         | 100 lbs/ft3                                                                       |
| Cohesion                                            | 0 psf                                                                             |
| Phi                                                 | 20 °                                                                              |
| Water Surface                                       | Assigned per scenario                                                             |
| Hu Type                                             | Custom                                                                            |
| Hu                                                  | 1                                                                                 |
| Specify alternate strength type above water surface | No                                                                                |

**New Structural Fill**

|                                                     |                                                                                   |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                      |
| Unit Weight                                         | 125 lbs/ft3                                                                       |
| Cohesion                                            | 50 psf                                                                            |
| Phi                                                 | 34 °                                                                              |
| Water Surface                                       | Assigned per scenario                                                             |
| Hu Type                                             | Custom                                                                            |
| Hu                                                  | 1                                                                                 |
| Specify alternate strength type above water surface | No                                                                                |

**Gravel**

|                                                     |                                                                                     |
|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| Color                                               |  |
| Strength Type                                       | Mohr-Coulomb                                                                        |
| Unit Weight                                         | 130 lbs/ft3                                                                         |
| Cohesion                                            | 0 psf                                                                               |
| Phi                                                 | 36 °                                                                                |
| Water Surface                                       | Assigned per scenario                                                               |
| Hu Type                                             | Custom                                                                              |
| Hu                                                  | 1                                                                                   |
| Specify alternate strength type above water surface | No                                                                                  |

**Materials In Use**

| Material                   | Cross Section B-B' | Seismic | Cross Section C-C' | Seismic | Cross Section D-D' | Seismic | Cross Section E-E' | Seismic | Cross Section H-H' | Seismic | Cross Section I-I' | Seismic |
|----------------------------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| MD-VD : SAND/SAND w gravel | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       |
| D SILT                     | ✗                  | ✗       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       |
| Hard SILT                  | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       |
| D-VD SAND                  | ✗                  | ✗       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       |
| MD-D SAND/SAND             | ✓                  | ✓       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       | ✓                  | ✓       |
| Landslide Debris           | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✓                  | ✓       | ✗                  | ✗       |
| New Structural Fill        | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       |
| Gravel                     | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       | ✓                  | ✓       | ✗                  | ✗       | ✗                  | ✗       |



## Global Minimums

### ◆ Cross Section B-B' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.106880                |
|------------------------------|-------------------------|
| Center:                      | 349.045, 321.527        |
| Radius:                      | 74.284                  |
| Left Slip Surface Endpoint:  | 336.526, 248.305        |
| Right Slip Surface Endpoint: | 403.611, 271.122        |
| Resisting Moment:            | 1.15506e+06 lb-ft       |
| Driving Moment:              | 1.04353e+06 lb-ft       |
| Total Slice Area:            | 439.135 ft <sup>2</sup> |
| Surface Horizontal Width:    | 67.0856 ft              |
| Surface Average Height:      | 6.54588 ft              |

**Method: janbu simplified**

| FS                           | 1.044310               |
|------------------------------|------------------------|
| Center:                      | 353.767, 298.570       |
| Radius:                      | 51.178                 |
| Left Slip Surface Endpoint:  | 340.588, 249.118       |
| Right Slip Surface Endpoint: | 395.703, 269.234       |
| Resisting Horizontal Force:  | 11953.2 lb             |
| Driving Horizontal Force:    | 11446 lb               |
| Total Slice Area:            | 368.16 ft <sup>2</sup> |
| Surface Horizontal Width:    | 55.1142 ft             |
| Surface Average Height:      | 6.67994 ft             |

### ◆ Cross Section B-B' - Seismic

**Method: bishop simplified**

| FS                           | 2.235110                |
|------------------------------|-------------------------|
| Center:                      | 477.135, 331.184        |
| Radius:                      | 59.306                  |
| Left Slip Surface Endpoint:  | 447.159, 280.011        |
| Right Slip Surface Endpoint: | 513.986, 284.717        |
| Resisting Moment:            | 3.35737e+06 lb-ft       |
| Driving Moment:              | 1.50211e+06 lb-ft       |
| Total Slice Area:            | 471.468 ft <sup>2</sup> |
| Surface Horizontal Width:    | 66.8269 ft              |
| Surface Average Height:      | 7.05507 ft              |

**Method: janbu simplified**

| FS                           | 2.001540                |
|------------------------------|-------------------------|
| Center:                      | 466.649, 297.836        |
| Radius:                      | 26.411                  |
| Left Slip Surface Endpoint:  | 447.159, 280.011        |
| Right Slip Surface Endpoint: | 488.444, 282.919        |
| Resisting Horizontal Force:  | 31197.8 lb              |
| Driving Horizontal Force:    | 15586.9 lb              |
| Total Slice Area:            | 288.249 ft <sup>2</sup> |
| Surface Horizontal Width:    | 41.2846 ft              |
| Surface Average Height:      | 6.98199 ft              |

### ◆ Cross Section C-C' - Master Scenario

**Method: bishop simplified**

| FS                           | 0.773411                |
|------------------------------|-------------------------|
| Center:                      | 317.580, 340.002        |
| Radius:                      | 81.136                  |
| Left Slip Surface Endpoint:  | 327.020, 259.418        |
| Right Slip Surface Endpoint: | 375.088, 282.767        |
| Resisting Moment:            | 428307 lb-ft            |
| Driving Moment:              | 553790 lb-ft            |
| Total Slice Area:            | 158.506 ft <sup>2</sup> |
| Surface Horizontal Width:    | 48.0677 ft              |
| Surface Average Height:      | 3.29756 ft              |

**Method: janbu simplified**

| FS                           | 0.752676               |
|------------------------------|------------------------|
| Center:                      | 318.174, 339.338       |
| Radius:                      | 80.277                 |
| Left Slip Surface Endpoint:  | 327.760, 259.635       |
| Right Slip Surface Endpoint: | 375.167, 282.803       |
| Resisting Horizontal Force:  | 4642.94 lb             |
| Driving Horizontal Force:    | 6168.58 lb             |
| Total Slice Area:            | 157.57 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.4072 ft             |
| Surface Average Height:      | 3.32376 ft             |

### ◆ Cross Section C-C' - Seismic

**Method: bishop simplified**

| FS                           | 0.383641                |
|------------------------------|-------------------------|
| Center:                      | 317.174, 340.503        |
| Radius:                      | 81.769                  |
| Left Slip Surface Endpoint:  | 326.520, 259.270        |
| Right Slip Surface Endpoint: | 375.066, 282.757        |
| Resisting Moment:            | 366914 lb-ft            |
| Driving Moment:              | 956400 lb-ft            |
| Total Slice Area:            | 159.415 ft <sup>2</sup> |
| Surface Horizontal Width:    | 48.5464 ft              |
| Surface Average Height:      | 3.28376 ft              |

**Method: janbu simplified**

| FS                           | 0.368722                |
|------------------------------|-------------------------|
| Center:                      | 317.915, 339.638        |
| Radius:                      | 80.661                  |
| Left Slip Surface Endpoint:  | 327.439, 259.541        |
| Right Slip Surface Endpoint: | 375.140, 282.791        |
| Resisting Horizontal Force:  | 3926.15 lb              |
| Driving Horizontal Force:    | 10648 lb                |
| Total Slice Area:            | 158.021 ft <sup>2</sup> |
| Surface Horizontal Width:    | 47.7011 ft              |
| Surface Average Height:      | 3.31273 ft              |

### ◆ **Cross Section D-D' - Master Scenario**

**Method: bishop simplified**

| FS                           | 3.622010                |
|------------------------------|-------------------------|
| Center:                      | 1080.933, 473.731       |
| Radius:                      | 146.212                 |
| Left Slip Surface Endpoint:  | 1055.285, 329.786       |
| Right Slip Surface Endpoint: | 1167.077, 355.590       |
| Resisting Moment:            | 1.36762e+07 lb-ft       |
| Driving Moment:              | 3.77584e+06 lb-ft       |
| Total Slice Area:            | 886.122 ft <sup>2</sup> |
| Surface Horizontal Width:    | 111.793 ft              |
| Surface Average Height:      | 7.92648 ft              |

**Method: janbu simplified**

| FS                           | 3.483430               |
|------------------------------|------------------------|
| Center:                      | 1090.346, 432.483      |
| Radius:                      | 107.186                |
| Left Slip Surface Endpoint:  | 1058.217, 330.225      |
| Right Slip Surface Endpoint: | 1164.741, 355.319      |
| Resisting Horizontal Force:  | 105876 lb              |
| Driving Horizontal Force:    | 30394.2 lb             |
| Total Slice Area:            | 1092.5 ft <sup>2</sup> |
| Surface Horizontal Width:    | 106.524 ft             |
| Surface Average Height:      | 10.2559 ft             |

### ◆ **Cross Section D-D' - Seismic**

**Method: bishop simplified**

| FS                           | 1.385290                |
|------------------------------|-------------------------|
| Center:                      | 1077.891, 488.441       |
| Radius:                      | 162.663                 |
| Left Slip Surface Endpoint:  | 1046.963, 328.745       |
| Right Slip Surface Endpoint: | 1172.665, 356.240       |
| Resisting Moment:            | 1.74492e+07 lb-ft       |
| Driving Moment:              | 1.2596e+07 lb-ft        |
| Total Slice Area:            | 1116.05 ft <sup>2</sup> |
| Surface Horizontal Width:    | 125.702 ft              |
| Surface Average Height:      | 8.87852 ft              |

**Method: janbu simplified**

| FS                           | 1.336680               |
|------------------------------|------------------------|
| Center:                      | 1079.339, 490.363      |
| Radius:                      | 164.571                |
| Left Slip Surface Endpoint:  | 1047.775, 328.847      |
| Right Slip Surface Endpoint: | 1175.103, 356.524      |
| Resisting Horizontal Force:  | 106736 lb              |
| Driving Horizontal Force:    | 79851.1 lb             |
| Total Slice Area:            | 1166.9 ft <sup>2</sup> |
| Surface Horizontal Width:    | 127.328 ft             |
| Surface Average Height:      | 9.16454 ft             |

### ◆ Cross Section E-E' - Master Scenario

**Method: bishop simplified**

| FS                           | 5.476170                |
|------------------------------|-------------------------|
| Center:                      | 642.358, 365.258        |
| Radius:                      | 33.547                  |
| Left Slip Surface Endpoint:  | 628.925, 334.518        |
| Right Slip Surface Endpoint: | 664.505, 340.060        |
| Resisting Moment:            | 410397 lb-ft            |
| Driving Moment:              | 74942.4 lb-ft           |
| Total Slice Area:            | 119.994 ft <sup>2</sup> |
| Surface Horizontal Width:    | 35.5799 ft              |
| Surface Average Height:      | 3.37254 ft              |

**Method: janbu simplified**

| FS                           | 5.158680                |
|------------------------------|-------------------------|
| Center:                      | 642.358, 365.258        |
| Radius:                      | 33.547                  |
| Left Slip Surface Endpoint:  | 628.925, 334.518        |
| Right Slip Surface Endpoint: | 664.505, 340.060        |
| Resisting Horizontal Force:  | 11660.6 lb              |
| Driving Horizontal Force:    | 2260.38 lb              |
| Total Slice Area:            | 119.994 ft <sup>2</sup> |
| Surface Horizontal Width:    | 35.5799 ft              |
| Surface Average Height:      | 3.37254 ft              |

### ◆ Cross Section E-E' - Seismic

**Method: bishop simplified**

| FS                           | 1.749330                |
|------------------------------|-------------------------|
| Center:                      | 668.111, 831.848        |
| Radius:                      | 510.954                 |
| Left Slip Surface Endpoint:  | 572.053, 330.004        |
| Right Slip Surface Endpoint: | 865.917, 360.736        |
| Resisting Moment:            | 2.21667e+08 lb-ft       |
| Driving Moment:              | 1.26716e+08 lb-ft       |
| Total Slice Area:            | 4395.84 ft <sup>2</sup> |
| Surface Horizontal Width:    | 293.863 ft              |
| Surface Average Height:      | 14.9588 ft              |

**Method: janbu simplified**

| FS                           | 1.717290                |
|------------------------------|-------------------------|
| Center:                      | 669.537, 837.634        |
| Radius:                      | 516.905                 |
| Left Slip Surface Endpoint:  | 572.053, 330.004        |
| Right Slip Surface Endpoint: | 869.454, 360.954        |
| Resisting Horizontal Force:  | 439224 lb               |
| Driving Horizontal Force:    | 255766 lb               |
| Total Slice Area:            | 4523.72 ft <sup>2</sup> |
| Surface Horizontal Width:    | 297.401 ft              |
| Surface Average Height:      | 15.2109 ft              |

### ◆ Cross Section H-H' - Master Scenario

#### Method: bishop simplified

| FS                           | 10.219300               |
|------------------------------|-------------------------|
| Center:                      | 590.097, 337.984        |
| Radius:                      | 9.670                   |
| Left Slip Surface Endpoint:  | 581.860, 332.918        |
| Right Slip Surface Endpoint: | 598.775, 333.716        |
| Resisting Moment:            | 166962 lb-ft            |
| Driving Moment:              | 16337.8 lb-ft           |
| Total Slice Area:            | 60.1481 ft <sup>2</sup> |
| Surface Horizontal Width:    | 16.9149 ft              |
| Surface Average Height:      | 3.55592 ft              |

#### Method: janbu simplified

| FS                           | 9.298040                |
|------------------------------|-------------------------|
| Center:                      | 589.791, 337.968        |
| Radius:                      | 9.667                   |
| Left Slip Surface Endpoint:  | 581.556, 332.904        |
| Right Slip Surface Endpoint: | 598.465, 333.701        |
| Resisting Horizontal Force:  | 14354.6 lb              |
| Driving Horizontal Force:    | 1543.83 lb              |
| Total Slice Area:            | 60.1081 ft <sup>2</sup> |
| Surface Horizontal Width:    | 16.9093 ft              |
| Surface Average Height:      | 3.55474 ft              |

### ◆ Cross Section H-H' - Seismic

#### Method: bishop simplified

| FS                           | 2.959550                |
|------------------------------|-------------------------|
| Center:                      | 585.946, 373.152        |
| Radius:                      | 55.277                  |
| Left Slip Surface Endpoint:  | 549.718, 331.402        |
| Right Slip Surface Endpoint: | 625.944, 334.997        |
| Resisting Moment:            | 5.66008e+06 lb-ft       |
| Driving Moment:              | 1.91248e+06 lb-ft       |
| Total Slice Area:            | 801.375 ft <sup>2</sup> |
| Surface Horizontal Width:    | 76.2255 ft              |
| Surface Average Height:      | 10.5132 ft              |

#### Method: janbu simplified

| FS                           | 2.715670                |
|------------------------------|-------------------------|
| Center:                      | 585.946, 373.152        |
| Radius:                      | 55.277                  |
| Left Slip Surface Endpoint:  | 549.718, 331.402        |
| Right Slip Surface Endpoint: | 625.944, 334.997        |
| Resisting Horizontal Force:  | 94224 lb                |
| Driving Horizontal Force:    | 34696.4 lb              |
| Total Slice Area:            | 801.375 ft <sup>2</sup> |
| Surface Horizontal Width:    | 76.2255 ft              |
| Surface Average Height:      | 10.5132 ft              |

### ◆ Cross Section I-I' - Master Scenario

**Method: bishop simplified**

| FS                           | 2.618460                |
|------------------------------|-------------------------|
| Center:                      | 85.842, 510.777         |
| Radius:                      | 312.774                 |
| Left Slip Surface Endpoint:  | 0.020, 210.008          |
| Right Slip Surface Endpoint: | 341.082, 330.000        |
| Resisting Moment:            | 5.59597e+08 lb-ft       |
| Driving Moment:              | 2.13712e+08 lb-ft       |
| Total Slice Area:            | 18218.1 ft <sup>2</sup> |
| Surface Horizontal Width:    | 341.062 ft              |
| Surface Average Height:      | 53.4159 ft              |

**Method: janbu simplified**

| FS                           | 2.394370                |
|------------------------------|-------------------------|
| Center:                      | 100.676, 454.021        |
| Radius:                      | 263.500                 |
| Left Slip Surface Endpoint:  | 0.643, 210.247          |
| Right Slip Surface Endpoint: | 333.164, 330.000        |
| Resisting Horizontal Force:  | 1.72768e+06 lb          |
| Driving Horizontal Force:    | 721559 lb               |
| Total Slice Area:            | 20091.2 ft <sup>2</sup> |
| Surface Horizontal Width:    | 332.521 ft              |
| Surface Average Height:      | 60.4208 ft              |

### ◆ Cross Section I-I' - Seismic

**Method: bishop simplified**

| FS                           | 1.298880                |
|------------------------------|-------------------------|
| Center:                      | 65.138, 594.231         |
| Radius:                      | 389.687                 |
| Left Slip Surface Endpoint:  | 0.048, 210.019          |
| Right Slip Surface Endpoint: | 351.561, 330.000        |
| Resisting Moment:            | 5.99121e+08 lb-ft       |
| Driving Moment:              | 4.61258e+08 lb-ft       |
| Total Slice Area:            | 16514.1 ft <sup>2</sup> |
| Surface Horizontal Width:    | 351.513 ft              |
| Surface Average Height:      | 46.9802 ft              |

**Method: janbu simplified**

| FS                           |  | 1.178200                |
|------------------------------|--|-------------------------|
| Center:                      |  | 86.600, 510.964         |
| Radius:                      |  | 312.926                 |
| Left Slip Surface Endpoint:  |  | 0.386, 210.148          |
| Right Slip Surface Endpoint: |  | 341.894, 330.000        |
| Resisting Horizontal Force:  |  | 1.51018e+06 lb          |
| Driving Horizontal Force:    |  | 1.28178e+06 lb          |
| Total Slice Area:            |  | 18303.9 ft <sup>2</sup> |
| Surface Horizontal Width:    |  | 341.508 ft              |
| Surface Average Height:      |  | 53.5972 ft              |

# Global Minimum Support Data

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## **All Open Scenarios**

No Supports Present



# Slice Data

## ◆ Cross Section B-B' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 1.10688**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.34171    | 32.5449      | -9.17802                  | Landslide Debris | 0                   | 20                        | 8.42354            | 9.32385              | 25.6171                  | 0                   | 25.6171                       | 24.2561                    | 24.2561                         |
| 2            | 1.34171    | 95.9519      | -8.13117                  | Landslide Debris | 0                   | 20                        | 24.6749            | 27.3122              | 75.0396                  | 0                   | 75.0396                       | 71.5141                    | 71.5141                         |
| 3            | 1.34171    | 156.007      | -7.08705                  | Landslide Debris | 0                   | 20                        | 39.8635            | 44.1241              | 121.23                   | 0                   | 121.23                        | 116.274                    | 116.274                         |
| 4            | 1.34171    | 212.733      | -6.04529                  | Landslide Debris | 0                   | 20                        | 54.0173            | 59.7907              | 164.274                  | 0                   | 164.274                       | 158.553                    | 158.553                         |
| 5            | 1.34171    | 266.153      | -5.00553                  | Landslide Debris | 0                   | 20                        | 67.1627            | 74.341               | 204.25                   | 0                   | 204.25                        | 198.368                    | 198.368                         |
| 6            | 1.34171    | 316.283      | -3.96743                  | Landslide Debris | 0                   | 20                        | 79.3232            | 87.8013              | 241.232                  | 0                   | 241.232                       | 235.731                    | 235.731                         |
| 7            | 1.34171    | 372.26       | -2.93063                  | Landslide Debris | 0                   | 20                        | 92.7951            | 102.713              | 282.201                  | 0                   | 282.201                       | 277.451                    | 277.451                         |
| 8            | 1.34171    | 452.905      | -1.89479                  | Landslide Debris | 0                   | 20                        | 112.218            | 124.212              | 341.269                  | 0                   | 341.269                       | 337.557                    | 337.557                         |
| 9            | 1.34171    | 532.242      | -0.859563                 | Landslide Debris | 0                   | 20                        | 131.087            | 145.098              | 398.655                  | 0                   | 398.655                       | 396.688                    | 396.688                         |
| 10           | 1.34171    | 608.324      | 0.175379                  | Landslide Debris | 0                   | 20                        | 148.938            | 164.856              | 452.938                  | 0                   | 452.938                       | 453.394                    | 453.394                         |
| 11           | 1.34171    | 681.155      | 1.21038                   | Landslide Debris | 0                   | 20                        | 165.785            | 183.504              | 504.174                  | 0                   | 504.174                       | 507.676                    | 507.676                         |
| 12           | 1.34171    | 750.732      | 2.24577                   | Landslide Debris | 0                   | 20                        | 181.647            | 201.061              | 552.41                   | 0                   | 552.41                        | 559.533                    | 559.533                         |
| 13           | 1.34171    | 817.049      | 3.2819                    | Landslide Debris | 0                   | 20                        | 196.536            | 217.542              | 597.69                   | 0                   | 597.69                        | 608.96                     | 608.96                          |
| 14           | 1.34171    | 880.097      | 4.31911                   | Landslide Debris | 0                   | 20                        | 210.467            | 232.962              | 640.057                  | 0                   | 640.057                       | 655.952                    | 655.952                         |
| 15           | 1.34171    | 939.866      | 5.35773                   | Landslide Debris | 0                   | 20                        | 223.451            | 247.333              | 679.543                  | 0                   | 679.543                       | 700.499                    | 700.499                         |
| 16           | 1.34171    | 994.759      | 6.39813                   | Landslide Debris | 0                   | 20                        | 235.126            | 260.256              | 715.047                  | 0                   | 715.047                       | 741.412                    | 741.412                         |
| 17           | 1.34171    | 1042.34      | 7.44065                   | Landslide Debris | 0                   | 20                        | 244.939            | 271.118              | 744.893                  | 0                   | 744.893                       | 776.882                    | 776.882                         |
| 18           | 1.34171    | 1086.4       | 8.48565                   | Landslide Debris | 0                   | 20                        | 253.803            | 280.929              | 771.848                  | 0                   | 771.848                       | 809.714                    | 809.714                         |
| 19           | 1.34171    | 1127.09      | 9.5335                    | Landslide Debris | 0                   | 20                        | 261.771            | 289.749              | 796.081                  | 0                   | 796.081                       | 840.044                    | 840.044                         |
| 20           | 1.34171    | 1164.39      | 10.5846                   | Landslide Debris | 0                   | 20                        | 268.849            | 297.584              | 817.605                  | 0                   | 817.605                       | 867.844                    | 867.844                         |
| 21           | 1.34171    | 1198.27      | 11.6393                   | Landslide Debris | 0                   | 20                        | 275.042            | 304.439              | 836.437                  | 0                   | 836.437                       | 893.092                    | 893.092                         |
| 22           | 1.34171    | 1228.69      | 12.698                    | Landslide Debris | 0                   | 20                        | 280.355            | 310.319              | 852.597                  | 0                   | 852.597                       | 915.767                    | 915.767                         |
| 23           | 1.34171    | 1255.6       | 13.7612                   | Landslide Debris | 0                   | 20                        | 284.789            | 315.227              | 866.079                  | 0                   | 866.079                       | 935.825                    | 935.825                         |
| 24           | 1.34171    | 1278.96      | 14.8292                   | Landslide Debris | 0                   | 20                        | 288.347            | 319.165              | 876.896                  | 0                   | 876.896                       | 953.238                    | 953.238                         |
| 25           | 1.34171    | 1298.73      | 15.9025                   | Landslide Debris | 0                   | 20                        | 291.029            | 322.134              | 885.052                  | 0                   | 885.052                       | 967.968                    | 967.968                         |
| 26           | 1.34171    | 1314.83      | 16.9815                   | Landslide Debris | 0                   | 20                        | 292.836            | 324.134              | 890.547                  | 0                   | 890.547                       | 979.972                    | 979.972                         |
| 27           | 1.34171    | 1327.22      | 18.0668                   | Landslide Debris | 0                   | 20                        | 293.766            | 325.164              | 893.377                  | 0                   | 893.377                       | 989.207                    | 989.207                         |
| 28           | 1.34171    | 1335.83      | 19.1589                   | Landslide Debris | 0                   | 20                        | 293.819            | 325.222              | 893.54                   | 0                   | 893.54                        | 995.622                    | 995.622                         |
| 29           | 1.34171    | 1340.57      | 20.2582                   | Landslide Debris | 0                   | 20                        | 292.991            | 324.306              | 891.02                   | 0                   | 891.02                        | 999.158                    | 999.158                         |

|    |         |         |         |                  |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 1.34171 | 1341.38 | 21.3654 | Landslide Debris | 0 | 20 | 291.278 | 322.41  | 885.811 | 0 | 885.811 | 999.759 | 999.759 |
| 31 | 1.34171 | 1338.16 | 22.481  | Landslide Debris | 0 | 20 | 288.675 | 319.529 | 877.897 | 0 | 877.897 | 997.359 | 997.359 |
| 32 | 1.34171 | 1330.81 | 23.6057 | Landslide Debris | 0 | 20 | 285.177 | 315.657 | 867.265 | 0 | 867.265 | 991.889 | 991.889 |
| 33 | 1.34171 | 1319.24 | 24.7402 | Landslide Debris | 0 | 20 | 280.778 | 310.787 | 853.878 | 0 | 853.878 | 983.26  | 983.26  |
| 34 | 1.34171 | 1303.32 | 25.885  | Landslide Debris | 0 | 20 | 275.467 | 304.909 | 837.732 | 0 | 837.732 | 971.403 | 971.403 |
| 35 | 1.34171 | 1282.33 | 27.0411 | Landslide Debris | 0 | 20 | 269.11  | 297.872 | 818.4   | 0 | 818.4   | 955.761 | 955.761 |
| 36 | 1.34171 | 1249.99 | 28.2093 | Landslide Debris | 0 | 20 | 260.418 | 288.252 | 791.967 | 0 | 791.967 | 931.657 | 931.657 |
| 37 | 1.34171 | 1211.02 | 29.3903 | Landslide Debris | 0 | 20 | 250.42  | 277.185 | 761.561 | 0 | 761.561 | 902.61  | 902.61  |
| 38 | 1.34171 | 1167.13 | 30.5853 | Landslide Debris | 0 | 20 | 239.497 | 265.094 | 728.338 | 0 | 728.338 | 869.892 | 869.892 |
| 39 | 1.34171 | 1118.14 | 31.7952 | Landslide Debris | 0 | 20 | 227.635 | 251.965 | 692.271 | 0 | 692.271 | 833.384 | 833.384 |
| 40 | 1.34171 | 1063.85 | 33.0211 | Landslide Debris | 0 | 20 | 214.821 | 237.781 | 653.297 | 0 | 653.297 | 792.916 | 792.916 |
| 41 | 1.34171 | 1004.03 | 34.2643 | Landslide Debris | 0 | 20 | 201.038 | 222.525 | 611.382 | 0 | 611.382 | 748.338 | 748.338 |
| 42 | 1.34171 | 938.458 | 35.5262 | Landslide Debris | 0 | 20 | 186.27  | 206.178 | 566.468 | 0 | 566.468 | 699.461 | 699.461 |
| 43 | 1.34171 | 866.843 | 36.8083 | Landslide Debris | 0 | 20 | 170.495 | 188.718 | 518.499 | 0 | 518.499 | 646.085 | 646.085 |
| 44 | 1.34171 | 788.885 | 38.1122 | Landslide Debris | 0 | 20 | 153.698 | 170.125 | 467.414 | 0 | 467.414 | 587.981 | 587.981 |
| 45 | 1.34171 | 704.244 | 39.4399 | Landslide Debris | 0 | 20 | 135.853 | 150.373 | 413.146 | 0 | 413.146 | 524.896 | 524.896 |
| 46 | 1.34171 | 612.136 | 40.7934 | Landslide Debris | 0 | 20 | 116.863 | 129.353 | 355.395 | 0 | 355.395 | 456.245 | 456.245 |
| 47 | 1.34171 | 496.946 | 42.1751 | Landslide Debris | 0 | 20 | 93.8394 | 103.869 | 285.377 | 0 | 285.377 | 370.391 | 370.391 |
| 48 | 1.34171 | 365.727 | 43.5877 | Landslide Debris | 0 | 20 | 68.2667 | 75.563  | 207.607 | 0 | 207.607 | 272.589 | 272.589 |
| 49 | 1.34171 | 225.935 | 45.0343 | Landslide Debris | 0 | 20 | 41.6585 | 46.111  | 126.689 | 0 | 126.689 | 168.398 | 168.398 |
| 50 | 1.34171 | 76.9099 | 46.5185 | Landslide Debris | 0 | 20 | 13.9965 | 15.4924 | 42.565  | 0 | 42.565  | 57.3237 | 57.3237 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.04431

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.10228    | 27.6192      | -14.2854                  | Landslide Debris | 0                   | 20                        | 9.57991            | 10.0044              | 27.4868                  | 0                   | 27.4868                       | 25.0475                    | 25.0475                         |
| 2            | 1.10228    | 81.4313      | -13.0153                  | Landslide Debris | 0                   | 20                        | 27.9947            | 29.2351              | 80.3227                  | 0                   | 80.3227                       | 73.8518                    | 73.8518                         |
| 3            | 1.10228    | 132.413      | -11.7518                  | Landslide Debris | 0                   | 20                        | 45.1273            | 47.1269              | 129.481                  | 0                   | 129.481                       | 120.093                    | 120.093                         |
| 4            | 1.10228    | 180.605      | -10.494                   | Landslide Debris | 0                   | 20                        | 61.0305            | 63.7348              | 175.11                   | 0                   | 175.11                        | 163.805                    | 163.805                         |
| 5            | 1.10228    | 239.146      | -9.2413                   | Landslide Debris | 0                   | 20                        | 80.143             | 83.6941              | 229.948                  | 0                   | 229.948                       | 216.908                    | 216.908                         |
| 6            | 1.10228    | 308.187      | -7.99305                  | Landslide Debris | 0                   | 20                        | 102.44             | 106.979              | 293.922                  | 0                   | 293.922                       | 279.538                    | 279.538                         |
| 7            | 1.10228    | 374.533      | -6.74861                  | Landslide Debris | 0                   | 20                        | 123.497            | 128.969              | 354.341                  | 0                   | 354.341                       | 339.727                    | 339.727                         |
| 8            | 1.10228    | 438.206      | -5.50736                  | Landslide Debris | 0                   | 20                        | 143.355            | 149.707              | 411.315                  | 0                   | 411.315                       | 397.493                    | 397.493                         |
| 9            | 1.10228    | 499.224      | -4.2687                   | Landslide Debris | 0                   | 20                        | 162.049            | 169.229              | 464.951                  | 0                   | 464.951                       | 452.856                    | 452.856                         |
| 10           | 1.10228    | 557.603      | -3.03204                  | Landslide Debris | 0                   | 20                        | 179.61             | 187.569              | 515.341                  | 0                   | 515.341                       | 505.827                    | 505.827                         |
| 11           | 1.10228    | 613.353      | -1.79679                  | Landslide Debris | 0                   | 20                        | 196.07             | 204.758              | 562.566                  | 0                   | 562.566                       | 556.416                    | 556.416                         |
| 12           | 1.10228    | 666.481      | -0.562379                 | Landslide Debris | 0                   | 20                        | 211.453            | 220.822              | 606.705                  | 0                   | 606.705                       | 604.629                    | 604.629                         |
| 13           | 1.10228    | 716.991      | 0.671773                  | Landslide Debris | 0                   | 20                        | 225.784            | 235.788              | 647.822                  | 0                   | 647.822                       | 650.469                    | 650.469                         |
| 14           | 1.10228    | 764.883      | 1.90624                   | Landslide Debris | 0                   | 20                        | 239.082            | 249.676              | 685.98                   | 0                   | 685.98                        | 693.937                    | 693.937                         |
| 15           | 1.10228    | 810.129      | 3.14159                   | Landslide Debris | 0                   | 20                        | 251.36             | 262.498              | 721.208                  | 0                   | 721.208                       | 735.005                    | 735.005                         |
| 16           | 1.10228    | 850.413      | 4.3784                    | Landslide Debris | 0                   | 20                        | 261.924            | 273.53               | 751.519                  | 0                   | 751.519                       | 771.574                    | 771.574                         |
| 17           | 1.10228    | 886.518      | 5.61727                   | Landslide Debris | 0                   | 20                        | 271.047            | 283.057              | 777.693                  | 0                   | 777.693                       | 804.352                    | 804.352                         |
| 18           | 1.10228    | 919.968      | 6.85877                   | Landslide Debris | 0                   | 20                        | 279.218            | 291.59               | 801.137                  | 0                   | 801.137                       | 834.722                    | 834.722                         |
| 19           | 1.10228    | 950.742      | 8.10353                   | Landslide Debris | 0                   | 20                        | 286.448            | 299.14               | 821.882                  | 0                   | 821.882                       | 862.667                    | 862.667                         |
| 20           | 1.10228    | 978.819      | 9.35214                   | Landslide Debris | 0                   | 20                        | 292.746            | 305.718              | 839.952                  | 0                   | 839.952                       | 888.165                    | 888.165                         |
| 21           | 1.10228    | 1004.17      | 10.6053                   | Landslide Debris | 0                   | 20                        | 298.12             | 311.33               | 855.372                  | 0                   | 855.372                       | 911.192                    | 911.192                         |
| 22           | 1.10228    | 1026.77      | 11.8635                   | Landslide Debris | 0                   | 20                        | 302.576            | 315.983              | 868.156                  | 0                   | 868.156                       | 931.718                    | 931.718                         |
| 23           | 1.10228    | 1046.57      | 13.1276                   | Landslide Debris | 0                   | 20                        | 306.118            | 319.682              | 878.319                  | 0                   | 878.319                       | 949.71                     | 949.71                          |
| 24           | 1.10228    | 1063.53      | 14.3983                   | Landslide Debris | 0                   | 20                        | 308.749            | 322.43               | 885.865                  | 0                   | 885.865                       | 965.129                    | 965.129                         |
| 25           | 1.10228    | 1077.62      | 15.6762                   | Landslide Debris | 0                   | 20                        | 310.471            | 324.228              | 890.81                   | 0                   | 890.81                        | 977.94                     | 977.94                          |
| 26           | 1.10228    | 1088.77      | 16.9622                   | Landslide Debris | 0                   | 20                        | 311.284            | 325.077              | 893.14                   | 0                   | 893.14                        | 988.085                    | 988.085                         |
| 27           | 1.10228    | 1096.93      | 18.2571                   | Landslide Debris | 0                   | 20                        | 311.186            | 324.975              | 892.864                  | 0                   | 892.864                       | 995.521                    | 995.521                         |
| 28           | 1.10228    | 1102.04      | 19.5616                   | Landslide Debris | 0                   | 20                        | 310.175            | 323.919              | 889.962                  | 0                   | 889.962                       | 1000.18                    | 1000.18                         |
| 29           | 1.10228    | 1104.01      | 20.8769                   | Landslide Debris | 0                   | 20                        | 308.247            | 321.905              | 884.427                  | 0                   | 884.427                       | 1001.99                    | 1001.99                         |
| 30           | 1.10228    | 1102.78      | 22.2037                   | Landslide Debris | 0                   | 20                        | 305.395            | 318.927              | 876.244                  | 0                   | 876.244                       | 1000.9                     | 1000.9                          |
| 31           | 1.10228    | 1098.24      | 23.5433                   | Landslide Debris | 0                   | 20                        | 301.613            | 314.977              | 865.39                   | 0                   | 865.39                        | 996.806                    | 996.806                         |
| 32           | 1.10228    | 1090.31      | 24.8966                   | Landslide Debris | 0                   | 20                        | 296.89             | 310.045              | 851.841                  | 0                   | 851.841                       | 989.631                    | 989.631                         |
| 33           | 1.10228    | 1078.87      | 26.2649                   | Landslide Debris | 0                   | 20                        | 291.217            | 304.121              | 835.567                  | 0                   | 835.567                       | 979.274                    | 979.274                         |

|    |         |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 1.10228 | 1063.79 | 27.6496 | Landslide<br>Debris | 0 | 20 | 284.582 | 297.192 | 816.528 | 0 | 816.528 | 965.618 | 965.618 |
| 35 | 1.10228 | 1044.95 | 29.0521 | Landslide<br>Debris | 0 | 20 | 276.969 | 289.241 | 794.687 | 0 | 794.687 | 948.542 | 948.542 |
| 36 | 1.10228 | 1022.19 | 30.4739 | Landslide<br>Debris | 0 | 20 | 268.363 | 280.254 | 769.99  | 0 | 769.99  | 927.903 | 927.903 |
| 37 | 1.10228 | 995.33  | 31.9168 | Landslide<br>Debris | 0 | 20 | 258.744 | 270.209 | 742.393 | 0 | 742.393 | 903.552 | 903.552 |
| 38 | 1.10228 | 964.191 | 33.3827 | Landslide<br>Debris | 0 | 20 | 248.092 | 259.085 | 711.831 | 0 | 711.831 | 875.31  | 875.31  |
| 39 | 1.10228 | 927.697 | 34.8738 | Landslide<br>Debris | 0 | 20 | 236.167 | 246.632 | 677.615 | 0 | 677.615 | 842.206 | 842.206 |
| 40 | 1.10228 | 881.787 | 36.3924 | Landslide<br>Debris | 0 | 20 | 221.989 | 231.825 | 636.934 | 0 | 636.934 | 800.553 | 800.553 |
| 41 | 1.10228 | 830.147 | 37.9414 | Landslide<br>Debris | 0 | 20 | 206.556 | 215.709 | 592.656 | 0 | 592.656 | 753.695 | 753.695 |
| 42 | 1.10228 | 773.161 | 39.5237 | Landslide<br>Debris | 0 | 20 | 190.02  | 198.44  | 545.21  | 0 | 545.21  | 701.982 | 701.982 |
| 43 | 1.10228 | 710.463 | 41.1431 | Landslide<br>Debris | 0 | 20 | 172.347 | 179.984 | 494.503 | 0 | 494.503 | 645.079 | 645.079 |
| 44 | 1.10228 | 641.623 | 42.8035 | Landslide<br>Debris | 0 | 20 | 153.503 | 160.305 | 440.435 | 0 | 440.435 | 582.597 | 582.597 |
| 45 | 1.10228 | 566.14  | 44.5098 | Landslide<br>Debris | 0 | 20 | 133.449 | 139.362 | 382.895 | 0 | 382.895 | 514.079 | 514.079 |
| 46 | 1.10228 | 483.42  | 46.2677 | Landslide<br>Debris | 0 | 20 | 112.144 | 117.113 | 321.765 | 0 | 321.765 | 438.984 | 438.984 |
| 47 | 1.10228 | 392.749 | 48.0839 | Landslide<br>Debris | 0 | 20 | 89.5442 | 93.5119 | 256.922 | 0 | 256.922 | 356.664 | 356.664 |
| 48 | 1.10228 | 293.264 | 49.9669 | Landslide<br>Debris | 0 | 20 | 65.6059 | 68.5129 | 188.238 | 0 | 188.238 | 266.332 | 266.332 |
| 49 | 1.10228 | 183.895 | 51.9269 | Landslide<br>Debris | 0 | 20 | 40.2855 | 42.0706 | 115.588 | 0 | 115.588 | 167.016 | 167.016 |
| 50 | 1.10228 | 63.2954 | 53.9767 | Landslide<br>Debris | 0 | 20 | 13.5446 | 14.1448 | 38.8625 | 0 | 38.8625 | 57.4892 | 57.4892 |

## **Cross Section B-B' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 2.23511**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material       | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.33654    | 71.3318      | -29.6178                  | New Structural Fill | 50                  | 34                        | 46.4437            | 103.807              | 79.7717                  | 0                   | 79.7717                       | 53.3689                    | 53.3689                         |
| 2            | 1.33654    | 210.247      | -28.1429                  | New Structural Fill | 50                  | 34                        | 83.2858            | 186.153              | 201.855                  | 0                   | 201.855                       | 157.304                    | 157.304                         |
| 3            | 1.33654    | 341.815      | -26.6881                  | New Structural Fill | 50                  | 34                        | 117.35             | 262.291              | 314.734                  | 0                   | 314.734                       | 255.743                    | 255.743                         |
| 4            | 1.33654    | 466.322      | -25.2516                  | New Structural Fill | 50                  | 34                        | 148.847            | 332.69               | 419.105                  | 0                   | 419.105                       | 348.899                    | 348.899                         |
| 5            | 1.33654    | 584.022      | -23.8319                  | New Structural Fill | 50                  | 34                        | 177.958            | 397.756              | 515.569                  | 0                   | 515.569                       | 436.962                    | 436.962                         |
| 6            | 1.33654    | 695.143      | -22.4276                  | New Structural Fill | 50                  | 34                        | 204.84             | 457.84               | 604.647                  | 0                   | 604.647                       | 520.103                    | 520.103                         |
| 7            | 1.33654    | 799.888      | -21.0374                  | New Structural Fill | 50                  | 34                        | 229.629            | 513.247              | 686.791                  | 0                   | 686.791                       | 598.473                    | 598.473                         |
| 8            | 1.33654    | 898.441      | -19.6601                  | New Structural Fill | 50                  | 34                        | 252.447            | 564.246              | 762.404                  | 0                   | 762.404                       | 672.213                    | 672.213                         |
| 9            | 1.33654    | 990.964      | -18.2945                  | New Structural Fill | 50                  | 34                        | 273.397            | 611.073              | 831.825                  | 0                   | 831.825                       | 741.437                    | 741.437                         |
| 10           | 1.33654    | 1077.61      | -16.9396                  | New Structural Fill | 50                  | 34                        | 292.575            | 653.937              | 895.376                  | 0                   | 895.376                       | 806.264                    | 806.264                         |
| 11           | 1.33654    | 1158.49      | -15.5943                  | New Structural Fill | 50                  | 34                        | 310.062            | 693.023              | 953.318                  | 0                   | 953.318                       | 866.78                     | 866.78                          |
| 12           | 1.33654    | 1233.75      | -14.2579                  | New Structural Fill | 50                  | 34                        | 325.934            | 728.498              | 1005.91                  | 0                   | 1005.91                       | 923.089                    | 923.089                         |
| 13           | 1.33654    | 1303.48      | -12.9293                  | New Structural Fill | 50                  | 34                        | 340.255            | 760.508              | 1053.37                  | 0                   | 1053.37                       | 975.257                    | 975.257                         |
| 14           | 1.33654    | 1367.76      | -11.6078                  | New Structural Fill | 50                  | 34                        | 353.086            | 789.186              | 1095.89                  | 0                   | 1095.89                       | 1023.36                    | 1023.36                         |
| 15           | 1.33654    | 1426.7       | -10.2925                  | New Structural Fill | 50                  | 34                        | 364.479            | 814.651              | 1133.64                  | 0                   | 1133.64                       | 1067.45                    | 1067.45                         |
| 16           | 1.33654    | 1480.34      | -8.98261                  | New Structural Fill | 50                  | 34                        | 487.466            | 1089.54              | 1541.19                  | 0                   | 1541.19                       | 1464.13                    | 1464.13                         |
| 17           | 1.33654    | 1528.77      | -7.67749                  | New Structural Fill | 50                  | 34                        | 508.968            | 1137.6               | 1612.43                  | 0                   | 1612.43                       | 1543.82                    | 1543.82                         |
| 18           | 1.33654    | 1572.02      | -6.37636                  | New Structural Fill | 50                  | 34                        | 515.411            | 1152                 | 1633.78                  | 0                   | 1633.78                       | 1576.18                    | 1576.18                         |
| 19           | 1.33654    | 1610.14      | -5.07853                  | New Structural Fill | 50                  | 34                        | 520.601            | 1163.6               | 1650.98                  | 0                   | 1650.98                       | 1604.71                    | 1604.71                         |
| 20           | 1.33654    | 1643.17      | -3.78331                  | New Structural Fill | 50                  | 34                        | 524.565            | 1172.46              | 1664.11                  | 0                   | 1664.11                       | 1629.42                    | 1629.42                         |
| 21           | 1.33654    | 1671.13      | -2.49003                  | New Structural Fill | 50                  | 34                        | 527.33             | 1178.64              | 1673.28                  | 0                   | 1673.28                       | 1650.34                    | 1650.34                         |
| 22           | 1.33654    | 1694.05      | -1.19801                  | New Structural Fill | 50                  | 34                        | 528.923            | 1182.2               | 1678.55                  | 0                   | 1678.55                       | 1667.49                    | 1667.49                         |

|    |         |         |           |                           |    |    |         |         |         |   |         |         |         |
|----|---------|---------|-----------|---------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.33654 | 1711.93 | 0.0933969 | New<br>Structural<br>Fill | 50 | 34 | 529.361 | 1183.18 | 1680    | 0 | 1680    | 1680.87 | 1680.87 |
| 24 | 1.33654 | 1724.77 | 1.38485   | New<br>Structural<br>Fill | 50 | 34 | 528.663 | 1181.62 | 1677.7  | 0 | 1677.7  | 1690.48 | 1690.48 |
| 25 | 1.33654 | 1732.58 | 2.67701   | New<br>Structural<br>Fill | 50 | 34 | 526.851 | 1177.57 | 1671.68 | 0 | 1671.68 | 1696.32 | 1696.32 |
| 26 | 1.33654 | 1735.33 | 3.97054   | New<br>Structural<br>Fill | 50 | 34 | 523.929 | 1171.04 | 1662.02 | 0 | 1662.02 | 1698.38 | 1698.38 |
| 27 | 1.33654 | 1733.02 | 5.26609   | New<br>Structural<br>Fill | 50 | 34 | 519.921 | 1162.08 | 1648.73 | 0 | 1648.73 | 1696.65 | 1696.65 |
| 28 | 1.33654 | 1725.6  | 6.56435   | New<br>Structural<br>Fill | 50 | 34 | 514.829 | 1150.7  | 1631.86 | 0 | 1631.86 | 1691.1  | 1691.1  |
| 29 | 1.33654 | 1713.06 | 7.86601   | New<br>Structural<br>Fill | 50 | 34 | 508.668 | 1136.93 | 1611.44 | 0 | 1611.44 | 1681.72 | 1681.72 |
| 30 | 1.33654 | 1695.33 | 9.17177   | New<br>Structural<br>Fill | 50 | 34 | 501.443 | 1120.78 | 1587.49 | 0 | 1587.49 | 1668.45 | 1668.45 |
| 31 | 1.33654 | 1672.37 | 10.4824   | New<br>Structural<br>Fill | 50 | 34 | 493.157 | 1102.26 | 1560.03 | 0 | 1560.03 | 1651.28 | 1651.28 |
| 32 | 1.33654 | 1644.12 | 11.7985   | New<br>Structural<br>Fill | 50 | 34 | 483.815 | 1081.38 | 1529.08 | 0 | 1529.08 | 1630.14 | 1630.14 |
| 33 | 1.33654 | 1610.5  | 13.121    | New<br>Structural<br>Fill | 50 | 34 | 473.417 | 1058.14 | 1494.63 | 0 | 1494.63 | 1604.98 | 1604.98 |
| 34 | 1.33654 | 1571.43 | 14.4507   | New<br>Structural<br>Fill | 50 | 34 | 461.972 | 1032.56 | 1456.71 | 0 | 1456.71 | 1575.76 | 1575.76 |
| 35 | 1.33654 | 1526.81 | 15.7884   | New<br>Structural<br>Fill | 50 | 34 | 449.472 | 1004.62 | 1415.28 | 0 | 1415.28 | 1542.37 | 1542.37 |
| 36 | 1.33654 | 1476.55 | 17.1349   | New<br>Structural<br>Fill | 50 | 34 | 435.918 | 974.325 | 1370.37 | 0 | 1370.37 | 1504.76 | 1504.76 |
| 37 | 1.33654 | 1420.52 | 18.4913   | New<br>Structural<br>Fill | 50 | 34 | 421.305 | 941.663 | 1321.94 | 0 | 1321.94 | 1462.84 | 1462.84 |
| 38 | 1.33654 | 1358.58 | 19.8586   | New<br>Structural<br>Fill | 50 | 34 | 405.628 | 906.623 | 1270    | 0 | 1270    | 1416.5  | 1416.5  |
| 39 | 1.33654 | 1290.59 | 21.2377   | New<br>Structural<br>Fill | 50 | 34 | 388.88  | 869.19  | 1214.5  | 0 | 1214.5  | 1365.63 | 1365.63 |
| 40 | 1.33654 | 1216.38 | 22.6299   | New<br>Structural<br>Fill | 50 | 34 | 371.054 | 829.346 | 1155.43 | 0 | 1155.43 | 1310.11 | 1310.11 |
| 41 | 1.33654 | 1135.77 | 24.0363   | New<br>Structural<br>Fill | 50 | 34 | 352.138 | 787.068 | 1092.75 | 0 | 1092.75 | 1249.8  | 1249.8  |
| 42 | 1.33654 | 1048.55 | 25.4583   | New<br>Structural<br>Fill | 50 | 34 | 332.122 | 742.33  | 1026.42 | 0 | 1026.42 | 1184.54 | 1184.54 |
| 43 | 1.33654 | 954.491 | 26.8973   | New<br>Structural<br>Fill | 50 | 34 | 310.992 | 695.102 | 956.404 | 0 | 956.404 | 1114.16 | 1114.16 |
| 44 | 1.33654 | 853.328 | 28.3549   | New<br>Structural<br>Fill | 50 | 34 | 288.734 | 645.352 | 882.645 | 0 | 882.645 | 1038.47 | 1038.47 |
| 45 | 1.33654 | 744.775 | 29.8329   | New<br>Structural<br>Fill | 50 | 34 | 265.33  | 593.041 | 805.095 | 0 | 805.095 | 957.253 | 957.253 |
| 46 | 1.33654 | 628.504 | 31.333    | New<br>Structural<br>Fill | 50 | 34 | 240.762 | 538.129 | 723.679 | 0 | 723.679 | 870.255 | 870.255 |
| 47 | 1.33654 | 504.15  | 32.8575   | New<br>Structural<br>Fill | 50 | 34 | 215.009 | 480.569 | 638.343 | 0 | 638.343 | 777.212 | 777.212 |

|    |         |         |         |                           |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 1.33654 | 371.295 | 34.4086 | New<br>Structural<br>Fill | 50 | 34 | 188.049 | 420.311 | 549.009 | 0 | 549.009 | 677.811 | 677.811 |
| 49 | 1.33654 | 229.466 | 35.9892 | New<br>Structural<br>Fill | 50 | 34 | 159.859 | 357.303 | 455.595 | 0 | 455.595 | 571.693 | 571.693 |
| 50 | 1.33654 | 78.1227 | 37.602  | New<br>Structural<br>Fill | 50 | 34 | 130.413 | 291.487 | 358.019 | 0 | 358.019 | 458.457 | 458.457 |

Global Minimum Query (janbu simplified) - Safety Factor: 2.00154

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material       | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.825692   | 47.5267      | -46.2593                  | New Structural Fill | 50                  | 34                        | 68.4859            | 137.077              | 129.097                  | 0                   | 129.097                       | 57.5327                    | 57.5327                         |
| 2            | 0.825692   | 138.808      | -43.7244                  | New Structural Fill | 50                  | 34                        | 120.437            | 241.06               | 283.259                  | 0                   | 283.259                       | 168.068                    | 168.068                         |
| 3            | 0.825692   | 222.989      | -41.2929                  | New Structural Fill | 50                  | 34                        | 164.729            | 329.712              | 414.69                   | 0                   | 414.69                        | 270.008                    | 270.008                         |
| 4            | 0.825692   | 300.858      | -38.9491                  | New Structural Fill | 50                  | 34                        | 203.065            | 406.443              | 528.45                   | 0                   | 528.45                        | 364.309                    | 364.309                         |
| 5            | 0.825692   | 373.04       | -36.6806                  | New Structural Fill | 50                  | 34                        | 236.598            | 473.561              | 627.955                  | 0                   | 627.955                       | 451.725                    | 451.725                         |
| 6            | 0.825692   | 440.041      | -34.4772                  | New Structural Fill | 50                  | 34                        | 266.143            | 532.696              | 715.626                  | 0                   | 715.626                       | 532.867                    | 532.867                         |
| 7            | 0.825692   | 502.272      | -32.3307                  | New Structural Fill | 50                  | 34                        | 292.297            | 585.044              | 793.236                  | 0                   | 793.236                       | 608.235                    | 608.235                         |
| 8            | 0.825692   | 560.076      | -30.234                   | New Structural Fill | 50                  | 34                        | 315.513            | 631.511              | 862.126                  | 0                   | 862.126                       | 678.242                    | 678.242                         |
| 9            | 0.825692   | 613.741      | -28.1812                  | New Structural Fill | 50                  | 34                        | 336.139            | 672.795              | 923.331                  | 0                   | 923.331                       | 743.237                    | 743.237                         |
| 10           | 0.825692   | 663.509      | -26.1672                  | New Structural Fill | 50                  | 34                        | 354.452            | 709.449              | 977.672                  | 0                   | 977.672                       | 803.513                    | 803.513                         |
| 11           | 0.825692   | 709.586      | -24.1874                  | New Structural Fill | 50                  | 34                        | 370.673            | 741.917              | 1025.81                  | 0                   | 1025.81                       | 859.319                    | 859.319                         |
| 12           | 0.825692   | 752.148      | -22.2379                  | New Structural Fill | 50                  | 34                        | 384.985            | 770.562              | 1068.28                  | 0                   | 1068.28                       | 910.87                     | 910.87                          |
| 13           | 0.825692   | 791.346      | -20.3152                  | New Structural Fill | 50                  | 34                        | 397.535            | 795.683              | 1105.52                  | 0                   | 1105.52                       | 958.348                    | 958.348                         |
| 14           | 0.825692   | 827.31       | -18.4161                  | New Structural Fill | 50                  | 34                        | 408.45             | 817.529              | 1137.91                  | 0                   | 1137.91                       | 1001.91                    | 1001.91                         |
| 15           | 0.825692   | 860.152      | -16.5378                  | New Structural Fill | 50                  | 34                        | 417.834            | 836.312              | 1165.75                  | 0                   | 1165.75                       | 1041.68                    | 1041.68                         |
| 16           | 0.825692   | 889.967      | -14.6776                  | New Structural Fill | 50                  | 34                        | 425.777            | 852.209              | 1189.32                  | 0                   | 1189.32                       | 1077.8                     | 1077.8                          |
| 17           | 0.825692   | 916.836      | -12.8331                  | New Structural Fill | 50                  | 34                        | 432.353            | 865.372              | 1208.84                  | 0                   | 1208.84                       | 1110.35                    | 1110.35                         |
| 18           | 0.825692   | 940.829      | -11.0021                  | New Structural Fill | 50                  | 34                        | 437.629            | 875.931              | 1224.5                   | 0                   | 1224.5                        | 1139.42                    | 1139.42                         |
| 19           | 0.825692   | 962.002      | -9.18241                  | New Structural Fill | 50                  | 34                        | 441.659            | 883.998              | 1236.45                  | 0                   | 1236.45                       | 1165.06                    | 1165.06                         |
| 20           | 0.825692   | 980.405      | -7.37201                  | New Structural Fill | 50                  | 34                        | 444.492            | 889.669              | 1244.86                  | 0                   | 1244.86                       | 1187.35                    | 1187.35                         |
| 21           | 0.825692   | 996.074      | -5.56899                  | New Structural Fill | 50                  | 34                        | 446.169            | 893.026              | 1249.83                  | 0                   | 1249.83                       | 1206.33                    | 1206.33                         |
| 22           | 0.825692   | 1009.04      | -3.77149                  | New Structural Fill | 50                  | 34                        | 446.726            | 894.14               | 1251.49                  | 0                   | 1251.49                       | 1222.04                    | 1222.04                         |
| 23           | 0.825692   | 1019.32      | -1.9777                   | New Structural Fill | 50                  | 34                        | 446.192            | 893.072              | 1249.9                   | 0                   | 1249.9                        | 1234.49                    | 1234.49                         |



|    |          |         |           |                     |    |    |         |         |         |   |         |         |         |
|----|----------|---------|-----------|---------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 0.825692 | 1026.93 | -0.185857 | New Structural Fill | 50 | 34 | 444.594 | 889.873 | 1245.17 | 0 | 1245.17 | 1243.72 | 1243.72 |
| 25 | 0.825692 | 1031.88 | 1.60581   | New Structural Fill | 50 | 34 | 514.572 | 1029.94 | 1452.82 | 0 | 1452.82 | 1467.24 | 1467.24 |
| 26 | 0.825692 | 1034.15 | 3.39905   | New Structural Fill | 50 | 34 | 570.441 | 1141.76 | 1618.6  | 0 | 1618.6  | 1652.48 | 1652.48 |
| 27 | 0.825692 | 1033.75 | 5.19563   | New Structural Fill | 50 | 34 | 564.4   | 1129.67 | 1600.68 | 0 | 1600.68 | 1652    | 1652    |
| 28 | 0.825692 | 1030.65 | 6.99736   | New Structural Fill | 50 | 34 | 557.376 | 1115.61 | 1579.84 | 0 | 1579.84 | 1648.25 | 1648.25 |
| 29 | 0.825692 | 1024.82 | 8.80607   | New Structural Fill | 50 | 34 | 549.372 | 1099.59 | 1556.08 | 0 | 1556.08 | 1641.19 | 1641.19 |
| 30 | 0.825692 | 1016.22 | 10.6237   | New Structural Fill | 50 | 34 | 540.389 | 1081.61 | 1529.43 | 0 | 1529.43 | 1630.79 | 1630.79 |
| 31 | 0.825692 | 1004.82 | 12.4522   | New Structural Fill | 50 | 34 | 530.427 | 1061.67 | 1499.86 | 0 | 1499.86 | 1616.99 | 1616.99 |
| 32 | 0.825692 | 990.56  | 14.2937   | New Structural Fill | 50 | 34 | 519.477 | 1039.75 | 1467.37 | 0 | 1467.37 | 1599.72 | 1599.72 |
| 33 | 0.825692 | 973.366 | 16.1504   | New Structural Fill | 50 | 34 | 507.533 | 1015.85 | 1431.93 | 0 | 1431.93 | 1578.9  | 1578.9  |
| 34 | 0.825692 | 953.162 | 18.0248   | New Structural Fill | 50 | 34 | 494.584 | 989.93  | 1393.51 | 0 | 1393.51 | 1554.44 | 1554.44 |
| 35 | 0.825692 | 929.857 | 19.9193   | New Structural Fill | 50 | 34 | 480.617 | 961.974 | 1352.05 | 0 | 1352.05 | 1526.22 | 1526.22 |
| 36 | 0.825692 | 903.343 | 21.8368   | New Structural Fill | 50 | 34 | 465.613 | 931.943 | 1307.54 | 0 | 1307.54 | 1494.12 | 1494.12 |
| 37 | 0.825692 | 873.494 | 23.7805   | New Structural Fill | 50 | 34 | 449.552 | 899.796 | 1259.87 | 0 | 1259.87 | 1457.96 | 1457.96 |
| 38 | 0.825692 | 840.163 | 25.7537   | New Structural Fill | 50 | 34 | 432.408 | 865.481 | 1209.01 | 0 | 1209.01 | 1417.61 | 1417.61 |
| 39 | 0.825692 | 803.18  | 27.7603   | New Structural Fill | 50 | 34 | 414.151 | 828.94  | 1154.82 | 0 | 1154.82 | 1372.81 | 1372.81 |
| 40 | 0.825692 | 762.345 | 29.8047   | New Structural Fill | 50 | 34 | 394.748 | 790.103 | 1097.25 | 0 | 1097.25 | 1323.37 | 1323.37 |
| 41 | 0.825692 | 717.425 | 31.8918   | New Structural Fill | 50 | 34 | 374.157 | 748.89  | 1036.14 | 0 | 1036.14 | 1268.96 | 1268.96 |
| 42 | 0.825692 | 668.141 | 34.0274   | New Structural Fill | 50 | 34 | 352.332 | 705.206 | 971.382 | 0 | 971.382 | 1209.28 | 1209.28 |
| 43 | 0.825692 | 614.165 | 36.2183   | New Structural Fill | 50 | 34 | 329.218 | 658.943 | 902.795 | 0 | 902.795 | 1143.91 | 1143.91 |
| 44 | 0.825692 | 555.098 | 38.4726   | New Structural Fill | 50 | 34 | 304.754 | 609.977 | 830.199 | 0 | 830.199 | 1072.37 | 1072.37 |
| 45 | 0.825692 | 490.459 | 40.7998   | New Structural Fill | 50 | 34 | 278.866 | 558.161 | 753.379 | 0 | 753.379 | 994.088 | 994.088 |
| 46 | 0.825692 | 419.65  | 43.212    | New Structural Fill | 50 | 34 | 251.47  | 503.327 | 672.084 | 0 | 672.084 | 908.329 | 908.329 |
| 47 | 0.825692 | 341.919 | 45.7239   | New Structural Fill | 50 | 34 | 222.468 | 445.278 | 586.024 | 0 | 586.024 | 814.186 | 814.186 |
| 48 | 0.825692 | 256.303 | 48.3548   | New Structural Fill | 50 | 34 | 191.747 | 383.79  | 494.863 | 0 | 494.863 | 710.491 | 710.491 |

|    |          |         |         |                           |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 0.825692 | 161.523 | 51.13   | New<br>Structural<br>Fill | 50 | 34 | 159.176 | 318.598 | 398.214 | 0 | 398.214 | 595.695 | 595.695 |
| 50 | 0.825692 | 55.8294 | 54.0843 | New<br>Structural<br>Fill | 50 | 34 | 124.61  | 249.411 | 295.638 | 0 | 295.638 | 467.681 | 467.681 |

## **Cross Section C-C' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.773411**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.961353   | 7.89808      | 7.02348                   | Landslide Debris | 0                   | 20                        | 3.65469            | 2.82658              | 7.76597                  | 0                   | 7.76597                       | 8.21623                    | 8.21623                         |
| 2            | 0.961353   | 23.1329      | 7.70803                   | Landslide Debris | 0                   | 20                        | 10.6469            | 8.23442              | 22.6239                  | 0                   | 22.6239                       | 24.065                     | 24.065                          |
| 3            | 0.961353   | 45.665       | 8.39368                   | Landslide Debris | 0                   | 20                        | 20.9045            | 16.1678              | 44.4206                  | 0                   | 44.4206                       | 47.5052                    | 47.5052                         |
| 4            | 0.961353   | 77.6378      | 9.08055                   | Landslide Debris | 0                   | 20                        | 35.3503            | 27.3403              | 75.117                   | 0                   | 75.117                        | 80.7669                    | 80.7669                         |
| 5            | 0.961353   | 108.506      | 9.76874                   | Landslide Debris | 0                   | 20                        | 49.1405            | 38.0058              | 104.42                   | 0                   | 104.42                        | 112.88                     | 112.88                          |
| 6            | 0.961353   | 138.231      | 10.4584                   | Landslide Debris | 0                   | 20                        | 62.2659            | 48.1571              | 132.311                  | 0                   | 132.311                       | 143.804                    | 143.804                         |
| 7            | 0.961353   | 166.803      | 11.1495                   | Landslide Debris | 0                   | 20                        | 74.7323            | 57.7988              | 158.801                  | 0                   | 158.801                       | 173.53                     | 173.53                          |
| 8            | 0.961353   | 194.216      | 11.8423                   | Landslide Debris | 0                   | 20                        | 86.5454            | 66.9352              | 183.903                  | 0                   | 183.903                       | 202.049                    | 202.049                         |
| 9            | 0.961353   | 220.461      | 12.5369                   | Landslide Debris | 0                   | 20                        | 97.7101            | 75.5701              | 207.628                  | 0                   | 207.628                       | 229.355                    | 229.355                         |
| 10           | 0.961353   | 245.529      | 13.2333                   | Landslide Debris | 0                   | 20                        | 108.231            | 83.7072              | 229.984                  | 0                   | 229.984                       | 255.436                    | 255.436                         |
| 11           | 0.961353   | 269.409      | 13.9317                   | Landslide Debris | 0                   | 20                        | 118.113            | 91.3499              | 250.982                  | 0                   | 250.982                       | 280.281                    | 280.281                         |
| 12           | 0.961353   | 292.092      | 14.6323                   | Landslide Debris | 0                   | 20                        | 127.359            | 98.5012              | 270.63                   | 0                   | 270.63                        | 303.881                    | 303.881                         |
| 13           | 0.961353   | 313.565      | 15.3351                   | Landslide Debris | 0                   | 20                        | 135.974            | 105.164              | 288.936                  | 0                   | 288.936                       | 326.223                    | 326.223                         |
| 14           | 0.961353   | 333.817      | 16.0402                   | Landslide Debris | 0                   | 20                        | 143.961            | 111.341              | 305.906                  | 0                   | 305.906                       | 347.296                    | 347.296                         |
| 15           | 0.961353   | 352.836      | 16.7479                   | Landslide Debris | 0                   | 20                        | 151.322            | 117.034              | 321.549                  | 0                   | 321.549                       | 367.085                    | 367.085                         |
| 16           | 0.961353   | 370.607      | 17.4582                   | Landslide Debris | 0                   | 20                        | 158.061            | 122.246              | 335.866                  | 0                   | 335.866                       | 385.576                    | 385.576                         |
| 17           | 0.961353   | 387.117      | 18.1713                   | Landslide Debris | 0                   | 20                        | 164.178            | 126.977              | 348.867                  | 0                   | 348.867                       | 402.755                    | 402.755                         |
| 18           | 0.961353   | 402.349      | 18.8873                   | Landslide Debris | 0                   | 20                        | 169.678            | 131.231              | 360.555                  | 0                   | 360.555                       | 418.607                    | 418.607                         |
| 19           | 0.961353   | 416.289      | 19.6064                   | Landslide Debris | 0                   | 20                        | 174.562            | 135.008              | 370.932                  | 0                   | 370.932                       | 433.113                    | 433.113                         |
| 20           | 0.961353   | 428.919      | 20.3288                   | Landslide Debris | 0                   | 20                        | 178.831            | 138.31               | 380.003                  | 0                   | 380.003                       | 446.256                    | 446.256                         |
| 21           | 0.961353   | 440.22       | 21.0545                   | Landslide Debris | 0                   | 20                        | 182.485            | 141.136              | 387.768                  | 0                   | 387.768                       | 458.017                    | 458.017                         |
| 22           | 0.961353   | 450.174      | 21.7838                   | Landslide Debris | 0                   | 20                        | 185.527            | 143.489              | 394.232                  | 0                   | 394.232                       | 468.377                    | 468.377                         |
| 23           | 0.961353   | 458.76       | 22.5168                   | Landslide Debris | 0                   | 20                        | 187.957            | 145.368              | 399.395                  | 0                   | 399.395                       | 477.313                    | 477.313                         |
| 24           | 0.961353   | 465.956      | 23.2537                   | Landslide Debris | 0                   | 20                        | 189.774            | 146.773              | 403.256                  | 0                   | 403.256                       | 484.804                    | 484.804                         |
| 25           | 0.961353   | 471.74       | 23.9947                   | Landslide Debris | 0                   | 20                        | 190.979            | 147.705              | 405.817                  | 0                   | 405.817                       | 490.825                    | 490.825                         |
| 26           | 0.961353   | 476.088      | 24.74                     | Landslide Debris | 0                   | 20                        | 191.572            | 148.164              | 407.077                  | 0                   | 407.077                       | 495.353                    | 495.353                         |
| 27           | 0.961353   | 478.974      | 25.4898                   | Landslide Debris | 0                   | 20                        | 191.553            | 148.149              | 407.036                  | 0                   | 407.036                       | 498.36                     | 498.36                          |
| 28           | 0.961353   | 480.371      | 26.2443                   | Landslide Debris | 0                   | 20                        | 190.919            | 147.659              | 405.689                  | 0                   | 405.689                       | 499.816                    | 499.816                         |
| 29           | 0.961353   | 480.249      | 27.0037                   | Landslide Debris | 0                   | 20                        | 189.67             | 146.693              | 403.036                  | 0                   | 403.036                       | 499.693                    | 499.693                         |
| 30           | 0.961353   | 478.579      | 27.7683                   | Landslide Debris | 0                   | 20                        | 187.806            | 145.251              | 399.073                  | 0                   | 399.073                       | 497.959                    | 497.959                         |
| 31           | 0.961353   | 475.328      | 28.5383                   | Landslide Debris | 0                   | 20                        | 185.323            | 143.331              | 393.797                  | 0                   | 393.797                       | 494.58                     | 494.58                          |
| 32           | 0.961353   | 470.461      | 29.314                    | Landslide Debris | 0                   | 20                        | 182.22             | 140.931              | 387.204                  | 0                   | 387.204                       | 489.52                     | 489.52                          |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.961353 | 463.942 | 30.0956 | Landslide<br>Debris | 0 | 20 | 178.495 | 138.05  | 379.289 | 0 | 379.289 | 482.741 | 482.741 |
| 34 | 0.961353 | 455.732 | 30.8835 | Landslide<br>Debris | 0 | 20 | 174.145 | 134.686 | 370.046 | 0 | 370.046 | 474.201 | 474.201 |
| 35 | 0.961353 | 445.789 | 31.6779 | Landslide<br>Debris | 0 | 20 | 169.167 | 130.836 | 359.469 | 0 | 359.469 | 463.858 | 463.858 |
| 36 | 0.961353 | 434.068 | 32.4791 | Landslide<br>Debris | 0 | 20 | 163.559 | 126.498 | 347.551 | 0 | 347.551 | 451.666 | 451.666 |
| 37 | 0.961353 | 420.523 | 33.2876 | Landslide<br>Debris | 0 | 20 | 157.316 | 121.67  | 334.287 | 0 | 334.287 | 437.575 | 437.575 |
| 38 | 0.961353 | 405.102 | 34.1036 | Landslide<br>Debris | 0 | 20 | 150.436 | 116.349 | 319.666 | 0 | 319.666 | 421.532 | 421.532 |
| 39 | 0.961353 | 387.752 | 34.9275 | Landslide<br>Debris | 0 | 20 | 142.914 | 110.531 | 303.682 | 0 | 303.682 | 403.482 | 403.482 |
| 40 | 0.961353 | 368.414 | 35.7599 | Landslide<br>Debris | 0 | 20 | 134.746 | 104.214 | 286.325 | 0 | 286.325 | 383.363 | 383.363 |
| 41 | 0.961353 | 347.025 | 36.601  | Landslide<br>Debris | 0 | 20 | 125.926 | 97.3929 | 267.585 | 0 | 267.585 | 361.109 | 361.109 |
| 42 | 0.961353 | 323.52  | 37.4514 | Landslide<br>Debris | 0 | 20 | 116.452 | 90.0653 | 247.453 | 0 | 247.453 | 336.653 | 336.653 |
| 43 | 0.961353 | 297.824 | 38.3116 | Landslide<br>Debris | 0 | 20 | 106.317 | 82.2271 | 225.917 | 0 | 225.917 | 309.916 | 309.916 |
| 44 | 0.961353 | 269.628 | 39.1821 | Landslide<br>Debris | 0 | 20 | 95.435  | 73.8105 | 202.792 | 0 | 202.792 | 280.578 | 280.578 |
| 45 | 0.961353 | 236.046 | 40.0635 | Landslide<br>Debris | 0 | 20 | 82.8188 | 64.053  | 175.984 | 0 | 175.984 | 245.634 | 245.634 |
| 46 | 0.961353 | 199.084 | 40.9565 | Landslide<br>Debris | 0 | 20 | 69.2218 | 53.5369 | 147.092 | 0 | 147.092 | 207.173 | 207.173 |
| 47 | 0.961353 | 159.579 | 41.8618 | Landslide<br>Debris | 0 | 20 | 54.9704 | 42.5147 | 116.808 | 0 | 116.808 | 166.064 | 166.064 |
| 48 | 0.961353 | 117.421 | 42.78   | Landslide<br>Debris | 0 | 20 | 40.0597 | 30.9826 | 85.1241 | 0 | 85.1241 | 122.194 | 122.194 |
| 49 | 0.961353 | 72.4906 | 43.7121 | Landslide<br>Debris | 0 | 20 | 24.4853 | 18.9372 | 52.0295 | 0 | 52.0295 | 75.4381 | 75.4381 |
| 50 | 0.961353 | 24.6586 | 44.659  | Landslide<br>Debris | 0 | 20 | 8.24308 | 6.37529 | 17.516  | 0 | 17.516  | 25.6615 | 25.6615 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.752676

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.948145   | 7.54249      | 7.19927                   | Landslide Debris | 0                   | 20                        | 3.6241             | 2.72777              | 7.49449                  | 0                   | 7.49449                       | 7.95228                    | 7.95228                         |
| 2            | 0.948145   | 26.5119      | 7.8819                    | Landslide Debris | 0                   | 20                        | 12.6684            | 9.53518              | 26.1977                  | 0                   | 26.1977                       | 27.9515                    | 27.9515                         |
| 3            | 0.948145   | 57.589       | 8.56566                   | Landslide Debris | 0                   | 20                        | 27.3662            | 20.5979              | 56.5921                  | 0                   | 56.5921                       | 60.7141                    | 60.7141                         |
| 4            | 0.948145   | 88.4467      | 9.25065                   | Landslide Debris | 0                   | 20                        | 41.7977            | 31.4601              | 86.4358                  | 0                   | 86.4358                       | 93.2434                    | 93.2434                         |
| 5            | 0.948145   | 118.2        | 9.93698                   | Landslide Debris | 0                   | 20                        | 55.5498            | 41.811               | 114.875                  | 0                   | 114.875                       | 124.607                    | 124.607                         |
| 6            | 0.948145   | 146.842      | 10.6248                   | Landslide Debris | 0                   | 20                        | 68.6291            | 51.6555              | 141.922                  | 0                   | 141.922                       | 154.796                    | 154.796                         |
| 7            | 0.948145   | 174.366      | 11.3141                   | Landslide Debris | 0                   | 20                        | 81.0418            | 60.9982              | 167.591                  | 0                   | 167.591                       | 183.806                    | 183.806                         |
| 8            | 0.948145   | 200.763      | 12.0051                   | Landslide Debris | 0                   | 20                        | 92.7936            | 69.8435              | 191.893                  | 0                   | 191.893                       | 211.626                    | 211.626                         |
| 9            | 0.948145   | 226.026      | 12.6978                   | Landslide Debris | 0                   | 20                        | 103.89             | 78.1953              | 214.84                   | 0                   | 214.84                        | 238.248                    | 238.248                         |
| 10           | 0.948145   | 250.145      | 13.3925                   | Landslide Debris | 0                   | 20                        | 114.335            | 86.0575              | 236.441                  | 0                   | 236.441                       | 263.664                    | 263.664                         |
| 11           | 0.948145   | 273.11       | 14.0892                   | Landslide Debris | 0                   | 20                        | 124.135            | 93.4334              | 256.706                  | 0                   | 256.706                       | 287.861                    | 287.861                         |
| 12           | 0.948145   | 294.912      | 14.788                    | Landslide Debris | 0                   | 20                        | 133.292            | 100.326              | 275.644                  | 0                   | 275.644                       | 310.832                    | 310.832                         |
| 13           | 0.948145   | 315.539      | 15.489                    | Landslide Debris | 0                   | 20                        | 141.813            | 106.739              | 293.263                  | 0                   | 293.263                       | 332.562                    | 332.562                         |
| 14           | 0.948145   | 334.979      | 16.1925                   | Landslide Debris | 0                   | 20                        | 149.699            | 112.675              | 309.571                  | 0                   | 309.571                       | 353.041                    | 353.041                         |
| 15           | 0.948145   | 353.22       | 16.8984                   | Landslide Debris | 0                   | 20                        | 156.953            | 118.135              | 324.573                  | 0                   | 324.573                       | 372.255                    | 372.255                         |
| 16           | 0.948145   | 370.249      | 17.607                    | Landslide Debris | 0                   | 20                        | 163.58             | 123.123              | 338.278                  | 0                   | 338.278                       | 390.191                    | 390.191                         |
| 17           | 0.948145   | 386.052      | 18.3185                   | Landslide Debris | 0                   | 20                        | 169.582            | 127.64               | 350.688                  | 0                   | 350.688                       | 406.832                    | 406.832                         |
| 18           | 0.948145   | 400.613      | 19.0328                   | Landslide Debris | 0                   | 20                        | 174.96             | 131.688              | 361.809                  | 0                   | 361.809                       | 422.165                    | 422.165                         |
| 19           | 0.948145   | 413.918      | 19.7502                   | Landslide Debris | 0                   | 20                        | 179.716            | 135.268              | 371.647                  | 0                   | 371.647                       | 436.172                    | 436.172                         |
| 20           | 0.948145   | 425.949      | 20.4709                   | Landslide Debris | 0                   | 20                        | 183.853            | 138.382              | 380.202                  | 0                   | 380.202                       | 448.836                    | 448.836                         |
| 21           | 0.948145   | 436.688      | 21.195                    | Landslide Debris | 0                   | 20                        | 187.373            | 141.031              | 387.48                   | 0                   | 387.48                        | 460.138                    | 460.138                         |
| 22           | 0.948145   | 446.117      | 21.9226                   | Landslide Debris | 0                   | 20                        | 190.276            | 143.216              | 393.483                  | 0                   | 393.483                       | 470.06                     | 470.06                          |
| 23           | 0.948145   | 454.216      | 22.654                    | Landslide Debris | 0                   | 20                        | 192.562            | 144.937              | 398.21                   | 0                   | 398.21                        | 478.579                    | 478.579                         |
| 24           | 0.948145   | 460.963      | 23.3893                   | Landslide Debris | 0                   | 20                        | 194.232            | 146.194              | 401.666                  | 0                   | 401.666                       | 485.675                    | 485.675                         |
| 25           | 0.948145   | 466.337      | 24.1287                   | Landslide Debris | 0                   | 20                        | 195.289            | 146.989              | 403.848                  | 0                   | 403.848                       | 491.322                    | 491.322                         |
| 26           | 0.948145   | 470.314      | 24.8724                   | Landslide Debris | 0                   | 20                        | 195.728            | 147.32               | 404.758                  | 0                   | 404.758                       | 495.497                    | 495.497                         |
| 27           | 0.948145   | 472.869      | 25.6206                   | Landslide Debris | 0                   | 20                        | 195.552            | 147.187              | 404.394                  | 0                   | 404.394                       | 498.173                    | 498.173                         |
| 28           | 0.948145   | 473.975      | 26.3735                   | Landslide Debris | 0                   | 20                        | 194.76             | 146.591              | 402.756                  | 0                   | 402.756                       | 499.324                    | 499.324                         |
| 29           | 0.948145   | 473.605      | 27.1314                   | Landslide Debris | 0                   | 20                        | 193.35             | 145.53               | 399.841                  | 0                   | 399.841                       | 498.917                    | 498.917                         |
| 30           | 0.948145   | 471.727      | 27.8944                   | Landslide Debris | 0                   | 20                        | 191.323            | 144.004              | 395.648                  | 0                   | 395.648                       | 496.925                    | 496.925                         |
| 31           | 0.948145   | 468.312      | 28.6629                   | Landslide Debris | 0                   | 20                        | 188.675            | 142.011              | 390.173                  | 0                   | 390.173                       | 493.31                     | 493.31                          |
| 32           | 0.948145   | 463.324      | 29.437                    | Landslide Debris | 0                   | 20                        | 185.406            | 139.551              | 383.412                  | 0                   | 383.412                       | 488.041                    | 488.041                         |
| 33           | 0.948145   | 456.728      | 30.2171                   | Landslide Debris | 0                   | 20                        | 181.514            | 136.621              | 375.363                  | 0                   | 375.363                       | 481.079                    | 481.079                         |

|    |          |         |         |                  |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.948145 | 448.487 | 31.0034 | Landslide Debris | 0 | 20 | 176.995 | 133.22  | 366.019 | 0 | 366.019 | 472.383 | 472.383 |
| 35 | 0.948145 | 438.558 | 31.7963 | Landslide Debris | 0 | 20 | 171.848 | 129.346 | 355.376 | 0 | 355.376 | 461.911 | 461.911 |
| 36 | 0.948145 | 426.9   | 32.596  | Landslide Debris | 0 | 20 | 166.07  | 124.997 | 343.427 | 0 | 343.427 | 449.617 | 449.617 |
| 37 | 0.948145 | 413.466 | 33.4029 | Landslide Debris | 0 | 20 | 159.658 | 120.171 | 330.167 | 0 | 330.167 | 435.454 | 435.454 |
| 38 | 0.948145 | 398.206 | 34.2174 | Landslide Debris | 0 | 20 | 152.607 | 114.864 | 315.587 | 0 | 315.587 | 419.367 | 419.367 |
| 39 | 0.948145 | 381.067 | 35.0399 | Landslide Debris | 0 | 20 | 144.916 | 109.075 | 299.683 | 0 | 299.683 | 401.304 | 401.304 |
| 40 | 0.948145 | 361.994 | 35.8707 | Landslide Debris | 0 | 20 | 136.581 | 102.801 | 282.443 | 0 | 282.443 | 381.204 | 381.204 |
| 41 | 0.948145 | 340.924 | 36.7103 | Landslide Debris | 0 | 20 | 127.595 | 96.0377 | 263.862 | 0 | 263.862 | 359.004 | 359.004 |
| 42 | 0.948145 | 317.792 | 37.5592 | Landslide Debris | 0 | 20 | 117.956 | 88.7826 | 243.929 | 0 | 243.929 | 334.633 | 334.633 |
| 43 | 0.948145 | 292.527 | 38.4179 | Landslide Debris | 0 | 20 | 107.659 | 81.0323 | 222.634 | 0 | 222.634 | 308.019 | 308.019 |
| 44 | 0.948145 | 264.535 | 39.2869 | Landslide Debris | 0 | 20 | 96.5095 | 72.6404 | 199.578 | 0 | 199.578 | 278.533 | 278.533 |
| 45 | 0.948145 | 231.186 | 40.1669 | Landslide Debris | 0 | 20 | 83.5879 | 62.9146 | 172.856 | 0 | 172.856 | 243.411 | 243.411 |
| 46 | 0.948145 | 194.955 | 41.0584 | Landslide Debris | 0 | 20 | 69.8378 | 52.5652 | 144.421 | 0 | 144.421 | 205.255 | 205.255 |
| 47 | 0.948145 | 156.245 | 41.9621 | Landslide Debris | 0 | 20 | 55.4381 | 41.7269 | 114.644 | 0 | 114.644 | 164.494 | 164.494 |
| 48 | 0.948145 | 114.951 | 42.8789 | Landslide Debris | 0 | 20 | 40.385  | 30.3968 | 83.5149 | 0 | 83.5149 | 121.015 | 121.015 |
| 49 | 0.948145 | 70.9567 | 43.8095 | Landslide Debris | 0 | 20 | 24.6748 | 18.5721 | 51.0265 | 0 | 51.0265 | 74.6966 | 74.6966 |
| 50 | 0.948145 | 24.1346 | 44.7549 | Landslide Debris | 0 | 20 | 8.30401 | 6.25023 | 17.1724 | 0 | 17.1724 | 25.4056 | 25.4056 |

## **Cross Section C-C' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.383641**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.970928   | 8.15451      | 6.90573                   | Landslide Debris | 0                   | 20                        | 7.15255            | 2.74401              | 7.5391                   | 0                   | 7.5391                        | 8.40538                    | 8.40538                         |
| 2            | 0.970928   | 23.8902      | 7.59156                   | Landslide Debris | 0                   | 20                        | 20.7415            | 7.9573               | 21.8625                  | 0                   | 21.8625                       | 24.6269                    | 24.6269                         |
| 3            | 0.970928   | 40.4009      | 8.27848                   | Landslide Debris | 0                   | 20                        | 34.7213            | 13.3205              | 36.5977                  | 0                   | 36.5977                       | 41.6497                    | 41.6497                         |
| 4            | 0.970928   | 70.2548      | 8.96661                   | Landslide Debris | 0                   | 20                        | 59.7702            | 22.9303              | 63.0005                  | 0                   | 63.0005                       | 72.4314                    | 72.4314                         |
| 5            | 0.970928   | 101.933      | 9.65605                   | Landslide Debris | 0                   | 20                        | 85.8511            | 32.936               | 90.491                   | 0                   | 90.491                        | 105.098                    | 105.098                         |
| 6            | 0.970928   | 132.442      | 10.3469                   | Landslide Debris | 0                   | 20                        | 110.433            | 42.3667              | 116.402                  | 0                   | 116.402                       | 136.564                    | 136.564                         |
| 7            | 0.970928   | 161.776      | 11.0393                   | Landslide Debris | 0                   | 20                        | 133.55             | 51.2351              | 140.768                  | 0                   | 140.768                       | 166.822                    | 166.822                         |
| 8            | 0.970928   | 189.926      | 11.7333                   | Landslide Debris | 0                   | 20                        | 155.232            | 59.5532              | 163.621                  | 0                   | 163.621                       | 195.862                    | 195.862                         |
| 9            | 0.970928   | 216.883      | 12.429                    | Landslide Debris | 0                   | 20                        | 175.509            | 67.3326              | 184.994                  | 0                   | 184.994                       | 223.676                    | 223.676                         |
| 10           | 0.970928   | 242.638      | 13.1267                   | Landslide Debris | 0                   | 20                        | 194.411            | 74.5839              | 204.918                  | 0                   | 204.918                       | 250.254                    | 250.254                         |
| 11           | 0.970928   | 267.18       | 13.8263                   | Landslide Debris | 0                   | 20                        | 211.963            | 81.3176              | 223.418                  | 0                   | 223.418                       | 275.584                    | 275.584                         |
| 12           | 0.970928   | 290.5        | 14.528                    | Landslide Debris | 0                   | 20                        | 228.191            | 87.5434              | 240.524                  | 0                   | 240.524                       | 299.657                    | 299.657                         |
| 13           | 0.970928   | 312.586      | 15.232                    | Landslide Debris | 0                   | 20                        | 243.119            | 93.2706              | 256.259                  | 0                   | 256.259                       | 322.459                    | 322.459                         |
| 14           | 0.970928   | 333.426      | 15.9383                   | Landslide Debris | 0                   | 20                        | 256.772            | 98.5081              | 270.649                  | 0                   | 270.649                       | 343.977                    | 343.977                         |
| 15           | 0.970928   | 353.007      | 16.6471                   | Landslide Debris | 0                   | 20                        | 269.168            | 103.264              | 283.716                  | 0                   | 283.716                       | 364.2                      | 364.2                           |
| 16           | 0.970928   | 371.314      | 17.3586                   | Landslide Debris | 0                   | 20                        | 280.332            | 107.547              | 295.483                  | 0                   | 295.483                       | 383.111                    | 383.111                         |
| 17           | 0.970928   | 388.334      | 18.0728                   | Landslide Debris | 0                   | 20                        | 290.282            | 111.364              | 305.97                   | 0                   | 305.97                        | 400.696                    | 400.696                         |
| 18           | 0.970928   | 404.051      | 18.7899                   | Landslide Debris | 0                   | 20                        | 299.035            | 114.722              | 315.196                  | 0                   | 315.196                       | 416.938                    | 416.938                         |
| 19           | 0.970928   | 418.448      | 19.5101                   | Landslide Debris | 0                   | 20                        | 306.61             | 117.628              | 323.181                  | 0                   | 323.181                       | 431.818                    | 431.818                         |
| 20           | 0.970928   | 431.509      | 20.2336                   | Landslide Debris | 0                   | 20                        | 313.027            | 120.09               | 329.943                  | 0                   | 329.943                       | 445.323                    | 445.323                         |
| 21           | 0.970928   | 443.214      | 20.9604                   | Landslide Debris | 0                   | 20                        | 318.298            | 122.112              | 335.499                  | 0                   | 335.499                       | 457.429                    | 457.429                         |
| 22           | 0.970928   | 453.545      | 21.6908                   | Landslide Debris | 0                   | 20                        | 322.439            | 123.701              | 339.865                  | 0                   | 339.865                       | 468.118                    | 468.118                         |
| 23           | 0.970928   | 462.48       | 22.4248                   | Landslide Debris | 0                   | 20                        | 325.466            | 124.862              | 343.055                  | 0                   | 343.055                       | 477.368                    | 477.368                         |
| 24           | 0.970928   | 469.997      | 23.1628                   | Landslide Debris | 0                   | 20                        | 327.392            | 125.601              | 345.086                  | 0                   | 345.086                       | 485.155                    | 485.155                         |
| 25           | 0.970928   | 476.074      | 23.9049                   | Landslide Debris | 0                   | 20                        | 328.231            | 125.923              | 345.97                   | 0                   | 345.97                        | 491.456                    | 491.456                         |
| 26           | 0.970928   | 480.686      | 24.6513                   | Landslide Debris | 0                   | 20                        | 327.994            | 125.832              | 345.721                  | 0                   | 345.721                       | 496.244                    | 496.244                         |
| 27           | 0.970928   | 483.806      | 25.4021                   | Landslide Debris | 0                   | 20                        | 326.696            | 125.334              | 344.352                  | 0                   | 344.352                       | 499.494                    | 499.494                         |
| 28           | 0.970928   | 485.408      | 26.1577                   | Landslide Debris | 0                   | 20                        | 324.345            | 124.432              | 341.875                  | 0                   | 341.875                       | 501.176                    | 501.176                         |
| 29           | 0.970928   | 485.461      | 26.9182                   | Landslide Debris | 0                   | 20                        | 320.954            | 123.131              | 338.301                  | 0                   | 338.301                       | 501.258                    | 501.258                         |
| 30           | 0.970928   | 483.935      | 27.6838                   | Landslide Debris | 0                   | 20                        | 316.533            | 121.435              | 333.64                   | 0                   | 333.64                        | 499.71                     | 499.71                          |
| 31           | 0.970928   | 480.796      | 28.4549                   | Landslide Debris | 0                   | 20                        | 311.093            | 119.348              | 327.905                  | 0                   | 327.905                       | 496.498                    | 496.498                         |
| 32           | 0.970928   | 476.01       | 29.2316                   | Landslide Debris | 0                   | 20                        | 304.639            | 116.872              | 321.104                  | 0                   | 321.104                       | 491.582                    | 491.582                         |

|    |          |         |         |                     |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 0.970928 | 469.539 | 30.0143 | Landslide<br>Debris | 0 | 20 | 297.187 | 114.013 | 313.248 | 0 | 313.248 | 484.928 | 484.928 |
| 34 | 0.970928 | 461.343 | 30.8032 | Landslide<br>Debris | 0 | 20 | 288.739 | 110.772 | 304.344 | 0 | 304.344 | 476.489 | 476.489 |
| 35 | 0.970928 | 451.38  | 31.5986 | Landslide<br>Debris | 0 | 20 | 279.308 | 107.154 | 294.404 | 0 | 294.404 | 466.225 | 466.225 |
| 36 | 0.970928 | 439.605 | 32.4009 | Landslide<br>Debris | 0 | 20 | 268.902 | 103.162 | 283.434 | 0 | 283.434 | 454.09  | 454.09  |
| 37 | 0.970928 | 425.97  | 33.2103 | Landslide<br>Debris | 0 | 20 | 257.526 | 98.7975 | 271.444 | 0 | 271.444 | 440.03  | 440.03  |
| 38 | 0.970928 | 410.423 | 34.0274 | Landslide<br>Debris | 0 | 20 | 245.19  | 94.0649 | 258.441 | 0 | 258.441 | 423.994 | 423.994 |
| 39 | 0.970928 | 392.909 | 34.8523 | Landslide<br>Debris | 0 | 20 | 231.901 | 88.9668 | 244.434 | 0 | 244.434 | 405.924 | 405.924 |
| 40 | 0.970928 | 373.368 | 35.6857 | Landslide<br>Debris | 0 | 20 | 217.667 | 83.5061 | 229.431 | 0 | 229.431 | 385.758 | 385.758 |
| 41 | 0.970928 | 351.738 | 36.5278 | Landslide<br>Debris | 0 | 20 | 202.496 | 77.6858 | 213.44  | 0 | 213.44  | 363.431 | 363.431 |
| 42 | 0.970928 | 327.949 | 37.3792 | Landslide<br>Debris | 0 | 20 | 186.395 | 71.5088 | 196.469 | 0 | 196.469 | 338.871 | 338.871 |
| 43 | 0.970928 | 301.928 | 38.2404 | Landslide<br>Debris | 0 | 20 | 169.372 | 64.9781 | 178.526 | 0 | 178.526 | 312.002 | 312.002 |
| 44 | 0.970928 | 273.464 | 39.1119 | Landslide<br>Debris | 0 | 20 | 151.363 | 58.0692 | 159.544 | 0 | 159.544 | 282.605 | 282.605 |
| 45 | 0.970928 | 239.662 | 39.9943 | Landslide<br>Debris | 0 | 20 | 130.846 | 50.1979 | 137.918 | 0 | 137.918 | 247.688 | 247.688 |
| 46 | 0.970928 | 202.156 | 40.8883 | Landslide<br>Debris | 0 | 20 | 108.827 | 41.7506 | 114.709 | 0 | 114.709 | 208.939 | 208.939 |
| 47 | 0.970928 | 162.058 | 41.7946 | Landslide<br>Debris | 0 | 20 | 85.9895 | 32.9891 | 90.6369 | 0 | 90.6369 | 167.506 | 167.506 |
| 48 | 0.970928 | 119.256 | 42.7138 | Landslide<br>Debris | 0 | 20 | 62.345  | 23.9181 | 65.7146 | 0 | 65.7146 | 123.273 | 123.273 |
| 49 | 0.970928 | 73.6305 | 43.6469 | Landslide<br>Debris | 0 | 20 | 37.9081 | 14.5431 | 39.9567 | 0 | 39.9567 | 76.1153 | 76.1153 |
| 50 | 0.970928 | 25.0479 | 44.5947 | Landslide<br>Debris | 0 | 20 | 12.6936 | 4.86977 | 13.3796 | 0 | 13.3796 | 25.8948 | 25.8948 |



Global Minimum Query (janbu simplified) - Safety Factor: 0.368722

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material    | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.954023   | 7.69855      | 7.1221                    | Landslide Debris | 0                   | 20                        | 7.09659            | 2.61667              | 7.18923                  | 0                   | 7.18923                       | 8.07594                    | 8.07594                         |
| 2            | 0.954023   | 23.7812      | 7.80557                   | Landslide Debris | 0                   | 20                        | 21.6919            | 7.99828              | 21.9751                  | 0                   | 21.9751                       | 24.9487                    | 24.9487                         |
| 3            | 0.954023   | 52.4614      | 8.49016                   | Landslide Debris | 0                   | 20                        | 47.3536            | 17.4603              | 47.9717                  | 0                   | 47.9717                       | 55.0404                    | 55.0404                         |
| 4            | 0.954023   | 83.8251      | 9.17598                   | Landslide Debris | 0                   | 20                        | 74.8786            | 27.6094              | 75.8562                  | 0                   | 75.8562                       | 87.9517                    | 87.9517                         |
| 5            | 0.954023   | 114.07       | 9.86312                   | Landslide Debris | 0                   | 20                        | 100.843            | 37.1831              | 102.16                   | 0                   | 102.16                        | 119.693                    | 119.693                         |
| 6            | 0.954023   | 143.189      | 10.5517                   | Landslide Debris | 0                   | 20                        | 125.284            | 46.195               | 126.92                   | 0                   | 126.92                        | 150.257                    | 150.257                         |
| 7            | 0.954023   | 171.174      | 11.2418                   | Landslide Debris | 0                   | 20                        | 148.236            | 54.6578              | 150.171                  | 0                   | 150.171                       | 179.635                    | 179.635                         |
| 8            | 0.954023   | 198.019      | 11.9336                   | Landslide Debris | 0                   | 20                        | 169.732            | 62.5838              | 171.947                  | 0                   | 171.947                       | 207.819                    | 207.819                         |
| 9            | 0.954023   | 223.714      | 12.6272                   | Landslide Debris | 0                   | 20                        | 189.802            | 69.9843              | 192.281                  | 0                   | 192.281                       | 234.801                    | 234.801                         |
| 10           | 0.954023   | 248.251      | 13.3226                   | Landslide Debris | 0                   | 20                        | 208.478            | 76.8705              | 211.2                    | 0                   | 211.2                         | 260.569                    | 260.569                         |
| 11           | 0.954023   | 271.619      | 14.02                     | Landslide Debris | 0                   | 20                        | 225.787            | 83.2525              | 228.735                  | 0                   | 228.735                       | 285.113                    | 285.113                         |
| 12           | 0.954023   | 293.808      | 14.7196                   | Landslide Debris | 0                   | 20                        | 241.755            | 89.1404              | 244.911                  | 0                   | 244.911                       | 308.423                    | 308.423                         |
| 13           | 0.954023   | 314.807      | 15.4214                   | Landslide Debris | 0                   | 20                        | 256.409            | 94.5435              | 259.756                  | 0                   | 259.756                       | 330.486                    | 330.486                         |
| 14           | 0.954023   | 334.604      | 16.1256                   | Landslide Debris | 0                   | 20                        | 269.772            | 99.4707              | 273.294                  | 0                   | 273.294                       | 351.29                     | 351.29                          |
| 15           | 0.954023   | 353.187      | 16.8324                   | Landslide Debris | 0                   | 20                        | 281.865            | 103.93               | 285.546                  | 0                   | 285.546                       | 370.82                     | 370.82                          |
| 16           | 0.954023   | 370.543      | 17.5417                   | Landslide Debris | 0                   | 20                        | 292.716            | 107.931              | 296.537                  | 0                   | 296.537                       | 389.064                    | 389.064                         |
| 17           | 0.954023   | 386.656      | 18.2539                   | Landslide Debris | 0                   | 20                        | 302.339            | 111.479              | 306.287                  | 0                   | 306.287                       | 406.006                    | 406.006                         |
| 18           | 0.954023   | 401.512      | 18.9689                   | Landslide Debris | 0                   | 20                        | 310.757            | 114.583              | 314.815                  | 0                   | 314.815                       | 421.629                    | 421.629                         |
| 19           | 0.954023   | 415.095      | 19.6871                   | Landslide Debris | 0                   | 20                        | 317.99             | 117.25               | 322.14                   | 0                   | 322.14                        | 435.917                    | 435.917                         |
| 20           | 0.954023   | 427.389      | 20.4085                   | Landslide Debris | 0                   | 20                        | 324.052            | 119.485              | 328.282                  | 0                   | 328.282                       | 448.851                    | 448.851                         |
| 21           | 0.954023   | 438.374      | 21.1333                   | Landslide Debris | 0                   | 20                        | 328.963            | 121.296              | 333.258                  | 0                   | 333.258                       | 460.414                    | 460.414                         |
| 22           | 0.954023   | 448.033      | 21.8617                   | Landslide Debris | 0                   | 20                        | 332.738            | 122.688              | 337.082                  | 0                   | 337.082                       | 470.583                    | 470.583                         |
| 23           | 0.954023   | 456.345      | 22.5937                   | Landslide Debris | 0                   | 20                        | 335.394            | 123.667              | 339.772                  | 0                   | 339.772                       | 479.34                     | 479.34                          |
| 24           | 0.954023   | 463.289      | 23.3297                   | Landslide Debris | 0                   | 20                        | 336.942            | 124.238              | 341.341                  | 0                   | 341.341                       | 486.658                    | 486.658                         |
| 25           | 0.954023   | 468.842      | 24.0699                   | Landslide Debris | 0                   | 20                        | 337.401            | 124.407              | 341.805                  | 0                   | 341.805                       | 492.519                    | 492.519                         |
| 26           | 0.954023   | 472.981      | 24.8143                   | Landslide Debris | 0                   | 20                        | 336.779            | 124.178              | 341.176                  | 0                   | 341.176                       | 496.892                    | 496.892                         |
| 27           | 0.954023   | 475.679      | 25.5632                   | Landslide Debris | 0                   | 20                        | 335.095            | 123.557              | 339.469                  | 0                   | 339.469                       | 499.755                    | 499.755                         |
| 28           | 0.954023   | 476.912      | 26.3168                   | Landslide Debris | 0                   | 20                        | 332.356            | 122.547              | 336.694                  | 0                   | 336.694                       | 501.076                    | 501.076                         |
| 29           | 0.954023   | 476.649      | 27.0753                   | Landslide Debris | 0                   | 20                        | 328.573            | 121.152              | 332.863                  | 0                   | 332.863                       | 500.824                    | 500.824                         |
| 30           | 0.954023   | 474.86       | 27.8391                   | Landslide Debris | 0                   | 20                        | 323.762            | 119.378              | 327.99                   | 0                   | 327.99                        | 498.972                    | 498.972                         |
| 31           | 0.954023   | 471.515      | 28.6082                   | Landslide Debris | 0                   | 20                        | 317.931            | 117.228              | 322.082                  | 0                   | 322.082                       | 495.482                    | 495.482                         |
| 32           | 0.954023   | 466.578      | 29.383                    | Landslide Debris | 0                   | 20                        | 311.091            | 114.706              | 315.152                  | 0                   | 315.152                       | 490.321                    | 490.321                         |
| 33           | 0.954023   | 460.014      | 30.1638                   | Landslide Debris | 0                   | 20                        | 303.25             | 111.815              | 307.209                  | 0                   | 307.209                       | 483.448                    | 483.448                         |

|    |          |         |         |                  |   |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 0.954023 | 451.783 | 30.9508 | Landslide Debris | 0 | 20 | 294.42  | 108.559 | 298.262 | 0 | 298.262 | 474.823 | 474.823 |
| 35 | 0.954023 | 441.845 | 31.7443 | Landslide Debris | 0 | 20 | 284.607 | 104.941 | 288.322 | 0 | 288.322 | 464.403 | 464.403 |
| 36 | 0.954023 | 430.157 | 32.5447 | Landslide Debris | 0 | 20 | 273.821 | 100.964 | 277.397 | 0 | 277.397 | 452.141 | 452.141 |
| 37 | 0.954023 | 416.67  | 33.3523 | Landslide Debris | 0 | 20 | 262.074 | 96.6325 | 265.496 | 0 | 265.496 | 437.989 | 437.989 |
| 38 | 0.954023 | 401.336 | 34.1674 | Landslide Debris | 0 | 20 | 249.371 | 91.9487 | 252.627 | 0 | 252.627 | 421.892 | 421.892 |
| 39 | 0.954023 | 384.101 | 34.9905 | Landslide Debris | 0 | 20 | 235.722 | 86.916  | 238.8   | 0 | 238.8   | 403.796 | 403.796 |
| 40 | 0.954023 | 364.907 | 35.822  | Landslide Debris | 0 | 20 | 221.135 | 81.5373 | 224.022 | 0 | 224.022 | 383.638 | 383.638 |
| 41 | 0.954023 | 343.693 | 36.6623 | Landslide Debris | 0 | 20 | 205.618 | 75.8159 | 208.302 | 0 | 208.302 | 361.355 | 361.355 |
| 42 | 0.954023 | 320.393 | 37.5119 | Landslide Debris | 0 | 20 | 189.18  | 69.7549 | 191.65  | 0 | 191.65  | 336.876 | 336.876 |
| 43 | 0.954023 | 294.934 | 38.3712 | Landslide Debris | 0 | 20 | 171.83  | 63.3576 | 174.074 | 0 | 174.074 | 310.124 | 310.124 |
| 44 | 0.954023 | 266.848 | 39.2409 | Landslide Debris | 0 | 20 | 153.352 | 56.5442 | 155.354 | 0 | 155.354 | 280.607 | 280.607 |
| 45 | 0.954023 | 233.358 | 40.1215 | Landslide Debris | 0 | 20 | 132.238 | 48.759  | 133.964 | 0 | 133.964 | 245.403 | 245.403 |
| 46 | 0.954023 | 196.8   | 41.0137 | Landslide Debris | 0 | 20 | 109.929 | 40.5332 | 111.364 | 0 | 111.364 | 206.97  | 206.97  |
| 47 | 0.954023 | 157.734 | 41.9181 | Landslide Debris | 0 | 20 | 86.8164 | 32.0111 | 87.95   | 0 | 87.95   | 165.895 | 165.895 |
| 48 | 0.954023 | 116.054 | 42.8355 | Landslide Debris | 0 | 20 | 62.9133 | 23.1975 | 63.7346 | 0 | 63.7346 | 122.065 | 122.065 |
| 49 | 0.954023 | 71.6415 | 43.7668 | Landslide Debris | 0 | 20 | 38.2345 | 14.0979 | 38.7337 | 0 | 38.7337 | 75.3568 | 75.3568 |
| 50 | 0.954023 | 24.3685 | 44.7128 | Landslide Debris | 0 | 20 | 12.7972 | 4.71861 | 12.9643 | 0 | 12.9643 | 25.6338 | 25.6338 |

## **Cross Section D-D' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 3.62201**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.90845    | 70.3054      | -9.72351                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 51.2529            | 185.638              | 45.615                   | 0                   | 45.615                        | 36.8326                    | 36.8326                         |
| 2            | 1.90845    | 224.394      | -8.96557                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 69.1268            | 250.378              | 128.477                  | 0                   | 128.477                       | 117.571                    | 117.571                         |
| 3            | 1.90845    | 383.58       | -8.20921                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 87.4887            | 316.885              | 213.603                  | 0                   | 213.603                       | 200.981                    | 200.981                         |
| 4            | 2.29045    | 654.755      | -7.37888                  | D-VD SAND                               | 0                   | 38                        | 63.4327            | 229.754              | 294.071                  | 0                   | 294.071                       | 285.857                    | 285.857                         |
| 5            | 2.29045    | 851.292      | -6.47469                  | D-VD SAND                               | 0                   | 38                        | 82.1814            | 297.662              | 380.99                   | 0                   | 380.99                        | 371.663                    | 371.663                         |
| 6            | 2.29045    | 1037.77      | -5.57212                  | D-VD SAND                               | 0                   | 38                        | 99.8327            | 361.595              | 462.82                   | 0                   | 462.82                        | 453.081                    | 453.081                         |
| 7            | 2.29045    | 1214.25      | -4.67093                  | D-VD SAND                               | 0                   | 38                        | 116.403            | 421.613              | 539.641                  | 0                   | 539.641                       | 530.13                     | 530.13                          |
| 8            | 2.29045    | 1380.77      | -3.7709                   | D-VD SAND                               | 0                   | 38                        | 131.909            | 477.775              | 611.526                  | 0                   | 611.526                       | 602.832                    | 602.832                         |
| 9            | 2.29045    | 1537.36      | -2.8718                   | D-VD SAND                               | 0                   | 38                        | 146.364            | 530.133              | 678.541                  | 0                   | 678.541                       | 671.199                    | 671.199                         |
| 10           | 2.29045    | 1684.04      | -1.97341                  | D-VD SAND                               | 0                   | 38                        | 159.783            | 578.735              | 740.746                  | 0                   | 740.746                       | 735.241                    | 735.241                         |
| 11           | 2.29045    | 1820.85      | -1.0755                   | D-VD SAND                               | 0                   | 38                        | 172.176            | 623.625              | 798.204                  | 0                   | 798.204                       | 794.972                    | 794.972                         |
| 12           | 2.29045    | 1947.79      | -0.177862                 | D-VD SAND                               | 0                   | 38                        | 183.557            | 664.846              | 850.963                  | 0                   | 850.963                       | 850.394                    | 850.394                         |
| 13           | 2.29045    | 2064.86      | 0.719737                  | D-VD SAND                               | 0                   | 38                        | 193.935            | 702.434              | 899.075                  | 0                   | 899.075                       | 901.511                    | 901.511                         |
| 14           | 2.29045    | 2212.31      | 1.61751                   | D-VD SAND                               | 0                   | 38                        | 207.085            | 750.064              | 960.039                  | 0                   | 960.039                       | 965.887                    | 965.887                         |
| 15           | 2.29045    | 2396.41      | 2.51569                   | D-VD SAND                               | 0                   | 38                        | 223.566            | 809.759              | 1036.45                  | 0                   | 1036.45                       | 1046.27                    | 1046.27                         |
| 16           | 2.29045    | 2570.68      | 3.41448                   | D-VD SAND                               | 0                   | 38                        | 239.021            | 865.738              | 1108.09                  | 0                   | 1108.09                       | 1122.36                    | 1122.36                         |
| 17           | 2.29045    | 2735.03      | 4.31411                   | D-VD SAND                               | 0                   | 38                        | 253.452            | 918.007              | 1175                     | 0                   | 1175                          | 1194.12                    | 1194.12                         |
| 18           | 2.29045    | 2889.44      | 5.21481                   | D-VD SAND                               | 0                   | 38                        | 266.865            | 966.588              | 1237.18                  | 0                   | 1237.18                       | 1261.53                    | 1261.53                         |
| 19           | 2.29045    | 3033.86      | 6.11681                   | D-VD SAND                               | 0                   | 38                        | 279.265            | 1011.5               | 1294.66                  | 0                   | 1294.66                       | 1324.59                    | 1324.59                         |
| 20           | 2.29045    | 3168.24      | 7.02033                   | D-VD SAND                               | 0                   | 38                        | 290.656            | 1052.76              | 1347.47                  | 0                   | 1347.47                       | 1383.26                    | 1383.26                         |
| 21           | 2.29045    | 3272.19      | 7.92561                   | D-VD SAND                               | 0                   | 38                        | 299.182            | 1083.64              | 1387                     | 0                   | 1387                          | 1428.65                    | 1428.65                         |
| 22           | 2.29045    | 3343.72      | 8.83288                   | D-VD SAND                               | 0                   | 38                        | 304.693            | 1103.6               | 1412.54                  | 0                   | 1412.54                       | 1459.89                    | 1459.89                         |
| 23           | 2.29045    | 3405.02      | 9.7424                    | D-VD SAND                               | 0                   | 38                        | 309.226            | 1120.02              | 1433.56                  | 0                   | 1433.56                       | 1486.65                    | 1486.65                         |
| 24           | 2.29045    | 3456.01      | 10.6544                   | D-VD SAND                               | 0                   | 38                        | 312.788            | 1132.92              | 1450.08                  | 0                   | 1450.08                       | 1508.92                    | 1508.92                         |
| 25           | 2.29045    | 3496.61      | 11.5691                   | D-VD SAND                               | 0                   | 38                        | 315.38             | 1142.31              | 1462.09                  | 0                   | 1462.09                       | 1526.65                    | 1526.65                         |
| 26           | 2.29045    | 3526.72      | 12.4869                   | D-VD SAND                               | 0                   | 38                        | 317.001            | 1148.18              | 1469.6                   | 0                   | 1469.6                        | 1539.8                     | 1539.8                          |
| 27           | 2.29045    | 3546.23      | 13.4079                   | D-VD SAND                               | 0                   | 38                        | 317.647            | 1150.52              | 1472.61                  | 0                   | 1472.61                       | 1548.33                    | 1548.33                         |
| 28           | 2.29045    | 3555.03      | 14.3324                   | D-VD SAND                               | 0                   | 38                        | 317.321            | 1149.34              | 1471.09                  | 0                   | 1471.09                       | 1552.17                    | 1552.17                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.29045 | 3552.52 | 15.2608 | D-VD<br>SAND                                         | 0   | 38 | 315.979 | 1144.48 | 1464.87 | 0 | 1464.87 | 1551.08 | 1551.08 |
| 30 | 2.29045 | 3528.4  | 16.1933 | D-VD<br>SAND                                         | 0   | 38 | 312.716 | 1132.66 | 1449.74 | 0 | 1449.74 | 1540.55 | 1540.55 |
| 31 | 2.29045 | 3488.72 | 17.1303 | D-VD<br>SAND                                         | 0   | 38 | 308.086 | 1115.89 | 1428.27 | 0 | 1428.27 | 1523.23 | 1523.23 |
| 32 | 2.29045 | 3437.75 | 18.0719 | D-VD<br>SAND                                         | 0   | 38 | 302.478 | 1095.58 | 1402.28 | 0 | 1402.28 | 1500.98 | 1500.98 |
| 33 | 2.29045 | 3375.29 | 19.0187 | D-VD<br>SAND                                         | 0   | 38 | 295.888 | 1071.71 | 1371.72 | 0 | 1371.72 | 1473.71 | 1473.71 |
| 34 | 2.29045 | 3301.16 | 19.9709 | D-VD<br>SAND                                         | 0   | 38 | 288.307 | 1044.25 | 1336.58 | 0 | 1336.58 | 1441.35 | 1441.35 |
| 35 | 2.29045 | 3215.15 | 20.9289 | D-VD<br>SAND                                         | 0   | 38 | 279.731 | 1013.19 | 1296.82 | 0 | 1296.82 | 1403.8  | 1403.8  |
| 36 | 2.18486 | 2969.01 | 21.8706 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 307.897 | 1115.2  | 1235.41 | 0 | 1235.41 | 1359    | 1359    |
| 37 | 2.18486 | 2855.1  | 22.7963 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 296.435 | 1073.69 | 1182.27 | 0 | 1182.27 | 1306.86 | 1306.86 |
| 38 | 2.18486 | 2729.34 | 23.7283 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 283.969 | 1028.54 | 1124.48 | 0 | 1124.48 | 1249.3  | 1249.3  |
| 39 | 2.18486 | 2593.1  | 24.667  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 270.633 | 980.236 | 1062.65 | 0 | 1062.65 | 1186.94 | 1186.94 |
| 40 | 2.18486 | 2455.07 | 25.6128 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 257.217 | 931.644 | 1000.46 | 0 | 1000.46 | 1123.77 | 1123.77 |
| 41 | 2.18486 | 2306.32 | 26.5662 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 242.928 | 879.886 | 934.21  | 0 | 934.21  | 1055.68 | 1055.68 |
| 42 | 2.18486 | 2144.6  | 27.5275 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 227.578 | 824.289 | 863.05  | 0 | 863.05  | 981.658 | 981.658 |
| 43 | 2.18486 | 1969.57 | 28.4974 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 211.155 | 764.805 | 786.916 | 0 | 786.916 | 901.551 | 901.551 |
| 44 | 2.18486 | 1780.88 | 29.4763 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 193.643 | 701.377 | 705.729 | 0 | 705.729 | 815.181 | 815.181 |
| 45 | 2.18486 | 1578.13 | 30.4647 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 175.027 | 633.948 | 619.428 | 0 | 619.428 | 722.381 | 722.381 |
| 46 | 2.18486 | 1360.89 | 31.4632 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 155.288 | 562.456 | 527.919 | 0 | 527.919 | 622.943 | 622.943 |
| 47 | 2.18486 | 1128.7  | 32.4725 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 134.41  | 486.833 | 431.127 | 0 | 431.127 | 516.665 | 516.665 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.18486 | 876.705 | 33.4933 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 111.994 | 405.645 | 327.211 | 0 | 327.211 | 401.319 | 401.319 |
| 49 | 2.18486 | 549.05  | 34.5262 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 83.2717 | 301.611 | 194.053 | 0 | 194.053 | 251.34  | 251.34  |
| 50 | 2.18486 | 185.834 | 35.5721 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 51.7783 | 187.542 | 48.0512 | 0 | 48.0512 | 85.0828 | 85.0828 |

Global Minimum Query (janbu simplified) - Safety Factor: 3.48343

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.03541    | 131.551      | -16.8742                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 61.7586            | 215.132              | 83.3649                  | 0                   | 83.3649                       | 64.6316                    | 64.6316                         |
| 2            | 2.03541    | 388.87       | -15.7405                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 91.7087            | 319.461              | 216.9                    | 0                   | 216.9                         | 191.052                    | 191.052                         |
| 3            | 2.15187    | 669.336      | -14.581                   | D-VD SAND                               | 0                   | 38                        | 74.0862            | 258.074              | 330.32                   | 0                   | 330.32                        | 311.048                    | 311.048                         |
| 4            | 2.15187    | 913.736      | -13.3955                  | D-VD SAND                               | 0                   | 38                        | 100.611            | 350.473              | 448.585                  | 0                   | 448.585                       | 424.624                    | 424.624                         |
| 5            | 2.15187    | 1146.02      | -12.2158                  | D-VD SAND                               | 0                   | 38                        | 125.544            | 437.322              | 559.748                  | 0                   | 559.748                       | 532.569                    | 532.569                         |
| 6            | 2.15187    | 1366.34      | -11.0413                  | D-VD SAND                               | 0                   | 38                        | 148.93             | 518.786              | 664.014                  | 0                   | 664.014                       | 634.954                    | 634.954                         |
| 7            | 2.15187    | 1574.87      | -9.87152                  | D-VD SAND                               | 0                   | 38                        | 170.813            | 595.014              | 761.585                  | 0                   | 761.585                       | 731.861                    | 731.861                         |
| 8            | 2.15187    | 1771.72      | -8.70589                  | D-VD SAND                               | 0                   | 38                        | 191.231            | 666.141              | 852.623                  | 0                   | 852.623                       | 823.341                    | 823.341                         |
| 9            | 2.15187    | 1957.02      | -7.54388                  | D-VD SAND                               | 0                   | 38                        | 210.222            | 732.292              | 937.292                  | 0                   | 937.292                       | 909.452                    | 909.452                         |
| 10           | 2.15187    | 2130.87      | -6.38498                  | D-VD SAND                               | 0                   | 38                        | 227.815            | 793.578              | 1015.73                  | 0                   | 1015.73                       | 990.241                    | 990.241                         |
| 11           | 2.15187    | 2293.35      | -5.2287                   | D-VD SAND                               | 0                   | 38                        | 244.041            | 850.1                | 1088.08                  | 0                   | 1088.08                       | 1065.75                    | 1065.75                         |
| 12           | 2.15187    | 2444.53      | -4.07455                  | D-VD SAND                               | 0                   | 38                        | 258.926            | 901.952              | 1154.44                  | 0                   | 1154.44                       | 1136                       | 1136                            |
| 13           | 2.15187    | 2616.19      | -2.92206                  | D-VD SAND                               | 0                   | 38                        | 275.84             | 960.868              | 1229.85                  | 0                   | 1229.85                       | 1215.77                    | 1215.77                         |
| 14           | 2.15187    | 2821.25      | -1.77075                  | D-VD SAND                               | 0                   | 38                        | 296.108            | 1031.47              | 1320.23                  | 0                   | 1320.23                       | 1311.07                    | 1311.07                         |
| 15           | 2.15187    | 3015.45      | -0.620155                 | D-VD SAND                               | 0                   | 38                        | 315.06             | 1097.49              | 1404.73                  | 0                   | 1404.73                       | 1401.32                    | 1401.32                         |
| 16           | 2.15187    | 3198.49      | 0.53019                   | D-VD SAND                               | 0                   | 38                        | 332.684            | 1158.88              | 1483.3                   | 0                   | 1483.3                        | 1486.38                    | 1486.38                         |
| 17           | 2.15187    | 3370.37      | 1.68075                   | D-VD SAND                               | 0                   | 38                        | 348.992            | 1215.69              | 1556.01                  | 0                   | 1556.01                       | 1566.25                    | 1566.25                         |
| 18           | 2.15187    | 3531.08      | 2.83199                   | D-VD SAND                               | 0                   | 38                        | 364                | 1267.97              | 1622.93                  | 0                   | 1622.93                       | 1640.93                    | 1640.93                         |
| 19           | 2.15187    | 3680.59      | 3.98437                   | D-VD SAND                               | 0                   | 38                        | 377.723            | 1315.77              | 1684.1                   | 0                   | 1684.1                        | 1710.41                    | 1710.41                         |
| 20           | 2.15187    | 3814.62      | 5.13837                   | D-VD SAND                               | 0                   | 38                        | 389.731            | 1357.6               | 1737.65                  | 0                   | 1737.65                       | 1772.7                     | 1772.7                          |
| 21           | 2.15187    | 3909.16      | 6.29447                   | D-VD SAND                               | 0                   | 38                        | 397.611            | 1385.05              | 1772.78                  | 0                   | 1772.78                       | 1816.64                    | 1816.64                         |
| 22           | 2.15187    | 3987.15      | 7.45314                   | D-VD SAND                               | 0                   | 38                        | 403.729            | 1406.36              | 1800.06                  | 0                   | 1800.06                       | 1852.88                    | 1852.88                         |
| 23           | 2.15187    | 4053.69      | 8.61489                   | D-VD SAND                               | 0                   | 38                        | 408.626            | 1423.42              | 1821.9                   | 0                   | 1821.9                        | 1883.8                     | 1883.8                          |
| 24           | 2.15187    | 4108.69      | 9.78022                   | D-VD SAND                               | 0                   | 38                        | 412.303            | 1436.23              | 1838.29                  | 0                   | 1838.29                       | 1909.36                    | 1909.36                         |
| 25           | 2.15187    | 4152.03      | 10.9497                   | D-VD SAND                               | 0                   | 38                        | 414.764            | 1444.8               | 1849.25                  | 0                   | 1849.25                       | 1929.5                     | 1929.5                          |
| 26           | 2.15187    | 4183.57      | 12.1237                   | D-VD SAND                               | 0                   | 38                        | 416.004            | 1449.12              | 1854.8                   | 0                   | 1854.8                        | 1944.16                    | 1944.16                         |
| 27           | 2.15187    | 4203.18      | 13.303                    | D-VD SAND                               | 0                   | 38                        | 416.03             | 1449.21              | 1854.9                   | 0                   | 1854.9                        | 1953.27                    | 1953.27                         |
| 28           | 2.15187    | 4210.68      | 14.488                    | D-VD SAND                               | 0                   | 38                        | 414.833            | 1445.04              | 1849.56                  | 0                   | 1849.56                       | 1956.75                    | 1956.75                         |
| 29           | 2.15187    | 4205.66      | 15.6794                   | D-VD SAND                               | 0                   | 38                        | 412.387            | 1436.52              | 1838.66                  | 0                   | 1838.66                       | 1954.42                    | 1954.42                         |
| 30           | 2.15187    | 4179.27      | 16.8778                   | D-VD SAND                               | 0                   | 38                        | 407.845            | 1420.7               | 1818.42                  | 0                   | 1818.42                       | 1942.16                    | 1942.16                         |
| 31           | 2.15187    | 4135.55      | 18.0839                   | D-VD SAND                               | 0                   | 38                        | 401.627            | 1399.04              | 1790.69                  | 0                   | 1790.69                       | 1921.84                    | 1921.84                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 32 | 2.15187 | 4078.84 | 19.2983 | D-VD<br>SAND                                         | 0   | 38 | 394.175 | 1373.08 | 1757.46 | 0 | 1757.46 | 1895.49 | 1895.49 |
| 33 | 2.15187 | 4008.85 | 20.5218 | D-VD<br>SAND                                         | 0   | 38 | 385.474 | 1342.77 | 1718.67 | 0 | 1718.67 | 1862.96 | 1862.96 |
| 34 | 2.15187 | 3925.28 | 21.7552 | D-VD<br>SAND                                         | 0   | 38 | 375.515 | 1308.08 | 1674.27 | 0 | 1674.27 | 1824.13 | 1824.13 |
| 35 | 2.15187 | 3827.78 | 22.9993 | D-VD<br>SAND                                         | 0   | 38 | 364.285 | 1268.96 | 1624.19 | 0 | 1624.19 | 1778.81 | 1778.81 |
| 36 | 2.15187 | 3715.97 | 24.2549 | D-VD<br>SAND                                         | 0   | 38 | 351.762 | 1225.34 | 1568.36 | 0 | 1568.36 | 1726.86 | 1726.86 |
| 37 | 2.15187 | 3589.42 | 25.5231 | D-VD<br>SAND                                         | 0   | 38 | 337.931 | 1177.16 | 1506.7  | 0 | 1506.7  | 1668.05 | 1668.05 |
| 38 | 2.15187 | 3447.69 | 26.8048 | D-VD<br>SAND                                         | 0   | 38 | 322.771 | 1124.35 | 1439.11 | 0 | 1439.11 | 1602.19 | 1602.19 |
| 39 | 2.15187 | 3290.26 | 28.1012 | D-VD<br>SAND                                         | 0   | 38 | 306.261 | 1066.84 | 1365.49 | 0 | 1365.49 | 1529.03 | 1529.03 |
| 40 | 2.07583 | 3005.92 | 29.39   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 326.584 | 1137.63 | 1264.11 | 0 | 1264.11 | 1448.06 | 1448.06 |
| 41 | 2.07583 | 2822.08 | 30.6718 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 307.122 | 1069.84 | 1177.34 | 0 | 1177.34 | 1359.49 | 1359.49 |
| 42 | 2.07583 | 2621.18 | 31.9709 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 286.204 | 996.972 | 1084.07 | 0 | 1084.07 | 1262.71 | 1262.71 |
| 43 | 2.07583 | 2402.5  | 33.2887 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 263.795 | 918.91  | 984.161 | 0 | 984.161 | 1157.37 | 1157.37 |
| 44 | 2.07583 | 2165.22 | 34.6267 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 239.857 | 835.525 | 877.433 | 0 | 877.433 | 1043.06 | 1043.06 |
| 45 | 2.07583 | 1908.46 | 35.9866 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 214.351 | 746.677 | 763.711 | 0 | 763.711 | 919.37  | 919.37  |
| 46 | 2.07583 | 1631.19 | 37.3704 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 187.233 | 652.213 | 642.802 | 0 | 642.802 | 785.799 | 785.799 |
| 47 | 2.07583 | 1332.28 | 38.7803 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 158.455 | 551.967 | 514.495 | 0 | 514.495 | 641.806 | 641.806 |
| 48 | 2.07583 | 1010.43 | 40.2186 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 127.965 | 445.757 | 378.55  | 0 | 378.55  | 486.76  | 486.76  |
| 49 | 2.07583 | 660.339 | 41.6882 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 95.3603 | 332.181 | 233.181 | 0 | 233.181 | 318.108 | 318.108 |
| 50 | 2.07583 | 230.381 | 43.1921 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 56.1334 | 195.537 | 58.2844 | 0 | 58.2844 | 110.983 | 110.983 |

## **Cross Section D-D' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.38529**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.59407    | 135.71       | -10.496                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 153.838            | 213.11               | 80.7771                  | 0                   | 80.7771                       | 52.2761                    | 52.2761                         |
| 2            | 2.59407    | 399.823      | -9.56804                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 215.684            | 298.785              | 190.436                  | 0                   | 190.436                       | 154.08                     | 154.08                          |
| 3            | 2.52762    | 621.149      | -8.65443                  | D-VD SAND                               | 0                   | 38                        | 151.592            | 209.999              | 268.786                  | 0                   | 268.786                       | 245.713                    | 245.713                         |
| 4            | 2.52762    | 828.078      | -7.75486                  | D-VD SAND                               | 0                   | 38                        | 200.117            | 277.22               | 354.826                  | 0                   | 354.826                       | 327.574                    | 327.574                         |
| 5            | 2.52762    | 1051.5       | -6.85722                  | D-VD SAND                               | 0                   | 38                        | 251.666            | 348.63               | 446.227                  | 0                   | 446.227                       | 415.963                    | 415.963                         |
| 6            | 2.52762    | 1283.82      | -5.96126                  | D-VD SAND                               | 0                   | 38                        | 304.359            | 421.625              | 539.655                  | 0                   | 539.655                       | 507.874                    | 507.874                         |
| 7            | 2.52762    | 1504.04      | -5.06676                  | D-VD SAND                               | 0                   | 38                        | 353.235            | 489.333              | 626.316                  | 0                   | 626.316                       | 594.997                    | 594.997                         |
| 8            | 2.52762    | 1712.2       | -4.1735                   | D-VD SAND                               | 0                   | 38                        | 398.416            | 551.922              | 706.428                  | 0                   | 706.428                       | 677.355                    | 677.355                         |
| 9            | 2.52762    | 1908.35      | -3.28126                  | D-VD SAND                               | 0                   | 38                        | 440.017            | 609.551              | 780.189                  | 0                   | 780.189                       | 754.962                    | 754.962                         |
| 10           | 2.52762    | 2092.52      | -2.38981                  | D-VD SAND                               | 0                   | 38                        | 478.142            | 662.366              | 847.791                  | 0                   | 847.791                       | 827.836                    | 827.836                         |
| 11           | 2.52762    | 2264.75      | -1.49894                  | D-VD SAND                               | 0                   | 38                        | 512.892            | 710.504              | 909.406                  | 0                   | 909.406                       | 895.985                    | 895.985                         |
| 12           | 2.52762    | 2425.06      | -0.608428                 | D-VD SAND                               | 0                   | 38                        | 544.357            | 754.093              | 965.193                  | 0                   | 965.193                       | 959.412                    | 959.412                         |
| 13           | 2.52762    | 2573.44      | 0.281933                  | D-VD SAND                               | 0                   | 38                        | 572.624            | 793.25               | 1015.31                  | 0                   | 1015.31                       | 1018.13                    | 1018.13                         |
| 14           | 2.52762    | 2709.91      | 1.17236                   | D-VD SAND                               | 0                   | 38                        | 597.771            | 828.086              | 1059.9                   | 0                   | 1059.9                        | 1072.13                    | 1072.13                         |
| 15           | 2.52762    | 2842.9       | 2.06307                   | D-VD SAND                               | 0                   | 38                        | 621.721            | 861.264              | 1102.37                  | 0                   | 1102.37                       | 1124.77                    | 1124.77                         |
| 16           | 2.52762    | 3042.2       | 2.95429                   | D-VD SAND                               | 0                   | 38                        | 659.631            | 913.78               | 1169.58                  | 0                   | 1169.58                       | 1203.63                    | 1203.63                         |
| 17           | 2.52762    | 3248.58      | 3.84621                   | D-VD SAND                               | 0                   | 38                        | 698.41             | 967.5                | 1238.34                  | 0                   | 1238.34                       | 1285.3                     | 1285.3                          |
| 18           | 2.52762    | 3442.97      | 4.73908                   | D-VD SAND                               | 0                   | 38                        | 733.962            | 1016.75              | 1301.38                  | 0                   | 1301.38                       | 1362.22                    | 1362.22                         |
| 19           | 2.52762    | 3625.33      | 5.63309                   | D-VD SAND                               | 0                   | 38                        | 766.345            | 1061.61              | 1358.8                   | 0                   | 1358.8                        | 1434.39                    | 1434.39                         |
| 20           | 2.52762    | 3795.59      | 6.52849                   | D-VD SAND                               | 0                   | 38                        | 795.631            | 1102.18              | 1410.72                  | 0                   | 1410.72                       | 1501.77                    | 1501.77                         |
| 21           | 2.52762    | 3953.58      | 7.42549                   | D-VD SAND                               | 0                   | 38                        | 821.835            | 1138.48              | 1457.19                  | 0                   | 1457.19                       | 1564.3                     | 1564.3                          |
| 22           | 2.52762    | 4070.03      | 8.32433                   | D-VD SAND                               | 0                   | 38                        | 839.001            | 1162.26              | 1487.63                  | 0                   | 1487.63                       | 1610.39                    | 1610.39                         |
| 23           | 2.52762    | 4151.72      | 9.22523                   | D-VD SAND                               | 0                   | 38                        | 848.732            | 1175.74              | 1504.88                  | 0                   | 1504.88                       | 1642.73                    | 1642.73                         |
| 24           | 2.52762    | 4221.01      | 10.1284                   | D-VD SAND                               | 0                   | 38                        | 855.734            | 1185.44              | 1517.3                   | 0                   | 1517.3                        | 1670.17                    | 1670.17                         |
| 25           | 2.52762    | 4277.82      | 11.0342                   | D-VD SAND                               | 0                   | 38                        | 860.051            | 1191.42              | 1524.95                  | 0                   | 1524.95                       | 1692.66                    | 1692.66                         |
| 26           | 2.52762    | 4322.02      | 11.9428                   | D-VD SAND                               | 0                   | 38                        | 861.718            | 1193.73              | 1527.9                   | 0                   | 1527.9                        | 1710.17                    | 1710.17                         |
| 27           | 2.52762    | 4353.5       | 12.8544                   | D-VD SAND                               | 0                   | 38                        | 860.766            | 1192.41              | 1526.22                  | 0                   | 1526.22                       | 1722.64                    | 1722.64                         |
| 28           | 2.52762    | 4372.12      | 13.7693                   | D-VD SAND                               | 0                   | 38                        | 857.236            | 1187.52              | 1519.96                  | 0                   | 1519.96                       | 1730.03                    | 1730.03                         |
| 29           | 2.52762    | 4377.5       | 14.6879                   | D-VD SAND                               | 0                   | 38                        | 851.107            | 1179.03              | 1509.08                  | 0                   | 1509.08                       | 1732.17                    | 1732.17                         |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 2.52762 | 4357.79 | 15.6103 | D-VD<br>SAND                                         | 0   | 38 | 840.149 | 1163.85 | 1489.66 | 0 | 1489.66 | 1724.39 | 1724.39 |
| 31 | 2.52762 | 4318.02 | 16.5369 | D-VD<br>SAND                                         | 0   | 38 | 825.444 | 1143.48 | 1463.58 | 0 | 1463.58 | 1708.67 | 1708.67 |
| 32 | 2.52762 | 4264.73 | 17.4679 | D-VD<br>SAND                                         | 0   | 38 | 808.329 | 1119.77 | 1433.23 | 0 | 1433.23 | 1687.6  | 1687.6  |
| 33 | 2.52762 | 4197.72 | 18.4038 | D-VD<br>SAND                                         | 0   | 38 | 788.817 | 1092.74 | 1398.64 | 0 | 1398.64 | 1661.1  | 1661.1  |
| 34 | 2.52762 | 4116.75 | 19.3448 | D-VD<br>SAND                                         | 0   | 38 | 766.93  | 1062.42 | 1359.83 | 0 | 1359.83 | 1629.08 | 1629.08 |
| 35 | 2.52762 | 4021.6  | 20.2912 | D-VD<br>SAND                                         | 0   | 38 | 742.682 | 1028.83 | 1316.84 | 0 | 1316.84 | 1591.44 | 1591.44 |
| 36 | 2.52762 | 3912    | 21.2434 | D-VD<br>SAND                                         | 0   | 38 | 716.097 | 992.002 | 1269.71 | 0 | 1269.71 | 1548.09 | 1548.09 |
| 37 | 2.52762 | 3787.69 | 22.2019 | D-VD<br>SAND                                         | 0   | 38 | 687.187 | 951.953 | 1218.44 | 0 | 1218.44 | 1498.91 | 1498.91 |
| 38 | 2.46515 | 3552.41 | 23.1549 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 742.234 | 1028.21 | 1124.06 | 0 | 1124.06 | 1441.49 | 1441.49 |
| 39 | 2.46515 | 3401.44 | 24.1027 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 708.066 | 980.877 | 1063.47 | 0 | 1063.47 | 1380.25 | 1380.25 |
| 40 | 2.46515 | 3237.55 | 25.0576 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 672.024 | 930.948 | 999.569 | 0 | 999.569 | 1313.76 | 1313.76 |
| 41 | 2.46515 | 3057.55 | 26.02   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 633.598 | 877.717 | 931.434 | 0 | 931.434 | 1240.73 | 1240.73 |
| 42 | 2.46515 | 2861.04 | 26.9904 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 592.797 | 821.196 | 859.092 | 0 | 859.092 | 1161.01 | 1161.01 |
| 43 | 2.46515 | 2647.61 | 27.9692 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 549.63  | 761.397 | 782.553 | 0 | 782.553 | 1074.42 | 1074.42 |
| 44 | 2.46515 | 2416.79 | 28.957  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 504.105 | 698.331 | 701.832 | 0 | 701.832 | 980.767 | 980.767 |
| 45 | 2.46515 | 2168.09 | 29.9543 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 456.227 | 632.007 | 616.94  | 0 | 616.94  | 879.858 | 879.858 |
| 46 | 2.46515 | 1895.35 | 30.9617 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 405.044 | 561.103 | 526.187 | 0 | 526.187 | 769.194 | 769.194 |
| 47 | 2.46515 | 1527.58 | 31.9798 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 338.671 | 469.157 | 408.5   | 0 | 408.5   | 619.959 | 619.959 |
| 48 | 2.46515 | 1116.2  | 33.0094 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 266.237 | 368.815 | 280.07  | 0 | 280.07  | 453.029 | 453.029 |
| 49 | 2.46515 | 684.502 | 34.0512 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 191.858 | 265.779 | 148.191 | 0 | 148.191 | 277.85  | 277.85  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 50 | 2.46515 | 231.743 | 35.1059 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 115.551 | 160.072 | 12.8912 | 0 | 12.8912 | 94.1195 | 94.1195 |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|

Global Minimum Query (janbu simplified) - Safety Factor: 1.33668

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.58482    | 135.558      | -10.5999                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 160.417            | 214.426              | 82.4613                  | 0                   | 82.4613                       | 52.4405                    | 52.4405                         |
| 2            | 2.58482    | 399.524      | -9.68562                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 225.005            | 300.76               | 192.964                  | 0                   | 192.964                       | 154.561                    | 154.561                         |
| 3            | 2.57677    | 637.781      | -8.77528                  | D-VD SAND                               | 0                   | 38                        | 159.016            | 212.553              | 272.055                  | 0                   | 272.055                       | 247.508                    | 247.508                         |
| 4            | 2.57677    | 859.044      | -7.86858                  | D-VD SAND                               | 0                   | 38                        | 211.981            | 283.351              | 362.673                  | 0                   | 362.673                       | 333.377                    | 333.377                         |
| 5            | 2.57677    | 1106.15      | -6.96387                  | D-VD SAND                               | 0                   | 38                        | 270.199            | 361.17               | 462.278                  | 0                   | 462.278                       | 429.275                    | 429.275                         |
| 6            | 2.57677    | 1349.05      | -6.06089                  | D-VD SAND                               | 0                   | 38                        | 326.255            | 436.099              | 558.18                   | 0                   | 558.18                        | 523.539                    | 523.539                         |
| 7            | 2.57677    | 1579.27      | -5.15943                  | D-VD SAND                               | 0                   | 38                        | 378.186            | 505.514              | 647.029                  | 0                   | 647.029                       | 612.881                    | 612.881                         |
| 8            | 2.57677    | 1796.85      | -4.25924                  | D-VD SAND                               | 0                   | 38                        | 426.132            | 569.602              | 729.058                  | 0                   | 729.058                       | 697.321                    | 697.321                         |
| 9            | 2.57677    | 2001.85      | -3.36011                  | D-VD SAND                               | 0                   | 38                        | 470.22             | 628.534              | 804.486                  | 0                   | 804.486                       | 776.879                    | 776.879                         |
| 10           | 2.57677    | 2194.31      | -2.4618                   | D-VD SAND                               | 0                   | 38                        | 510.571            | 682.47               | 873.522                  | 0                   | 873.522                       | 851.571                    | 851.571                         |
| 11           | 2.57677    | 2374.26      | -1.5641                   | D-VD SAND                               | 0                   | 38                        | 547.293            | 731.556              | 936.349                  | 0                   | 936.349                       | 921.405                    | 921.405                         |
| 12           | 2.57677    | 2541.72      | -0.666784                 | D-VD SAND                               | 0                   | 38                        | 580.493            | 775.933              | 993.147                  | 0                   | 993.147                       | 986.391                    | 986.391                         |
| 13           | 2.57677    | 2696.69      | 0.230369                  | D-VD SAND                               | 0                   | 38                        | 610.264            | 815.728              | 1044.08                  | 0                   | 1044.08                       | 1046.54                    | 1046.54                         |
| 14           | 2.57677    | 2839.19      | 1.12758                   | D-VD SAND                               | 0                   | 38                        | 636.698            | 851.061              | 1089.31                  | 0                   | 1089.31                       | 1101.84                    | 1101.84                         |
| 15           | 2.57677    | 3018.58      | 2.02506                   | D-VD SAND                               | 0                   | 38                        | 670.849            | 896.711              | 1147.74                  | 0                   | 1147.74                       | 1171.46                    | 1171.46                         |
| 16           | 2.57677    | 3245.83      | 2.92305                   | D-VD SAND                               | 0                   | 38                        | 714.927            | 955.629              | 1223.15                  | 0                   | 1223.15                       | 1259.66                    | 1259.66                         |
| 17           | 2.57677    | 3460.72      | 3.82175                   | D-VD SAND                               | 0                   | 38                        | 755.506            | 1009.87              | 1292.58                  | 0                   | 1292.58                       | 1343.05                    | 1343.05                         |
| 18           | 2.57677    | 3663.04      | 4.7214                    | D-VD SAND                               | 0                   | 38                        | 792.635            | 1059.5               | 1356.1                   | 0                   | 1356.1                        | 1421.56                    | 1421.56                         |
| 19           | 2.57677    | 3852.75      | 5.62221                   | D-VD SAND                               | 0                   | 38                        | 826.383            | 1104.61              | 1413.84                  | 0                   | 1413.84                       | 1495.19                    | 1495.19                         |
| 20           | 2.57677    | 4029.81      | 6.52442                   | D-VD SAND                               | 0                   | 38                        | 856.824            | 1145.3               | 1465.91                  | 0                   | 1465.91                       | 1563.91                    | 1563.91                         |
| 21           | 2.57677    | 4179.42      | 7.42826                   | D-VD SAND                               | 0                   | 38                        | 880.906            | 1177.49              | 1507.12                  | 0                   | 1507.12                       | 1621.97                    | 1621.97                         |
| 22           | 2.57677    | 4278.85      | 8.33397                   | D-VD SAND                               | 0                   | 38                        | 894.043            | 1195.05              | 1529.59                  | 0                   | 1529.59                       | 1660.56                    | 1660.56                         |
| 23           | 2.57677    | 4363.56      | 9.24177                   | D-VD SAND                               | 0                   | 38                        | 903.851            | 1208.16              | 1546.37                  | 0                   | 1546.37                       | 1693.44                    | 1693.44                         |
| 24           | 2.57677    | 4435.29      | 10.1519                   | D-VD SAND                               | 0                   | 38                        | 910.757            | 1217.39              | 1558.19                  | 0                   | 1558.19                       | 1721.27                    | 1721.27                         |
| 25           | 2.57677    | 4493.94      | 11.0647                   | D-VD SAND                               | 0                   | 38                        | 914.819            | 1222.82              | 1565.14                  | 0                   | 1565.14                       | 1744.04                    | 1744.04                         |
| 26           | 2.57677    | 4539.38      | 11.9803                   | D-VD SAND                               | 0                   | 38                        | 916.076            | 1224.5               | 1567.29                  | 0                   | 1567.29                       | 1761.68                    | 1761.68                         |
| 27           | 2.57677    | 4571.5       | 12.899                    | D-VD SAND                               | 0                   | 38                        | 914.557            | 1222.47              | 1564.7                   | 0                   | 1564.7                        | 1774.14                    | 1774.14                         |
| 28           | 2.57677    | 4590.14      | 13.8211                   | D-VD SAND                               | 0                   | 38                        | 910.315            | 1216.8               | 1557.43                  | 0                   | 1557.43                       | 1781.38                    | 1781.38                         |
| 29           | 2.57677    | 4585.8       | 14.7469                   | D-VD SAND                               | 0                   | 38                        | 901.525            | 1205.05              | 1542.39                  | 0                   | 1542.39                       | 1779.69                    | 1779.69                         |
| 30           | 2.57677    | 4557.41      | 15.6766                   | D-VD SAND                               | 0                   | 38                        | 888.103            | 1187.11              | 1519.43                  | 0                   | 1519.43                       | 1768.68                    | 1768.68                         |
| 31           | 2.57677    | 4515.03      | 16.6106                   | D-VD SAND                               | 0                   | 38                        | 872.109            | 1165.73              | 1492.07                  | 0                   | 1492.07                       | 1752.23                    | 1752.23                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 32 | 2.57677 | 4458.47 | 17.5491 | D-VD<br>SAND                                         | 0   | 38 | 853.57  | 1140.95 | 1460.35 | 0 | 1460.35 | 1730.28 | 1730.28 |
| 33 | 2.57677 | 4387.51 | 18.4926 | D-VD<br>SAND                                         | 0   | 38 | 832.503 | 1112.79 | 1424.31 | 0 | 1424.31 | 1702.74 | 1702.74 |
| 34 | 2.57677 | 4301.92 | 19.4412 | D-VD<br>SAND                                         | 0   | 38 | 808.945 | 1081.3  | 1384    | 0 | 1384    | 1669.53 | 1669.53 |
| 35 | 2.57677 | 4201.45 | 20.3955 | D-VD<br>SAND                                         | 0   | 38 | 782.902 | 1046.49 | 1339.45 | 0 | 1339.45 | 1630.54 | 1630.54 |
| 36 | 2.57677 | 4085.83 | 21.3557 | D-VD<br>SAND                                         | 0   | 38 | 754.406 | 1008.4  | 1290.69 | 0 | 1290.69 | 1585.67 | 1585.67 |
| 37 | 2.57677 | 3956.65 | 22.3222 | D-VD<br>SAND                                         | 0   | 38 | 723.814 | 967.508 | 1238.35 | 0 | 1238.35 | 1535.54 | 1535.54 |
| 38 | 2.45934 | 3645.66 | 23.2731 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 782.073 | 1045.38 | 1146.04 | 0 | 1146.04 | 1482.42 | 1482.42 |
| 39 | 2.45934 | 3496.38 | 24.2086 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 746.924 | 998.398 | 1085.9  | 0 | 1085.9  | 1421.71 | 1421.71 |
| 40 | 2.45934 | 3331.61 | 25.1509 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 709.372 | 948.203 | 1021.65 | 0 | 1021.65 | 1354.71 | 1354.71 |
| 41 | 2.45934 | 3150.99 | 26.1006 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 669.428 | 894.811 | 953.314 | 0 | 953.314 | 1281.27 | 1281.27 |
| 42 | 2.45934 | 2954.14 | 27.0581 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 627.104 | 838.237 | 880.904 | 0 | 880.904 | 1201.23 | 1201.23 |
| 43 | 2.45934 | 2740.65 | 28.0238 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 582.409 | 778.494 | 804.436 | 0 | 804.436 | 1114.42 | 1114.42 |
| 44 | 2.45934 | 2510.06 | 28.9983 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 535.353 | 715.596 | 723.93  | 0 | 723.93  | 1020.66 | 1020.66 |
| 45 | 2.45934 | 2256.26 | 29.982  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 484.941 | 648.211 | 637.682 | 0 | 637.682 | 917.46  | 917.46  |
| 46 | 2.45934 | 1908.63 | 30.9756 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 418.88  | 559.908 | 524.656 | 0 | 524.656 | 776.102 | 776.102 |
| 47 | 2.45934 | 1518.59 | 31.9796 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 346.642 | 463.35  | 401.069 | 0 | 401.069 | 617.503 | 617.503 |
| 48 | 2.45934 | 1109.3  | 32.9948 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 272.468 | 364.203 | 274.167 | 0 | 274.167 | 451.075 | 451.075 |
| 49 | 2.45934 | 680.07  | 34.0218 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 196.372 | 262.487 | 143.977 | 0 | 143.977 | 276.54  | 276.54  |
| 50 | 2.45934 | 230.195 | 35.0613 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 118.375 | 158.23  | 10.5335 | 0 | 10.5335 | 93.6096 | 93.6096 |

## **Cross Section E-E' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 5.47617**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material       | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.711598   | 15.9097      | -22.9448                  | New Structural Fill | 50                  | 34                        | 12.538             | 68.6604              | 27.6651                  | 0                   | 27.6651                       | 22.3572                    | 22.3572                         |
| 2            | 0.711598   | 46.8814      | -21.6312                  | New Structural Fill | 50                  | 34                        | 18.1308            | 99.2872              | 73.0714                  | 0                   | 73.0714                       | 65.8815                    | 65.8815                         |
| 3            | 0.711598   | 76.1808      | -20.3294                  | New Structural Fill | 50                  | 34                        | 23.3838            | 128.053              | 115.719                  | 0                   | 115.719                       | 107.055                    | 107.055                         |
| 4            | 0.711598   | 103.851      | -19.0385                  | New Structural Fill | 50                  | 34                        | 28.3094            | 155.027              | 155.709                  | 0                   | 155.709                       | 145.94                     | 145.94                          |
| 5            | 0.711598   | 129.931      | -17.7576                  | New Structural Fill | 50                  | 34                        | 32.9188            | 180.269              | 193.132                  | 0                   | 193.132                       | 182.59                     | 182.59                          |
| 6            | 0.711598   | 154.456      | -16.4858                  | New Structural Fill | 50                  | 34                        | 37.2222            | 203.835              | 228.07                   | 0                   | 228.07                        | 217.054                    | 217.054                         |
| 7            | 0.711598   | 177.457      | -15.2222                  | New Structural Fill | 50                  | 34                        | 41.2286            | 225.775              | 260.597                  | 0                   | 260.597                       | 249.378                    | 249.378                         |
| 8            | 0.711598   | 198.964      | -13.9663                  | New Structural Fill | 50                  | 34                        | 44.9462            | 246.133              | 290.779                  | 0                   | 290.779                       | 279.601                    | 279.601                         |
| 9            | 0.711598   | 219.632      | -12.7171                  | New Structural Fill | 50                  | 34                        | 48.4948            | 265.566              | 319.591                  | 0                   | 319.591                       | 308.647                    | 308.647                         |
| 10           | 0.711598   | 243.263      | -11.4741                  | New Structural Fill | 50                  | 34                        | 52.551             | 287.778              | 352.521                  | 0                   | 352.521                       | 341.855                    | 341.855                         |
| 11           | 0.711598   | 266.315      | -10.2365                  | New Structural Fill | 50                  | 34                        | 56.4838            | 309.315              | 384.449                  | 0                   | 384.449                       | 374.249                    | 374.249                         |
| 12           | 0.711598   | 287.959      | -9.00371                  | New Structural Fill | 50                  | 34                        | 60.1475            | 329.378              | 414.195                  | 0                   | 414.195                       | 404.664                    | 404.664                         |
| 13           | 0.711598   | 308.208      | -7.77512                  | New Structural Fill | 50                  | 34                        | 63.5473            | 347.996              | 441.797                  | 0                   | 441.797                       | 433.121                    | 433.121                         |
| 14           | 0.711598   | 327.076      | -6.55012                  | New Structural Fill | 50                  | 34                        | 66.6877            | 365.193              | 467.292                  | 0                   | 467.292                       | 459.635                    | 459.635                         |
| 15           | 0.711598   | 344.575      | -5.32813                  | New Structural Fill | 50                  | 34                        | 69.5725            | 380.991              | 490.715                  | 0                   | 490.715                       | 484.227                    | 484.227                         |
| 16           | 0.711598   | 360.713      | -4.10856                  | New Structural Fill | 50                  | 34                        | 72.2056            | 395.41               | 512.092                  | 0                   | 512.092                       | 506.905                    | 506.905                         |
| 17           | 0.711598   | 375.497      | -2.89085                  | New Structural Fill | 50                  | 34                        | 74.5899            | 408.467              | 531.448                  | 0                   | 531.448                       | 527.681                    | 527.681                         |
| 18           | 0.711598   | 388.934      | -1.67445                  | New Structural Fill | 50                  | 34                        | 76.7279            | 420.175              | 548.808                  | 0                   | 548.808                       | 546.565                    | 546.565                         |
| 19           | 0.711598   | 401.026      | -0.458809                 | New Structural Fill | 50                  | 34                        | 78.6223            | 430.549              | 564.187                  | 0                   | 564.187                       | 563.557                    | 563.557                         |
| 20           | 0.711598   | 411.774      | 0.756629                  | New Structural Fill | 50                  | 34                        | 80.2745            | 439.597              | 577.602                  | 0                   | 577.602                       | 578.662                    | 578.662                         |
| 21           | 0.711598   | 421.18       | 1.97241                   | New Structural Fill | 50                  | 34                        | 81.6867            | 447.33               | 589.065                  | 0                   | 589.065                       | 591.879                    | 591.879                         |
| 22           | 0.711598   | 429.24       | 3.18908                   | New Structural Fill | 50                  | 34                        | 82.8596            | 453.753              | 598.589                  | 0                   | 598.589                       | 603.206                    | 603.206                         |

|    |          |         |         |                           |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 0.711598 | 435.95  | 4.40719 | New<br>Structural<br>Fill | 50 | 34 | 83.7943 | 458.872 | 606.178 | 0 | 606.178 | 612.636 | 612.636 |
| 24 | 0.711598 | 441.306 | 5.6273  | New<br>Structural<br>Fill | 50 | 34 | 84.4915 | 462.69  | 611.837 | 0 | 611.837 | 620.162 | 620.162 |
| 25 | 0.711598 | 445.299 | 6.84998 | New<br>Structural<br>Fill | 50 | 34 | 84.9512 | 465.207 | 615.569 | 0 | 615.569 | 625.774 | 625.774 |
| 26 | 0.711598 | 447.92  | 8.0758  | New<br>Structural<br>Fill | 50 | 34 | 85.1732 | 466.423 | 617.372 | 0 | 617.372 | 629.458 | 629.458 |
| 27 | 0.711598 | 449.157 | 9.30535 | New<br>Structural<br>Fill | 50 | 34 | 85.1571 | 466.335 | 617.242 | 0 | 617.242 | 631.195 | 631.195 |
| 28 | 0.711598 | 448.996 | 10.5393 | New<br>Structural<br>Fill | 50 | 34 | 84.9024 | 464.94  | 615.174 | 0 | 615.174 | 630.97  | 630.97  |
| 29 | 0.711598 | 447.422 | 11.7781 | New<br>Structural<br>Fill | 50 | 34 | 84.4077 | 462.231 | 611.158 | 0 | 611.158 | 628.758 | 628.758 |
| 30 | 0.711598 | 444.416 | 13.0226 | New<br>Structural<br>Fill | 50 | 34 | 83.6718 | 458.201 | 605.183 | 0 | 605.183 | 624.535 | 624.535 |
| 31 | 0.711598 | 439.959 | 14.2734 | New<br>Structural<br>Fill | 50 | 34 | 82.6926 | 452.839 | 597.233 | 0 | 597.233 | 618.271 | 618.271 |
| 32 | 0.711598 | 434.025 | 15.5311 | New<br>Structural<br>Fill | 50 | 34 | 81.4681 | 446.133 | 587.292 | 0 | 587.292 | 609.933 | 609.933 |
| 33 | 0.711598 | 426.59  | 16.7966 | New<br>Structural<br>Fill | 50 | 34 | 79.9955 | 438.069 | 575.336 | 0 | 575.336 | 599.483 | 599.483 |
| 34 | 0.711598 | 417.624 | 18.0706 | New<br>Structural<br>Fill | 50 | 34 | 78.2722 | 428.632 | 561.345 | 0 | 561.345 | 586.884 | 586.884 |
| 35 | 0.711598 | 407.094 | 19.3539 | New<br>Structural<br>Fill | 50 | 34 | 76.2946 | 417.802 | 545.288 | 0 | 545.288 | 572.086 | 572.086 |
| 36 | 0.711598 | 394.965 | 20.6473 | New<br>Structural<br>Fill | 50 | 34 | 74.0585 | 405.557 | 527.136 | 0 | 527.136 | 555.042 | 555.042 |
| 37 | 0.711598 | 381.197 | 21.9519 | New<br>Structural<br>Fill | 50 | 34 | 71.5602 | 391.876 | 506.851 | 0 | 506.851 | 535.694 | 535.694 |
| 38 | 0.711598 | 365.745 | 23.2686 | New<br>Structural<br>Fill | 50 | 34 | 68.7944 | 376.73  | 484.396 | 0 | 484.396 | 513.979 | 513.979 |
| 39 | 0.711598 | 348.56  | 24.5984 | New<br>Structural<br>Fill | 50 | 34 | 65.7558 | 360.09  | 459.726 | 0 | 459.726 | 489.829 | 489.829 |
| 40 | 0.711598 | 329.588 | 25.9425 | New<br>Structural<br>Fill | 50 | 34 | 62.4383 | 341.923 | 432.793 | 0 | 432.793 | 463.169 | 463.169 |
| 41 | 0.711598 | 308.768 | 27.3022 | New<br>Structural<br>Fill | 50 | 34 | 58.8353 | 322.192 | 403.541 | 0 | 403.541 | 433.911 | 433.911 |
| 42 | 0.711598 | 286.034 | 28.6787 | New<br>Structural<br>Fill | 50 | 34 | 54.9391 | 300.856 | 371.91  | 0 | 371.91  | 401.962 | 401.962 |
| 43 | 0.711598 | 261.309 | 30.0736 | New<br>Structural<br>Fill | 50 | 34 | 50.742  | 277.872 | 337.833 | 0 | 337.833 | 367.216 | 367.216 |
| 44 | 0.711598 | 234.51  | 31.4884 | New<br>Structural<br>Fill | 50 | 34 | 46.2343 | 253.187 | 301.237 | 0 | 301.237 | 329.557 | 329.557 |
| 45 | 0.711598 | 205.544 | 32.925  | New<br>Structural<br>Fill | 50 | 34 | 41.4061 | 226.747 | 262.039 | 0 | 262.039 | 288.851 | 288.851 |
| 46 | 0.711598 | 174.306 | 34.3854 | New<br>Structural<br>Fill | 50 | 34 | 36.2463 | 198.491 | 220.147 | 0 | 220.147 | 244.952 | 244.952 |
| 47 | 0.711598 | 140.675 | 35.8717 | New<br>Structural<br>Fill | 50 | 34 | 30.7423 | 168.35  | 175.461 | 0 | 175.461 | 197.691 | 197.691 |

|    |          |         |         |                           |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 0.711598 | 104.518 | 37.3864 | New<br>Structural<br>Fill | 50 | 34 | 24.8799 | 136.247 | 127.866 | 0 | 127.866 | 146.878 | 146.878 |
| 49 | 0.711598 | 65.6795 | 38.9324 | New<br>Structural<br>Fill | 50 | 34 | 18.6441 | 102.098 | 77.2385 | 0 | 77.2385 | 92.2998 | 92.2998 |
| 50 | 0.711598 | 23.1327 | 40.5129 | New<br>Structural<br>Fill | 50 | 34 | 11.8839 | 65.0782 | 22.3543 | 0 | 22.3543 | 32.5088 | 32.5088 |

Global Minimum Query (janbu simplified) - Safety Factor: 5.15868

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material       | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.711598   | 15.9097      | -22.9448                  | New Structural Fill | 50                  | 34                        | 13.3549            | 68.8937              | 28.011                   | 0                   | 28.011                        | 22.3573                    | 22.3573                         |
| 2            | 0.711598   | 46.8814      | -21.6312                  | New Structural Fill | 50                  | 34                        | 19.3077            | 99.6021              | 73.5381                  | 0                   | 73.5381                       | 65.8815                    | 65.8815                         |
| 3            | 0.711598   | 76.1808      | -20.3294                  | New Structural Fill | 50                  | 34                        | 24.8962            | 128.431              | 116.279                  | 0                   | 116.279                       | 107.056                    | 107.056                         |
| 4            | 0.711598   | 103.851      | -19.0385                  | New Structural Fill | 50                  | 34                        | 30.1341            | 155.452              | 156.339                  | 0                   | 156.339                       | 145.94                     | 145.94                          |
| 5            | 0.711598   | 129.931      | -17.7576                  | New Structural Fill | 50                  | 34                        | 35.0334            | 180.726              | 193.81                   | 0                   | 193.81                        | 182.59                     | 182.59                          |
| 6            | 0.711598   | 154.456      | -16.4858                  | New Structural Fill | 50                  | 34                        | 39.6053            | 204.311              | 228.775                  | 0                   | 228.775                       | 217.054                    | 217.054                         |
| 7            | 0.711598   | 177.457      | -15.2222                  | New Structural Fill | 50                  | 34                        | 43.8597            | 226.258              | 261.313                  | 0                   | 261.313                       | 249.378                    | 249.378                         |
| 8            | 0.711598   | 198.964      | -13.9663                  | New Structural Fill | 50                  | 34                        | 47.8053            | 246.612              | 291.49                   | 0                   | 291.49                        | 279.6                      | 279.6                           |
| 9            | 0.711598   | 219.632      | -12.7171                  | New Structural Fill | 50                  | 34                        | 51.5702            | 266.034              | 320.284                  | 0                   | 320.284                       | 308.646                    | 308.646                         |
| 10           | 0.711598   | 243.263      | -11.4741                  | New Structural Fill | 50                  | 34                        | 55.8734            | 288.233              | 353.195                  | 0                   | 353.195                       | 341.854                    | 341.854                         |
| 11           | 0.711598   | 266.315      | -10.2365                  | New Structural Fill | 50                  | 34                        | 60.044             | 309.748              | 385.092                  | 0                   | 385.092                       | 374.249                    | 374.249                         |
| 12           | 0.711598   | 287.959      | -9.00371                  | New Structural Fill | 50                  | 34                        | 63.9276            | 329.782              | 414.794                  | 0                   | 414.794                       | 404.665                    | 404.665                         |
| 13           | 0.711598   | 308.208      | -7.77512                  | New Structural Fill | 50                  | 34                        | 67.5295            | 348.363              | 442.34                   | 0                   | 442.34                        | 433.12                     | 433.12                          |
| 14           | 0.711598   | 327.076      | -6.55012                  | New Structural Fill | 50                  | 34                        | 70.8546            | 365.516              | 467.771                  | 0                   | 467.771                       | 459.636                    | 459.636                         |
| 15           | 0.711598   | 344.575      | -5.32813                  | New Structural Fill | 50                  | 34                        | 73.9073            | 381.264              | 491.119                  | 0                   | 491.119                       | 484.227                    | 484.227                         |
| 16           | 0.711598   | 360.713      | -4.10856                  | New Structural Fill | 50                  | 34                        | 76.6917            | 395.628              | 512.414                  | 0                   | 512.414                       | 506.905                    | 506.905                         |
| 17           | 0.711598   | 375.497      | -2.89085                  | New Structural Fill | 50                  | 34                        | 79.211             | 408.624              | 531.682                  | 0                   | 531.682                       | 527.682                    | 527.682                         |
| 18           | 0.711598   | 388.934      | -1.67445                  | New Structural Fill | 50                  | 34                        | 81.4683            | 420.269              | 548.945                  | 0                   | 548.945                       | 546.564                    | 546.564                         |
| 19           | 0.711598   | 401.026      | -0.458809                 | New Structural Fill | 50                  | 34                        | 83.4661            | 430.575              | 564.225                  | 0                   | 564.225                       | 563.557                    | 563.557                         |
| 20           | 0.711598   | 411.774      | 0.756629                  | New Structural Fill | 50                  | 34                        | 85.2065            | 439.553              | 577.536                  | 0                   | 577.536                       | 578.661                    | 578.661                         |
| 21           | 0.711598   | 421.18       | 1.97241                   | New Structural Fill | 50                  | 34                        | 86.6916            | 447.214              | 588.894                  | 0                   | 588.894                       | 591.88                     | 591.88                          |
| 22           | 0.711598   | 429.24       | 3.18908                   | New Structural Fill | 50                  | 34                        | 87.9223            | 453.563              | 598.307                  | 0                   | 598.307                       | 603.206                    | 603.206                         |
| 23           | 0.711598   | 435.95       | 4.40719                   | New Structural Fill | 50                  | 34                        | 88.9001            | 458.607              | 605.784                  | 0                   | 605.784                       | 612.636                    | 612.636                         |



|    |          |         |         |                     |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 0.711598 | 441.306 | 5.6273  | New Structural Fill | 50 | 34 | 89.6253 | 462.348 | 611.332 | 0 | 611.332 | 620.163 | 620.163 |
| 25 | 0.711598 | 445.299 | 6.84998 | New Structural Fill | 50 | 34 | 90.0984 | 464.789 | 614.95  | 0 | 614.95  | 625.773 | 625.773 |
| 26 | 0.711598 | 447.92  | 8.0758  | New Structural Fill | 50 | 34 | 90.3196 | 465.93  | 616.642 | 0 | 616.642 | 629.457 | 629.457 |
| 27 | 0.711598 | 449.157 | 9.30535 | New Structural Fill | 50 | 34 | 90.2882 | 465.768 | 616.402 | 0 | 616.402 | 631.196 | 631.196 |
| 28 | 0.711598 | 448.996 | 10.5393 | New Structural Fill | 50 | 34 | 90.0036 | 464.3   | 614.225 | 0 | 614.225 | 630.97  | 630.97  |
| 29 | 0.711598 | 447.422 | 11.7781 | New Structural Fill | 50 | 34 | 89.4647 | 461.52  | 610.104 | 0 | 610.104 | 628.759 | 628.759 |
| 30 | 0.711598 | 444.416 | 13.0226 | New Structural Fill | 50 | 34 | 88.6702 | 457.421 | 604.026 | 0 | 604.026 | 624.534 | 624.534 |
| 31 | 0.711598 | 439.959 | 14.2734 | New Structural Fill | 50 | 34 | 87.618  | 451.993 | 595.979 | 0 | 595.979 | 618.269 | 618.269 |
| 32 | 0.711598 | 434.025 | 15.5311 | New Structural Fill | 50 | 34 | 86.3062 | 445.226 | 585.946 | 0 | 585.946 | 609.931 | 609.931 |
| 33 | 0.711598 | 426.59  | 16.7966 | New Structural Fill | 50 | 34 | 84.7319 | 437.105 | 573.906 | 0 | 573.906 | 599.483 | 599.483 |
| 34 | 0.711598 | 417.624 | 18.0706 | New Structural Fill | 50 | 34 | 82.8923 | 427.615 | 559.837 | 0 | 559.837 | 586.883 | 586.883 |
| 35 | 0.711598 | 407.094 | 19.3539 | New Structural Fill | 50 | 34 | 80.7838 | 416.738 | 543.711 | 0 | 543.711 | 572.086 | 572.086 |
| 36 | 0.711598 | 394.965 | 20.6473 | New Structural Fill | 50 | 34 | 78.4024 | 404.453 | 525.498 | 0 | 525.498 | 555.042 | 555.042 |
| 37 | 0.711598 | 381.197 | 21.9519 | New Structural Fill | 50 | 34 | 75.7438 | 390.738 | 505.165 | 0 | 505.165 | 535.693 | 535.693 |
| 38 | 0.711598 | 365.745 | 23.2686 | New Structural Fill | 50 | 34 | 72.8029 | 375.567 | 482.673 | 0 | 482.673 | 513.979 | 513.979 |
| 39 | 0.711598 | 348.56  | 24.5984 | New Structural Fill | 50 | 34 | 69.574  | 358.91  | 457.978 | 0 | 457.978 | 489.829 | 489.829 |
| 40 | 0.711598 | 329.588 | 25.9425 | New Structural Fill | 50 | 34 | 66.0512 | 340.737 | 431.034 | 0 | 431.034 | 463.168 | 463.168 |
| 41 | 0.711598 | 308.768 | 27.3022 | New Structural Fill | 50 | 34 | 62.2272 | 321.01  | 401.789 | 0 | 401.789 | 433.91  | 433.91  |
| 42 | 0.711598 | 286.034 | 28.6787 | New Structural Fill | 50 | 34 | 58.0947 | 299.692 | 370.184 | 0 | 370.184 | 401.962 | 401.962 |
| 43 | 0.711598 | 261.309 | 30.0736 | New Structural Fill | 50 | 34 | 53.6449 | 276.737 | 336.152 | 0 | 336.152 | 367.215 | 367.215 |
| 44 | 0.711598 | 234.51  | 31.4884 | New Structural Fill | 50 | 34 | 48.8687 | 252.098 | 299.623 | 0 | 299.623 | 329.556 | 329.556 |
| 45 | 0.711598 | 205.544 | 32.925  | New Structural Fill | 50 | 34 | 43.7556 | 225.721 | 260.517 | 0 | 260.517 | 288.851 | 288.851 |
| 46 | 0.711598 | 174.306 | 34.3854 | New Structural Fill | 50 | 34 | 38.2939 | 197.546 | 218.745 | 0 | 218.745 | 244.951 | 244.951 |
| 47 | 0.711598 | 140.675 | 35.8717 | New Structural Fill | 50 | 34 | 32.4707 | 167.506 | 174.21  | 0 | 174.21  | 197.691 | 197.691 |
| 48 | 0.711598 | 104.518 | 37.3864 | New Structural Fill | 50 | 34 | 26.2721 | 135.529 | 126.802 | 0 | 126.802 | 146.878 | 146.878 |

|    |          |         |         |                           |    |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|---------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 0.711598 | 65.6795 | 38.9324 | New<br>Structural<br>Fill | 50 | 34 | 19.6819 | 101.532 | 76.3999 | 0 | 76.3999 | 92.2995 | 92.2995 |
| 50 | 0.711598 | 23.1327 | 40.5129 | New<br>Structural<br>Fill | 50 | 34 | 12.5418 | 64.6989 | 21.792  | 0 | 21.792  | 32.5086 | 32.5086 |

## **Cross Section E-E' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.74933**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 6.24815    | 644.968      | -10.4796                  | New Structural Fill                     | 50                  | 34                        | 73.6312            | 128.805              | 116.834                  | 0                   | 116.834                       | 103.214                    | 103.214                         |
| 2            | 6.24815    | 1903.63      | -9.76786                  | New Structural Fill                     | 50                  | 34                        | 156.433            | 273.653              | 331.579                  | 0                   | 331.579                       | 304.649                    | 304.649                         |
| 3            | 6.24815    | 3099.94      | -9.05764                  | New Structural Fill                     | 50                  | 34                        | 234.271            | 409.818              | 533.451                  | 0                   | 533.451                       | 496.105                    | 496.105                         |
| 4            | 6.24815    | 4234.27      | -8.34882                  | New Structural Fill                     | 50                  | 34                        | 307.256            | 537.493              | 722.738                  | 0                   | 722.738                       | 677.646                    | 677.646                         |
| 5            | 6.24815    | 5307         | -7.64129                  | New Structural Fill                     | 50                  | 34                        | 375.492            | 656.859              | 899.706                  | 0                   | 899.706                       | 849.329                    | 849.329                         |
| 6            | 6.24815    | 6318.42      | -6.93493                  | New Structural Fill                     | 50                  | 34                        | 439.075            | 768.087              | 1064.61                  | 0                   | 1064.61                       | 1011.2                     | 1011.2                          |
| 7            | 6.24815    | 7268.83      | -6.22963                  | New Structural Fill                     | 50                  | 34                        | 498.098            | 871.338              | 1217.68                  | 0                   | 1217.68                       | 1163.31                    | 1163.31                         |
| 8            | 5.82061    | 7604.18      | -5.54934                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 699.554            | 1223.75              | 1374.33                  | 0                   | 1374.33                       | 1306.37                    | 1306.37                         |
| 9            | 5.82061    | 8387.22      | -4.89392                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 758.279            | 1326.48              | 1505.82                  | 0                   | 1505.82                       | 1440.9                     | 1440.9                          |
| 10           | 5.82061    | 9119.53      | -4.23913                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 812.368            | 1421.1               | 1626.93                  | 0                   | 1626.93                       | 1566.72                    | 1566.72                         |
| 11           | 5.82061    | 9897.72      | -3.5849                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 869.516            | 1521.07              | 1754.9                   | 0                   | 1754.9                        | 1700.42                    | 1700.42                         |
| 12           | 5.82061    | 10905.3      | -2.93113                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 944.087            | 1651.52              | 1921.85                  | 0                   | 1921.85                       | 1873.51                    | 1873.51                         |
| 13           | 5.82061    | 11880.2      | -2.27775                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1015.34            | 1776.17              | 2081.4                   | 0                   | 2081.4                        | 2041.02                    | 2041.02                         |
| 14           | 5.82061    | 12804.8      | -1.62467                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1081.96            | 1892.71              | 2230.57                  | 0                   | 2230.57                       | 2199.88                    | 2199.88                         |
| 15           | 5.75979    | 13464.6      | -0.975201                 | D-VD SAND                               | 0                   | 38                        | 1052.05            | 1840.38              | 2355.58                  | 0                   | 2355.58                       | 2337.67                    | 2337.67                         |
| 16           | 5.75979    | 14084.4      | -0.329273                 | D-VD SAND                               | 0                   | 38                        | 1094.93            | 1915.39              | 2451.6                   | 0                   | 2451.6                        | 2445.3                     | 2445.3                          |
| 17           | 5.75979    | 14502.6      | 0.316614                  | D-VD SAND                               | 0                   | 38                        | 1121.78            | 1962.36              | 2511.7                   | 0                   | 2511.7                        | 2517.9                     | 2517.9                          |
| 18           | 5.75979    | 14866.1      | 0.962541                  | D-VD SAND                               | 0                   | 38                        | 1144.16            | 2001.51              | 2561.82                  | 0                   | 2561.82                       | 2581.04                    | 2581.04                         |
| 19           | 5.75979    | 15184.8      | 1.60859                   | D-VD SAND                               | 0                   | 38                        | 1162.87            | 2034.25              | 2603.72                  | 0                   | 2603.72                       | 2636.38                    | 2636.38                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 20 | 5.75979 | 15458.4 | 2.25484 | D-VD<br>SAND                                         | 0   | 38 | 1177.96 | 2060.64 | 2637.5  | 0 | 2637.5  | 2683.88 | 2683.88 |
| 21 | 5.75979 | 15678.7 | 2.90139 | D-VD<br>SAND                                         | 0   | 38 | 1188.86 | 2079.7  | 2661.89 | 0 | 2661.89 | 2722.14 | 2722.14 |
| 22 | 5.75979 | 15929.1 | 3.5483  | D-VD<br>SAND                                         | 0   | 38 | 1201.9  | 2102.52 | 2691.09 | 0 | 2691.09 | 2765.62 | 2765.62 |
| 23 | 5.75979 | 16154.3 | 4.19566 | D-VD<br>SAND                                         | 0   | 38 | 1212.92 | 2121.79 | 2715.77 | 0 | 2715.77 | 2804.75 | 2804.75 |
| 24 | 5.75979 | 16273.4 | 4.84356 | D-VD<br>SAND                                         | 0   | 38 | 1215.88 | 2126.97 | 2722.41 | 0 | 2722.41 | 2825.44 | 2825.44 |
| 25 | 5.75979 | 16332.9 | 5.49209 | D-VD<br>SAND                                         | 0   | 38 | 1214.37 | 2124.33 | 2719.02 | 0 | 2719.02 | 2835.78 | 2835.78 |
| 26 | 5.75979 | 16346.9 | 6.14132 | D-VD<br>SAND                                         | 0   | 38 | 1209.48 | 2115.78 | 2708.08 | 0 | 2708.08 | 2838.22 | 2838.22 |
| 27 | 5.75979 | 16315.2 | 6.79134 | D-VD<br>SAND                                         | 0   | 38 | 1201.26 | 2101.4  | 2689.67 | 0 | 2689.67 | 2832.73 | 2832.73 |
| 28 | 5.75979 | 16237.7 | 7.44224 | D-VD<br>SAND                                         | 0   | 38 | 1189.74 | 2081.24 | 2663.87 | 0 | 2663.87 | 2819.29 | 2819.29 |
| 29 | 5.75979 | 16114.2 | 8.09411 | D-VD<br>SAND                                         | 0   | 38 | 1174.94 | 2055.36 | 2630.75 | 0 | 2630.75 | 2797.84 | 2797.84 |
| 30 | 5.75979 | 15944.4 | 8.74704 | D-VD<br>SAND                                         | 0   | 38 | 1156.91 | 2023.82 | 2590.36 | 0 | 2590.36 | 2768.37 | 2768.37 |
| 31 | 5.75979 | 15728.1 | 9.40111 | D-VD<br>SAND                                         | 0   | 38 | 1135.66 | 1986.65 | 2542.8  | 0 | 2542.8  | 2730.83 | 2730.83 |
| 32 | 5.75979 | 15472.4 | 10.0564 | D-VD<br>SAND                                         | 0   | 38 | 1111.77 | 1944.85 | 2489.29 | 0 | 2489.29 | 2686.45 | 2686.45 |
| 33 | 5.75979 | 15188.9 | 10.7131 | D-VD<br>SAND                                         | 0   | 38 | 1086.08 | 1899.91 | 2431.76 | 0 | 2431.76 | 2637.24 | 2637.24 |
| 34 | 5.75979 | 14859.1 | 11.3711 | D-VD<br>SAND                                         | 0   | 38 | 1057.31 | 1849.58 | 2367.34 | 0 | 2367.34 | 2579.98 | 2579.98 |
| 35 | 5.75979 | 14481.7 | 12.0307 | D-VD<br>SAND                                         | 0   | 38 | 1025.41 | 1793.78 | 2295.92 | 0 | 2295.92 | 2514.46 | 2514.46 |
| 36 | 5.75979 | 14056.3 | 12.6919 | D-VD<br>SAND                                         | 0   | 38 | 990.402 | 1732.54 | 2217.55 | 0 | 2217.55 | 2440.6  | 2440.6  |
| 37 | 5.75979 | 13582.5 | 13.3549 | D-VD<br>SAND                                         | 0   | 38 | 952.313 | 1665.91 | 2132.28 | 0 | 2132.28 | 2358.36 | 2358.36 |
| 38 | 5.75979 | 13060   | 14.0197 | D-VD<br>SAND                                         | 0   | 38 | 911.166 | 1593.93 | 2040.13 | 0 | 2040.13 | 2267.64 | 2267.64 |
| 39 | 5.75979 | 12488.4 | 14.6864 | D-VD<br>SAND                                         | 0   | 38 | 866.966 | 1516.61 | 1941.18 | 0 | 1941.18 | 2168.4  | 2168.4  |
| 40 | 5.75979 | 11861.3 | 15.3551 | D-VD<br>SAND                                         | 0   | 38 | 819.337 | 1433.29 | 1834.54 | 0 | 1834.54 | 2059.53 | 2059.53 |
| 41 | 5.96277 | 11491.9 | 16.0378 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 838.898 | 1467.51 | 1686.33 | 0 | 1686.33 | 1927.48 | 1927.48 |
| 42 | 5.96277 | 10585.9 | 16.7348 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 774.697 | 1355.2  | 1542.59 | 0 | 1542.59 | 1775.52 | 1775.52 |
| 43 | 5.96277 | 9618.39 | 17.4343 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 707.088 | 1236.93 | 1391.21 | 0 | 1391.21 | 1613.26 | 1613.26 |
| 44 | 5.96277 | 8588.77 | 18.1365 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 636.082 | 1112.72 | 1232.22 | 0 | 1232.22 | 1440.57 | 1440.57 |
| 45 | 5.96277 | 7496.3  | 18.8416 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 561.698 | 982.595 | 1065.67 | 0 | 1065.67 | 1257.35 | 1257.35 |
| 46 | 5.96277 | 6340.19 | 19.5496 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 483.95  | 846.589 | 891.593 | 0 | 891.593 | 1063.44 | 1063.44 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 5.96277 | 5119.62 | 20.2608 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 402.854 | 704.724 | 710.014 | 0 | 710.014 | 858.721 | 858.721 |
| 48 | 5.96277 | 3833.7  | 20.9752 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 318.422 | 557.025 | 520.969 | 0 | 520.969 | 643.041 | 643.041 |
| 49 | 5.96277 | 2397.84 | 21.693  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 225.345 | 394.203 | 312.567 | 0 | 312.567 | 402.21  | 402.21  |
| 50 | 5.96277 | 810.571 | 22.4145 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 123.693 | 216.38  | 84.9624 | 0 | 84.9624 | 135.982 | 135.982 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.71729

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 6.22907    | 642.777      | -10.5194                  | New Structural Fill                     | 50                  | 34                        | 75.1247            | 129.011              | 117.138                  | 0                   | 117.138                       | 103.189                    | 103.189                         |
| 2            | 6.22907    | 1897.69      | -9.81789                  | New Structural Fill                     | 50                  | 34                        | 159.623            | 274.119              | 332.271                  | 0                   | 332.271                       | 304.648                    | 304.648                         |
| 3            | 6.22907    | 3091.49      | -9.11789                  | New Structural Fill                     | 50                  | 34                        | 239.123            | 410.643              | 534.675                  | 0                   | 534.675                       | 496.297                    | 496.297                         |
| 4            | 6.22907    | 4224.58      | -8.41925                  | New Structural Fill                     | 50                  | 34                        | 313.734            | 538.772              | 724.634                  | 0                   | 724.634                       | 678.198                    | 678.198                         |
| 5            | 6.22907    | 5297.27      | -7.72187                  | New Structural Fill                     | 50                  | 34                        | 383.562            | 658.687              | 902.416                  | 0                   | 902.416                       | 850.407                    | 850.407                         |
| 6            | 6.22907    | 6309.9       | -7.02564                  | New Structural Fill                     | 50                  | 34                        | 448.705            | 770.556              | 1068.27                  | 0                   | 1068.27                       | 1012.97                    | 1012.97                         |
| 7            | 6.22907    | 7262.73      | -6.33045                  | New Structural Fill                     | 50                  | 34                        | 509.256            | 874.541              | 1222.43                  | 0                   | 1222.43                       | 1165.94                    | 1165.94                         |
| 8            | 5.79402    | 7589.57      | -5.66041                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 715.552            | 1228.81              | 1380.81                  | 0                   | 1380.81                       | 1309.89                    | 1309.89                         |
| 9            | 5.79402    | 8374.4       | -5.01537                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 775.891            | 1332.43              | 1513.44                  | 0                   | 1513.44                       | 1445.35                    | 1445.35                         |
| 10           | 5.79402    | 9109.75      | -4.37096                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 831.566            | 1428.04              | 1635.82                  | 0                   | 1635.82                       | 1572.26                    | 1572.26                         |
| 11           | 5.79402    | 9881.18      | -3.72711                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 889.588            | 1527.68              | 1763.36                  | 0                   | 1763.36                       | 1705.41                    | 1705.41                         |
| 12           | 5.79402    | 10886        | -3.08372                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 965.801            | 1658.56              | 1930.86                  | 0                   | 1930.86                       | 1878.83                    | 1878.83                         |
| 13           | 5.79402    | 11864.1      | -2.44073                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1039.08            | 1784.4               | 2091.93                  | 0                   | 2091.93                       | 2047.64                    | 2047.64                         |
| 14           | 5.79402    | 12793.2      | -1.79805                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1107.7             | 1902.24              | 2242.76                  | 0                   | 2242.76                       | 2207.99                    | 2207.99                         |
| 15           | 5.89672    | 13851.9      | -1.14989                  | D-VD SAND                               | 0                   | 38                        | 1078.57            | 1852.21              | 2370.72                  | 0                   | 2370.72                       | 2349.07                    | 2349.07                         |
| 16           | 5.89672    | 14517.8      | -0.496197                 | D-VD SAND                               | 0                   | 38                        | 1124.53            | 1931.14              | 2471.76                  | 0                   | 2471.76                       | 2462.02                    | 2462.02                         |
| 17           | 5.89672    | 14969.7      | 0.157436                  | D-VD SAND                               | 0                   | 38                        | 1153.52            | 1980.93              | 2535.47                  | 0                   | 2535.47                       | 2538.64                    | 2538.64                         |
| 18           | 5.89672    | 15362        | 0.811089                  | D-VD SAND                               | 0                   | 38                        | 1177.65            | 2022.37              | 2588.52                  | 0                   | 2588.52                       | 2605.19                    | 2605.19                         |
| 19           | 5.89672    | 15706.8      | 1.46485                   | D-VD SAND                               | 0                   | 38                        | 1197.9             | 2057.14              | 2633.03                  | 0                   | 2633.03                       | 2663.66                    | 2663.66                         |
| 20           | 5.89672    | 16003.4      | 2.1188                    | D-VD SAND                               | 0                   | 38                        | 1214.29            | 2085.28              | 2669.03                  | 0                   | 2669.03                       | 2713.96                    | 2713.96                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 21 | 5.89672 | 16246.8 | 2.77302 | D-VD<br>SAND                                         | 0   | 38 | 1226.48 | 2106.22 | 2695.83 | 0 | 2695.83 | 2755.24 | 2755.24 |
| 22 | 5.89672 | 16526.2 | 3.42761 | D-VD<br>SAND                                         | 0   | 38 | 1241.23 | 2131.56 | 2728.28 | 0 | 2728.28 | 2802.62 | 2802.62 |
| 23 | 5.89672 | 16764.8 | 4.08265 | D-VD<br>SAND                                         | 0   | 38 | 1252.78 | 2151.39 | 2753.65 | 0 | 2753.65 | 2843.07 | 2843.07 |
| 24 | 5.89672 | 16891.1 | 4.73822 | D-VD<br>SAND                                         | 0   | 38 | 1255.86 | 2156.67 | 2760.41 | 0 | 2760.41 | 2864.51 | 2864.51 |
| 25 | 5.89672 | 16960.9 | 5.39441 | D-VD<br>SAND                                         | 0   | 38 | 1254.7  | 2154.68 | 2757.87 | 0 | 2757.87 | 2876.35 | 2876.35 |
| 26 | 5.89672 | 16982.5 | 6.05132 | D-VD<br>SAND                                         | 0   | 38 | 1249.98 | 2146.58 | 2747.5  | 0 | 2747.5  | 2880.01 | 2880.01 |
| 27 | 5.89672 | 16955.7 | 6.70902 | D-VD<br>SAND                                         | 0   | 38 | 1241.74 | 2132.43 | 2729.39 | 0 | 2729.39 | 2875.46 | 2875.46 |
| 28 | 5.89672 | 16880.2 | 7.36761 | D-VD<br>SAND                                         | 0   | 38 | 1230.02 | 2112.3  | 2703.62 | 0 | 2703.62 | 2862.66 | 2862.66 |
| 29 | 5.89672 | 16756   | 8.02719 | D-VD<br>SAND                                         | 0   | 38 | 1214.84 | 2086.24 | 2670.26 | 0 | 2670.26 | 2841.59 | 2841.59 |
| 30 | 5.89672 | 16582.7 | 8.68783 | D-VD<br>SAND                                         | 0   | 38 | 1196.26 | 2054.33 | 2629.42 | 0 | 2629.42 | 2812.21 | 2812.21 |
| 31 | 5.89672 | 16360.2 | 9.34965 | D-VD<br>SAND                                         | 0   | 38 | 1174.3  | 2016.61 | 2581.15 | 0 | 2581.15 | 2774.49 | 2774.49 |
| 32 | 5.89672 | 16104.7 | 10.0127 | D-VD<br>SAND                                         | 0   | 38 | 1150.16 | 1975.16 | 2528.09 | 0 | 2528.09 | 2731.16 | 2731.16 |
| 33 | 5.89672 | 15811.6 | 10.6772 | D-VD<br>SAND                                         | 0   | 38 | 1123.56 | 1929.48 | 2469.62 | 0 | 2469.62 | 2681.45 | 2681.45 |
| 34 | 5.89672 | 15468.4 | 11.343  | D-VD<br>SAND                                         | 0   | 38 | 1093.64 | 1878.1  | 2403.85 | 0 | 2403.85 | 2623.23 | 2623.23 |
| 35 | 5.89672 | 15074.6 | 12.0105 | D-VD<br>SAND                                         | 0   | 38 | 1060.43 | 1821.07 | 2330.86 | 0 | 2330.86 | 2556.46 | 2556.46 |
| 36 | 5.89672 | 14630   | 12.6796 | D-VD<br>SAND                                         | 0   | 38 | 1023.96 | 1758.43 | 2250.68 | 0 | 2250.68 | 2481.06 | 2481.06 |
| 37 | 5.89672 | 14134.1 | 13.3505 | D-VD<br>SAND                                         | 0   | 38 | 984.237 | 1690.22 | 2163.39 | 0 | 2163.39 | 2396.97 | 2396.97 |
| 38 | 5.89672 | 13586.5 | 14.0232 | D-VD<br>SAND                                         | 0   | 38 | 941.297 | 1616.48 | 2069    | 0 | 2069    | 2304.1  | 2304.1  |
| 39 | 5.89672 | 12986.5 | 14.6979 | D-VD<br>SAND                                         | 0   | 38 | 895.143 | 1537.22 | 1967.55 | 0 | 1967.55 | 2202.35 | 2202.35 |
| 40 | 5.89672 | 12311.5 | 15.3747 | D-VD<br>SAND                                         | 0   | 38 | 844.272 | 1449.86 | 1855.74 | 0 | 1855.74 | 2087.89 | 2087.89 |
| 41 | 5.99244 | 11704.3 | 16.0592 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 862.947 | 1481.93 | 1704.79 | 0 | 1704.79 | 1953.2  | 1953.2  |
| 42 | 5.99244 | 10787.5 | 16.7517 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 797.186 | 1369    | 1560.25 | 0 | 1560.25 | 1800.2  | 1800.2  |
| 43 | 5.99244 | 9809.04 | 17.4466 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 727.984 | 1250.16 | 1408.14 | 0 | 1408.14 | 1636.93 | 1636.93 |
| 44 | 5.99244 | 8768.26 | 18.1443 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 655.346 | 1125.42 | 1248.48 | 0 | 1248.48 | 1463.24 | 1463.24 |
| 45 | 5.99244 | 7664.4  | 18.8447 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 579.295 | 994.818 | 1081.32 | 0 | 1081.32 | 1279.03 | 1279.03 |
| 46 | 5.99244 | 6496.68 | 19.548  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 499.846 | 858.381 | 906.687 | 0 | 906.687 | 1084.16 | 1084.16 |
| 47 | 5.99244 | 5264.29 | 20.2545 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 417.015 | 716.136 | 724.622 | 0 | 724.622 | 878.504 | 878.504 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 5.99244 | 3937.94 | 20.9641 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 328.98  | 564.954 | 531.117 | 0 | 531.117 | 657.164 | 657.164 |
| 49 | 5.99244 | 2419.04 | 21.6772 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 229.505 | 394.126 | 312.467 | 0 | 312.467 | 403.693 | 403.693 |
| 50 | 5.99244 | 817.673 | 22.3938 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 125.838 | 216.101 | 84.6051 | 0 | 84.6051 | 136.456 | 136.456 |



## **Cross Section H-H' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 10.2193**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.338298   | 9.83892      | -56.5886                  | D SILT        | 500                 | 32                        | 55.8847            | 571.102              | 113.788                  | 0                   | 113.788                       | 29.0709                    | 29.0709                         |
| 2            | 0.338298   | 28.3579      | -53.0989                  | D SILT        | 500                 | 32                        | 58.8439            | 601.343              | 162.183                  | 0                   | 162.183                       | 83.8135                    | 83.8135                         |
| 3            | 0.338298   | 44.8031      | -49.8744                  | D SILT        | 500                 | 32                        | 61.4849            | 628.333              | 205.375                  | 0                   | 205.375                       | 132.425                    | 132.425                         |
| 4            | 0.338298   | 59.5807      | -46.8535                  | D SILT        | 500                 | 32                        | 63.8614            | 652.619              | 244.24                   | 0                   | 244.24                        | 176.108                    | 176.108                         |
| 5            | 0.338298   | 72.9674      | -43.9946                  | D SILT        | 500                 | 32                        | 66.0122            | 674.598              | 279.415                  | 0                   | 279.415                       | 215.679                    | 215.679                         |
| 6            | 0.338298   | 85.1623      | -41.2679                  | D SILT        | 500                 | 32                        | 67.9661            | 694.566              | 311.371                  | 0                   | 311.371                       | 251.728                    | 251.728                         |
| 7            | 0.338298   | 96.3138      | -38.6511                  | D SILT        | 500                 | 32                        | 69.7455            | 712.75               | 340.472                  | 0                   | 340.472                       | 284.693                    | 284.693                         |
| 8            | 0.338298   | 106.536      | -36.1269                  | D SILT        | 500                 | 32                        | 71.3678            | 729.329              | 367.004                  | 0                   | 367.004                       | 314.911                    | 314.911                         |
| 9            | 0.338298   | 115.92       | -33.6815                  | D SILT        | 500                 | 32                        | 72.8472            | 744.447              | 391.198                  | 0                   | 391.198                       | 342.649                    | 342.649                         |
| 10           | 0.338298   | 124.536      | -31.3041                  | D SILT        | 500                 | 32                        | 74.1948            | 758.219              | 413.236                  | 0                   | 413.236                       | 368.118                    | 368.118                         |
| 11           | 0.338298   | 132.445      | -28.9853                  | D SILT        | 500                 | 32                        | 75.4202            | 770.742              | 433.278                  | 0                   | 433.278                       | 391.498                    | 391.498                         |
| 12           | 0.338298   | 139.694      | -26.7175                  | D SILT        | 500                 | 32                        | 76.5311            | 782.094              | 451.446                  | 0                   | 451.446                       | 412.926                    | 412.926                         |
| 13           | 0.338298   | 146.324      | -24.4941                  | D SILT        | 500                 | 32                        | 77.5341            | 792.344              | 467.846                  | 0                   | 467.846                       | 432.522                    | 432.522                         |
| 14           | 0.338298   | 152.368      | -22.3094                  | D SILT        | 500                 | 32                        | 78.4344            | 801.545              | 482.572                  | 0                   | 482.572                       | 450.389                    | 450.389                         |
| 15           | 0.338298   | 157.855      | -20.1584                  | D SILT        | 500                 | 32                        | 79.237             | 809.747              | 495.7                    | 0                   | 495.7                         | 466.611                    | 466.611                         |
| 16           | 0.338298   | 162.81       | -18.0367                  | D SILT        | 500                 | 32                        | 79.9457            | 816.989              | 507.288                  | 0                   | 507.288                       | 481.256                    | 481.256                         |
| 17           | 0.338298   | 167.251      | -15.9403                  | D SILT        | 500                 | 32                        | 80.5637            | 823.305              | 517.397                  | 0                   | 517.397                       | 494.386                    | 494.386                         |
| 18           | 0.338298   | 171.196      | -13.8657                  | D SILT        | 500                 | 32                        | 81.0938            | 828.722              | 526.066                  | 0                   | 526.066                       | 506.049                    | 506.049                         |
| 19           | 0.338298   | 174.66       | -11.8094                  | D SILT        | 500                 | 32                        | 81.5384            | 833.265              | 533.335                  | 0                   | 533.335                       | 516.287                    | 516.287                         |
| 20           | 0.338298   | 177.653      | -9.76855                  | D SILT        | 500                 | 32                        | 81.8992            | 836.952              | 539.238                  | 0                   | 539.238                       | 525.137                    | 525.137                         |
| 21           | 0.338298   | 180.187      | -7.74011                  | D SILT        | 500                 | 32                        | 82.1778            | 839.8                | 543.794                  | 0                   | 543.794                       | 532.624                    | 532.624                         |
| 22           | 0.338298   | 182.267      | -5.7214                   | D SILT        | 500                 | 32                        | 82.3755            | 841.82               | 547.028                  | 0                   | 547.028                       | 538.774                    | 538.774                         |
| 23           | 0.338298   | 183.899      | -3.7098                   | D SILT        | 500                 | 32                        | 82.493             | 843.021              | 548.948                  | 0                   | 548.948                       | 543.599                    | 543.599                         |
| 24           | 0.338298   | 185.088      | -1.70278                  | D SILT        | 500                 | 32                        | 82.5309            | 843.408              | 549.568                  | 0                   | 549.568                       | 547.114                    | 547.114                         |
| 25           | 0.338298   | 185.836      | 0.30215                   | D SILT        | 500                 | 32                        | 82.4895            | 842.985              | 548.89                   | 0                   | 548.89                        | 549.325                    | 549.325                         |
| 26           | 0.338298   | 186.143      | 2.30745                   | D SILT        | 500                 | 32                        | 82.3687            | 841.75               | 546.913                  | 0                   | 546.913                       | 550.232                    | 550.232                         |
| 27           | 0.338298   | 186.008      | 4.31559                   | D SILT        | 500                 | 32                        | 82.1682            | 839.701              | 543.636                  | 0                   | 543.636                       | 549.836                    | 549.836                         |
| 28           | 0.338298   | 185.429      | 6.32906                   | D SILT        | 500                 | 32                        | 105.757            | 1080.77              | 929.419                  | 0                   | 929.419                       | 941.149                    | 941.149                         |
| 29           | 0.338298   | 184.401      | 8.35043                   | D SILT        | 500                 | 32                        | 105.766            | 1080.85              | 929.559                  | 0                   | 929.559                       | 945.084                    | 945.084                         |
| 30           | 0.338298   | 182.917      | 10.3823                   | D SILT        | 500                 | 32                        | 105.268            | 1075.76              | 921.413                  | 0                   | 921.413                       | 940.699                    | 940.699                         |
| 31           | 0.338298   | 180.971      | 12.4275                   | D SILT        | 500                 | 32                        | 104.685            | 1069.8               | 911.877                  | 0                   | 911.877                       | 934.946                    | 934.946                         |
| 32           | 0.338298   | 178.551      | 14.489                    | D SILT        | 500                 | 32                        | 104.014            | 1062.95              | 900.916                  | 0                   | 900.916                       | 927.794                    | 927.794                         |
| 33           | 0.338298   | 175.645      | 16.5698                   | D SILT        | 500                 | 32                        | 103.254            | 1055.19              | 888.483                  | 0                   | 888.483                       | 919.205                    | 919.205                         |
| 34           | 0.338298   | 172.239      | 18.6734                   | D SILT        | 500                 | 32                        | 102.401            | 1046.47              | 874.529                  | 0                   | 874.529                       | 909.137                    | 909.137                         |
| 35           | 0.338298   | 168.314      | 20.8035                   | D SILT        | 500                 | 32                        | 101.451            | 1036.76              | 858.99                   | 0                   | 858.99                        | 897.535                    | 897.535                         |
| 36           | 0.338298   | 163.849      | 22.9641                   | D SILT        | 500                 | 32                        | 100.399            | 1026.01              | 841.797                  | 0                   | 841.797                       | 884.34                     | 884.34                          |
| 37           | 0.338298   | 158.819      | 25.16                     | D SILT        | 500                 | 32                        | 99.2414            | 1014.18              | 822.856                  | 0                   | 822.856                       | 869.471                    | 869.471                         |
| 38           | 0.338298   | 153.194      | 27.3961                   | D SILT        | 500                 | 32                        | 97.9704            | 1001.19              | 802.071                  | 0                   | 802.071                       | 852.845                    | 852.845                         |
| 39           | 0.338298   | 146.938      | 29.6786                   | D SILT        | 500                 | 32                        | 96.5789            | 986.969              | 779.314                  | 0                   | 779.314                       | 834.354                    | 834.354                         |
| 40           | 0.338298   | 140.009      | 32.0142                   | D SILT        | 500                 | 32                        | 95.0581            | 971.427              | 754.442                  | 0                   | 754.442                       | 813.873                    | 813.873                         |
| 41           | 0.338298   | 132.356      | 34.4111                   | D SILT        | 500                 | 32                        | 93.3969            | 954.451              | 727.273                  | 0                   | 727.273                       | 791.25                     | 791.25                          |
| 42           | 0.338298   | 123.916      | 36.8789                   | D SILT        | 500                 | 32                        | 91.582             | 935.904              | 697.593                  | 0                   | 697.593                       | 766.302                    | 766.302                         |
| 43           | 0.338298   | 114.611      | 39.4295                   | D SILT        | 500                 | 32                        | 89.5968            | 915.617              | 665.125                  | 0                   | 665.125                       | 738.798                    | 738.798                         |
| 44           | 0.338298   | 104.346      | 42.0774                   | D SILT        | 500                 | 32                        | 87.4202            | 893.373              | 629.529                  | 0                   | 629.529                       | 708.457                    | 708.457                         |
| 45           | 0.338298   | 92.9974      | 44.8413                   | D SILT        | 500                 | 32                        | 85.0249            | 868.895              | 590.355                  | 0                   | 590.355                       | 674.91                     | 674.91                          |
| 46           | 0.338298   | 80.4029      | 47.7454                   | D SILT        | 500                 | 32                        | 82.3744            | 841.809              | 547.009                  | 0                   | 547.009                       | 637.682                    | 637.682                         |
| 47           | 0.338298   | 66.344       | 50.8226                   | D SILT        | 500                 | 32                        | 79.4187            | 811.604              | 498.67                   | 0                   | 498.67                        | 596.125                    | 596.125                         |
| 48           | 0.338298   | 50.512       | 54.1194                   | D SILT        | 500                 | 32                        | 76.0848            | 777.533              | 444.146                  | 0                   | 444.146                       | 549.328                    | 549.328                         |
| 49           | 0.338298   | 32.4449      | 57.7058                   | D SILT        | 500                 | 32                        | 72.2599            | 738.446              | 381.595                  | 0                   | 381.595                       | 495.924                    | 495.924                         |
| 50           | 0.338298   | 11.3913      | 61.6961                   | D SILT        | 500                 | 32                        | 67.7528            | 692.386              | 307.881                  | 0                   | 307.881                       | 433.691                    | 433.691                         |

**Global Minimum Query (janbu simplified) - Safety Factor: 9.29804**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.338186   | 9.83237      | -56.5886                  | D SILT        | 500                 | 32                        | 62.0501            | 576.944              | 123.136                  | 0                   | 123.136                       | 29.073                     | 29.073                          |
| 2            | 0.338186   | 28.3391      | -53.0989                  | D SILT        | 500                 | 32                        | 65.2461            | 606.661              | 170.693                  | 0                   | 170.693                       | 83.7965                    | 83.7965                         |
| 3            | 0.338186   | 44.7733      | -49.8744                  | D SILT        | 500                 | 32                        | 68.1022            | 633.217              | 213.193                  | 0                   | 213.193                       | 132.393                    | 132.393                         |
| 4            | 0.338186   | 59.541       | -46.8535                  | D SILT        | 500                 | 32                        | 70.674             | 657.13               | 251.46                   | 0                   | 251.46                        | 176.059                    | 176.059                         |
| 5            | 0.338186   | 72.9189      | -43.9946                  | D SILT        | 500                 | 32                        | 73.0021            | 678.776              | 286.102                  | 0                   | 286.102                       | 215.618                    | 215.618                         |
| 6            | 0.338186   | 85.1056      | -41.2679                  | D SILT        | 500                 | 32                        | 75.1169            | 698.44               | 317.571                  | 0                   | 317.571                       | 251.653                    | 251.653                         |
| 7            | 0.338186   | 96.2497      | -38.6511                  | D SILT        | 500                 | 32                        | 77.0423            | 716.342              | 346.22                   | 0                   | 346.22                        | 284.606                    | 284.606                         |
| 8            | 0.338186   | 106.465      | -36.1269                  | D SILT        | 500                 | 32                        | 78.7969            | 732.657              | 372.328                  | 0                   | 372.328                       | 314.812                    | 314.812                         |
| 9            | 0.338186   | 115.842      | -33.6815                  | D SILT        | 500                 | 32                        | 80.3958            | 747.523              | 396.121                  | 0                   | 396.121                       | 342.541                    | 342.541                         |
| 10           | 0.338186   | 124.453      | -31.3041                  | D SILT        | 500                 | 32                        | 81.8512            | 761.056              | 417.777                  | 0                   | 417.777                       | 368.003                    | 368.003                         |
| 11           | 0.338186   | 132.357      | -28.9853                  | D SILT        | 500                 | 32                        | 83.1732            | 773.348              | 437.447                  | 0                   | 437.447                       | 391.372                    | 391.372                         |
| 12           | 0.338186   | 139.601      | -26.7175                  | D SILT        | 500                 | 32                        | 84.3701            | 784.477              | 455.26                   | 0                   | 455.26                        | 412.794                    | 412.794                         |
| 13           | 0.338186   | 146.226      | -24.4941                  | D SILT        | 500                 | 32                        | 85.4492            | 794.51               | 471.314                  | 0                   | 471.314                       | 432.384                    | 432.384                         |
| 14           | 0.338186   | 152.267      | -22.3094                  | D SILT        | 500                 | 32                        | 86.4162            | 803.501              | 485.704                  | 0                   | 485.704                       | 450.246                    | 450.246                         |
| 15           | 0.338186   | 157.75       | -20.1584                  | D SILT        | 500                 | 32                        | 87.2761            | 811.497              | 498.499                  | 0                   | 498.499                       | 466.46                     | 466.46                          |
| 16           | 0.338186   | 162.701      | -18.0367                  | D SILT        | 500                 | 32                        | 88.0333            | 818.537              | 509.765                  | 0                   | 509.765                       | 481.099                    | 481.099                         |
| 17           | 0.338186   | 167.14       | -15.9403                  | D SILT        | 500                 | 32                        | 88.6912            | 824.654              | 519.557                  | 0                   | 519.557                       | 494.225                    | 494.225                         |
| 18           | 0.338186   | 171.082      | -13.8657                  | D SILT        | 500                 | 32                        | 89.2529            | 829.877              | 527.912                  | 0                   | 527.912                       | 505.881                    | 505.881                         |
| 19           | 0.338186   | 174.544      | -11.8094                  | D SILT        | 500                 | 32                        | 89.7208            | 834.228              | 534.876                  | 0                   | 534.876                       | 516.117                    | 516.117                         |
| 20           | 0.338186   | 177.535      | -9.76855                  | D SILT        | 500                 | 32                        | 90.0971            | 837.726              | 540.475                  | 0                   | 540.475                       | 524.963                    | 524.963                         |
| 21           | 0.338186   | 180.067      | -7.74011                  | D SILT        | 500                 | 32                        | 90.3832            | 840.387              | 544.734                  | 0                   | 544.734                       | 532.449                    | 532.449                         |
| 22           | 0.338186   | 182.145      | -5.7214                   | D SILT        | 500                 | 32                        | 90.5806            | 842.222              | 547.672                  | 0                   | 547.672                       | 538.596                    | 538.596                         |
| 23           | 0.338186   | 183.777      | -3.7098                   | D SILT        | 500                 | 32                        | 90.6902            | 843.241              | 549.299                  | 0                   | 549.299                       | 543.418                    | 543.418                         |
| 24           | 0.338186   | 184.965      | -1.70278                  | D SILT        | 500                 | 32                        | 90.7123            | 843.447              | 549.63                   | 0                   | 549.63                        | 546.933                    | 546.933                         |
| 25           | 0.338186   | 185.712      | 0.30215                   | D SILT        | 500                 | 32                        | 90.6475            | 842.844              | 548.664                  | 0                   | 548.664                       | 549.142                    | 549.142                         |
| 26           | 0.338186   | 186.019      | 2.30745                   | D SILT        | 500                 | 32                        | 90.4955            | 841.431              | 546.404                  | 0                   | 546.404                       | 550.051                    | 550.051                         |
| 27           | 0.338186   | 185.884      | 4.31559                   | D SILT        | 500                 | 32                        | 90.256             | 839.204              | 542.841                  | 0                   | 542.841                       | 549.652                    | 549.652                         |
| 28           | 0.338186   | 185.305      | 6.32906                   | D SILT        | 500                 | 32                        | 91.9154            | 854.633              | 567.531                  | 0                   | 567.531                       | 577.726                    | 577.726                         |
| 29           | 0.338186   | 184.278      | 8.35043                   | D SILT        | 500                 | 32                        | 116.131            | 1079.79              | 927.856                  | 0                   | 927.856                       | 944.902                    | 944.902                         |
| 30           | 0.338186   | 182.795      | 10.3823                   | D SILT        | 500                 | 32                        | 115.559            | 1074.47              | 919.346                  | 0                   | 919.346                       | 940.518                    | 940.518                         |
| 31           | 0.338186   | 180.85       | 12.4275                   | D SILT        | 500                 | 32                        | 114.894            | 1068.29              | 909.446                  | 0                   | 909.446                       | 934.765                    | 934.765                         |
| 32           | 0.338186   | 178.432      | 14.489                    | D SILT        | 500                 | 32                        | 114.133            | 1061.21              | 898.121                  | 0                   | 898.121                       | 927.614                    | 927.614                         |
| 33           | 0.338186   | 175.528      | 16.5698                   | D SILT        | 500                 | 32                        | 113.273            | 1053.21              | 885.327                  | 0                   | 885.327                       | 919.03                     | 919.03                          |
| 34           | 0.338186   | 172.124      | 18.6734                   | D SILT        | 500                 | 32                        | 112.31             | 1044.26              | 871.008                  | 0                   | 871.008                       | 908.964                    | 908.964                         |
| 35           | 0.338186   | 168.202      | 20.8035                   | D SILT        | 500                 | 32                        | 111.241            | 1034.33              | 855.1                    | 0                   | 855.1                         | 897.364                    | 897.364                         |
| 36           | 0.338186   | 163.74       | 22.9641                   | D SILT        | 500                 | 32                        | 110.061            | 1023.35              | 837.536                  | 0                   | 837.536                       | 884.173                    | 884.173                         |
| 37           | 0.338186   | 158.713      | 25.16                     | D SILT        | 500                 | 32                        | 108.763            | 1011.28              | 818.222                  | 0                   | 818.222                       | 869.309                    | 869.309                         |
| 38           | 0.338186   | 153.092      | 27.3961                   | D SILT        | 500                 | 32                        | 107.34             | 998.056              | 797.056                  | 0                   | 797.056                       | 852.686                    | 852.686                         |
| 39           | 0.338186   | 146.84       | 29.6786                   | D SILT        | 500                 | 32                        | 105.785            | 983.596              | 773.914                  | 0                   | 773.914                       | 834.201                    | 834.201                         |
| 40           | 0.338186   | 139.916      | 32.0142                   | D SILT        | 500                 | 32                        | 104.087            | 967.808              | 748.65                   | 0                   | 748.65                        | 813.727                    | 813.727                         |
| 41           | 0.338186   | 132.268      | 34.4111                   | D SILT        | 500                 | 32                        | 102.235            | 950.581              | 721.08                   | 0                   | 721.08                        | 791.11                     | 791.11                          |
| 42           | 0.338186   | 123.833      | 36.8789                   | D SILT        | 500                 | 32                        | 100.212            | 931.776              | 690.987                  | 0                   | 690.987                       | 766.171                    | 766.171                         |
| 43           | 0.338186   | 114.535      | 39.4295                   | D SILT        | 500                 | 32                        | 98.0015            | 911.222              | 658.092                  | 0                   | 658.092                       | 738.676                    | 738.676                         |
| 44           | 0.338186   | 104.277      | 42.0774                   | D SILT        | 500                 | 32                        | 95.5792            | 888.699              | 622.048                  | 0                   | 622.048                       | 708.342                    | 708.342                         |
| 45           | 0.338186   | 92.9355      | 44.8413                   | D SILT        | 500                 | 32                        | 92.915             | 863.927              | 582.406                  | 0                   | 582.406                       | 674.807                    | 674.807                         |
| 46           | 0.338186   | 80.3493      | 47.7454                   | D SILT        | 500                 | 32                        | 89.9683            | 836.529              | 538.558                  | 0                   | 538.558                       | 637.59                     | 637.59                          |
| 47           | 0.338186   | 66.2999      | 50.8226                   | D SILT        | 500                 | 32                        | 86.6832            | 805.984              | 489.677                  | 0                   | 489.677                       | 596.047                    | 596.047                         |
| 48           | 0.338186   | 50.4784      | 54.1194                   | D SILT        | 500                 | 32                        | 82.9786            | 771.538              | 434.552                  | 0                   | 434.552                       | 549.264                    | 549.264                         |
| 49           | 0.338186   | 32.4233      | 57.7058                   | D SILT        | 500                 | 32                        | 78.7285            | 732.021              | 371.311                  | 0                   | 371.311                       | 495.875                    | 495.875                         |
| 50           | 0.338186   | 11.3838      | 61.6961                   | D SILT        | 500                 | 32                        | 73.7193            | 685.445              | 296.773                  | 0                   | 296.773                       | 433.662                    | 433.662                         |

## Cross Section H-H' - Seismic

### Global Minimum Query (bishop simplified) - Safety Factor: 2.95955

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.50348    | 109.938      | -39.9328                  | D SILT        | 500                 | 32                        | 223.891            | 662.617              | 260.242                  | 0                   | 260.242                       | 72.8215                    | 72.8215                         |
| 2            | 1.50348    | 322.625      | -37.9287                  | D SILT        | 500                 | 32                        | 256.365            | 758.724              | 414.046                  | 0                   | 414.046                       | 214.265                    | 214.265                         |
| 3            | 1.50348    | 521.493      | -35.9779                  | D SILT        | 500                 | 32                        | 285.935            | 846.24               | 554.097                  | 0                   | 554.097                       | 346.521                    | 346.521                         |
| 4            | 1.50348    | 707.57       | -34.0743                  | D SILT        | 500                 | 32                        | 312.928            | 926.126              | 681.945                  | 0                   | 681.945                       | 470.281                    | 470.281                         |
| 5            | 1.50348    | 881.722      | -32.2126                  | D SILT        | 500                 | 32                        | 337.604            | 999.155              | 798.815                  | 0                   | 798.815                       | 586.111                    | 586.111                         |
| 6            | 1.50348    | 1044.69      | -30.3883                  | D SILT        | 500                 | 32                        | 360.175            | 1065.96              | 905.721                  | 0                   | 905.721                       | 694.506                    | 694.506                         |
| 7            | 1.50348    | 1197.1       | -28.5974                  | D SILT        | 500                 | 32                        | 380.818            | 1127.05              | 1003.49                  | 0                   | 1003.49                       | 795.887                    | 795.887                         |
| 8            | 1.50348    | 1339.51      | -26.8367                  | D SILT        | 500                 | 32                        | 399.68             | 1182.87              | 1092.83                  | 0                   | 1092.83                       | 890.614                    | 890.614                         |
| 9            | 1.50348    | 1472.38      | -25.1029                  | D SILT        | 500                 | 32                        | 416.885            | 1233.79              | 1174.31                  | 0                   | 1174.31                       | 979                        | 979                             |
| 10           | 1.50348    | 1596.14      | -23.3934                  | D SILT        | 500                 | 32                        | 432.537            | 1280.12              | 1248.45                  | 0                   | 1248.45                       | 1061.33                    | 1061.33                         |
| 11           | 1.50348    | 1711.14      | -21.7057                  | D SILT        | 500                 | 32                        | 446.729            | 1322.12              | 1315.66                  | 0                   | 1315.66                       | 1137.83                    | 1137.83                         |
| 12           | 1.50348    | 1817.71      | -20.0376                  | D SILT        | 500                 | 32                        | 459.538            | 1360.03              | 1376.32                  | 0                   | 1376.32                       | 1208.72                    | 1208.72                         |
| 13           | 1.50348    | 1916.1       | -18.3871                  | D SILT        | 500                 | 32                        | 471.031            | 1394.04              | 1430.76                  | 0                   | 1430.76                       | 1274.19                    | 1274.19                         |
| 14           | 1.50348    | 2006.58      | -16.7522                  | D SILT        | 500                 | 32                        | 481.269            | 1424.34              | 1479.26                  | 0                   | 1479.26                       | 1334.39                    | 1334.39                         |
| 15           | 1.51794    | 2112.92      | -15.1235                  | D-VD SAND     | 0                   | 38                        | 395.645            | 1170.93              | 1498.72                  | 0                   | 1498.72                       | 1391.79                    | 1391.79                         |
| 16           | 1.51794    | 2195.43      | -13.4995                  | D-VD SAND     | 0                   | 38                        | 407.603            | 1206.32              | 1544.02                  | 0                   | 1544.02                       | 1446.16                    | 1446.16                         |
| 17           | 1.51794    | 2269.68      | -11.8865                  | D-VD SAND     | 0                   | 38                        | 417.908            | 1236.82              | 1583.05                  | 0                   | 1583.05                       | 1495.09                    | 1495.09                         |
| 18           | 1.51794    | 2335.81      | -10.283                   | D-VD SAND     | 0                   | 38                        | 426.626            | 1262.62              | 1616.08                  | 0                   | 1616.08                       | 1538.68                    | 1538.68                         |
| 19           | 1.51794    | 2393.97      | -8.68759                  | D-VD SAND     | 0                   | 38                        | 433.813            | 1283.89              | 1643.3                   | 0                   | 1643.3                        | 1577.01                    | 1577.01                         |
| 20           | 1.51794    | 2444.27      | -7.09897                  | D-VD SAND     | 0                   | 38                        | 439.513            | 1300.76              | 1664.9                   | 0                   | 1664.9                        | 1610.17                    | 1610.17                         |
| 21           | 1.51794    | 2486.79      | -5.51582                  | D-VD SAND     | 0                   | 38                        | 443.777            | 1313.38              | 1681.05                  | 0                   | 1681.05                       | 1638.2                     | 1638.2                          |
| 22           | 1.51794    | 2521.61      | -3.93688                  | D-VD SAND     | 0                   | 38                        | 446.639            | 1321.85              | 1691.89                  | 0                   | 1691.89                       | 1661.16                    | 1661.16                         |
| 23           | 1.51794    | 2548.78      | -2.36094                  | D-VD SAND     | 0                   | 38                        | 448.132            | 1326.27              | 1697.55                  | 0                   | 1697.55                       | 1679.07                    | 1679.07                         |
| 24           | 1.51794    | 2568.34      | -0.786781                 | D-VD SAND     | 0                   | 38                        | 448.288            | 1326.73              | 1698.13                  | 0                   | 1698.13                       | 1691.98                    | 1691.98                         |
| 25           | 1.51794    | 2580.29      | 0.786781                  | D-VD SAND     | 0                   | 38                        | 447.125            | 1323.29              | 1693.73                  | 0                   | 1693.73                       | 1699.87                    | 1699.87                         |
| 26           | 1.51794    | 2584.65      | 2.36094                   | D-VD SAND     | 0                   | 38                        | 444.669            | 1316.02              | 1684.43                  | 0                   | 1684.43                       | 1702.76                    | 1702.76                         |
| 27           | 1.51794    | 2581.39      | 3.93688                   | D-VD SAND     | 0                   | 38                        | 440.935            | 1304.97              | 1670.29                  | 0                   | 1670.29                       | 1700.64                    | 1700.64                         |
| 28           | 1.51794    | 2570.48      | 5.51582                   | D-VD SAND     | 0                   | 38                        | 505.002            | 1494.58              | 1912.97                  | 0                   | 1912.97                       | 1961.73                    | 1961.73                         |
| 29           | 1.51794    | 2551.87      | 7.09897                   | D-VD SAND     | 0                   | 38                        | 531.936            | 1574.29              | 2015                     | 0                   | 2015                          | 2081.25                    | 2081.25                         |
| 30           | 1.51794    | 2525.48      | 8.68759                   | D-VD SAND     | 0                   | 38                        | 523.715            | 1549.96              | 1983.86                  | 0                   | 1983.86                       | 2063.89                    | 2063.89                         |
| 31           | 1.51794    | 2491.23      | 10.283                    | D-VD SAND     | 0                   | 38                        | 514.261            | 1521.98              | 1948.05                  | 0                   | 1948.05                       | 2041.34                    | 2041.34                         |
| 32           | 1.51794    | 2449.01      | 11.8865                   | D-VD SAND     | 0                   | 38                        | 503.57             | 1490.34              | 1907.55                  | 0                   | 1907.55                       | 2013.55                    | 2013.55                         |
| 33           | 1.51794    | 2398.67      | 13.4995                   | D-VD SAND     | 0                   | 38                        | 491.646            | 1455.05              | 1862.38                  | 0                   | 1862.38                       | 1980.4                     | 1980.4                          |
| 34           | 1.51794    | 2340.08      | 15.1235                   | D-VD SAND     | 0                   | 38                        | 478.478            | 1416.08              | 1812.5                   | 0                   | 1812.5                        | 1941.82                    | 1941.82                         |
| 35           | 1.55112    | 2325.5       | 16.7781                   | D SILT        | 500                 | 32                        | 535.886            | 1585.98              | 1737.93                  | 0                   | 1737.93                       | 1899.5                     | 1899.5                          |
| 36           | 1.55112    | 2253.9       | 18.4653                   | D SILT        | 500                 | 32                        | 523.357            | 1548.9               | 1678.6                   | 0                   | 1678.6                        | 1853.36                    | 1853.36                         |
| 37           | 1.55112    | 2173.59      | 20.1692                   | D SILT        | 500                 | 32                        | 509.794            | 1508.76              | 1614.35                  | 0                   | 1614.35                       | 1801.6                     | 1801.6                          |
| 38           | 1.55112    | 2084.29      | 21.892                    | D SILT        | 500                 | 32                        | 495.167            | 1465.47              | 1545.07                  | 0                   | 1545.07                       | 1744.05                    | 1744.05                         |
| 39           | 1.55112    | 1985.69      | 23.6359                   | D SILT        | 500                 | 32                        | 479.457            | 1418.98              | 1470.67                  | 0                   | 1470.67                       | 1680.5                     | 1680.5                          |
| 40           | 1.55112    | 1877.42      | 25.4034                   | D SILT        | 500                 | 32                        | 462.637            | 1369.2               | 1391.01                  | 0                   | 1391.01                       | 1610.72                    | 1610.72                         |
| 41           | 1.55112    | 1759.06      | 27.1972                   | D SILT        | 500                 | 32                        | 444.672            | 1316.03              | 1305.92                  | 0                   | 1305.92                       | 1534.42                    | 1534.42                         |
| 42           | 1.55112    | 1630.13      | 29.0204                   | D SILT        | 500                 | 32                        | 425.527            | 1259.37              | 1215.24                  | 0                   | 1215.24                       | 1451.31                    | 1451.31                         |
| 43           | 1.55112    | 1490.08      | 30.8764                   | D SILT        | 500                 | 32                        | 405.16             | 1199.09              | 1118.78                  | 0                   | 1118.78                       | 1361.03                    | 1361.03                         |
| 44           | 1.55112    | 1338.26      | 32.7691                   | D SILT        | 500                 | 32                        | 383.522            | 1135.05              | 1016.3                   | 0                   | 1016.3                        | 1263.17                    | 1263.17                         |

|    |         |         |         |        |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 1.55112 | 1173.92 | 34.703  | D SILT | 500 | 32 | 360.558 | 1067.09 | 907.536 | 0 | 907.536 | 1157.23 | 1157.23 |
| 46 | 1.55112 | 996.195 | 36.6834 | D SILT | 500 | 32 | 336.206 | 995.019 | 792.193 | 0 | 792.193 | 1042.64 | 1042.64 |
| 47 | 1.55112 | 804.027 | 38.7161 | D SILT | 500 | 32 | 310.393 | 918.623 | 669.936 | 0 | 669.936 | 918.751 | 918.751 |
| 48 | 1.55112 | 596.177 | 40.8086 | D SILT | 500 | 32 | 283.035 | 837.656 | 540.361 | 0 | 540.361 | 784.745 | 784.745 |
| 49 | 1.55112 | 371.137 | 42.9694 | D SILT | 500 | 32 | 254.035 | 751.83  | 403.012 | 0 | 403.012 | 639.65  | 639.65  |
| 50 | 1.55112 | 127.056 | 45.2092 | D SILT | 500 | 32 | 223.282 | 660.813 | 257.355 | 0 | 257.355 | 482.273 | 482.273 |

Global Minimum Query (janbu simplified) - Safety Factor: 2.71567

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.50348    | 109.938      | -39.9328                  | D SILT        | 500                 | 32                        | 248.832            | 675.745              | 281.25                   | 0                   | 281.25                        | 72.952                     | 72.952                          |
| 2            | 1.50348    | 322.625      | -37.9287                  | D SILT        | 500                 | 32                        | 284.457            | 772.491              | 436.077                  | 0                   | 436.077                       | 214.404                    | 214.404                         |
| 3            | 1.50348    | 521.493      | -35.9779                  | D SILT        | 500                 | 32                        | 316.803            | 860.333              | 576.655                  | 0                   | 576.655                       | 346.67                     | 346.67                          |
| 4            | 1.50348    | 707.57       | -34.0743                  | D SILT        | 500                 | 32                        | 346.251            | 940.303              | 704.632                  | 0                   | 704.632                       | 470.429                    | 470.429                         |
| 5            | 1.50348    | 881.722      | -32.2126                  | D SILT        | 500                 | 32                        | 373.103            | 1013.22              | 821.33                   | 0                   | 821.33                        | 586.261                    | 586.261                         |
| 6            | 1.50348    | 1044.69      | -30.3883                  | D SILT        | 500                 | 32                        | 397.606            | 1079.77              | 927.822                  | 0                   | 927.822                       | 694.657                    | 694.657                         |
| 7            | 1.50348    | 1197.1       | -28.5974                  | D SILT        | 500                 | 32                        | 419.962            | 1140.48              | 1024.98                  | 0                   | 1024.98                       | 796.032                    | 796.032                         |
| 8            | 1.50348    | 1339.51      | -26.8367                  | D SILT        | 500                 | 32                        | 440.34             | 1195.82              | 1113.54                  | 0                   | 1113.54                       | 890.755                    | 890.755                         |
| 9            | 1.50348    | 1472.38      | -25.1029                  | D SILT        | 500                 | 32                        | 458.882            | 1246.17              | 1194.12                  | 0                   | 1194.12                       | 979.14                     | 979.14                          |
| 10           | 1.50348    | 1596.14      | -23.3934                  | D SILT        | 500                 | 32                        | 475.709            | 1291.87              | 1267.26                  | 0                   | 1267.26                       | 1061.46                    | 1061.46                         |
| 11           | 1.50348    | 1711.14      | -21.7057                  | D SILT        | 500                 | 32                        | 490.924            | 1333.19              | 1333.38                  | 0                   | 1333.38                       | 1137.96                    | 1137.96                         |
| 12           | 1.50348    | 1817.71      | -20.0376                  | D SILT        | 500                 | 32                        | 504.617            | 1370.37              | 1392.89                  | 0                   | 1392.89                       | 1208.85                    | 1208.85                         |
| 13           | 1.50348    | 1916.1       | -18.3871                  | D SILT        | 500                 | 32                        | 516.863            | 1403.63              | 1446.11                  | 0                   | 1446.11                       | 1274.3                     | 1274.3                          |
| 14           | 1.50348    | 2006.58      | -16.7522                  | D SILT        | 500                 | 32                        | 527.732            | 1433.14              | 1493.35                  | 0                   | 1493.35                       | 1334.49                    | 1334.49                         |
| 15           | 1.51794    | 2112.92      | -15.1235                  | D-VD SAND     | 0                   | 38                        | 434.195            | 1179.13              | 1509.21                  | 0                   | 1509.21                       | 1391.87                    | 1391.87                         |
| 16           | 1.51794    | 2195.43      | -13.4995                  | D-VD SAND     | 0                   | 38                        | 446.943            | 1213.75              | 1553.53                  | 0                   | 1553.53                       | 1446.23                    | 1446.23                         |
| 17           | 1.51794    | 2269.68      | -11.8865                  | D-VD SAND     | 0                   | 38                        | 457.876            | 1243.44              | 1591.53                  | 0                   | 1591.53                       | 1495.16                    | 1495.16                         |
| 18           | 1.51794    | 2335.81      | -10.283                   | D-VD SAND     | 0                   | 38                        | 467.063            | 1268.39              | 1623.47                  | 0                   | 1623.47                       | 1538.73                    | 1538.73                         |
| 19           | 1.51794    | 2393.97      | -8.68759                  | D-VD SAND     | 0                   | 38                        | 474.575            | 1288.79              | 1649.57                  | 0                   | 1649.57                       | 1577.06                    | 1577.06                         |
| 20           | 1.51794    | 2444.27      | -7.09897                  | D-VD SAND     | 0                   | 38                        | 480.463            | 1304.78              | 1670.04                  | 0                   | 1670.04                       | 1610.21                    | 1610.21                         |
| 21           | 1.51794    | 2486.79      | -5.51582                  | D-VD SAND     | 0                   | 38                        | 484.779            | 1316.5               | 1685.05                  | 0                   | 1685.05                       | 1638.23                    | 1638.23                         |
| 22           | 1.51794    | 2521.61      | -3.93688                  | D-VD SAND     | 0                   | 38                        | 487.567            | 1324.07              | 1694.73                  | 0                   | 1694.73                       | 1661.18                    | 1661.18                         |
| 23           | 1.51794    | 2548.78      | -2.36094                  | D-VD SAND     | 0                   | 38                        | 488.866            | 1327.6               | 1699.25                  | 0                   | 1699.25                       | 1679.09                    | 1679.09                         |
| 24           | 1.51794    | 2568.34      | -0.786781                 | D-VD SAND     | 0                   | 38                        | 488.704            | 1327.16              | 1698.69                  | 0                   | 1698.69                       | 1691.98                    | 1691.98                         |
| 25           | 1.51794    | 2580.29      | 0.786781                  | D-VD SAND     | 0                   | 38                        | 487.121            | 1322.86              | 1693.18                  | 0                   | 1693.18                       | 1699.87                    | 1699.87                         |
| 26           | 1.51794    | 2584.65      | 2.36094                   | D-VD SAND     | 0                   | 38                        | 484.131            | 1314.74              | 1682.79                  | 0                   | 1682.79                       | 1702.75                    | 1702.75                         |
| 27           | 1.51794    | 2581.39      | 3.93688                   | D-VD SAND     | 0                   | 38                        | 479.76             | 1302.87              | 1667.6                   | 0                   | 1667.6                        | 1700.61                    | 1700.61                         |
| 28           | 1.51794    | 2570.48      | 5.51582                   | D-VD SAND     | 0                   | 38                        | 549.117            | 1491.22              | 1908.67                  | 0                   | 1908.67                       | 1961.7                     | 1961.7                          |
| 29           | 1.51794    | 2551.87      | 7.09897                   | D-VD SAND     | 0                   | 38                        | 578.042            | 1569.77              | 2009.21                  | 0                   | 2009.21                       | 2081.2                     | 2081.2                          |
| 30           | 1.51794    | 2525.48      | 8.68759                   | D-VD SAND     | 0                   | 38                        | 568.751            | 1544.54              | 1976.92                  | 0                   | 1976.92                       | 2063.83                    | 2063.83                         |
| 31           | 1.51794    | 2491.23      | 10.283                    | D-VD SAND     | 0                   | 38                        | 558.135            | 1515.71              | 1940.01                  | 0                   | 1940.01                       | 2041.27                    | 2041.27                         |
| 32           | 1.51794    | 2449.01      | 11.8865                   | D-VD SAND     | 0                   | 38                        | 546.189            | 1483.27              | 1898.5                   | 0                   | 1898.5                        | 2013.47                    | 2013.47                         |
| 33           | 1.51794    | 2398.67      | 13.4995                   | D-VD SAND     | 0                   | 38                        | 532.922            | 1447.24              | 1852.38                  | 0                   | 1852.38                       | 1980.32                    | 1980.32                         |
| 34           | 1.51794    | 2340.08      | 15.1235                   | D-VD SAND     | 0                   | 38                        | 518.325            | 1407.6               | 1801.65                  | 0                   | 1801.65                       | 1941.73                    | 1941.73                         |
| 35           | 1.55112    | 2325.5       | 16.7781                   | D SILT        | 500                 | 32                        | 580.862            | 1577.43              | 1724.25                  | 0                   | 1724.25                       | 1899.38                    | 1899.38                         |
| 36           | 1.55112    | 2253.9       | 18.4653                   | D SILT        | 500                 | 32                        | 566.976            | 1539.72              | 1663.91                  | 0                   | 1663.91                       | 1853.23                    | 1853.23                         |
| 37           | 1.55112    | 2173.59      | 20.1692                   | D SILT        | 500                 | 32                        | 551.978            | 1498.99              | 1598.72                  | 0                   | 1598.72                       | 1801.47                    | 1801.47                         |
| 38           | 1.55112    | 2084.29      | 21.892                    | D SILT        | 500                 | 32                        | 535.841            | 1455.17              | 1528.59                  | 0                   | 1528.59                       | 1743.91                    | 1743.91                         |
| 39           | 1.55112    | 1985.69      | 23.6359                   | D SILT        | 500                 | 32                        | 518.544            | 1408.2               | 1453.42                  | 0                   | 1453.42                       | 1680.35                    | 1680.35                         |
| 40           | 1.55112    | 1877.42      | 25.4034                   | D SILT        | 500                 | 32                        | 500.058            | 1357.99              | 1373.08                  | 0                   | 1373.08                       | 1610.56                    | 1610.56                         |
| 41           | 1.55112    | 1759.06      | 27.1972                   | D SILT        | 500                 | 32                        | 480.349            | 1304.47              | 1287.42                  | 0                   | 1287.42                       | 1534.26                    | 1534.26                         |
| 42           | 1.55112    | 1630.13      | 29.0204                   | D SILT        | 500                 | 32                        | 459.381            | 1247.53              | 1196.29                  | 0                   | 1196.29                       | 1451.15                    | 1451.15                         |
| 43           | 1.55112    | 1490.08      | 30.8764                   | D SILT        | 500                 | 32                        | 437.109            | 1187.04              | 1099.5                   | 0                   | 1099.5                        | 1360.86                    | 1360.86                         |
| 44           | 1.55112    | 1338.26      | 32.7691                   | D SILT        | 500                 | 32                        | 413.485            | 1122.89              | 996.831                  | 0                   | 996.831                       | 1262.99                    | 1262.99                         |
| 45           | 1.55112    | 1173.92      | 34.703                    | D SILT        | 500                 | 32                        | 388.452            | 1054.91              | 888.037                  | 0                   | 888.037                       | 1157.04                    | 1157.04                         |
| 46           | 1.55112    | 996.195      | 36.6834                   | D SILT        | 500                 | 32                        | 361.945            | 982.924              | 772.842                  | 0                   | 772.842                       | 1042.46                    | 1042.46                         |

## Cross Sections - Post Construction Conditions

Tuesday, April 8, 2025

|    |         |         |         |        |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 1.55112 | 804.027 | 38.7161 | D SILT | 500 | 32 | 333.891 | 906.739 | 650.921 | 0 | 650.921 | 918.573 | 918.573 |
| 48 | 1.55112 | 596.177 | 40.8086 | D SILT | 500 | 32 | 304.206 | 826.122 | 521.906 | 0 | 521.906 | 784.569 | 784.569 |
| 49 | 1.55112 | 371.137 | 42.9694 | D SILT | 500 | 32 | 272.789 | 740.806 | 385.37  | 0 | 385.37  | 639.478 | 639.478 |
| 50 | 1.55112 | 127.056 | 45.2092 | D SILT | 500 | 32 | 239.53  | 650.484 | 240.824 | 0 | 240.824 | 482.11  | 482.11  |

## Cross Section I-I' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 2.61846**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 6.83869    | 1691.86      | -15.2764                  | Hard SILT     | 1500                | 32                        | 675.911            | 1769.85              | 431.843                  | 0                   | 431.843                       | 247.234                    | 247.234                         |
| 2            | 6.83869    | 5015.35      | -13.9815                  | Hard SILT     | 1500                | 32                        | 795.07             | 2081.86              | 931.167                  | 0                   | 931.167                       | 733.206                    | 733.206                         |
| 3            | 6.83869    | 8428.51      | -12.6939                  | Hard SILT     | 1500                | 32                        | 916.178            | 2398.98              | 1438.67                  | 0                   | 1438.67                       | 1232.3                     | 1232.3                          |
| 4            | 6.83869    | 11841.8      | -11.4128                  | Hard SILT     | 1500                | 32                        | 1035.94            | 2712.58              | 1940.53                  | 0                   | 1940.53                       | 1731.41                    | 1731.41                         |
| 5            | 6.83869    | 14989.5      | -10.1375                  | Hard SILT     | 1500                | 32                        | 1144.73            | 2997.42              | 2396.37                  | 0                   | 2396.37                       | 2191.69                    | 2191.69                         |
| 6            | 6.83869    | 17949.2      | -8.86717                  | Hard SILT     | 1500                | 32                        | 1245.53            | 3261.38              | 2818.8                   | 0                   | 2818.8                        | 2624.49                    | 2624.49                         |
| 7            | 6.83869    | 20678        | -7.60127                  | Hard SILT     | 1500                | 32                        | 1336.97            | 3500.8               | 3201.95                  | 0                   | 3201.95                       | 3023.53                    | 3023.53                         |
| 8            | 6.83869    | 23494        | -6.33908                  | Hard SILT     | 1500                | 32                        | 1430.59            | 3745.93              | 3594.24                  | 0                   | 3594.24                       | 3435.31                    | 3435.31                         |
| 9            | 6.83869    | 26498.1      | -5.07998                  | Hard SILT     | 1500                | 32                        | 1529.95            | 4006.12              | 4010.63                  | 0                   | 4010.63                       | 3874.62                    | 3874.62                         |
| 10           | 6.83869    | 28618.3      | -3.82334                  | Hard SILT     | 1500                | 32                        | 1596.95            | 4181.56              | 4291.4                   | 0                   | 4291.4                        | 4184.67                    | 4184.67                         |
| 11           | 6.83869    | 30418.6      | -2.56854                  | Hard SILT     | 1500                | 32                        | 1652               | 4325.7               | 4522.06                  | 0                   | 4522.06                       | 4447.96                    | 4447.96                         |
| 12           | 6.83869    | 32525.3      | -1.31497                  | Hard SILT     | 1500                | 32                        | 1717.25            | 4496.54              | 4795.46                  | 0                   | 4795.46                       | 4756.04                    | 4756.04                         |
| 13           | 6.83869    | 35113.8      | -0.0620247                | Hard SILT     | 1500                | 32                        | 1798.64            | 4709.66              | 5136.52                  | 0                   | 5136.52                       | 5134.57                    | 5134.57                         |
| 14           | 6.83869    | 37276.9      | 1.19089                   | Hard SILT     | 1500                | 32                        | 1864.41            | 4881.89              | 5412.16                  | 0                   | 5412.16                       | 5450.92                    | 5450.92                         |
| 15           | 6.83869    | 39418.8      | 2.44437                   | Hard SILT     | 1500                | 32                        | 1928.77            | 5050.4               | 5681.82                  | 0                   | 5681.82                       | 5764.16                    | 5764.16                         |
| 16           | 6.83869    | 41929.4      | 3.69902                   | Hard SILT     | 1500                | 32                        | 2005.1             | 5250.27              | 6001.69                  | 0                   | 6001.69                       | 6131.32                    | 6131.32                         |
| 17           | 6.83869    | 43986        | 4.95546                   | Hard SILT     | 1500                | 32                        | 2065.08            | 5407.33              | 6253.03                  | 0                   | 6253.03                       | 6432.09                    | 6432.09                         |
| 18           | 6.83869    | 45681        | 6.21429                   | Hard SILT     | 1500                | 32                        | 2112.09            | 5530.42              | 6450.02                  | 0                   | 6450.02                       | 6680                       | 6680                            |
| 19           | 6.83869    | 46916.6      | 7.47614                   | Hard SILT     | 1500                | 32                        | 2142.98            | 5611.32              | 6579.49                  | 0                   | 6579.49                       | 6860.72                    | 6860.72                         |
| 20           | 6.83869    | 47964.4      | 8.74164                   | Hard SILT     | 1500                | 32                        | 2167.15            | 5674.59              | 6680.74                  | 0                   | 6680.74                       | 7013.98                    | 7013.98                         |
| 21           | 6.83869    | 48732.7      | 10.0115                   | Hard SILT     | 1500                | 32                        | 2181.58            | 5712.39              | 6741.24                  | 0                   | 6741.24                       | 7126.36                    | 7126.36                         |
| 22           | 6.83869    | 49397.1      | 11.2863                   | Hard SILT     | 1500                | 32                        | 2192.28            | 5740.4               | 6786.06                  | 0                   | 6786.06                       | 7223.57                    | 7223.57                         |
| 23           | 6.83869    | 50213.4      | 12.5668                   | Hard SILT     | 1500                | 32                        | 2207.74            | 5780.87              | 6850.82                  | 0                   | 6850.82                       | 7342.97                    | 7342.97                         |
| 24           | 6.83869    | 51143.3      | 13.8537                   | Hard SILT     | 1500                | 32                        | 2226.6             | 5830.27              | 6929.88                  | 0                   | 6929.88                       | 7479                       | 7479                            |
| 25           | 6.83869    | 53093.9      | 15.1478                   | Hard SILT     | 1500                | 32                        | 2278.53            | 5966.23              | 7147.46                  | 0                   | 7147.46                       | 7764.29                    | 7764.29                         |
| 26           | 6.83869    | 55473.7      | 16.4499                   | Hard SILT     | 1500                | 32                        | 2343.65            | 6136.75              | 7420.36                  | 0                   | 7420.36                       | 8112.35                    | 8112.35                         |
| 27           | 6.83869    | 57505.9      | 17.7607                   | Hard SILT     | 1500                | 32                        | 2396.53            | 6275.21              | 7641.93                  | 0                   | 7641.93                       | 8409.56                    | 8409.56                         |
| 28           | 6.83869    | 59565.2      | 19.0813                   | Hard SILT     | 1500                | 32                        | 2449.4             | 6413.65              | 7863.49                  | 0                   | 7863.49                       | 8710.77                    | 8710.77                         |
| 29           | 6.83869    | 61189.2      | 20.4124                   | Hard SILT     | 1500                | 32                        | 2487.38            | 6513.1               | 8022.64                  | 0                   | 8022.64                       | 8948.3                     | 8948.3                          |
| 30           | 6.83869    | 62406.1      | 21.7552                   | Hard SILT     | 1500                | 32                        | 2511.58            | 6576.46              | 8124.04                  | 0                   | 8124.04                       | 9126.32                    | 9126.32                         |
| 31           | 6.83869    | 63835.6      | 23.1107                   | Hard SILT     | 1500                | 32                        | 2541.8             | 6655.6               | 8250.69                  | 0                   | 8250.69                       | 9335.42                    | 9335.42                         |
| 32           | 6.83869    | 65503.7      | 24.48                     | Hard SILT     | 1500                | 32                        | 2578.7             | 6752.23              | 8405.32                  | 0                   | 8405.32                       | 9579.42                    | 9579.42                         |
| 33           | 6.83869    | 66889.4      | 25.8644                   | Hard SILT     | 1500                | 32                        | 2605.79            | 6823.15              | 8518.83                  | 0                   | 8518.83                       | 9782.13                    | 9782.13                         |
| 34           | 6.83869    | 67219.9      | 27.2652                   | Hard SILT     | 1500                | 32                        | 2599.15            | 6805.76              | 8491                     | 0                   | 8491                          | 9830.52                    | 9830.52                         |
| 35           | 6.83869    | 67117.2      | 28.6839                   | Hard SILT     | 1500                | 32                        | 2578.57            | 6751.89              | 8404.78                  | 0                   | 8404.78                       | 9815.57                    | 9815.57                         |
| 36           | 6.83869    | 66640.1      | 30.1221                   | Hard SILT     | 1500                | 32                        | 2546.08            | 6666.81              | 8268.62                  | 0                   | 8268.62                       | 9745.84                    | 9745.84                         |
| 37           | 6.83869    | 65314.5      | 31.5816                   | Hard SILT     | 1500                | 32                        | 2487.44            | 6513.25              | 8022.88                  | 0                   | 8022.88                       | 9552.06                    | 9552.06                         |
| 38           | 6.83869    | 63680.3      | 33.0643                   | Hard SILT     | 1500                | 32                        | 2419.46            | 6335.27              | 7738.05                  | 0                   | 7738.05                       | 9313.13                    | 9313.13                         |
| 39           | 6.83869    | 61055.6      | 34.5725                   | Hard SILT     | 1500                | 32                        | 2321.9             | 6079.81              | 7329.23                  | 0                   | 7329.23                       | 8929.35                    | 8929.35                         |
| 40           | 6.83869    | 57377.9      | 36.1085                   | Hard SILT     | 1500                | 32                        | 2193.58            | 5743.79              | 6791.48                  | 0                   | 6791.48                       | 8391.57                    | 8391.57                         |
| 41           | 6.83869    | 53486.3      | 37.6753                   | Hard SILT     | 1500                | 32                        | 2060               | 5394.04              | 6231.77                  | 0                   | 6231.77                       | 7822.51                    | 7822.51                         |
| 42           | 6.83869    | 49367.4      | 39.2759                   | Hard SILT     | 1500                | 32                        | 1920.99            | 5030.04              | 5649.24                  | 0                   | 5649.24                       | 7220.21                    | 7220.21                         |
| 43           | 6.83869    | 45005.6      | 40.914                    | Hard SILT     | 1500                | 32                        | 1776.3             | 4651.17              | 5042.92                  | 0                   | 5042.92                       | 6582.36                    | 6582.36                         |
| 44           | 6.83869    | 40382.6      | 42.5938                   | Hard SILT     | 1500                | 32                        | 1625.68            | 4256.77              | 4411.76                  | 0                   | 4411.76                       | 5906.32                    | 5906.32                         |
| 45           | 6.2982     | 32681.2      | 44.25                     | D-VD SAND     | 0                   | 38                        | 1158.19            | 3032.67              | 4061.69                  | 180.047             | 3881.65                       | 5189.95                    | 5009.9                          |
| 46           | 6.77226    | 29803.7      | 45.9475                   | D-VD SAND     | 0                   | 38                        | 1003.79            | 2628.39              | 3364.19                  | 0                   | 3364.19                       | 4401.75                    | 4401.75                         |
| 47           | 6.77226    | 23928.5      | 47.7625                   | D-VD SAND     | 0                   | 38                        | 793.661            | 2078.17              | 2659.94                  | 0                   | 2659.94                       | 3534.07                    | 3534.07                         |
| 48           | 6.77226    | 17659.3      | 49.6432                   | D-VD SAND     | 0                   | 38                        | 575.98             | 1508.18              | 1930.38                  | 0                   | 1930.38                       | 2608.19                    | 2608.19                         |
| 49           | 6.77226    | 10949.1      | 51.5999                   | D-VD SAND     | 0                   | 38                        | 411.219            | 1076.76              | 1378.19                  | 0                   | 1378.19                       | 1897.02                    | 1897.02                         |
| 50           | 6.77226    | 3738.6       | 53.645                    | D-VD SAND     | 0                   | 38                        | 202.181            | 529.402              | 677.603                  | 0                   | 677.603                       | 952.286                    | 952.286                         |

Global Minimum Query (janbu simplified) - Safety Factor: 2.39437

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 6.69164    | 1918.77      | -21.5287                  | Hard SILT     | 1500                | 32                        | 781.786            | 1871.88              | 595.138                  | 0                   | 595.138                       | 286.732                    | 286.732                         |
| 2            | 6.69164    | 5683.87      | -19.9725                  | Hard SILT     | 1500                | 32                        | 937.009            | 2243.55              | 1189.92                  | 0                   | 1189.92                       | 849.389                    | 849.389                         |
| 3            | 6.69164    | 9515.15      | -18.4315                  | Hard SILT     | 1500                | 32                        | 1092.58            | 2616.05              | 1786.06                  | 0                   | 1786.06                       | 1421.94                    | 1421.94                         |
| 4            | 6.69164    | 13299.1      | -16.9043                  | Hard SILT     | 1500                | 32                        | 1243.78            | 2978.06              | 2365.39                  | 0                   | 2365.39                       | 1987.4                     | 1987.4                          |
| 5            | 6.69164    | 16800.1      | -15.3893                  | Hard SILT     | 1500                | 32                        | 1380.86            | 3306.3               | 2890.67                  | 0                   | 2890.67                       | 2510.6                     | 2510.6                          |
| 6            | 6.69164    | 20098.6      | -13.8852                  | Hard SILT     | 1500                | 32                        | 1507.57            | 3609.69              | 3376.2                   | 0                   | 3376.2                        | 3003.53                    | 3003.53                         |
| 7            | 6.69164    | 23149.3      | -12.3909                  | Hard SILT     | 1500                | 32                        | 1622.31            | 3884.41              | 3815.84                  | 0                   | 3815.84                       | 3459.42                    | 3459.42                         |
| 8            | 6.69164    | 26229.4      | -10.9051                  | Hard SILT     | 1500                | 32                        | 1736.74            | 4158.39              | 4254.32                  | 0                   | 4254.32                       | 3919.72                    | 3919.72                         |
| 9            | 6.69164    | 29521.5      | -9.42666                  | Hard SILT     | 1500                | 32                        | 1858.33            | 4449.52              | 4720.22                  | 0                   | 4720.22                       | 4411.69                    | 4411.69                         |
| 10           | 6.69164    | 31986.7      | -7.95455                  | Hard SILT     | 1500                | 32                        | 1944.87            | 4656.74              | 5051.85                  | 0                   | 5051.85                       | 4780.09                    | 4780.09                         |
| 11           | 6.69164    | 34059.6      | -6.48772                  | Hard SILT     | 1500                | 32                        | 2014.58            | 4823.65              | 5318.95                  | 0                   | 5318.95                       | 5089.86                    | 5089.86                         |
| 12           | 6.69164    | 36281.5      | -5.02514                  | Hard SILT     | 1500                | 32                        | 2089.4             | 5002.79              | 5605.63                  | 0                   | 5605.63                       | 5421.91                    | 5421.91                         |
| 13           | 6.69164    | 39067.5      | -3.56585                  | Hard SILT     | 1500                | 32                        | 2185.65            | 5233.25              | 5974.45                  | 0                   | 5974.45                       | 5838.25                    | 5838.25                         |
| 14           | 6.69164    | 41481.2      | -2.10886                  | Hard SILT     | 1500                | 32                        | 2266.02            | 5425.68              | 6282.39                  | 0                   | 6282.39                       | 6198.95                    | 6198.95                         |
| 15           | 6.69164    | 43721.9      | -0.653243                 | Hard SILT     | 1500                | 32                        | 2338.58            | 5599.43              | 6560.46                  | 0                   | 6560.46                       | 6533.8                     | 6533.8                          |
| 16           | 6.69164    | 46346        | 0.801955                  | Hard SILT     | 1500                | 32                        | 2425.11            | 5806.61              | 6892.01                  | 0                   | 6892.01                       | 6925.96                    | 6925.96                         |
| 17           | 6.69164    | 48652.1      | 2.25767                   | Hard SILT     | 1500                | 32                        | 2498.21            | 5981.63              | 7172.1                   | 0                   | 7172.1                        | 7270.59                    | 7270.59                         |
| 18           | 6.69164    | 50582.8      | 3.71485                   | Hard SILT     | 1500                | 32                        | 2555.9             | 6119.76              | 7393.17                  | 0                   | 7393.17                       | 7559.12                    | 7559.12                         |
| 19           | 6.69164    | 52028.4      | 5.17443                   | Hard SILT     | 1500                | 32                        | 2594.27            | 6211.65              | 7540.22                  | 0                   | 7540.22                       | 7775.15                    | 7775.15                         |
| 20           | 6.69164    | 53262.9      | 6.6374                    | Hard SILT     | 1500                | 32                        | 2624.04            | 6282.92              | 7654.28                  | 0                   | 7654.28                       | 7959.63                    | 7959.63                         |
| 21           | 6.69164    | 54208.5      | 8.10473                   | Hard SILT     | 1500                | 32                        | 2642.4             | 6326.89              | 7724.64                  | 0                   | 7724.64                       | 8100.93                    | 8100.93                         |
| 22           | 6.69164    | 54981.4      | 9.57743                   | Hard SILT     | 1500                | 32                        | 2653.89            | 6354.39              | 7768.66                  | 0                   | 7768.66                       | 8216.46                    | 8216.46                         |
| 23           | 6.69164    | 55794.1      | 11.0566                   | Hard SILT     | 1500                | 32                        | 2666.47            | 6384.51              | 7816.86                  | 0                   | 7816.86                       | 8337.9                     | 8337.9                          |
| 24           | 6.69164    | 56660.3      | 12.5432                   | Hard SILT     | 1500                | 32                        | 2680.58            | 6418.31              | 7870.95                  | 0                   | 7870.95                       | 8467.34                    | 8467.34                         |
| 25           | 6.69164    | 58160.1      | 14.0385                   | Hard SILT     | 1500                | 32                        | 2717.4             | 6506.47              | 8012.02                  | 0                   | 8012.02                       | 8691.48                    | 8691.48                         |
| 26           | 6.69164    | 60359.4      | 15.5436                   | Hard SILT     | 1500                | 32                        | 2778.79            | 6653.45              | 8247.25                  | 0                   | 8247.25                       | 9020.15                    | 9020.15                         |
| 27           | 6.69164    | 62571.4      | 17.0597                   | Hard SILT     | 1500                | 32                        | 2839.37            | 6798.51              | 8479.38                  | 0                   | 8479.38                       | 9350.7                     | 9350.7                          |
| 28           | 6.69164    | 64414.1      | 18.5883                   | Hard SILT     | 1500                | 32                        | 2885.39            | 6908.68              | 8655.7                   | 0                   | 8655.7                        | 9626.09                    | 9626.09                         |
| 29           | 6.69164    | 66324.4      | 20.1308                   | Hard SILT     | 1500                | 32                        | 2932.6             | 7021.72              | 8836.61                  | 0                   | 8836.61                       | 9911.57                    | 9911.57                         |
| 30           | 6.69164    | 67492.8      | 21.6887                   | Hard SILT     | 1500                | 32                        | 2952.28            | 7068.84              | 8912.01                  | 0                   | 8912.01                       | 10086.2                    | 10086.2                         |
| 31           | 6.69164    | 68668.1      | 23.2636                   | Hard SILT     | 1500                | 32                        | 2971.18            | 7114.11              | 8984.46                  | 0                   | 8984.46                       | 10261.8                    | 10261.8                         |
| 32           | 6.69164    | 70044.8      | 24.8573                   | Hard SILT     | 1500                | 32                        | 2996               | 7173.54              | 9079.57                  | 0                   | 9079.57                       | 10467.6                    | 10467.6                         |
| 33           | 6.69164    | 71487.7      | 26.4719                   | Hard SILT     | 1500                | 32                        | 3021.8             | 7235.31              | 9178.42                  | 0                   | 9178.42                       | 10683.2                    | 10683.2                         |
| 34           | 6.69164    | 72268.4      | 28.1095                   | Hard SILT     | 1500                | 32                        | 3023.47            | 7239.31              | 9184.82                  | 0                   | 9184.82                       | 10799.8                    | 10799.8                         |
| 35           | 6.69164    | 72184.3      | 29.7725                   | Hard SILT     | 1500                | 32                        | 2994.6             | 7170.18              | 9074.18                  | 0                   | 9074.18                       | 10787.3                    | 10787.3                         |
| 36           | 6.69164    | 71723.3      | 31.4637                   | Hard SILT     | 1500                | 32                        | 2952.23            | 7068.73              | 8911.84                  | 0                   | 8911.84                       | 10718.4                    | 10718.4                         |
| 37           | 6.69164    | 70756.4      | 33.186                    | Hard SILT     | 1500                | 32                        | 2892.31            | 6925.27              | 8682.24                  | 0                   | 8682.24                       | 10573.9                    | 10573.9                         |
| 38           | 6.69164    | 68997.9      | 34.9428                   | Hard SILT     | 1500                | 32                        | 2805.78            | 6718.07              | 8350.66                  | 0                   | 8350.66                       | 10311.1                    | 10311.1                         |
| 39           | 6.69164    | 66945.3      | 36.7383                   | Hard SILT     | 1500                | 32                        | 2709.55            | 6487.66              | 7981.92                  | 0                   | 7981.92                       | 10004.4                    | 10004.4                         |
| 40           | 6.69164    | 63569.2      | 38.5768                   | Hard SILT     | 1500                | 32                        | 2570.59            | 6154.95              | 7449.49                  | 0                   | 7449.49                       | 9499.86                    | 9499.86                         |
| 41           | 6.69164    | 59476.3      | 40.4637                   | Hard SILT     | 1500                | 32                        | 2409.66            | 5769.61              | 6832.81                  | 0                   | 6832.81                       | 8888.21                    | 8888.21                         |
| 42           | 6.69164    | 55098.5      | 42.4053                   | Hard SILT     | 1500                | 32                        | 2241.16            | 5366.16              | 6187.15                  | 0                   | 6187.15                       | 8233.99                    | 8233.99                         |
| 43           | 6.69164    | 50408.9      | 44.4091                   | Hard SILT     | 1500                | 32                        | 2064.62            | 4943.47              | 5510.7                   | 0                   | 5510.7                        | 7533.17                    | 7533.17                         |
| 44           | 6.69164    | 45374.8      | 46.4842                   | Hard SILT     | 1500                | 32                        | 1879.5             | 4500.23              | 4801.38                  | 0                   | 4801.38                       | 6780.87                    | 6780.87                         |
| 45           | 6.69164    | 39955.5      | 48.642                    | Hard SILT     | 1500                | 32                        | 1685.17            | 4034.93              | 4056.74                  | 0                   | 4056.74                       | 5971.02                    | 5971.02                         |
| 46           | 4.97471    | 25806.3      | 50.5951                   | D-VD SAND     | 0                   | 38                        | 1169.49            | 2800.19              | 3764.02                  | 179.935             | 3584.08                       | 5187.53                    | 5007.6                          |
| 47           | 6.60569    | 28438.9      | 52.6305                   | D-VD SAND     | 0                   | 38                        | 984.271            | 2356.71              | 3016.45                  | 0                   | 3016.45                       | 4305.24                    | 4305.24                         |
| 48           | 6.60569    | 21262.2      | 55.0682                   | D-VD SAND     | 0                   | 38                        | 715.858            | 1714.03              | 2193.86                  | 0                   | 2193.86                       | 3218.81                    | 3218.81                         |
| 49           | 6.60569    | 13377.8      | 57.6654                   | D-VD SAND     | 0                   | 38                        | 436.056            | 1044.08              | 1336.36                  | 0                   | 1336.36                       | 2025.21                    | 2025.21                         |
| 50           | 6.60569    | 4620.94      | 60.4652                   | D-VD SAND     | 0                   | 38                        | 189.882            | 454.647              | 581.922                  | 0                   | 581.922                       | 917.062                    | 917.062                         |



# **Cross Section I-I' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.29888**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 6.98775    | 1462.83      | -9.09498                  | Hard SILT     | 1500                | 32                        | 1360.18            | 1766.71              | 426.826                  | 0                   | 426.826                       | 209.083                    | 209.083                         |
| 2            | 6.98775    | 4342.71      | -8.05589                  | Hard SILT     | 1500                | 32                        | 1559.91            | 2026.14              | 841.995                  | 0                   | 841.995                       | 621.212                    | 621.212                         |
| 3            | 6.98775    | 7358.11      | -7.01947                  | Hard SILT     | 1500                | 32                        | 1765.9             | 2293.7               | 1270.18                  | 0                   | 1270.18                       | 1052.74                    | 1052.74                         |
| 4            | 6.98775    | 10378.5      | -5.98535                  | Hard SILT     | 1500                | 32                        | 1968.53            | 2556.89              | 1691.38                  | 0                   | 1691.38                       | 1484.99                    | 1484.99                         |
| 5            | 6.98775    | 13149.4      | -4.95319                  | Hard SILT     | 1500                | 32                        | 2149.65            | 2792.14              | 2067.85                  | 0                   | 2067.85                       | 1881.55                    | 1881.55                         |
| 6            | 6.98775    | 15741.3      | -3.92263                  | Hard SILT     | 1500                | 32                        | 2314.85            | 3006.71              | 2411.24                  | 0                   | 2411.24                       | 2252.51                    | 2252.51                         |
| 7            | 6.98775    | 18128.8      | -2.89335                  | Hard SILT     | 1500                | 32                        | 2462.76            | 3198.83              | 2718.7                   | 0                   | 2718.7                        | 2594.22                    | 2594.22                         |
| 8            | 6.98775    | 20724.4      | -1.865                    | Hard SILT     | 1500                | 32                        | 2622.68            | 3406.55              | 3051.11                  | 0                   | 3051.11                       | 2965.71                    | 2965.71                         |
| 9            | 6.98775    | 23361        | -0.837248                 | Hard SILT     | 1500                | 32                        | 2782.71            | 3614.41              | 3383.76                  | 0                   | 3383.76                       | 3343.1                     | 3343.1                          |
| 10           | 6.98775    | 25076.4      | 0.190233                  | Hard SILT     | 1500                | 32                        | 2876.68            | 3736.46              | 3579.09                  | 0                   | 3579.09                       | 3588.64                    | 3588.64                         |
| 11           | 6.98775    | 26599.6      | 1.21777                   | Hard SILT     | 1500                | 32                        | 2955.95            | 3839.42              | 3743.85                  | 0                   | 3743.85                       | 3806.69                    | 3806.69                         |
| 12           | 6.98775    | 28705        | 2.24571                   | Hard SILT     | 1500                | 32                        | 3073.18            | 3991.69              | 3987.54                  | 0                   | 3987.54                       | 4108.05                    | 4108.05                         |
| 13           | 6.98775    | 31022.1      | 3.27437                   | Hard SILT     | 1500                | 32                        | 3202.57            | 4159.75              | 4256.49                  | 0                   | 4256.49                       | 4439.71                    | 4439.71                         |
| 14           | 6.98775    | 32924.5      | 4.30408                   | Hard SILT     | 1500                | 32                        | 3302.16            | 4289.11              | 4463.51                  | 0                   | 4463.51                       | 4712.04                    | 4712.04                         |
| 15           | 6.98775    | 35069.5      | 5.33519                   | Hard SILT     | 1500                | 32                        | 3415.97            | 4436.94              | 4700.08                  | 0                   | 4700.08                       | 5019.09                    | 5019.09                         |
| 16           | 6.98775    | 37372        | 6.36804                   | Hard SILT     | 1500                | 32                        | 3538.05            | 4595.5               | 4953.84                  | 0                   | 4953.84                       | 5348.7                     | 5348.7                          |
| 17           | 6.98775    | 39186.3      | 7.40297                   | Hard SILT     | 1500                | 32                        | 3626.29            | 4710.12              | 5137.26                  | 0                   | 5137.26                       | 5608.42                    | 5608.42                         |
| 18           | 6.98775    | 40559.7      | 8.44034                   | Hard SILT     | 1500                | 32                        | 3684.53            | 4785.76              | 5258.32                  | 0                   | 5258.32                       | 5805.05                    | 5805.05                         |
| 19           | 6.98775    | 41629.3      | 9.4805                    | Hard SILT     | 1500                | 32                        | 3722.21            | 4834.7               | 5336.63                  | 0                   | 5336.63                       | 5958.21                    | 5958.21                         |
| 20           | 6.98775    | 42454        | 10.5238                   | Hard SILT     | 1500                | 32                        | 3743.49            | 4862.35              | 5380.89                  | 0                   | 5380.89                       | 6076.32                    | 6076.32                         |
| 21           | 6.98775    | 43083.7      | 11.5707                   | Hard SILT     | 1500                | 32                        | 3751.91            | 4873.28              | 5398.36                  | 0                   | 5398.36                       | 6166.52                    | 6166.52                         |
| 22           | 6.98775    | 43743.5      | 12.6215                   | Hard SILT     | 1500                | 32                        | 3761.69            | 4885.98              | 5418.71                  | 0                   | 5418.71                       | 6261.02                    | 6261.02                         |
| 23           | 6.98775    | 44548.6      | 13.6766                   | Hard SILT     | 1500                | 32                        | 3779.89            | 4909.62              | 5456.54                  | 0                   | 5456.54                       | 6376.35                    | 6376.35                         |
| 24           | 6.98775    | 45986.1      | 14.7365                   | Hard SILT     | 1500                | 32                        | 3836.01            | 4982.52              | 5573.18                  | 0                   | 5573.18                       | 6582.16                    | 6582.16                         |
| 25           | 6.98775    | 48327.2      | 15.8016                   | Hard SILT     | 1500                | 32                        | 3945.48            | 5124.71              | 5800.75                  | 0                   | 5800.75                       | 6917.33                    | 6917.33                         |
| 26           | 6.98775    | 50723.5      | 16.8723                   | Hard SILT     | 1500                | 32                        | 4055.89            | 5268.12              | 6030.25                  | 0                   | 6030.25                       | 7260.38                    | 7260.38                         |
| 27           | 6.98775    | 52798.5      | 17.9491                   | Hard SILT     | 1500                | 32                        | 4144.7             | 5383.47              | 6214.85                  | 0                   | 6214.85                       | 7557.47                    | 7557.47                         |
| 28           | 6.98775    | 54918.7      | 19.0325                   | Hard SILT     | 1500                | 32                        | 4233.99            | 5499.45              | 6400.46                  | 0                   | 6400.46                       | 7861.03                    | 7861.03                         |
| 29           | 6.98775    | 56313        | 20.1231                   | Hard SILT     | 1500                | 32                        | 4278.52            | 5557.29              | 6493.02                  | 0                   | 6493.02                       | 8060.69                    | 8060.69                         |
| 30           | 6.98775    | 57856.3      | 21.2212                   | Hard SILT     | 1500                | 32                        | 4330.13            | 5624.32              | 6600.28                  | 0                   | 6600.28                       | 8281.68                    | 8281.68                         |
| 31           | 6.98775    | 59714.6      | 22.3277                   | Hard SILT     | 1500                | 32                        | 4398.07            | 5712.56              | 6741.51                  | 0                   | 6741.51                       | 8547.77                    | 8547.77                         |
| 32           | 6.98775    | 61566.8      | 23.443                    | Hard SILT     | 1500                | 32                        | 4463.49            | 5797.54              | 6877.5                   | 0                   | 6877.5                        | 8813                       | 8813                            |
| 33           | 6.98775    | 62439.4      | 24.5677                   | Hard SILT     | 1500                | 32                        | 4471.38            | 5807.78              | 6893.89                  | 0                   | 6893.89                       | 8938                       | 8938                            |
| 34           | 6.98775    | 62732        | 25.7027                   | Hard SILT     | 1500                | 32                        | 4445.55            | 5774.24              | 6840.22                  | 0                   | 6840.22                       | 8979.98                    | 8979.98                         |
| 35           | 6.98775    | 62692.7      | 26.8486                   | Hard SILT     | 1500                | 32                        | 4400.64            | 5715.9               | 6746.85                  | 0                   | 6746.85                       | 8974.46                    | 8974.46                         |
| 36           | 6.98775    | 61875.4      | 28.0062                   | Hard SILT     | 1500                | 32                        | 4312.63            | 5601.59              | 6563.91                  | 0                   | 6563.91                       | 8857.58                    | 8857.58                         |
| 37           | 6.98775    | 60640.6      | 29.1765                   | Hard SILT     | 1500                | 32                        | 4202.31            | 5458.3               | 6334.6                   | 0                   | 6334.6                        | 8680.93                    | 8680.93                         |
| 38           | 6.98775    | 58711.1      | 30.3602                   | Hard SILT     | 1500                | 32                        | 4055.44            | 5267.53              | 6029.31                  | 0                   | 6029.31                       | 8404.84                    | 8404.84                         |
| 39           | 6.98775    | 55493        | 31.5584                   | Hard SILT     | 1500                | 32                        | 3841.59            | 4989.76              | 5584.77                  | 0                   | 5584.77                       | 7944.29                    | 7944.29                         |
| 40           | 6.98775    | 52084.3      | 32.7722                   | Hard SILT     | 1500                | 32                        | 3620.67            | 4702.81              | 5125.56                  | 0                   | 5125.56                       | 7456.44                    | 7456.44                         |
| 41           | 6.98775    | 48513.5      | 34.0029                   | Hard SILT     | 1500                | 32                        | 3394.52            | 4409.08              | 4655.49                  | 0                   | 4655.49                       | 6945.38                    | 6945.38                         |
| 42           | 6.98775    | 44773.4      | 35.2516                   | Hard SILT     | 1500                | 32                        | 3163.11            | 4108.5               | 4174.48                  | 0                   | 4174.48                       | 6410.08                    | 6410.08                         |
| 43           | 6.98775    | 40856.3      | 36.5199                   | Hard SILT     | 1500                | 32                        | 2926.4             | 3801.04              | 3682.43                  | 0                   | 3682.43                       | 5849.43                    | 5849.43                         |
| 44           | 8.00915    | 41534.8      | 37.9054                   | D-VD SAND     | 0                   | 38                        | 2051.41            | 2664.53              | 3590.54                  | 180.1               | 3410.44                       | 5187.83                    | 5007.73                         |
| 45           | 7.17172    | 31979.6      | 39.3333                   | D-VD SAND     | 0                   | 38                        | 1797.33            | 2334.52              | 2988.05                  | 0                   | 2988.05                       | 4460.89                    | 4460.89                         |
| 46           | 7.17172    | 26795.4      | 40.7105                   | D-VD SAND     | 0                   | 38                        | 1481.51            | 1924.31              | 2463                     | 0                   | 2463                          | 3737.78                    | 3737.78                         |
| 47           | 7.17172    | 21349.9      | 42.1169                   | D-VD SAND     | 0                   | 38                        | 1170.66            | 1520.55              | 1946.22                  | 0                   | 1946.22                       | 3004.62                    | 3004.62                         |
| 48           | 7.17172    | 15625.7      | 43.5552                   | D-VD SAND     | 0                   | 38                        | 987.227            | 1282.29              | 1641.27                  | 0                   | 1641.27                       | 2579.92                    | 2579.92                         |
| 49           | 7.17172    | 9602.44      | 45.0287                   | D-VD SAND     | 0                   | 38                        | 653.169            | 848.388              | 1085.89                  | 0                   | 1085.89                       | 1739.71                    | 1739.71                         |
| 50           | 7.17172    | 3256.67      | 46.5412                   | D-VD SAND     | 0                   | 38                        | 314.408            | 408.378              | 522.699                  | 0                   | 522.699                       | 854.494                    | 854.494                         |

**Global Minimum Query (janbu simplified) - Safety Factor: 1.1782**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 6.84938    | 1700.33      | -15.3421                  | Hard SILT     | 1500                | 32                        | 1644               | 1936.96              | 699.285                  | 0                   | 699.285                       | 248.239                    | 248.239                         |
| 2            | 6.84938    | 5043.12      | -14.0455                  | Hard SILT     | 1500                | 32                        | 1918.12            | 2259.93              | 1216.14                  | 0                   | 1216.14                       | 736.279                    | 736.279                         |
| 3            | 6.84938    | 8490.67      | -12.7562                  | Hard SILT     | 1500                | 32                        | 2194               | 2584.97              | 1736.32                  | 0                   | 1736.32                       | 1239.62                    | 1239.62                         |
| 4            | 6.84938    | 11914.4      | -11.4734                  | Hard SILT     | 1500                | 32                        | 2460.54            | 2899.01              | 2238.89                  | 0                   | 2238.89                       | 1739.48                    | 1739.48                         |
| 5            | 6.84938    | 15072        | -10.1964                  | Hard SILT     | 1500                | 32                        | 2697.5             | 3178.19              | 2685.67                  | 0                   | 2685.67                       | 2200.49                    | 2200.49                         |
| 6            | 6.84938    | 18038.6      | -8.92453                  | Hard SILT     | 1500                | 32                        | 2912.44            | 3431.44              | 3090.96                  | 0                   | 3090.96                       | 2633.6                     | 2633.6                          |
| 7            | 6.84938    | 20778.8      | -7.65708                  | Hard SILT     | 1500                | 32                        | 3103.34            | 3656.35              | 3450.89                  | 0                   | 3450.89                       | 3033.67                    | 3033.67                         |
| 8            | 6.84938    | 23642.1      | -6.39339                  | Hard SILT     | 1500                | 32                        | 3299.87            | 3887.91              | 3821.45                  | 0                   | 3821.45                       | 3451.7                     | 3451.7                          |
| 9            | 6.84938    | 26636.4      | -5.13282                  | Hard SILT     | 1500                | 32                        | 3502.49            | 4126.63              | 4203.48                  | 0                   | 4203.48                       | 3888.87                    | 3888.87                         |
| 10           | 6.84938    | 28725.9      | -3.87473                  | Hard SILT     | 1500                | 32                        | 3627.74            | 4274.2               | 4439.64                  | 0                   | 4439.64                       | 4193.94                    | 4193.94                         |
| 11           | 6.84938    | 30536.5      | -2.61851                  | Hard SILT     | 1500                | 32                        | 3728.04            | 4392.38              | 4628.78                  | 0                   | 4628.78                       | 4458.28                    | 4458.28                         |
| 12           | 6.84938    | 32723.8      | -1.36356                  | Hard SILT     | 1500                | 32                        | 3855.66            | 4542.74              | 4869.39                  | 0                   | 4869.39                       | 4777.62                    | 4777.62                         |
| 13           | 6.84938    | 35315.7      | -0.109253                 | Hard SILT     | 1500                | 32                        | 4011.74            | 4726.63              | 5163.7                   | 0                   | 5163.7                        | 5156.05                    | 5156.05                         |
| 14           | 6.84938    | 37472.9      | 1.145                     | Hard SILT     | 1500                | 32                        | 4130.94            | 4867.07              | 5388.43                  | 0                   | 5388.43                       | 5470.99                    | 5470.99                         |
| 15           | 6.84938    | 39664.2      | 2.3998                    | Hard SILT     | 1500                | 32                        | 4249.93            | 5007.27              | 5612.82                  | 0                   | 5612.82                       | 5790.93                    | 5790.93                         |
| 16           | 6.84938    | 42186.3      | 3.65575                   | Hard SILT     | 1500                | 32                        | 4390.9             | 5173.36              | 5878.6                   | 0                   | 5878.6                        | 6159.14                    | 6159.14                         |
| 17           | 6.84938    | 44228.7      | 4.91347                   | Hard SILT     | 1500                | 32                        | 4492.98            | 5293.63              | 6071.09                  | 0                   | 6071.09                       | 6457.34                    | 6457.34                         |
| 18           | 6.84938    | 45901        | 6.17357                   | Hard SILT     | 1500                | 32                        | 4565.41            | 5378.97              | 6207.65                  | 0                   | 6207.65                       | 6701.48                    | 6701.48                         |
| 19           | 6.84938    | 47135.5      | 7.43667                   | Hard SILT     | 1500                | 32                        | 4604.18            | 5424.65              | 6280.75                  | 0                   | 6280.75                       | 6881.73                    | 6881.73                         |
| 20           | 6.84938    | 48175.9      | 8.70342                   | Hard SILT     | 1500                | 32                        | 4627.75            | 5452.42              | 6325.18                  | 0                   | 6325.18                       | 7033.61                    | 7033.61                         |
| 21           | 6.84938    | 48945.1      | 9.97447                   | Hard SILT     | 1500                | 32                        | 4631.08            | 5456.34              | 6331.47                  | 0                   | 6331.47                       | 7145.92                    | 7145.92                         |
| 22           | 6.84938    | 49628.2      | 11.2505                   | Hard SILT     | 1500                | 32                        | 4627.7             | 5452.36              | 6325.1                   | 0                   | 6325.1                        | 7245.65                    | 7245.65                         |
| 23           | 6.84938    | 50469.6      | 12.5322                   | Hard SILT     | 1500                | 32                        | 4634.7             | 5460.6               | 6338.28                  | 0                   | 6338.28                       | 7368.5                     | 7368.5                          |
| 24           | 6.84938    | 51474.1      | 13.8203                   | Hard SILT     | 1500                | 32                        | 4651.94            | 5480.91              | 6370.78                  | 0                   | 6370.78                       | 7515.16                    | 7515.16                         |
| 25           | 6.84938    | 53516.7      | 15.1156                   | Hard SILT     | 1500                | 32                        | 4738.24            | 5582.59              | 6533.52                  | 0                   | 6533.52                       | 7813.38                    | 7813.38                         |
| 26           | 6.84938    | 55923        | 16.4189                   | Hard SILT     | 1500                | 32                        | 4846               | 5709.56              | 6736.7                   | 0                   | 6736.7                        | 8164.7                     | 8164.7                          |
| 27           | 6.84938    | 57939.1      | 17.731                    | Hard SILT     | 1500                | 32                        | 4924.41            | 5801.94              | 6884.54                  | 0                   | 6884.54                       | 8459.06                    | 8459.06                         |
| 28           | 6.84938    | 60038.2      | 19.0527                   | Hard SILT     | 1500                | 32                        | 5005.23            | 5897.16              | 7036.92                  | 0                   | 7036.92                       | 8765.51                    | 8765.51                         |
| 29           | 6.84938    | 61594.1      | 20.3851                   | Hard SILT     | 1500                | 32                        | 5047.67            | 5947.17              | 7116.95                  | 0                   | 7116.95                       | 8992.67                    | 8992.67                         |
| 30           | 6.84938    | 62848.8      | 21.7291                   | Hard SILT     | 1500                | 32                        | 5068.35            | 5971.53              | 7155.95                  | 0                   | 7155.95                       | 9175.87                    | 9175.87                         |
| 31           | 6.84938    | 64325.3      | 23.0857                   | Hard SILT     | 1500                | 32                        | 5100.86            | 6009.83              | 7217.23                  | 0                   | 7217.23                       | 9391.43                    | 9391.43                         |
| 32           | 6.84938    | 66019.6      | 24.4563                   | Hard SILT     | 1500                | 32                        | 5144.3             | 6061.02              | 7299.16                  | 0                   | 7299.16                       | 9638.81                    | 9638.81                         |
| 33           | 6.84938    | 67337.8      | 25.8419                   | Hard SILT     | 1500                | 32                        | 5161.44            | 6081.21              | 7331.47                  | 0                   | 7331.47                       | 9831.26                    | 9831.26                         |
| 34           | 6.84938    | 67617        | 27.2439                   | Hard SILT     | 1500                | 32                        | 5112.67            | 6023.75              | 7239.51                  | 0                   | 7239.51                       | 9872.03                    | 9872.03                         |
| 35           | 6.84938    | 67492.8      | 28.6639                   | Hard SILT     | 1500                | 32                        | 5038.44            | 5936.29              | 7099.56                  | 0                   | 7099.56                       | 9853.9                     | 9853.9                          |
| 36           | 6.84938    | 66964.9      | 30.1034                   | Hard SILT     | 1500                | 32                        | 4939.54            | 5819.77              | 6913.07                  | 0                   | 6913.07                       | 9776.81                    | 9776.81                         |
| 37           | 6.84938    | 65590.6      | 31.5641                   | Hard SILT     | 1500                | 32                        | 4790.94            | 5644.69              | 6632.89                  | 0                   | 6632.89                       | 9576.17                    | 9576.17                         |
| 38           | 6.84938    | 63945.6      | 33.0482                   | Hard SILT     | 1500                | 32                        | 4627.75            | 5452.41              | 6325.18                  | 0                   | 6325.18                       | 9336.01                    | 9336.01                         |
| 39           | 6.84938    | 61136        | 34.5577                   | Hard SILT     | 1500                | 32                        | 4399.8             | 5183.84              | 5895.38                  | 0                   | 5895.38                       | 8925.81                    | 8925.81                         |
| 40           | 6.84938    | 57448.4      | 36.0952                   | Hard SILT     | 1500                | 32                        | 4126.04            | 4861.3               | 5379.21                  | 0                   | 5379.21                       | 8387.43                    | 8387.43                         |
| 41           | 6.84938    | 53546.4      | 37.6633                   | Hard SILT     | 1500                | 32                        | 3845.23            | 4530.45              | 4849.74                  | 0                   | 4849.74                       | 7817.74                    | 7817.74                         |
| 42           | 6.84938    | 49416.3      | 39.2654                   | Hard SILT     | 1500                | 32                        | 3557.26            | 4191.16              | 4306.76                  | 0                   | 4306.76                       | 7214.76                    | 7214.76                         |
| 43           | 6.84938    | 45042.3      | 40.905                    | Hard SILT     | 1500                | 32                        | 3261.99            | 3843.28              | 3750.03                  | 0                   | 3750.03                       | 6576.16                    | 6576.16                         |
| 44           | 6.84938    | 40406.1      | 42.5864                   | Hard SILT     | 1500                | 32                        | 2959.32            | 3486.67              | 3179.34                  | 0                   | 3179.34                       | 5899.28                    | 5899.28                         |
| 45           | 6.29604    | 32632.1      | 44.2427                   | D-VD SAND     | 0                   | 38                        | 2015.79            | 2375                 | 3219.8                   | 179.936             | 3039.86                       | 5182.99                    | 5003.06                         |
| 46           | 6.76775    | 29747.4      | 45.9383                   | D-VD SAND     | 0                   | 38                        | 1729.6             | 2037.82              | 2608.29                  | 0                   | 2608.29                       | 4395.49                    | 4395.49                         |
| 47           | 6.76775    | 23882.2      | 47.7508                   | D-VD SAND     | 0                   | 38                        | 1352.58            | 1593.61              | 2039.73                  | 0                   | 2039.73                       | 3528.84                    | 3528.84                         |
| 48           | 6.76775    | 17624.3      | 49.6289                   | D-VD SAND     | 0                   | 38                        | 970.175            | 1143.06              | 1463.06                  | 0                   | 1463.06                       | 2604.18                    | 2604.18                         |
| 49           | 6.76775    | 10926.8      | 51.5826                   | D-VD SAND     | 0                   | 38                        | 701.638            | 826.67               | 1058.08                  | 0                   | 1058.08                       | 1942.78                    | 1942.78                         |
| 50           | 6.76775    | 3730.83      | 53.6245                   | D-VD SAND     | 0                   | 38                        | 331.962            | 391.118              | 500.608                  | 0                   | 500.608                       | 951.274                    | 951.274                         |

## Discharge Sections

### Entity Information

#### ◆ Cross Section B-B'

##### Shared Entities

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 100            |
|                   | 767, 100          |
|                   | 767, 247          |
|                   | 767, 296.45       |
|                   | 680, 295          |
|                   | 619.769, 292.076  |
|                   | 577, 290          |
|                   | 518, 285          |
|                   | 447, 280          |
|                   | 445, 279.583      |
|                   | 423, 275          |
|                   | 398, 270          |
|                   | 383, 265          |
|                   | 370, 260          |
|                   | 357, 255          |
|                   | 345, 250          |
|                   | 320, 245          |
|                   | 280, 240          |
|                   | 252, 235          |
|                   | 224, 230          |
|                   | 192, 225          |
|                   | 127, 220          |
|                   | 93, 215           |
|                   | 53, 210           |
|                   | 25, 205           |
|                   | 0, 200            |
|                   | 0, 181            |
| Material Boundary | 0, 181            |
|                   | 105, 196          |
|                   | 275, 218          |
|                   | 389, 234          |
|                   | 420, 235          |
|                   | 441.087, 252.668  |
|                   | 445, 255.946      |
|                   | 447, 257.622      |
|                   | 457, 266          |
|                   | 507, 276          |
|                   | 619.769, 292.076  |

|                   |                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Boundary | 420, 235<br>445, 240.405<br>447, 240.838<br>457, 243<br>480, 225<br>767, 247                                                                     |
| Material Boundary | 441.087, 252.668<br>445, 252.995<br>447, 253.163<br>457, 254<br>480, 255<br>767, 247                                                             |
| Material Boundary | 445, 279.583<br>445, 255.946<br>445, 252.995<br>445, 240.405<br>445, 239<br>447, 239<br>447, 240.838<br>447, 253.163<br>447, 257.622<br>447, 280 |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                                            | Master Scenario                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Seismic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table      | 447, 251.696<br>480, 259<br>767, 271                         | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> MD-D SAND/Silty SAND<br> New Structural Fill<br> Gravel | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> MD-D SAND/Silty SAND<br> Landslide Debris<br> New Structural Fill<br> Gravel |
| Distributed Load | 619.769, 292.076<br>577, 290<br>518, 285<br>467.353, 281.433 | Constant<br>DistributionOrientation: Normal to boundary<br>Magnitude: 400 lbs/ft <sup>2</sup><br>Creates Excess Pore Pressure: No                                                                                                                                                                                                                                                                                                                               | Constant<br>DistributionOrientation: Normal to boundary<br>Magnitude: 400 lbs/ft <sup>2</sup><br>Creates Excess Pore Pressure: No                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

 **Cross Section C-C'**
**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 100<br>688, 100<br>688, 314.792<br>665.2, 312.417<br>642, 310<br>590, 305<br>528.064, 300.978<br>513, 300<br>464, 295<br>410, 290<br>380, 285<br>369, 280<br>359, 275<br>349, 270<br>339, 265<br>329, 260<br>312, 255<br>295, 250<br>281, 245<br>268, 240<br>253, 235<br>235, 230<br>202, 225<br>138, 220<br>0, 215<br>0, 194 |
| Material Boundary | 0, 194<br>185, 214<br>428, 263<br>665.2, 312.417                                                                                                                                                                                                                                                                                 |
| Material Boundary | 185, 214<br>428, 275<br>528.064, 300.978                                                                                                                                                                                                                                                                                         |

 **Cross Section D-D'**

**Shared Entities**

| Type | Coordinates (x,y) |
|------|-------------------|
|------|-------------------|

|                   |                  |
|-------------------|------------------|
|                   | 0, 100           |
|                   | 1748, 100        |
|                   | 1748, 297        |
|                   | 1748, 354        |
|                   | 1748, 375        |
|                   | 1706, 375        |
|                   | 1598, 370        |
|                   | 1515, 365        |
|                   | 1375, 360        |
|                   | 1205, 360        |
|                   | 1162, 355        |
|                   | 1142, 350        |
|                   | 1120, 345        |
|                   | 1100, 340        |
|                   | 1084, 335        |
|                   | 1057, 330        |
|                   | 1017, 325        |
|                   | 931, 320         |
|                   | 810, 315         |
|                   | 809.814, 314.978 |
|                   | 767, 310         |
|                   | 721.249, 306.31  |
|                   | 705, 305         |
|                   | 674, 300         |
|                   | 653, 295         |
|                   | 622, 290         |
| External Boundary | 616.612, 289.071 |
|                   | 614.612, 288.726 |
|                   | 593, 285         |
|                   | 570, 280         |
|                   | 541, 275         |
|                   | 526, 270         |
|                   | 513, 265         |
|                   | 501, 260         |
|                   | 489, 255         |
|                   | 475, 250         |
|                   | 461, 245         |
|                   | 444, 240         |
|                   | 420, 235         |
|                   | 396, 230         |
|                   | 369, 225         |
|                   | 347, 220         |
|                   | 325, 215         |
|                   | 301, 210         |
|                   | 264, 205         |
|                   | 212, 200         |
|                   | 138, 195         |
|                   | 75, 190          |
|                   | 63.7745, 187.995 |
|                   | 47, 185          |
|                   | 29, 180          |
|                   | 0, 175           |
|                   | 0, 174           |

|                   |                                                                                                                                                                                            |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Boundary | 0, 174<br>233, 187<br>509, 208<br>614.612, 215.507<br>616.612, 215.65<br>804.392, 228.998<br>1339, 267<br>1748, 297                                                                        |
| Material Boundary | 63.7745, 187.995<br>233, 187<br>457, 228<br>509, 247<br>614.612, 276.75<br>616.612, 277.313<br>651, 287<br>720, 306                                                                        |
| Material Boundary | 509, 247<br>614.612, 271.193<br>616.612, 271.651<br>736, 299<br>809.814, 314.978                                                                                                           |
| Material Boundary | 894, 309<br>1188, 344<br>1339, 347<br>1748, 354                                                                                                                                            |
| Material Boundary | 804.392, 228.998<br>873.484, 253.945<br>802.178, 288.994<br>894, 309                                                                                                                       |
| Material Boundary | 720, 306<br>721.249, 306.31                                                                                                                                                                |
| Material Boundary | 614.612, 288.726<br>614.612, 276.75<br>614.612, 271.193<br>614.612, 215.507<br>614.612, 214<br>616.612, 214<br>616.612, 215.65<br>616.612, 271.651<br>616.612, 277.313<br>616.612, 289.071 |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                                                                   | Master Scenario                                                                                                                                         | Seismic                                                                                                                                                 |
|------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table      | 616.612, 257.364<br>736, 266<br>1339, 270<br>1748, 300                              | Assigned to:<br><div><div></div> MD-VD Silty SAND/Silty SAND with gravel</div> <div><div></div> D-VD SAND</div> <div><div></div> Landslide Debris</div> | Assigned to:<br><div><div></div> MD-VD Silty SAND/Silty SAND with gravel</div> <div><div></div> D-VD SAND</div> <div><div></div> Landslide Debris</div> |
| Distributed Load | 767, 310<br>721.249, 306.31<br>705, 305<br>674, 300<br>653, 295<br>638.734, 292.699 | Constant<br>DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No                                           | Constant<br>DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No                                           |

 **Cross Section E-E'**

**Shared Entities**

| Type | Coordinates (x,y) |
|------|-------------------|
|------|-------------------|



|                   |                  |
|-------------------|------------------|
| External Boundary | 0, 150           |
|                   | 185.855, 150     |
|                   | 205.448, 150     |
|                   | 1255, 150        |
|                   | 1342, 150        |
|                   | 1342, 252        |
|                   | 1342, 358        |
|                   | 1342, 375        |
|                   | 1255, 375        |
|                   | 1037, 370        |
|                   | 935, 365         |
|                   | 854, 360         |
|                   | 803, 355         |
|                   | 756, 350         |
|                   | 706, 345         |
|                   | 690.403, 343.143 |
|                   | 664, 340         |
|                   | 635, 335         |
|                   | 572, 330         |
|                   | 523, 325         |
|                   | 487, 320         |
|                   | 419.612, 316.453 |
|                   | 417.612, 316.348 |
|                   | 392, 315         |
|                   | 375, 310         |
|                   | 367, 305         |
|                   | 358, 300         |
|                   | 349, 295         |
|                   | 339, 290         |
|                   | 327, 285         |
|                   | 315, 280         |
|                   | 306, 275         |
|                   | 296, 270         |
|                   | 281, 265         |
|                   | 261, 260         |
|                   | 238, 255         |
|                   | 211, 250         |
|                   | 186, 245         |
|                   | 163, 240         |
|                   | 142, 235         |
|                   | 96, 230          |
|                   | 67, 225          |
|                   | 50, 220          |
|                   | 34, 215          |
|                   | 19, 210          |
|                   | 0, 205           |
|                   | 0, 158.836       |
| Material Boundary | 695, 336         |
|                   | 978, 346         |
|                   | 1342, 358        |
| Material Boundary | 564, 285         |
|                   | 978, 267         |
|                   | 1342, 252        |
| Material Boundary | 564, 285         |
|                   | 695, 336         |

|                   |                                                                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Boundary | 0, 158.836<br>80, 180<br>417.612, 270.681<br>419.612, 271.218<br>564, 310                                                                           |
| Material Boundary | 564, 310<br>690.403, 343.143                                                                                                                        |
| Material Boundary | 205.448, 150<br>288, 180<br>417.612, 229.309<br>419.612, 230.07<br>564, 285                                                                         |
| Material Boundary | 417.612, 316.348<br>417.612, 270.681<br>417.612, 229.309<br>417.612, 225<br>419.612, 225<br>419.612, 230.07<br>419.612, 271.218<br>419.612, 316.453 |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                                     | Master Scenario                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Seismic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table      | 419.612, 276.089<br>564, 295<br>978, 270<br>1342, 270 | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> D-VD SAND<br> Landslide Debris<br> New Structural Fill<br> Gravel | Assigned to:<br> MD-VD Silty SAND/Silty SAND with gravel<br> D-VD SAND<br> Landslide Debris<br> New Structural Fill<br> Gravel |
| Distributed Load | 572, 330<br>523, 325<br>487, 320<br>440.44, 317.549   | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No                                                                                                                                                                                                                                                                                                                                                                                                                                | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No                                                                                                                                                                                                                                                                                                                                                                                                                                          |

◆ **Cross Section H-H'****Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 100<br>626, 100<br>626, 308<br>626, 320<br>626, 335<br>571.52, 332.43<br>569.52, 332.336<br>520, 330<br>497, 325<br>489, 320<br>480, 315<br>472, 310<br>466, 305<br>457, 300<br>446, 295<br>436, 290<br>422, 285<br>406, 280<br>395, 275<br>383, 270<br>366, 265<br>349, 260<br>330, 255<br>316, 250<br>303, 245<br>290, 240<br>275, 235<br>255, 230<br>230, 225<br>200, 220<br>171, 215<br>142, 210<br>105, 205<br>77, 200<br>50, 195<br>0, 190<br>0, 160 |
| Material Boundary | 0, 160<br>227, 208<br>383, 270                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Material Boundary | 383, 270<br>544, 295<br>569.52, 299.046<br>571.52, 299.363<br>626, 308                                                                                                                                                                                                                                                                                                                                                                                        |
| Material Boundary | 489, 320<br>569.52, 320<br>571.52, 320<br>626, 320                                                                                                                                                                                                                                                                                                                                                                                                            |
| Material Boundary | 569.52, 332.336<br>569.52, 320<br>569.52, 299.046<br>569.52, 297<br>571.52, 297<br>571.52, 299.363<br>571.52, 320<br>571.52, 332.43                                                                                                                                                                                                                                                                                                                           |

**Scenario-based Entities**

| Type             | Coordinates (x,y)           | Master Scenario                                                                                                                                                                                                   | Seismic                                                                                                                                                                                                               |
|------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Table      | 571.52, 305.464<br>626, 316 | Assigned to:<br> D-VD SAND<br> Landslide Debris | Assigned to:<br> D-VD SAND<br> Landslide Debris |
| Distributed Load | 626, 335<br>591, 333.349    | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No                                                                                      | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No                                                                                          |

 **Cross Section I-I'****Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 100<br>633, 100<br>633, 304<br>633, 338.655<br>633, 345<br>485, 340<br>423, 335<br>387, 330<br>304, 330<br>302, 330<br>260, 330<br>243, 325<br>232, 320<br>222, 315<br>215, 310<br>208, 305<br>200, 300<br>191, 295<br>184, 290<br>176, 285<br>169, 280<br>161, 275<br>148, 270<br>132, 265<br>118, 260<br>107, 255<br>98, 250<br>86, 245<br>76, 240<br>59, 235<br>49, 230<br>36, 225<br>24, 220<br>13, 215<br>0, 210 |
| Material Boundary | 387, 330<br>620, 338<br>633, 338.655                                                                                                                                                                                                                                                                                                                                                                                     |

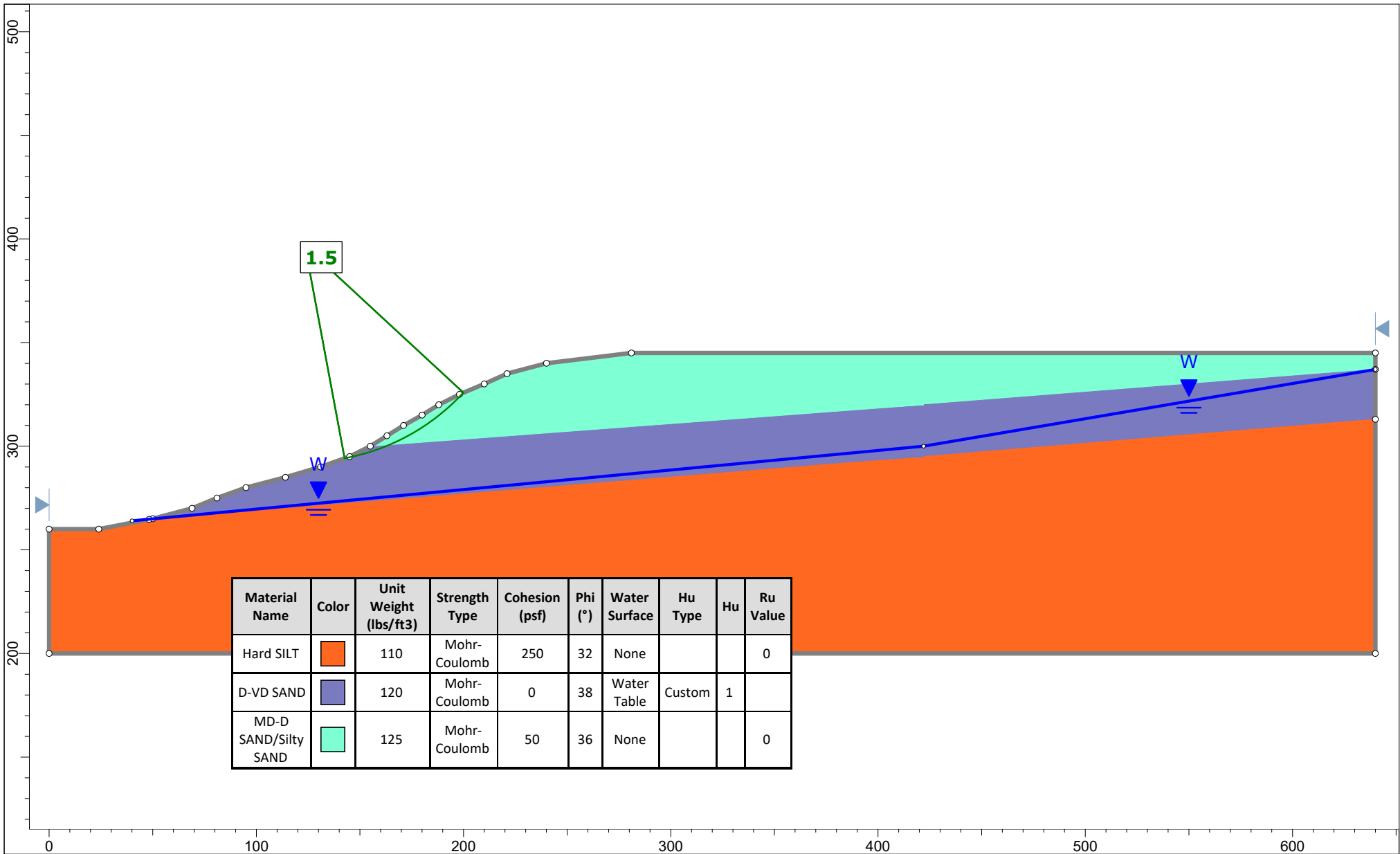
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|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Boundary | 161, 275<br>302, 283.758<br>304, 283.882<br>483, 295<br>633, 304                                                                                                                   |
| Material Boundary | 483, 330<br>512.283, 330<br>503.383, 326.62<br>509.163, 324.652<br>498.956, 320<br>483, 320<br>469.686, 320<br>464.52, 324.529<br>476.696, 327.358<br>471.899, 329.694<br>483, 330 |
| Material Boundary | 302, 330<br>302, 283.758<br>302, 280<br>304, 280<br>304, 283.882<br>304, 330                                                                                                       |

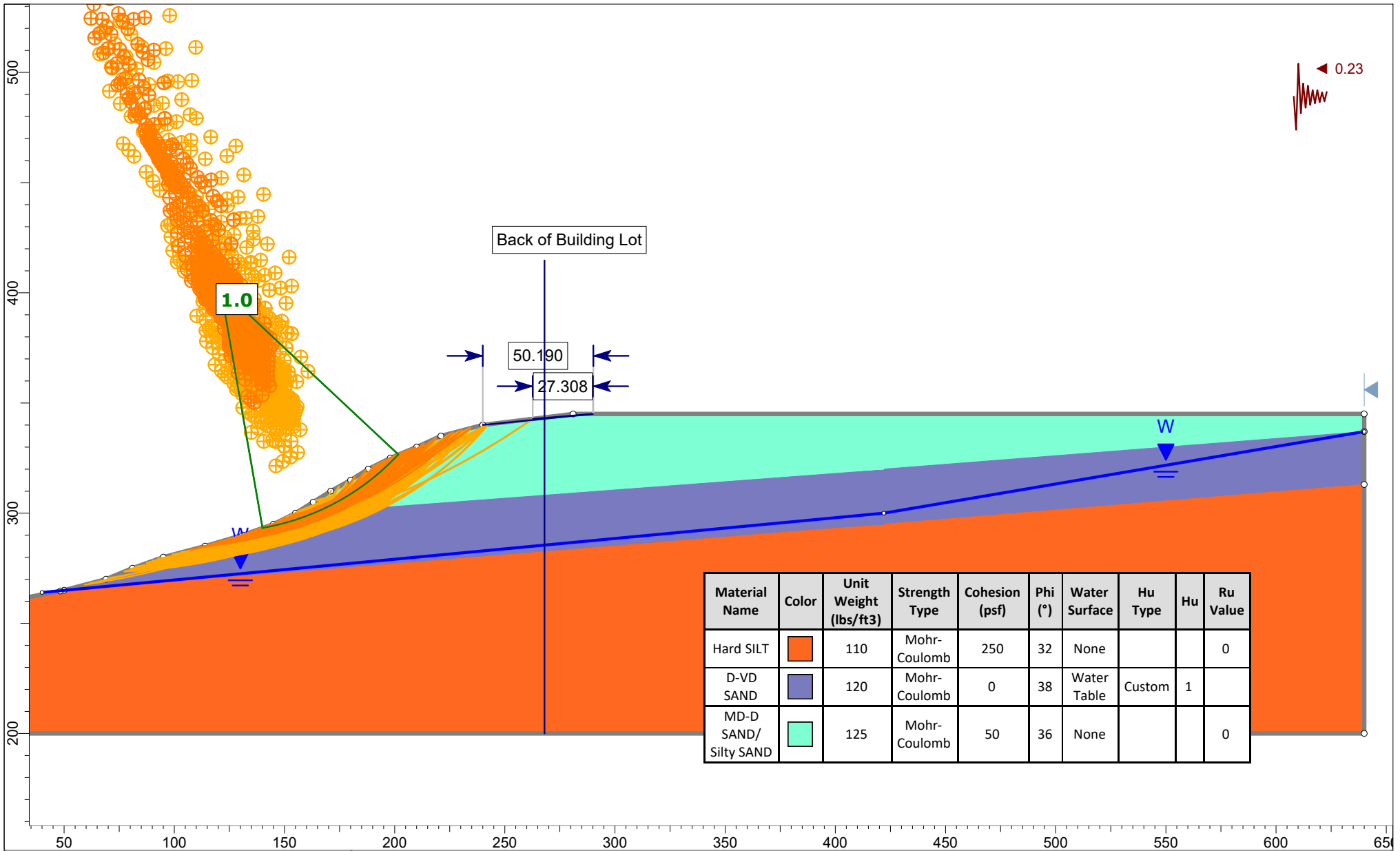
**Scenario-based Entities**

| Type             | Coordinates (x,y)                                | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Water Table      | 304.036, 289.642<br>483, 300<br>633, 309         | Assigned to:<br> D-VD SAND                 | Assigned to:<br> D-VD SAND               |
| Distributed Load | 485, 340<br>423, 335<br>387, 330<br>329.572, 330 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

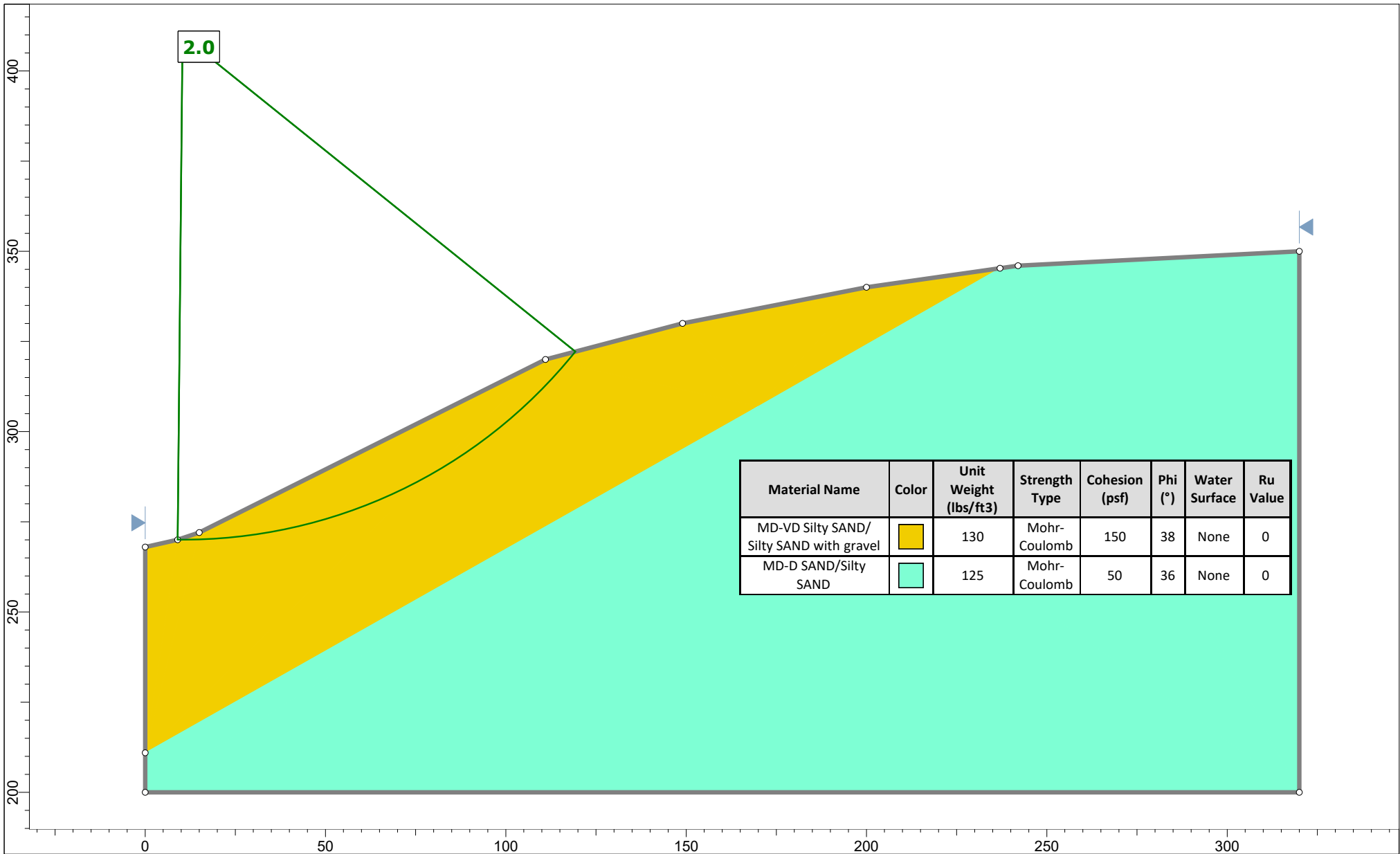
## **APPENDIX D**

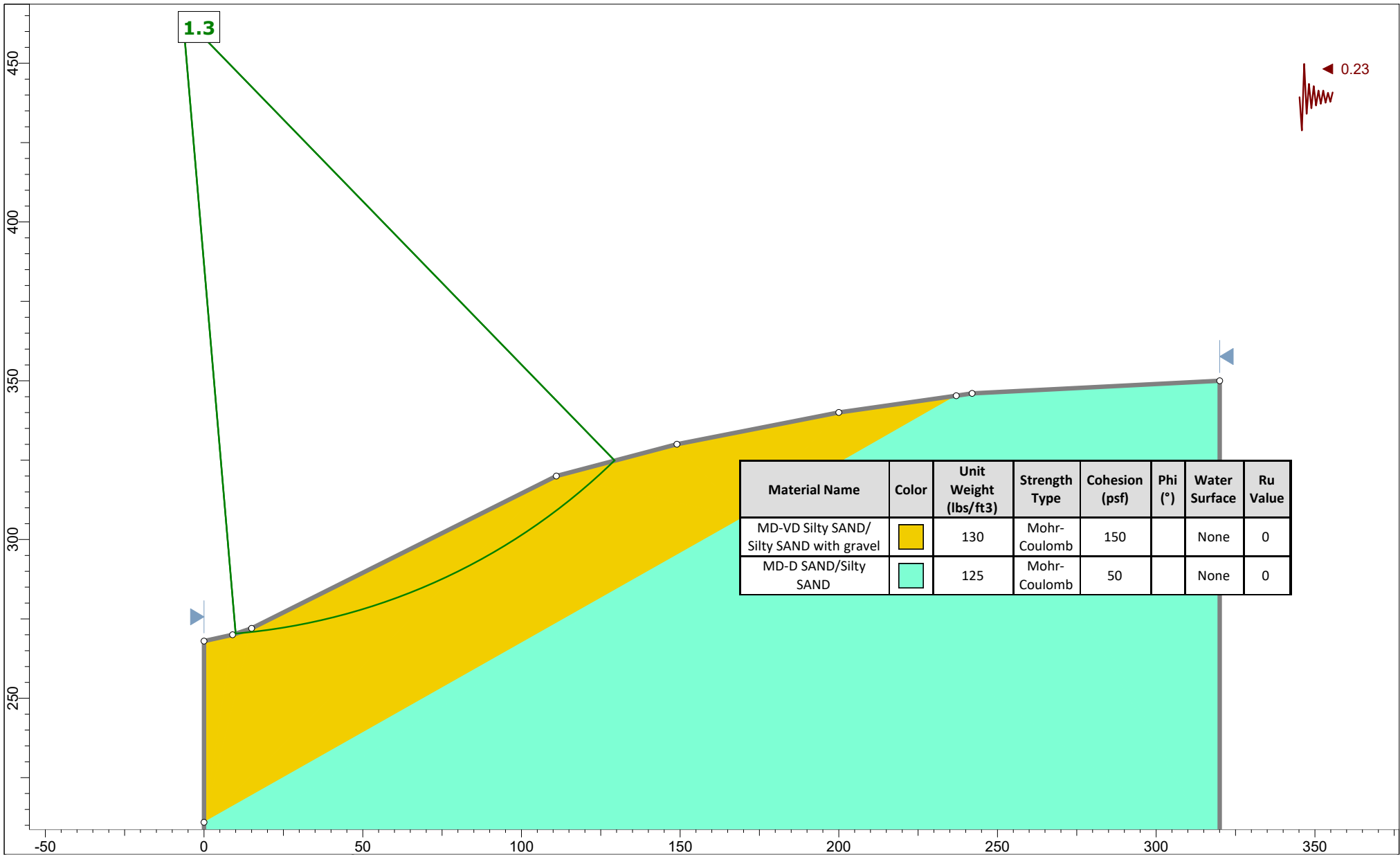
### **SLIDE2 OUTPUT – STEEP SLOPE AREAS**



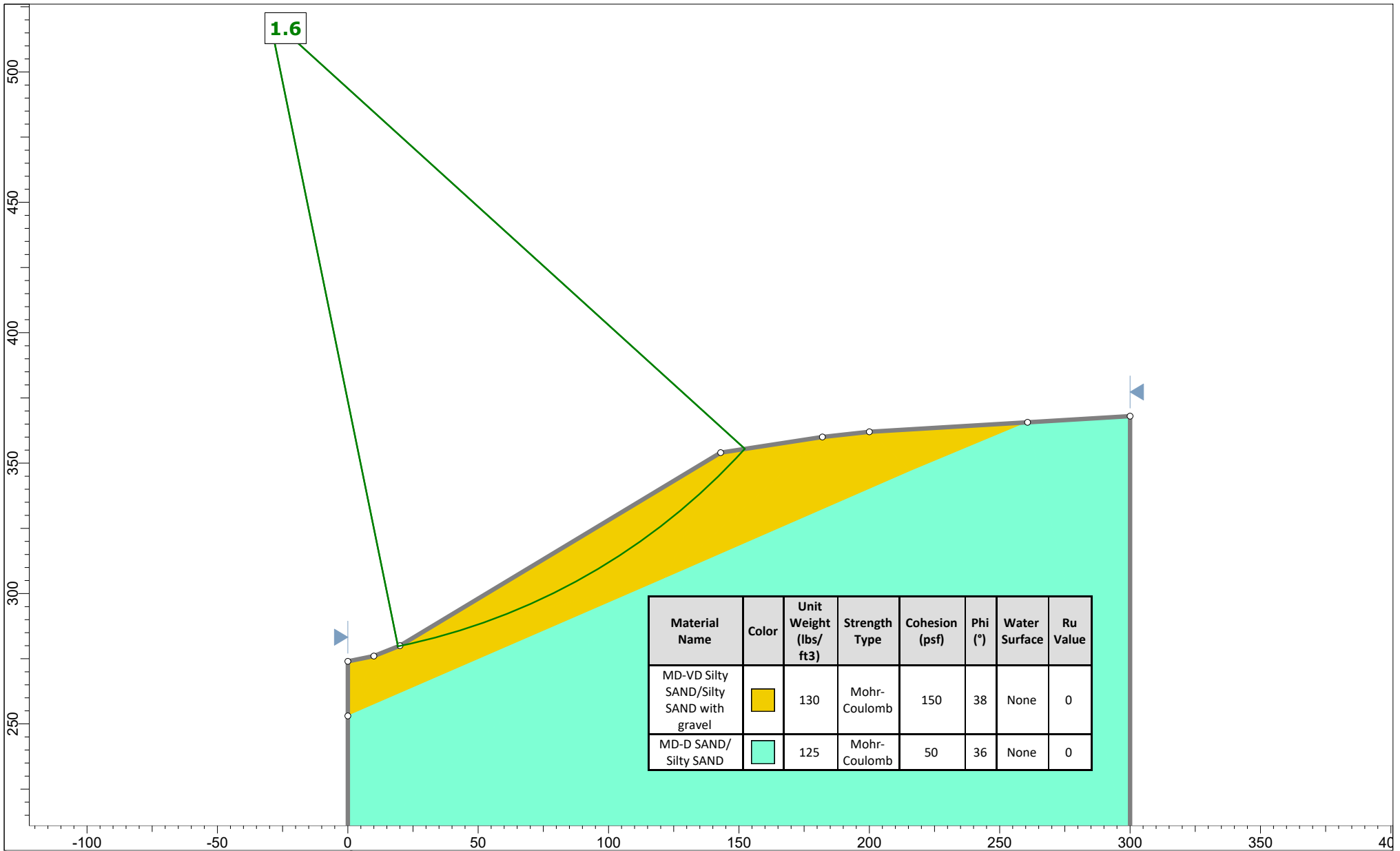




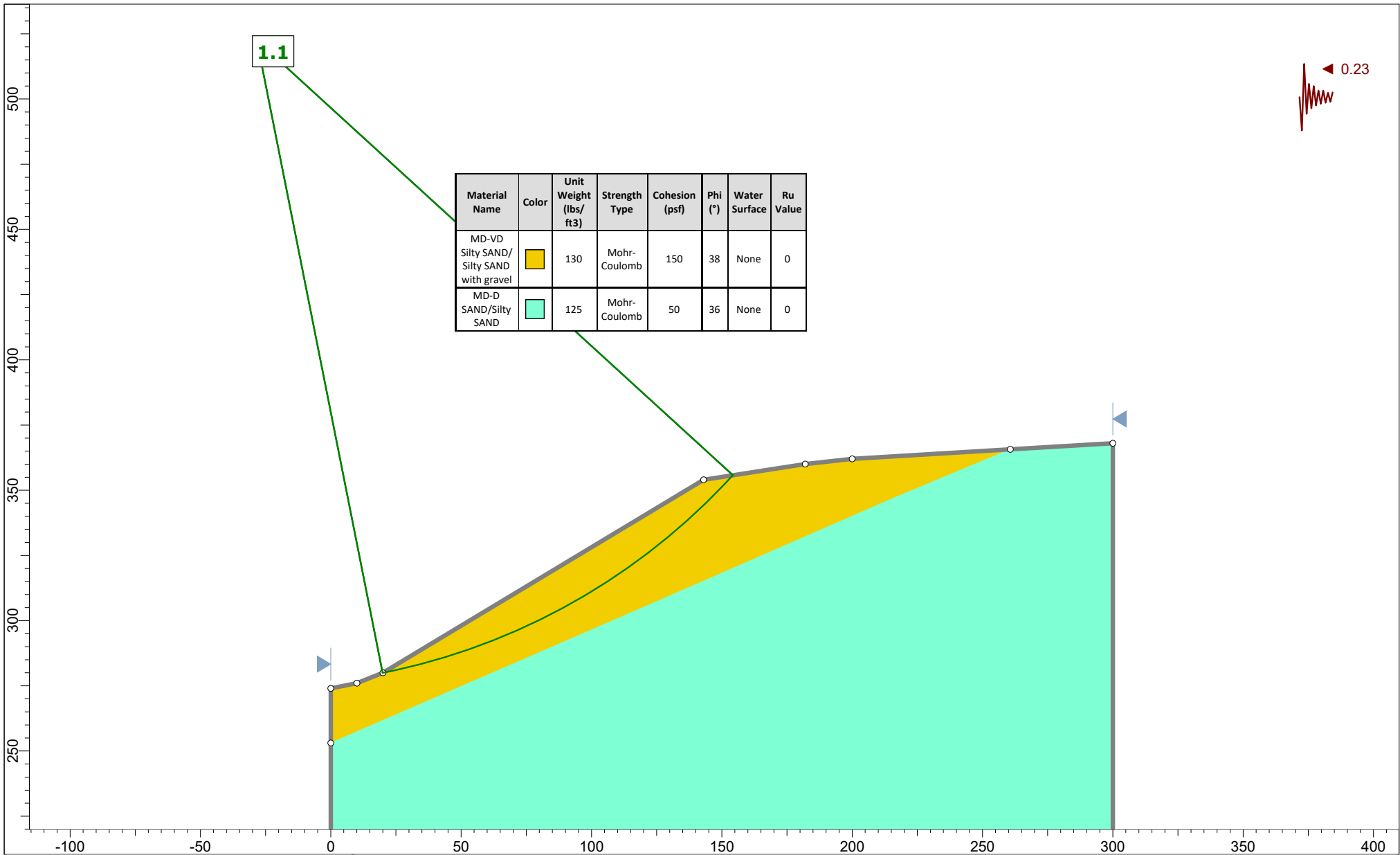




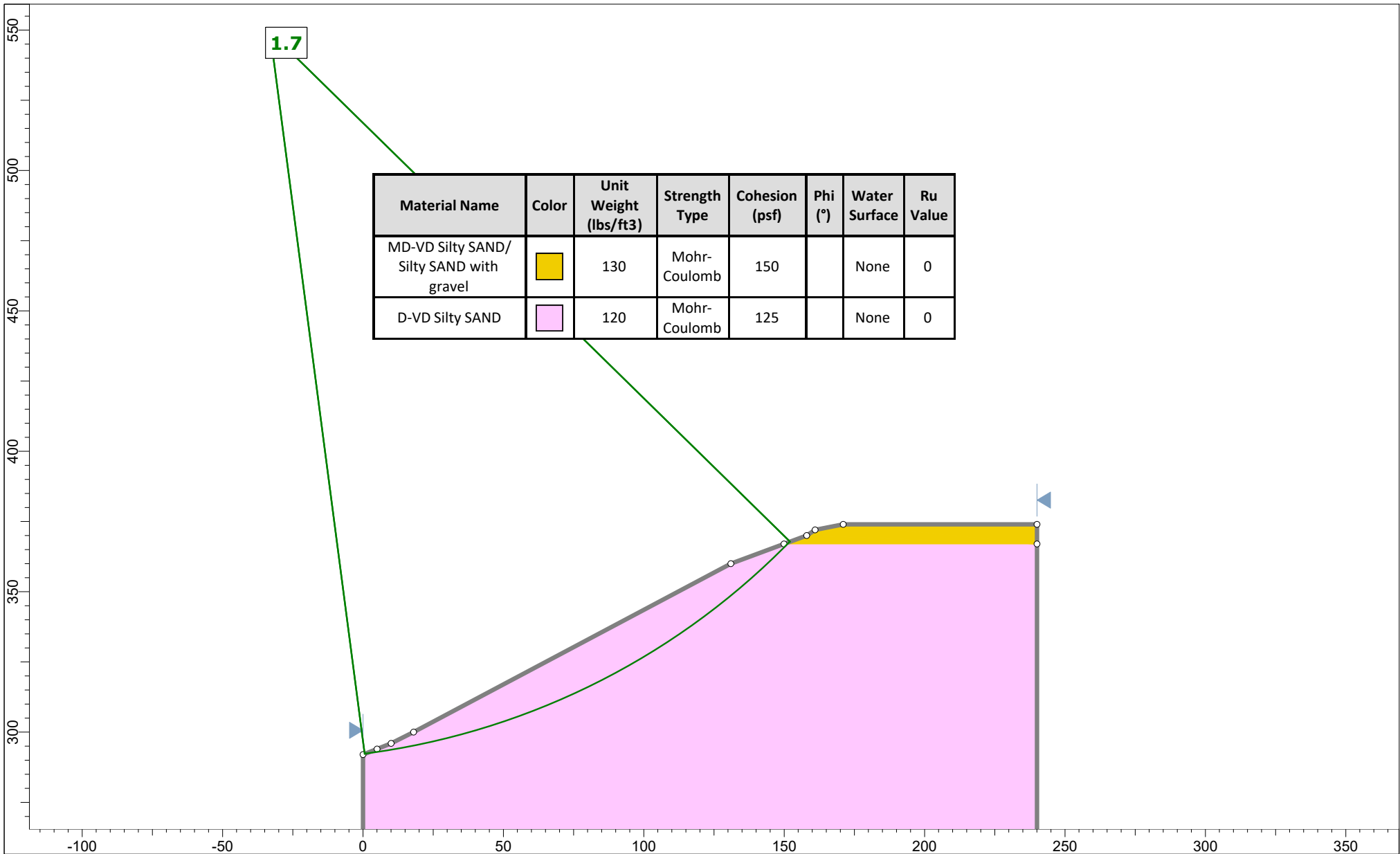
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|----------|----------------------|-----------------------------------------|
| Project  | Arlington 360        |                                         |
| Group    | Cross Section AA-AA' | Scenario                                |
| Drawn By | C. Decker            | Company                                 |
| Date     | April 7, 2025        | File Name                               |
|          |                      | Steep Slopes - No Landslide Hazard.slmd |
|          |                      |                                         |



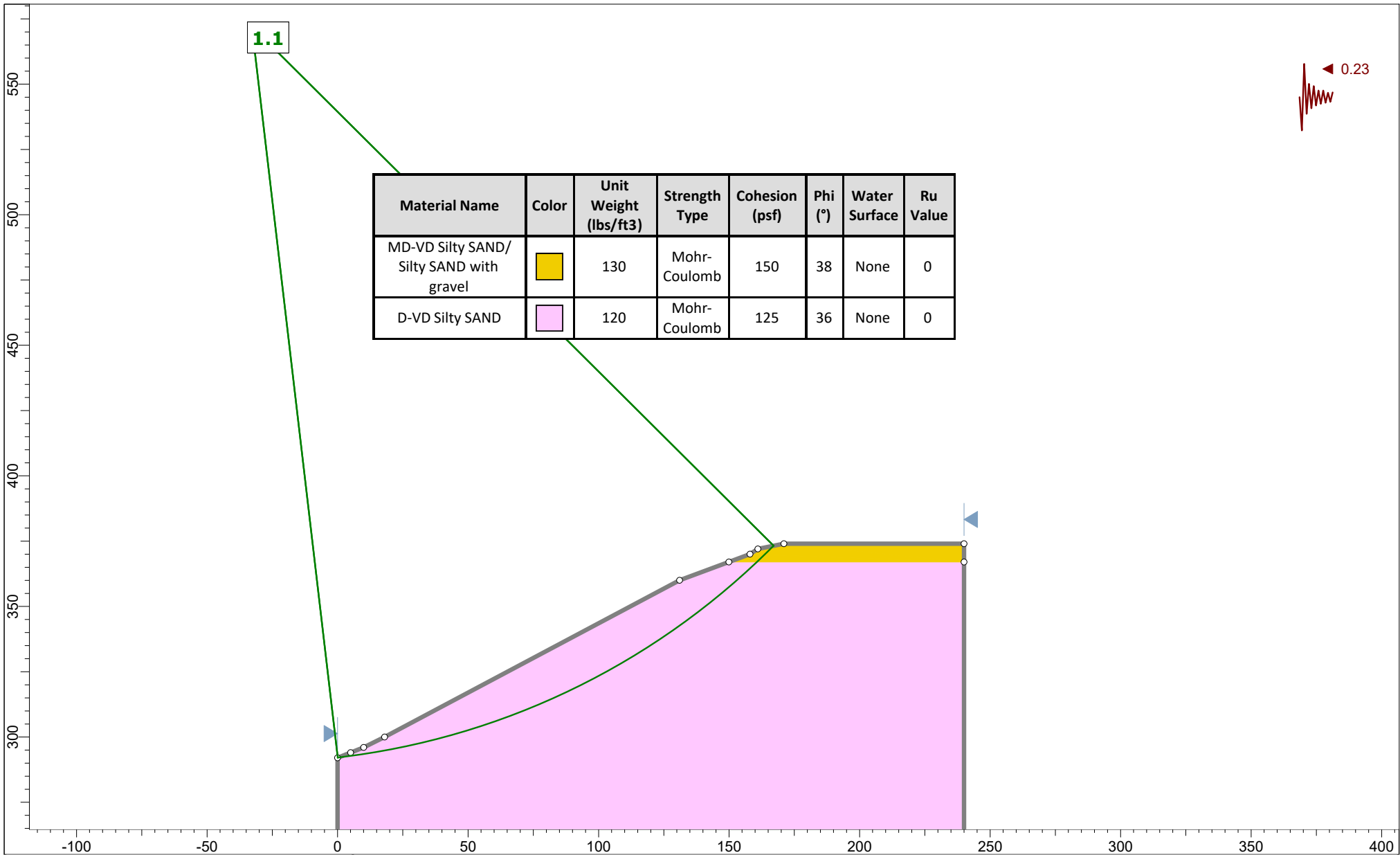
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| Project  | Arlington 360        |                                         |
| Group    | Cross Section BB-BB' | Scenario                                |
| Drawn By | C. Decker            | Company                                 |
| Date     | April 7, 2025        | File Name                               |
|          |                      | Steep Slopes - No Landslide Hazard.slmd |
|          |                      | Master Scenario                         |
|          |                      | Terra Associates, Inc.                  |



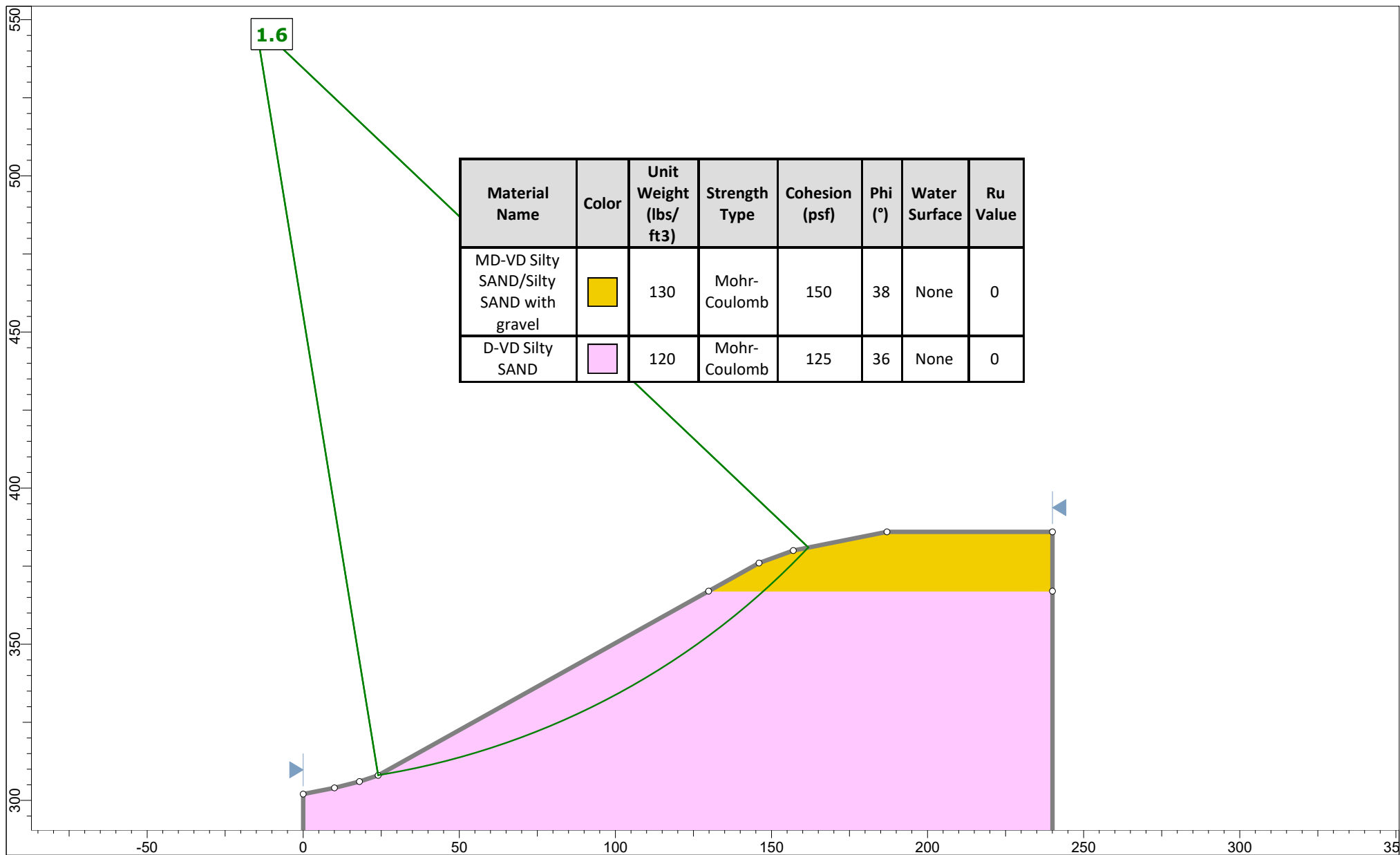
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|  | Project  |                                         | Arlington 360        |           |
|                                                                                    | Group    |                                         | Cross Section BB-BB' | Scenario  |
|                                                                                    | Drawn By |                                         | C. Decker            | Company   |
|                                                                                    | Date     |                                         | April 7, 2025        | File Name |
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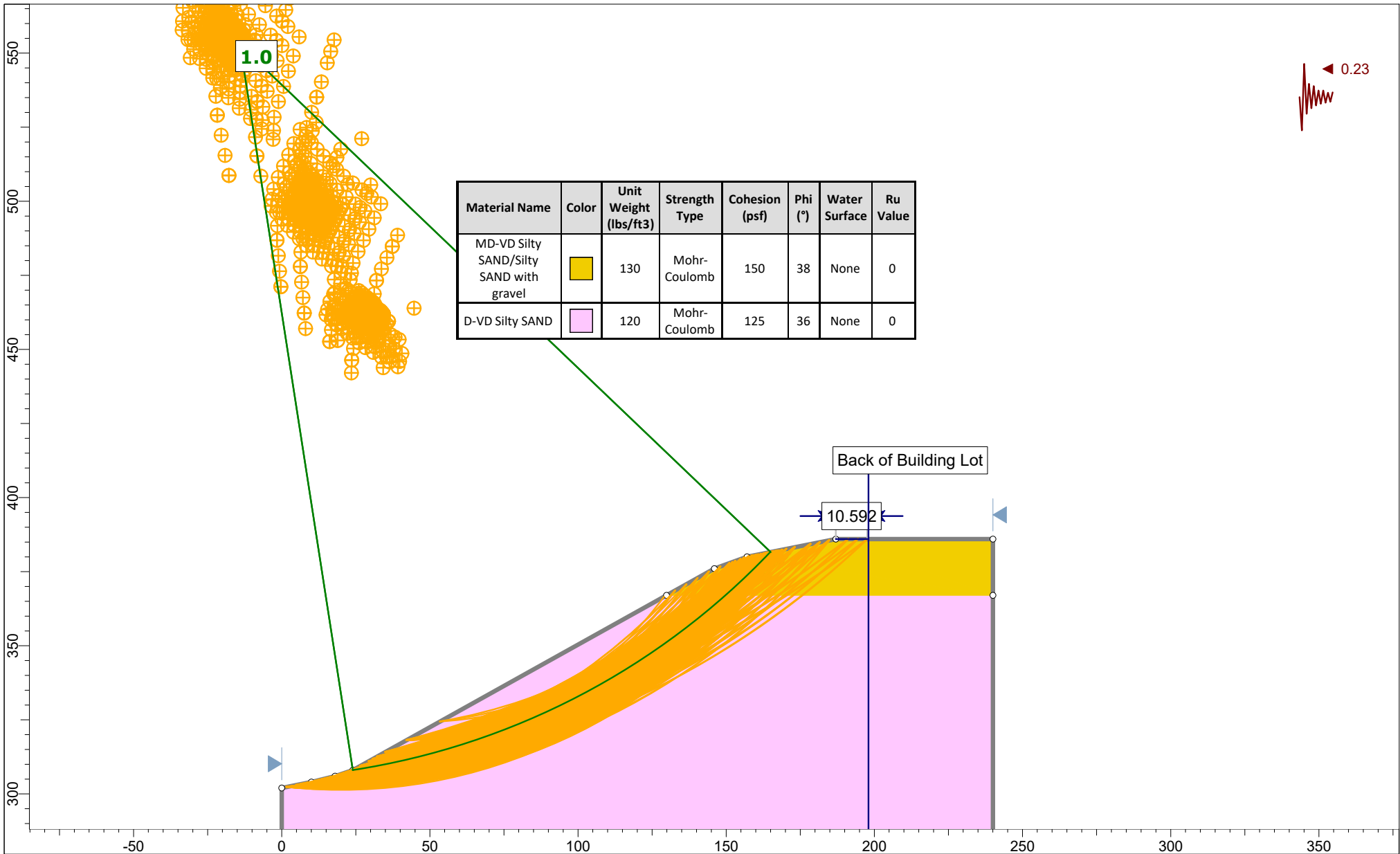
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|  | Project  |  | Arlington 360        |                                         |
|                                                                                    | Group    |  | Cross Section CC-CC' | Scenario                                |
|                                                                                    | Drawn By |  | C. Decker            | Company                                 |
|                                                                                    | Date     |  | April 7, 2025        | File Name                               |
|                                                                                    |          |  |                      | Steep Slopes - No Landslide Hazard.slmd |
| SLIDEINTERPRET 9.038                                                               |          |  |                      |                                         |



|                                                                                    |          |  |                      |                                         |
|------------------------------------------------------------------------------------|----------|--|----------------------|-----------------------------------------|
|  | Project  |  | Arlington 360        |                                         |
|                                                                                    | Group    |  | Cross Section CC-CC' | Scenario                                |
|                                                                                    | Drawn By |  | C. Decker            | Company                                 |
|                                                                                    | Date     |  | April 7, 2025        | File Name                               |
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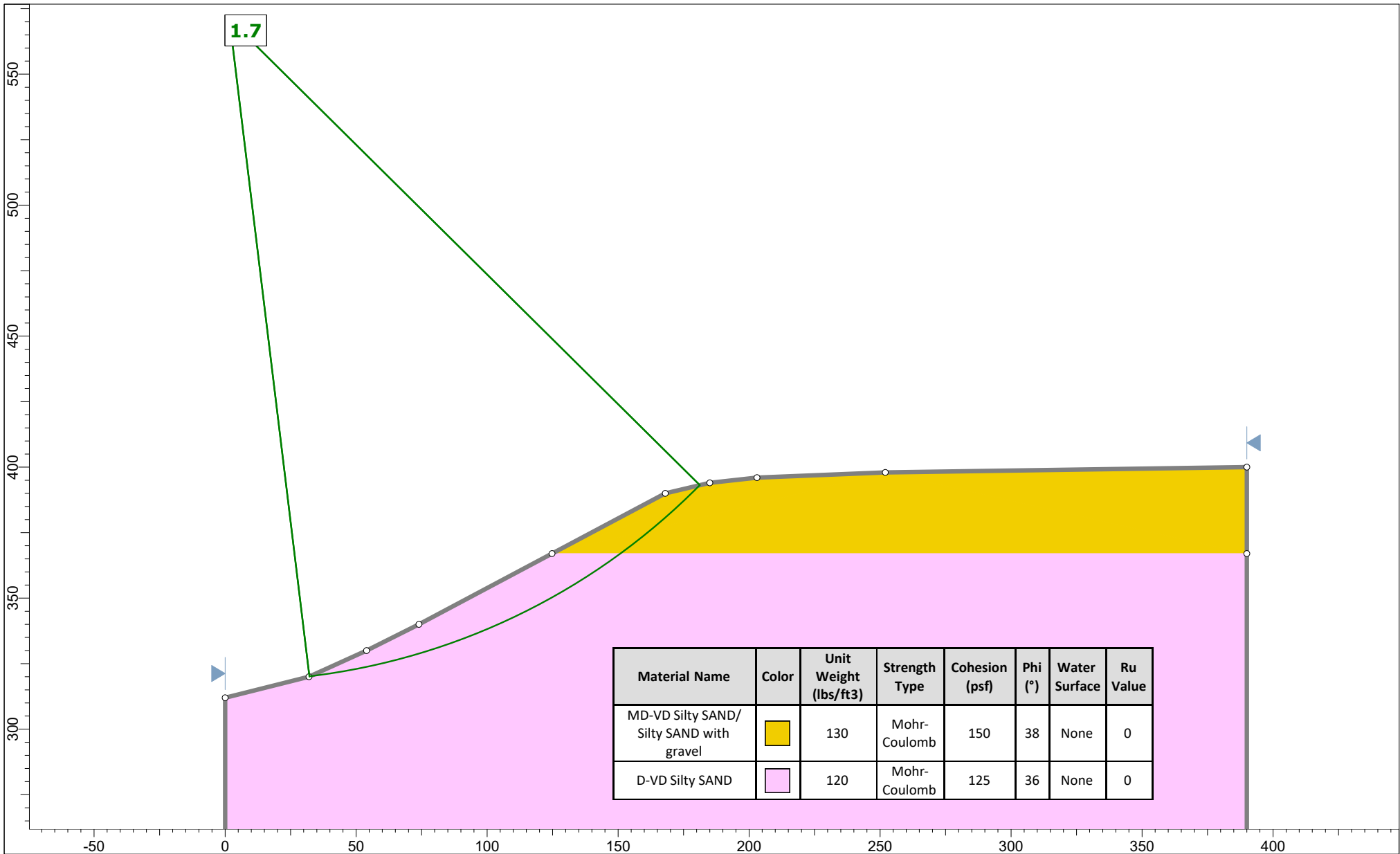


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|----------|----------------------|-----------|-----------------------------------------|
| Project  | Arlington 360        |           |                                         |
| Group    | Cross Section DD-DD' | Scenario  | Master Scenario                         |
| Drawn By | C. Decker            | Company   | Terra Associates, Inc.                  |
| Date     | April 7, 2025        | File Name | Steep Slopes - No Landslide Hazard.slmd |

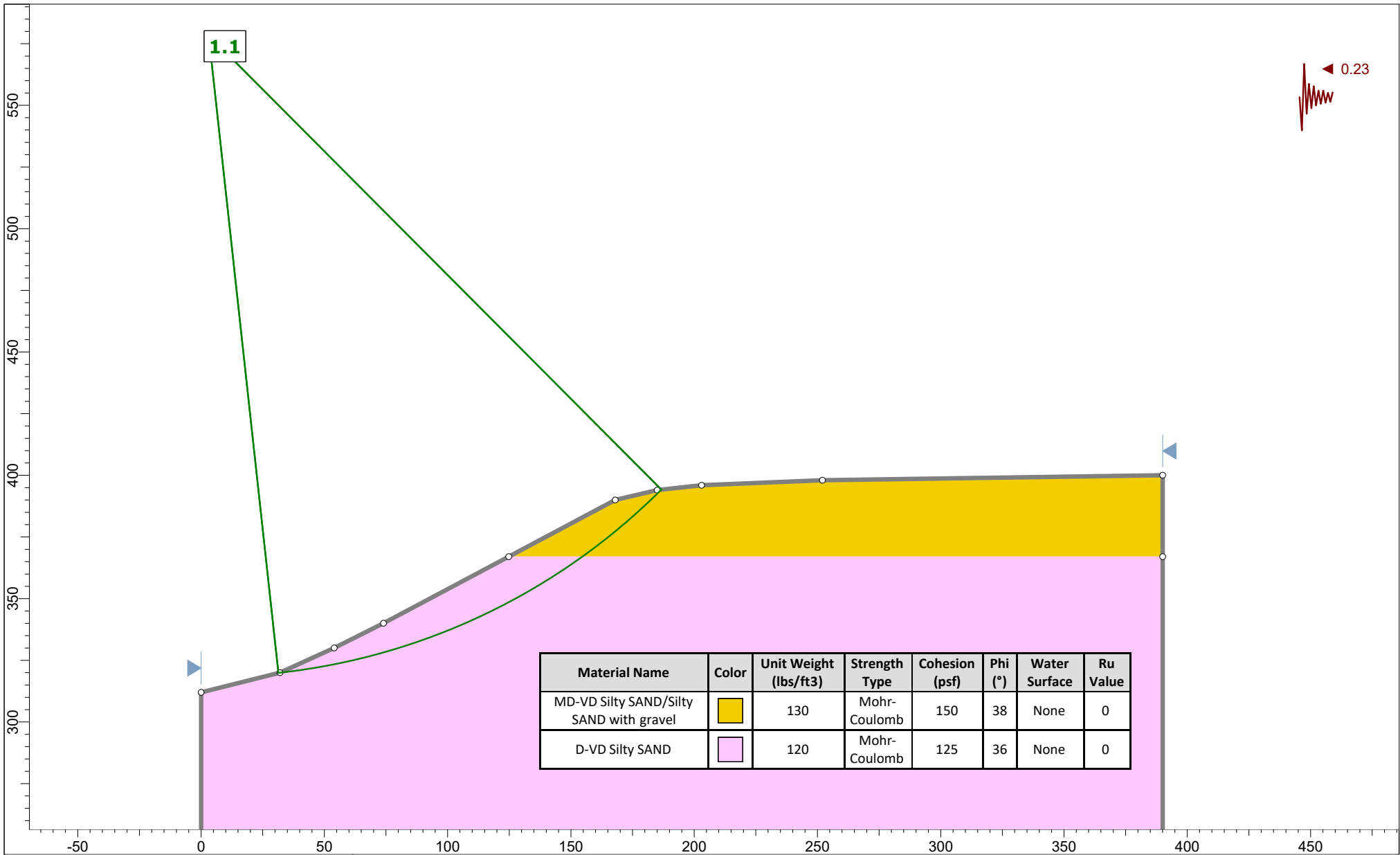


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|----------|----------------------|-----------|-----------------------------------------|
| Project  | Arlington 360        |           |                                         |
| Group    | Cross Section DD-DD' | Scenario  | Seismic                                 |
| Drawn By | C. Decker            | Company   | Terra Associates, Inc.                  |
| Date     | April 7, 2025        | File Name | Steep Slopes - No Landslide Hazard.slmd |

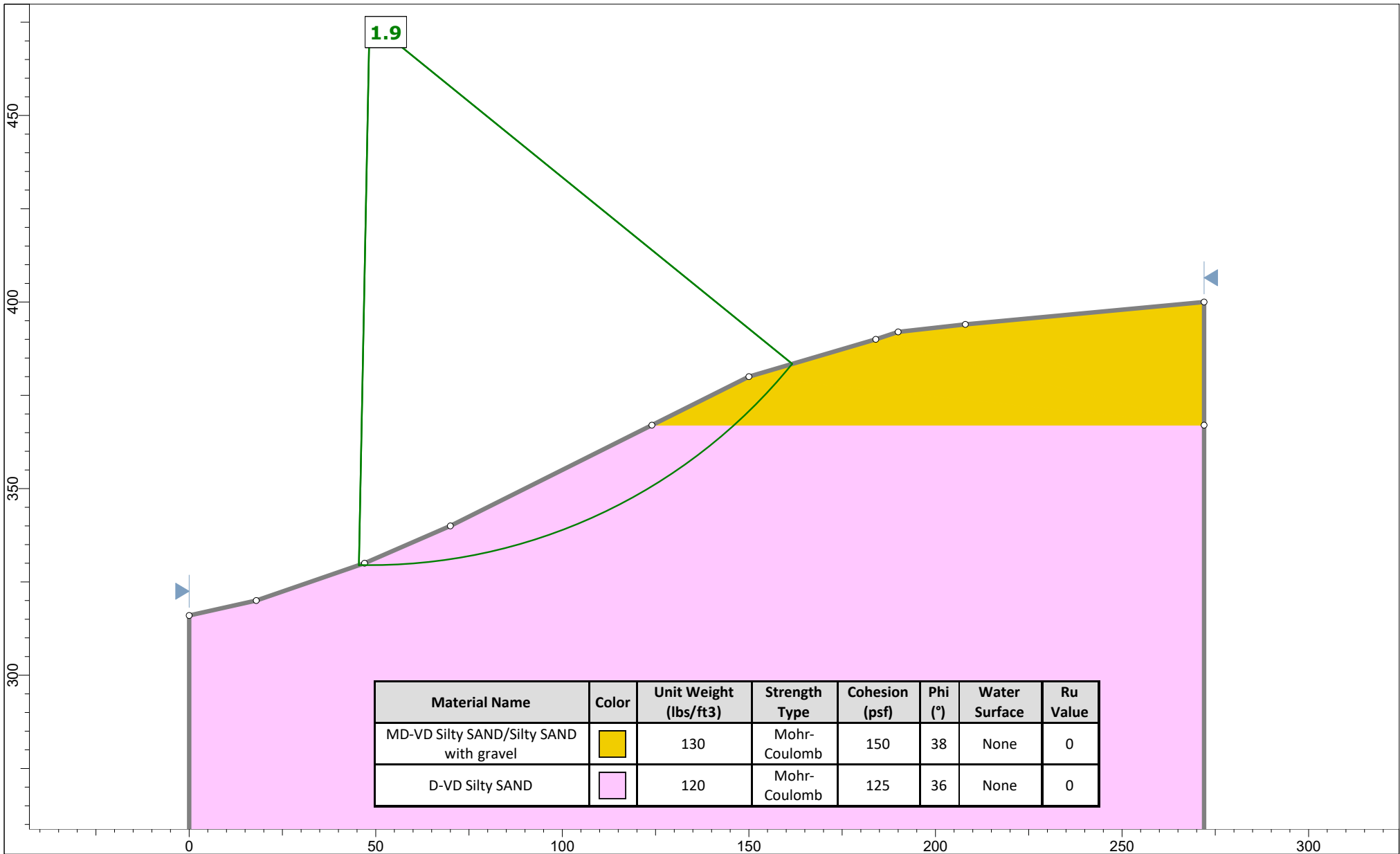




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|----------|----------------------|-----------------------------------------|
| Project  | Arlington 360        |                                         |
| Group    | Cross Section EE-EE' | Scenario                                |
| Drawn By | C. Decker            | Company                                 |
| Date     | April 7, 2025        | File Name                               |
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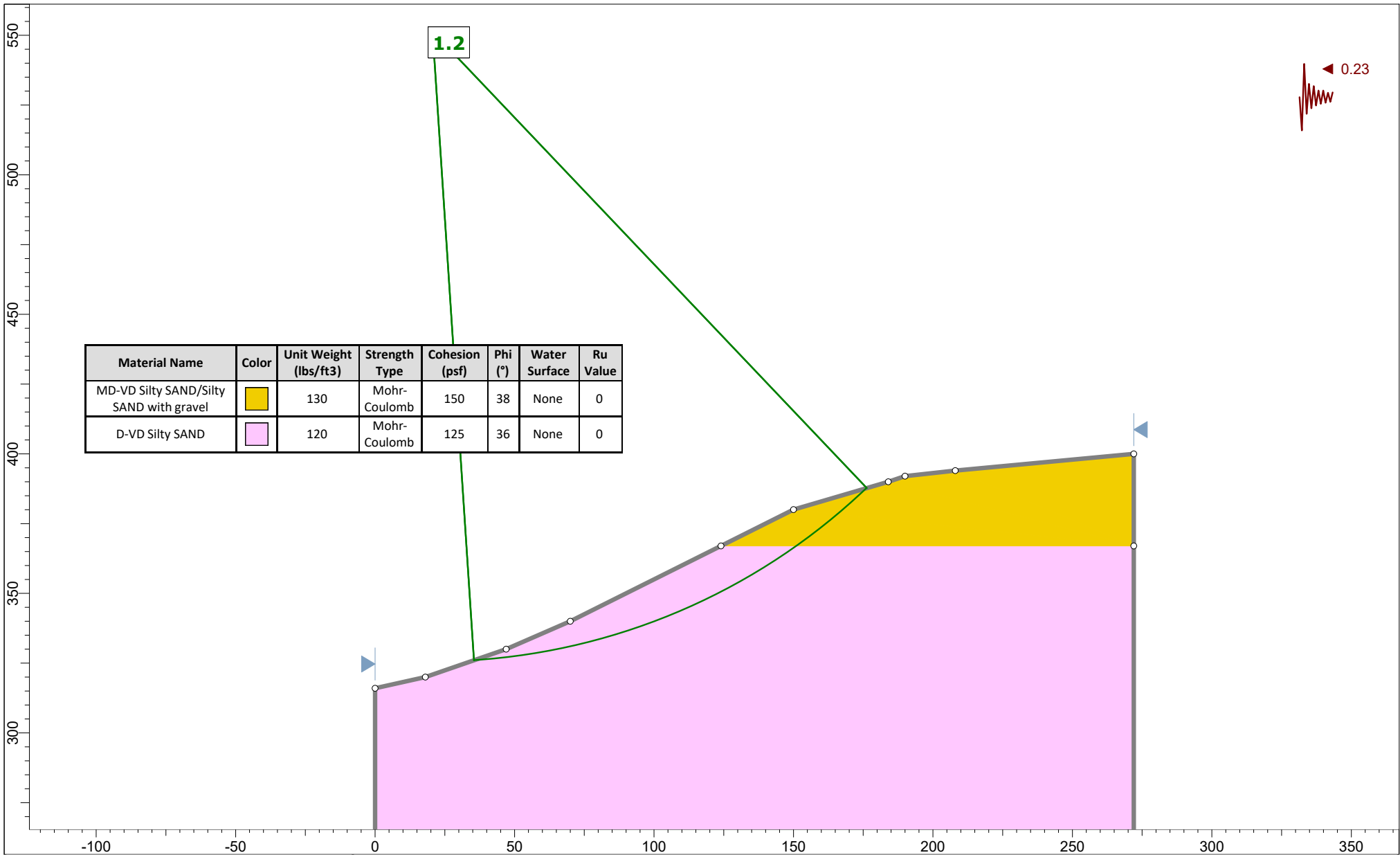


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|  rocscience | Project              |                      | Arlington 360 |                                         |
|                                                                                               | Group                | Cross Section EE-EE' | Scenario      | Seismic                                 |
|                                                                                               | Drawn By             | C. Decker            | Company       | Terra Associates, Inc.                  |
|                                                                                               | Date                 | April 7, 2025        | File Name     | Steep Slopes - No Landslide Hazard.slmd |
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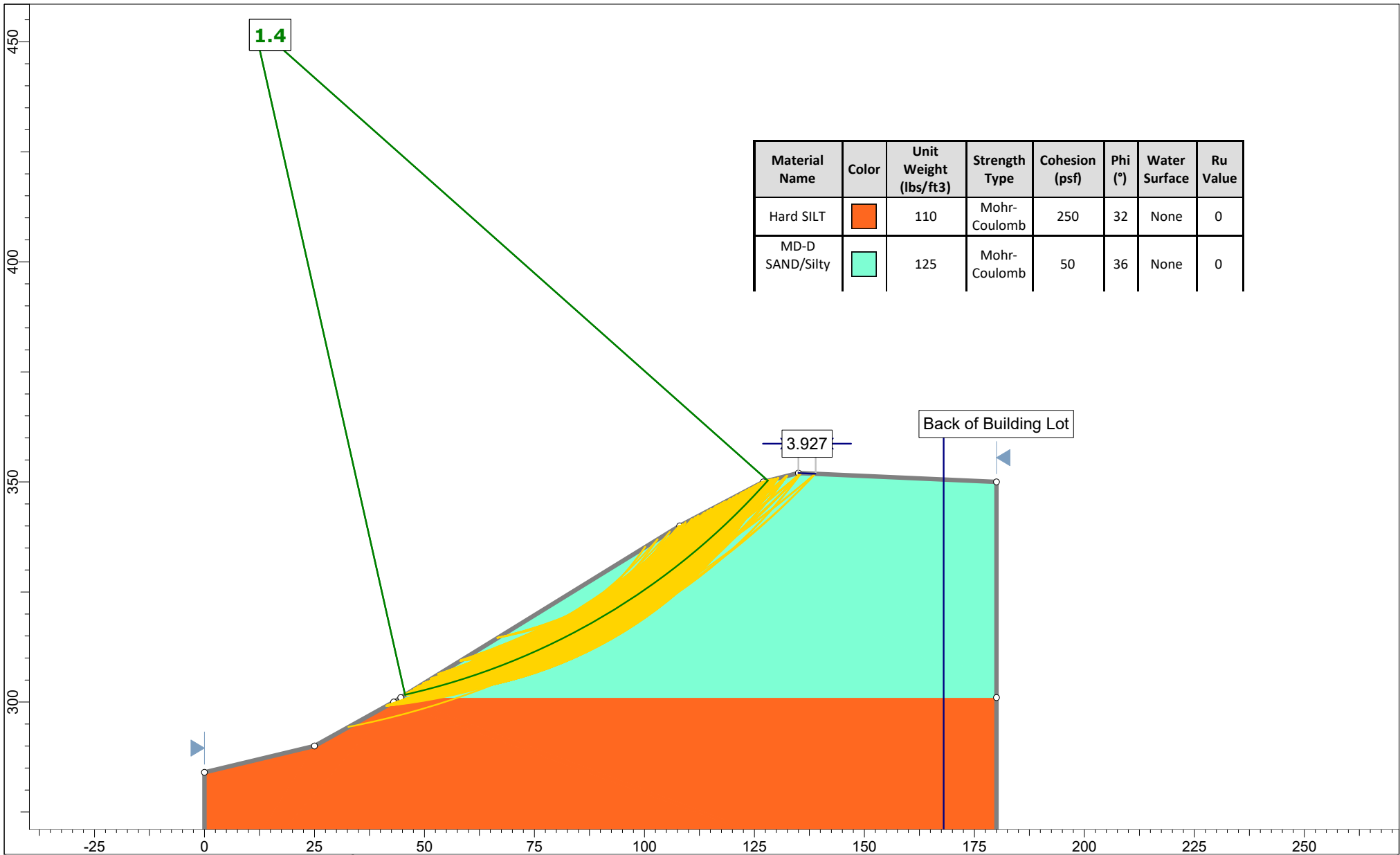


SLIDEINTERPRET 9.038

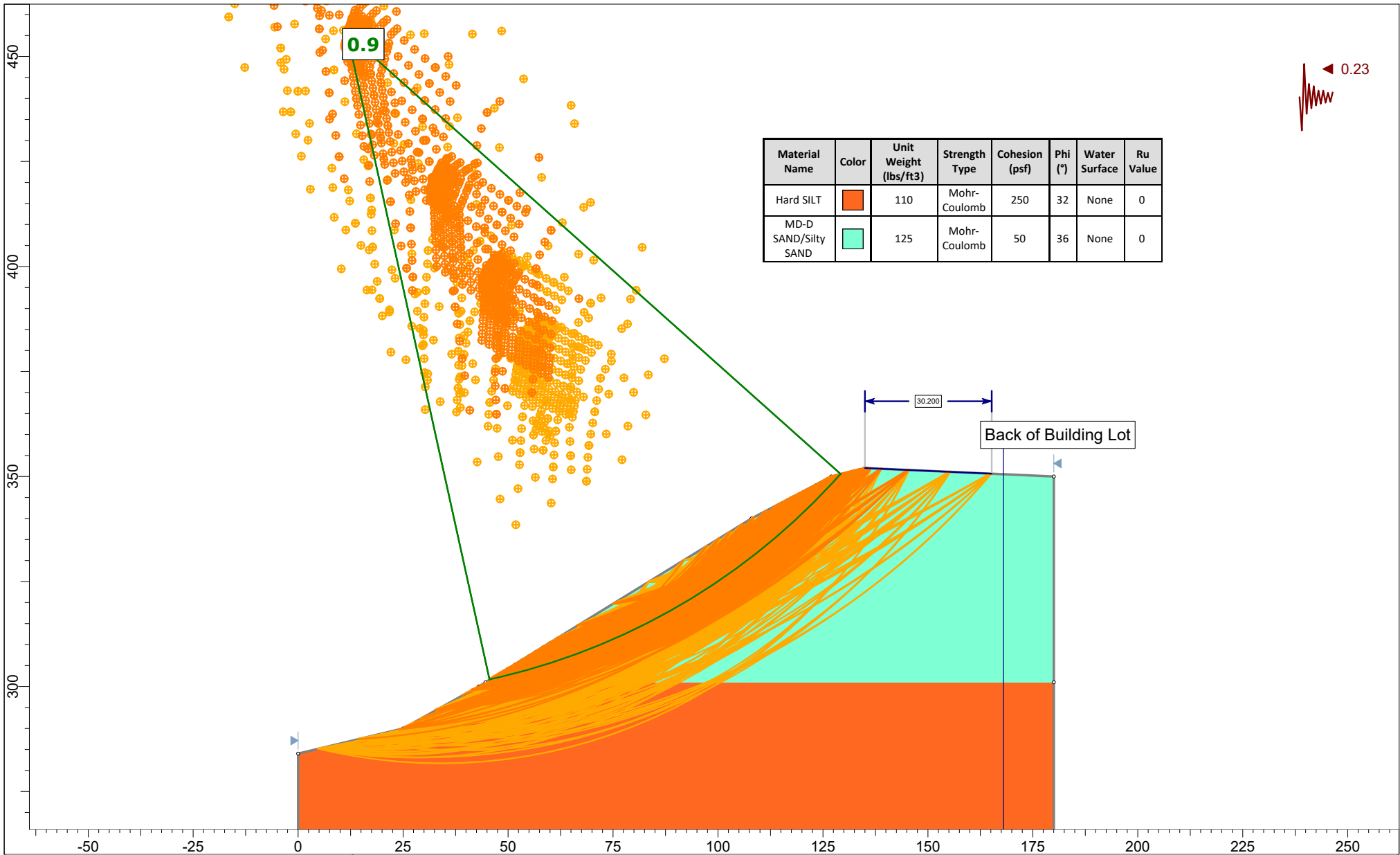
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| Project  | Arlington 360        |                                         |
| Group    | Cross Section FF-FF' | Scenario                                |
| Drawn By | C. Decker            | Company                                 |
| Date     | April 7, 2025        | File Name                               |
|          |                      | Steep Slopes - No Landslide Hazard.slmd |
|          |                      | Master Scenario                         |
|          |                      | Terra Associates, Inc.                  |



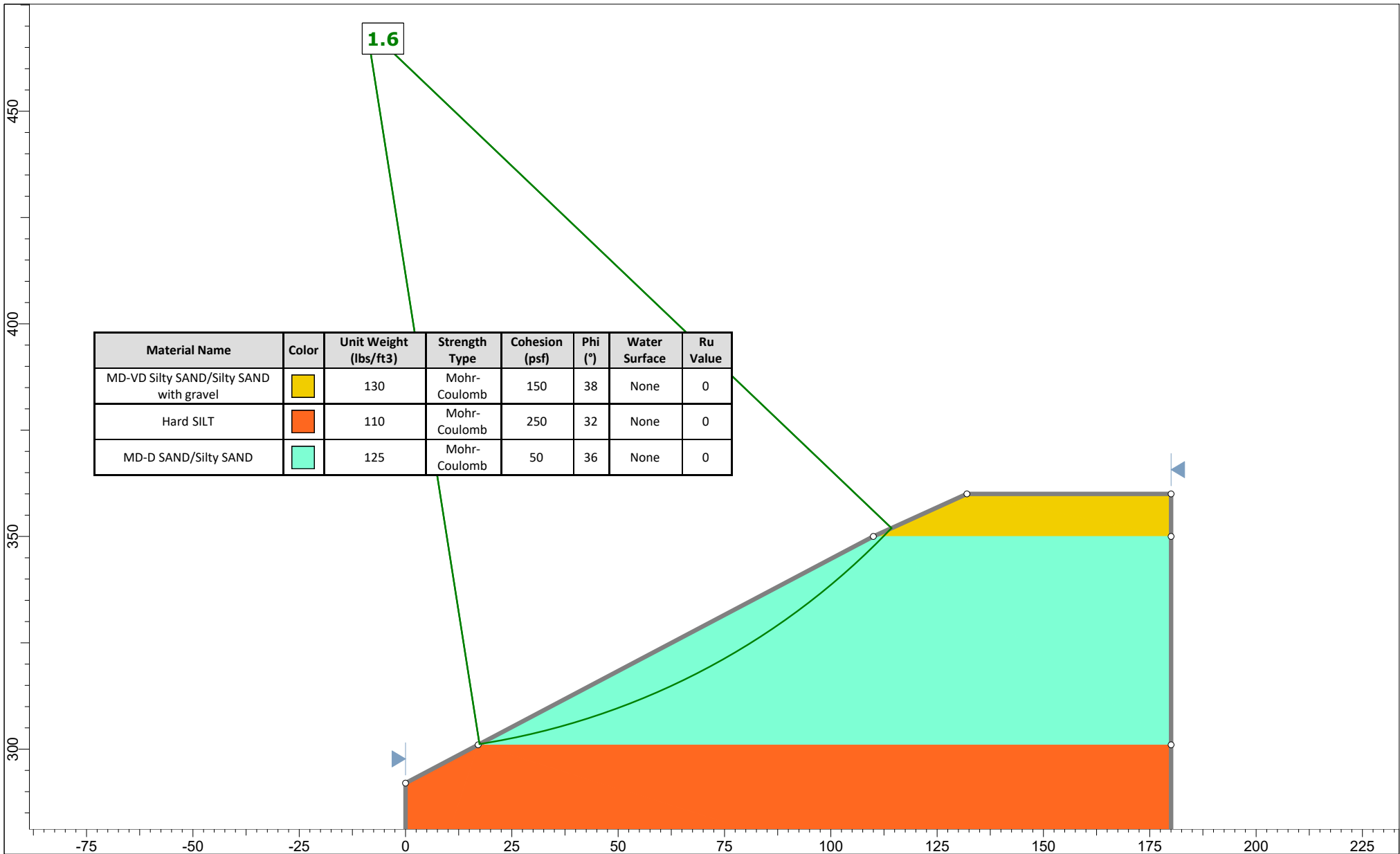
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| Project  | Arlington 360        |                                         |
| Group    | Cross Section FF-FF' | Scenario                                |
| Drawn By | C. Decker            | Company                                 |
| Date     | April 7, 2025        | File Name                               |
|          |                      | Steep Slopes - No Landslide Hazard.slmd |
|          |                      | Seismic                                 |
|          |                      | Terra Associates, Inc.                  |



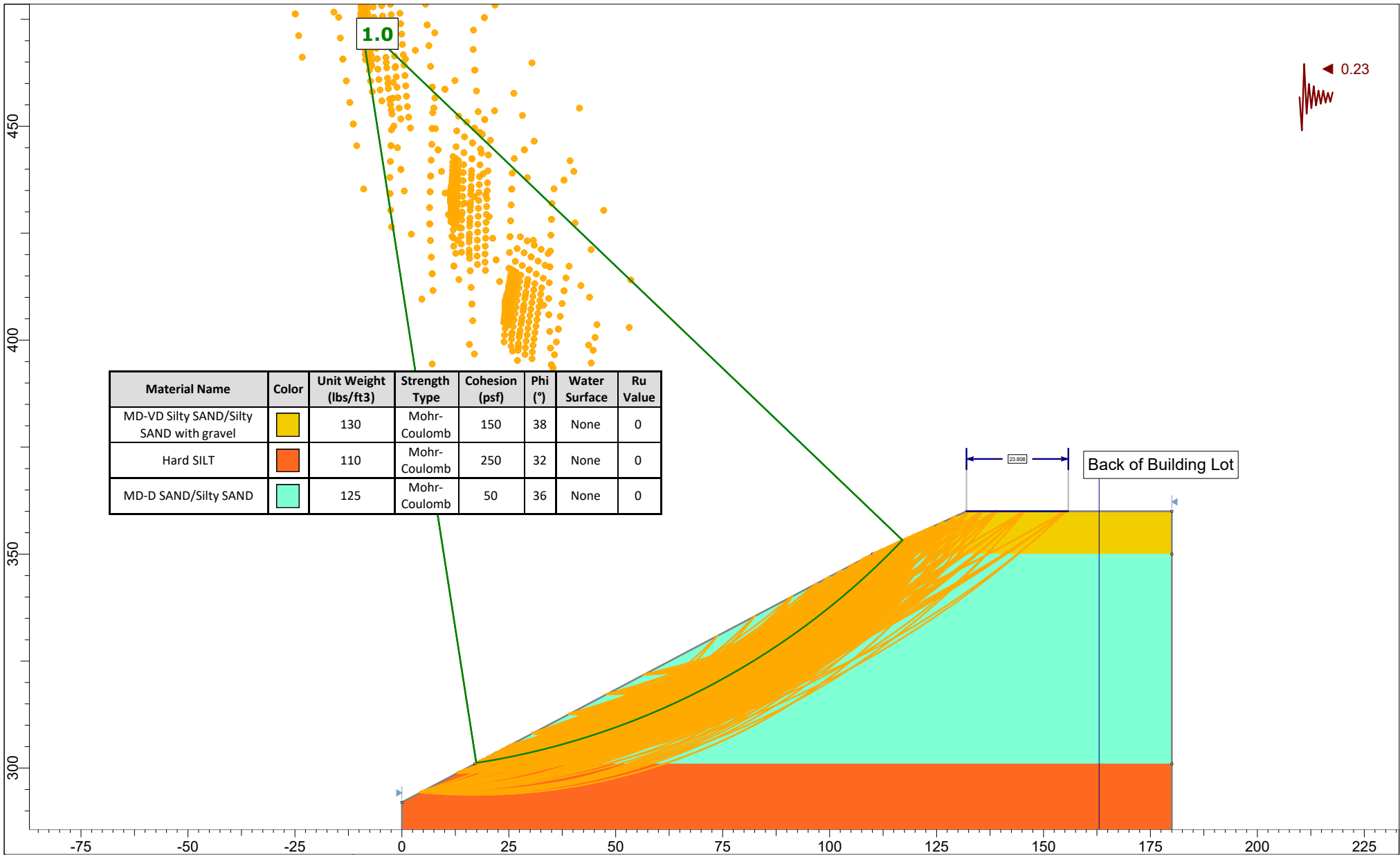
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|  | Project  |                        | Arlington 360        |                                         |
|                                                                                    | Group    |                        | Cross Section GG-GG' | Scenario                                |
|                                                                                    | Drawn By |                        | C. Decker            | Company                                 |
|                                                                                    | Date     |                        | April 7, 2025        | File Name                               |
|                                                                                    |          |                        |                      | Steep Slopes - No Landslide Hazard.slmd |
|                                                                                    |          | Master Scenario        |                      |                                         |
|                                                                                    |          | Terra Associates, Inc. |                      |                                         |



|                                                                             |          |  |                      |           |                                         |
|-----------------------------------------------------------------------------|----------|--|----------------------|-----------|-----------------------------------------|
| <div><div></div><div>rocscience</div></div> <div>SLIDEINTERPRET 9.038</div> | Project  |  | Arlington 360        |           |                                         |
|                                                                             | Group    |  | Cross Section GG-GG' | Scenario  | Seismic                                 |
|                                                                             | Drawn By |  | C. Decker            | Company   | Terra Associates, Inc.                  |
|                                                                             | Date     |  | April 7, 2025        | File Name | Steep Slopes - No Landslide Hazard.slmd |
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|                                                                                    |          |  |                      |                                         |
|------------------------------------------------------------------------------------|----------|--|----------------------|-----------------------------------------|
|  | Project  |  | Arlington 360        |                                         |
|                                                                                    | Group    |  | Cross Section HH-HH' | Scenario                                |
|                                                                                    | Drawn By |  | C. Decker            | Company                                 |
|                                                                                    | Date     |  | April 7, 2025        | File Name                               |
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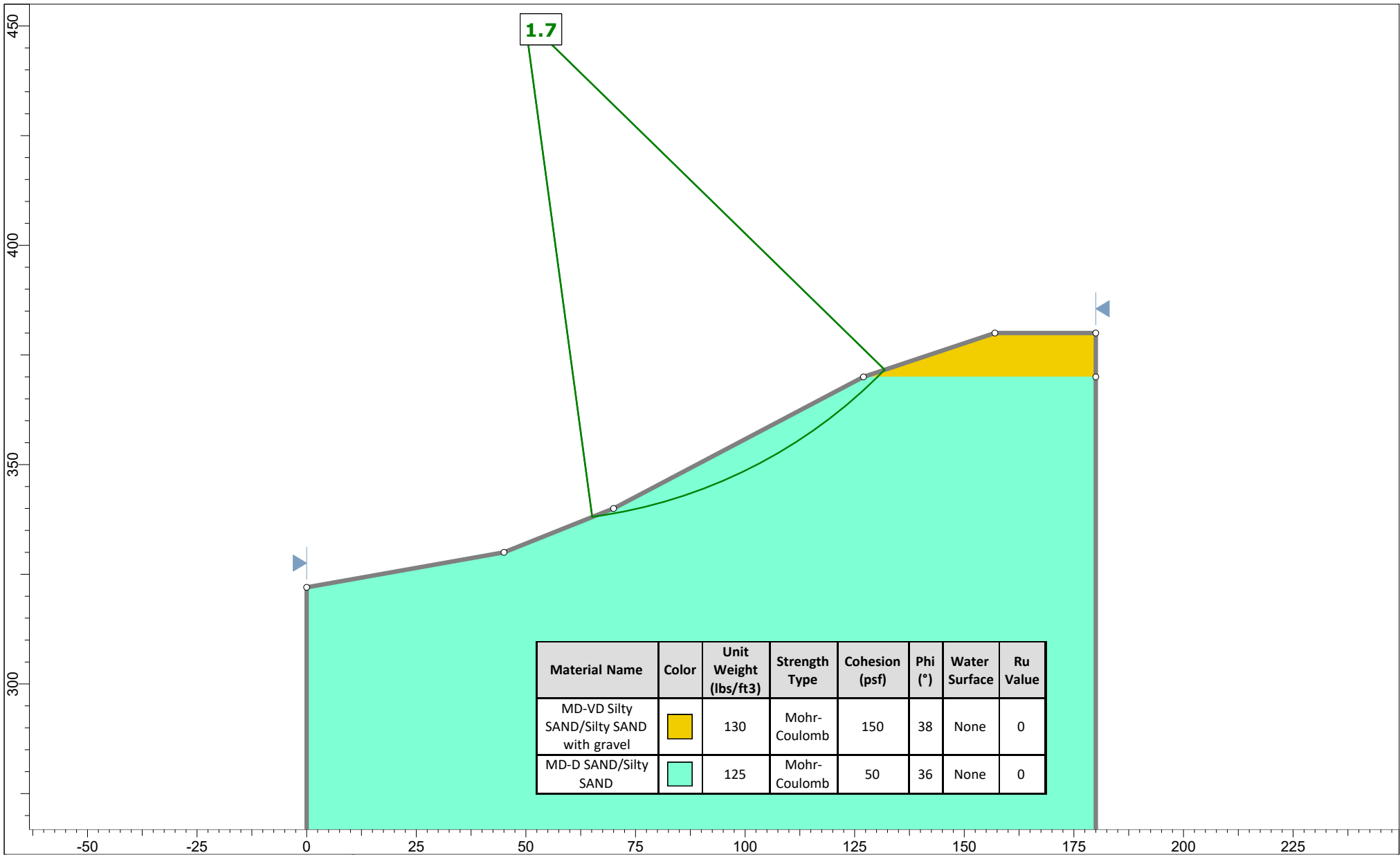
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| <div> <div></div> <div>rocscience</div> </div> <div>SLIDEINTERPRET 9.038</div> | Project  | Arlington 360        |                                         |
|                                                                                | Group    | Cross Section HH-HH' | Scenario                                |
|                                                                                | Drawn By | C. Decker            | Company                                 |
|                                                                                | Date     | April 7, 2025        | File Name                               |
|                                                                                |          |                      | Steep Slopes - No Landslide Hazard.slmd |

Seismic

Terra Associates, Inc.

Steep Slopes - No Landslide Hazard.slmd

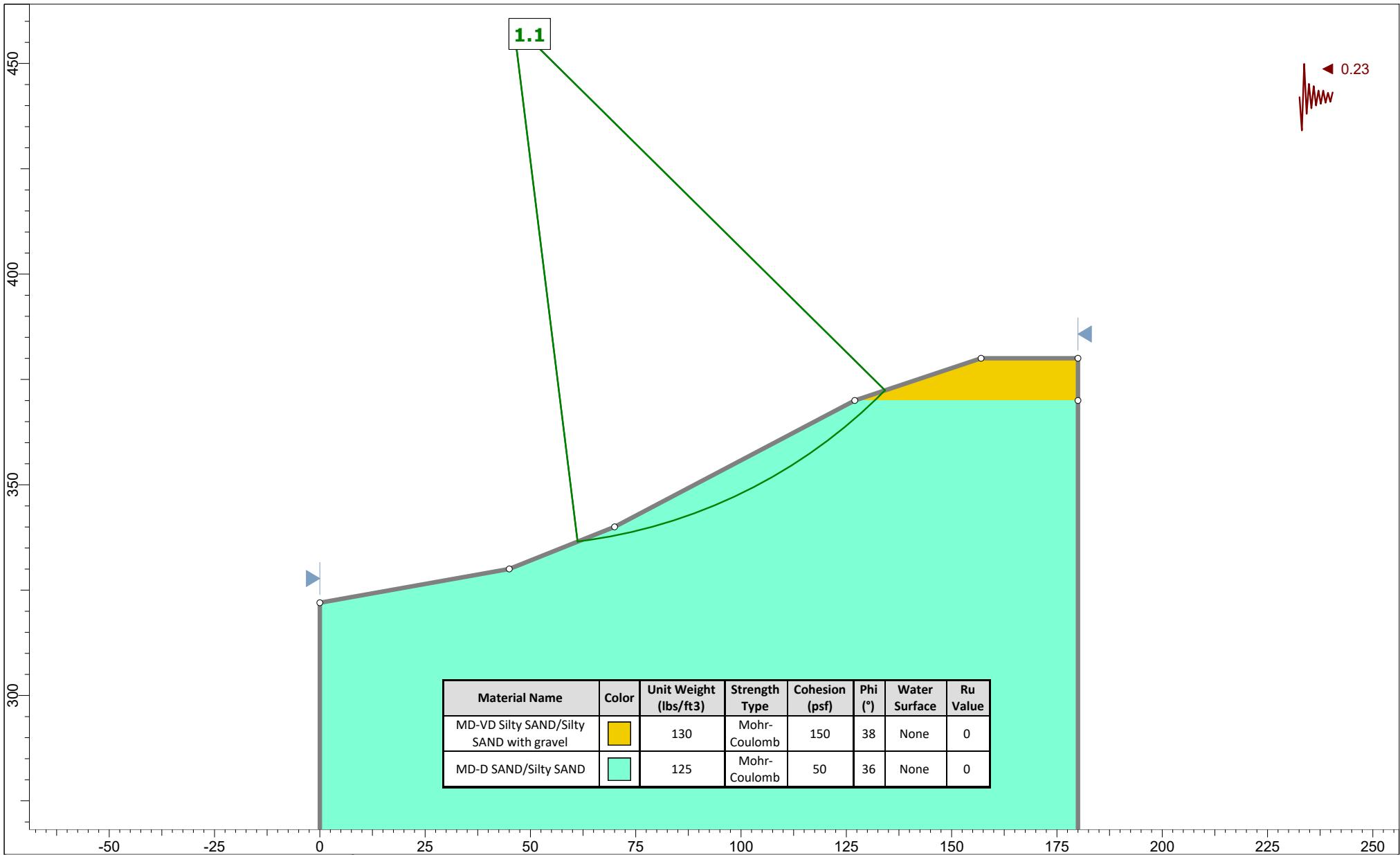


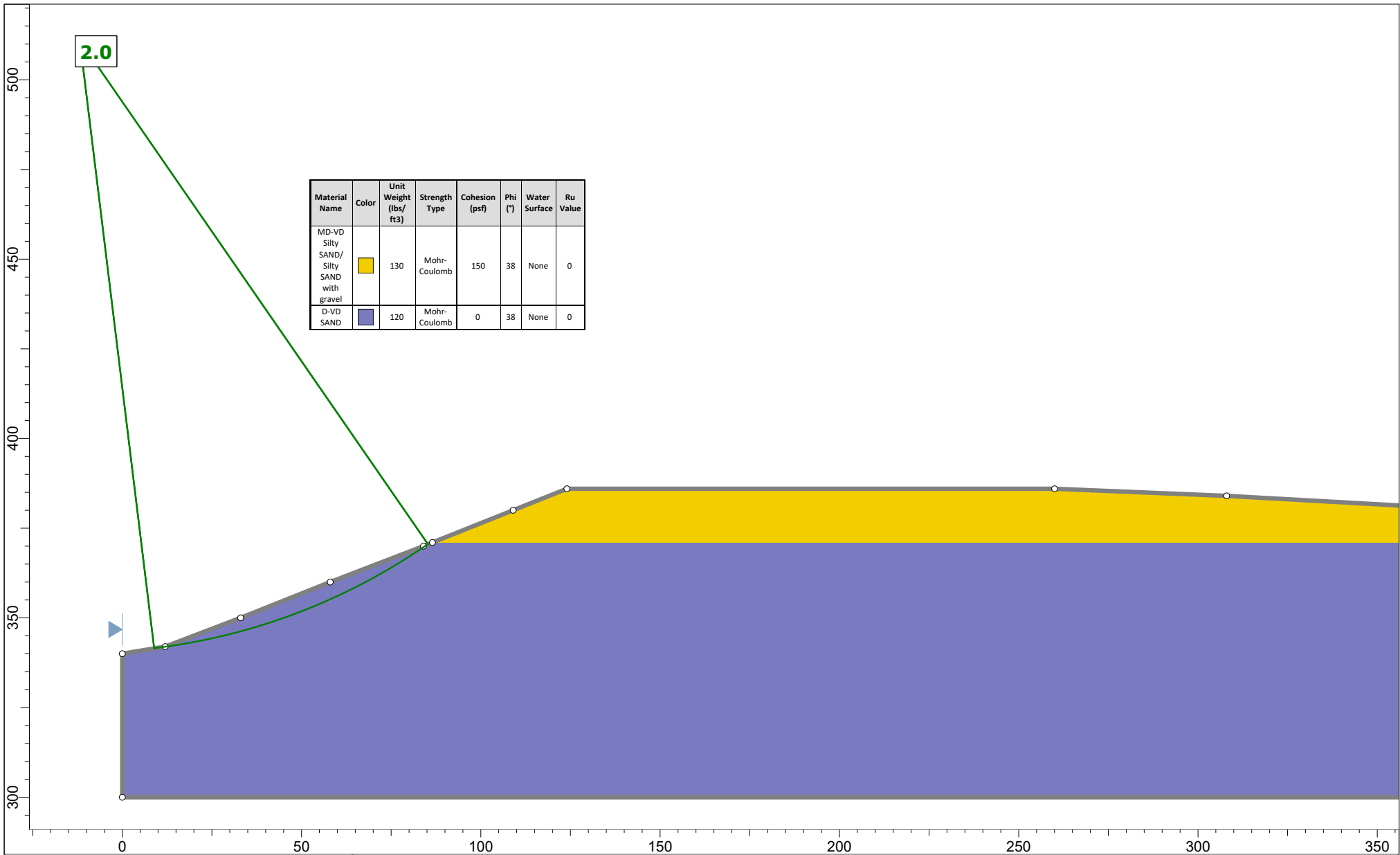


rocscience

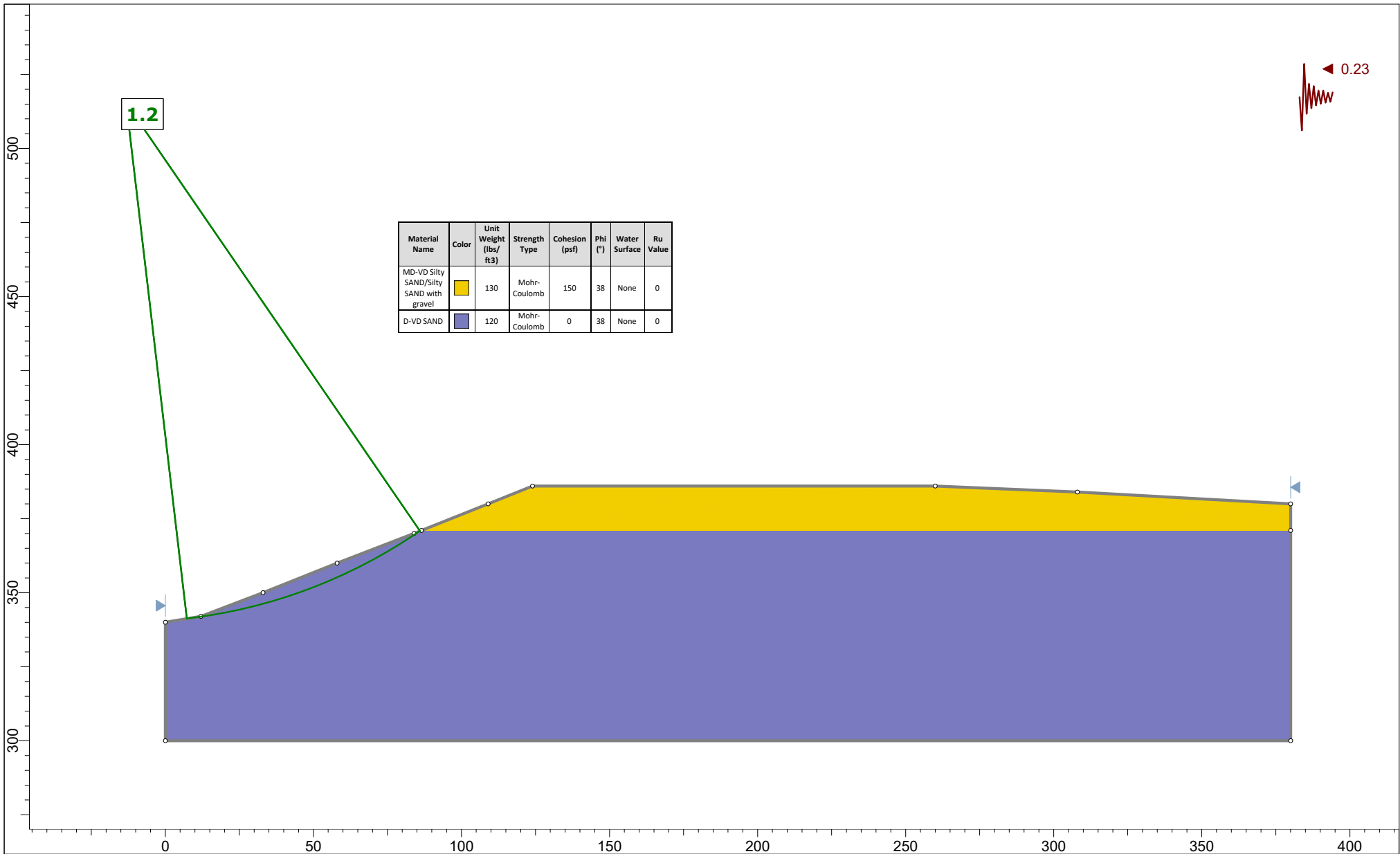
SLIDEINTERPRET 9.038

|          |                      |               |                                         |
|----------|----------------------|---------------|-----------------------------------------|
| Project  |                      | Arlington 360 |                                         |
| Group    | Cross Section II-II' | Scenario      | Master Scenario                         |
| Drawn By | C. Decker            | Company       | Terra Associates, Inc.                  |
| Date     | April 7, 2025        | File Name     | Steep Slopes - No Landslide Hazard.slmd |

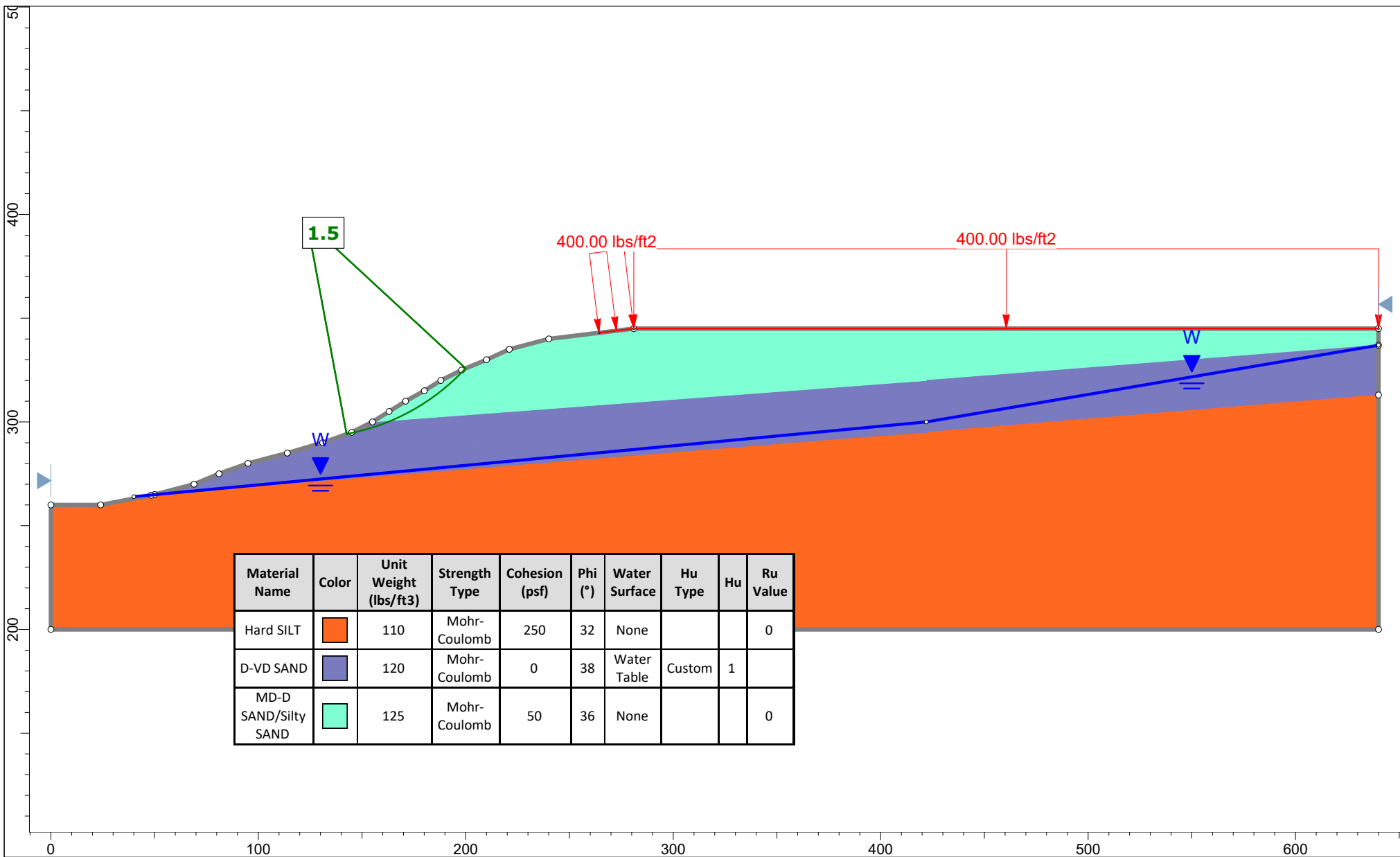




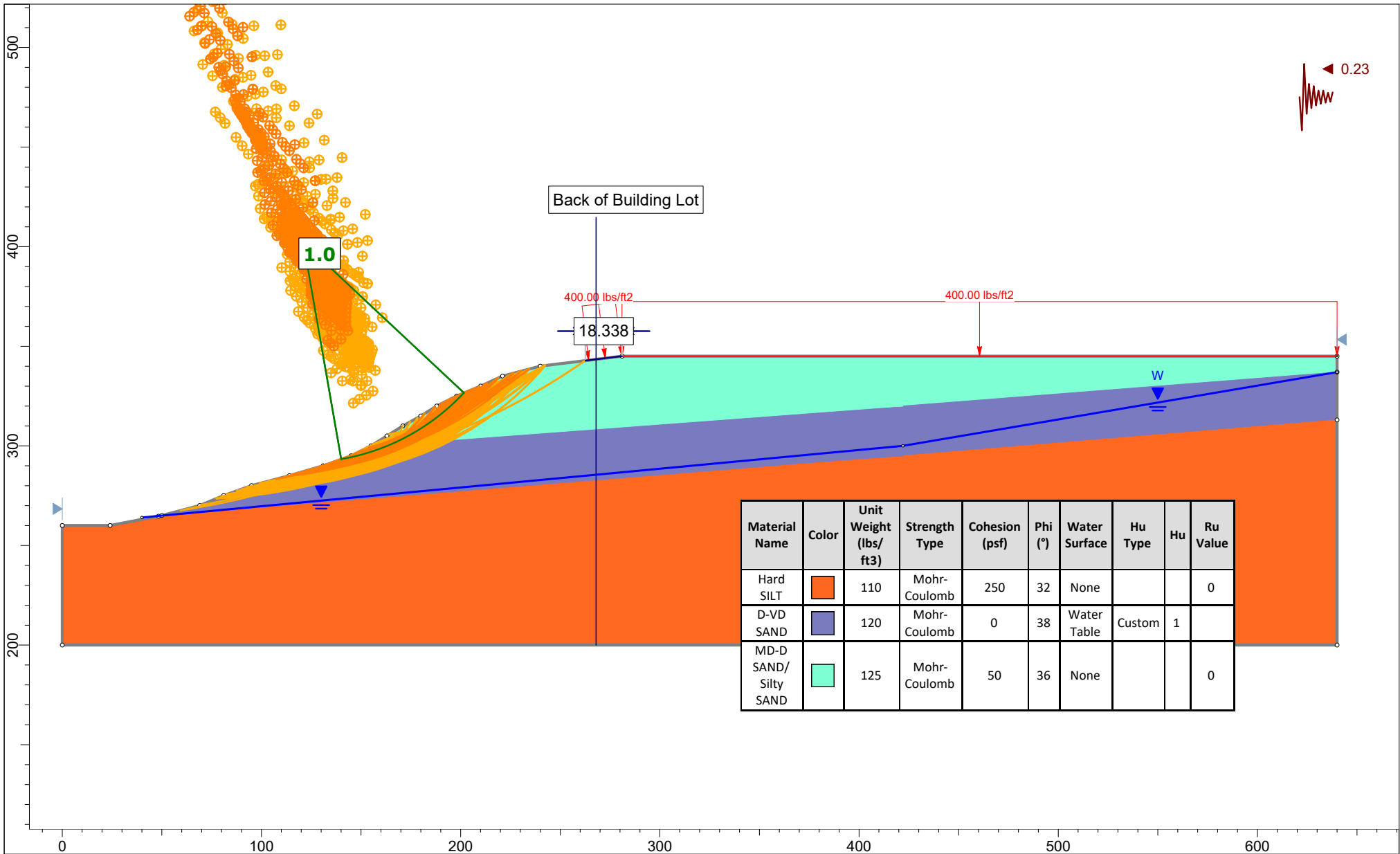
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|  | Project              |                      | Arlington 360 |                                         |
|                                                                                    | Group                | Cross Section JJ-JJ' | Scenario      | Master Scenario                         |
|                                                                                    | Drawn By             | C. Decker            | Company       | Terra Associates, Inc.                  |
|                                                                                    | Date                 | April 7, 2025        | File Name     | Steep Slopes - No Landslide Hazard.slmd |
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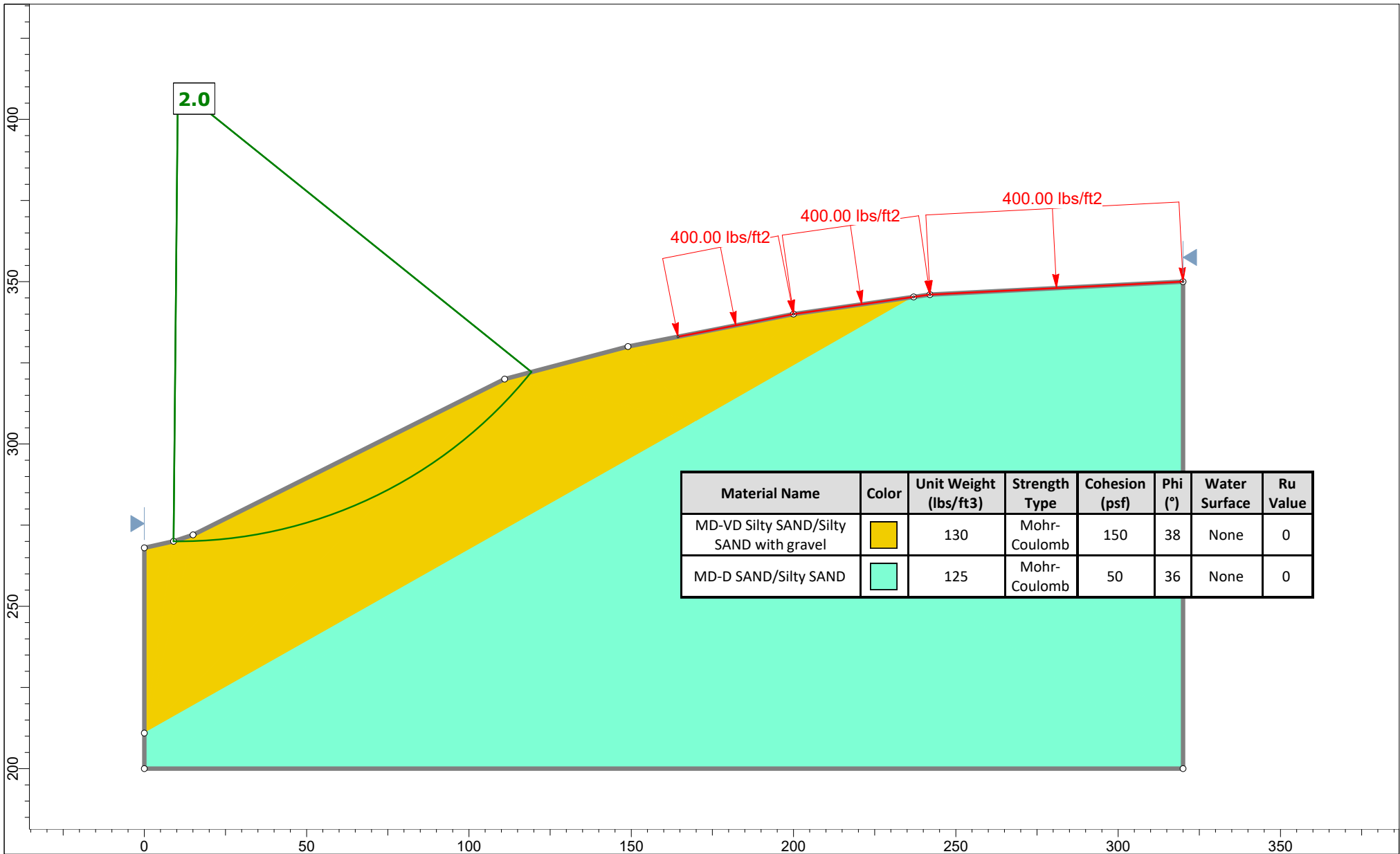
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|                                                                                    | Group    |  | Cross Section JJ-JJ' | Scenario                                |
|                                                                                    | Drawn By |  | C. Decker            | Company                                 |
|                                                                                    | Date     |  | April 7, 2025        | File Name                               |
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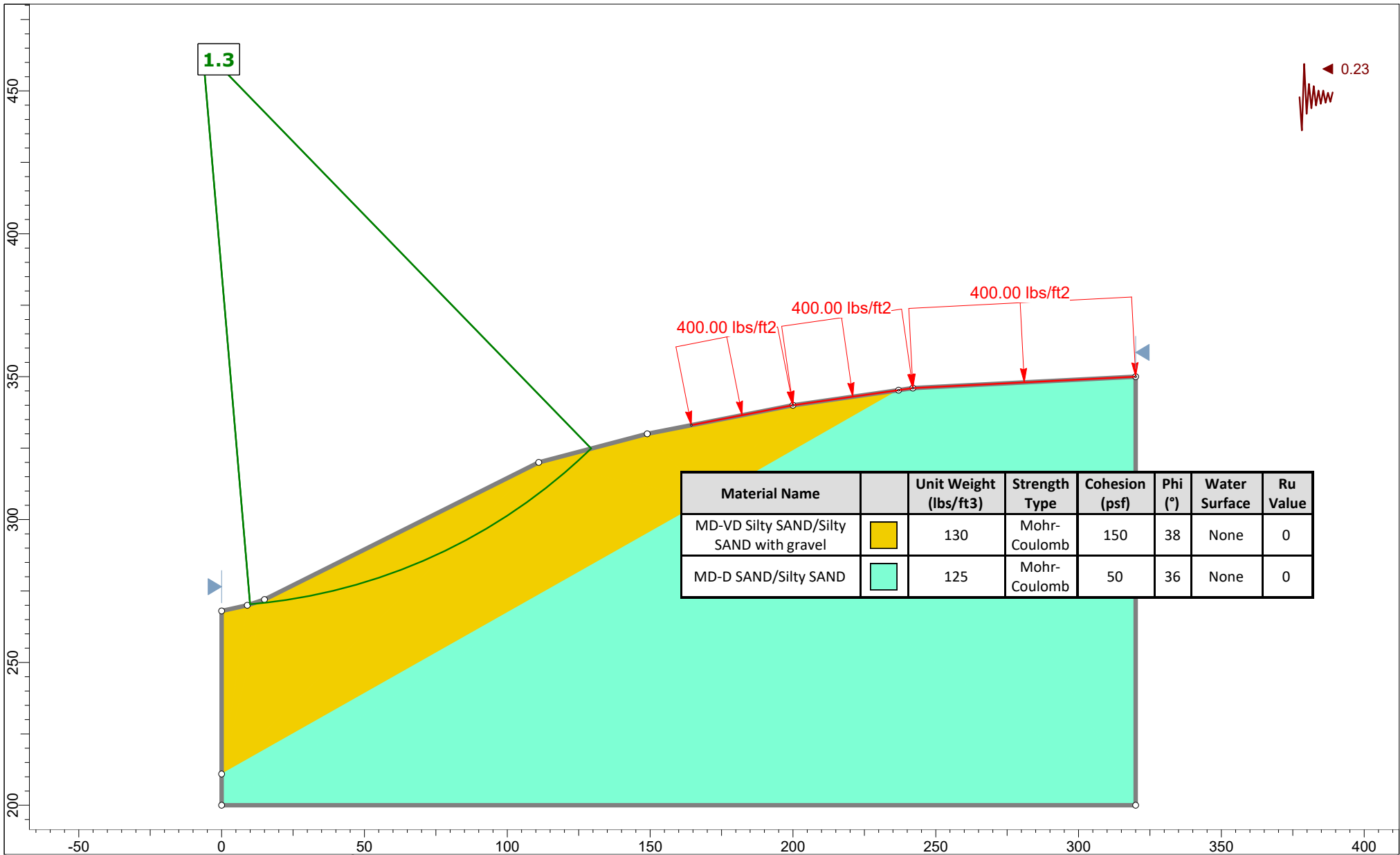
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| Project  | Arlington 360      |           |                                                                        |
| Group    | Cross Section F-F' | Scenario  | Master Scenario                                                        |
| Drawn By | C. Decker          | Company   | Terra Associates, Inc.                                                 |
| Date     | April 7, 2025      | File Name | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |



|          |                    |           |                                                                        |
|----------|--------------------|-----------|------------------------------------------------------------------------|
| Project  | Arlington 360      |           |                                                                        |
| Group    | Cross Section F-F' | Scenario  | Seismic                                                                |
| Drawn By | C. Decker          | Company   | Terra Associates, Inc.                                                 |
| Date     | April 7, 2025      | File Name | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |

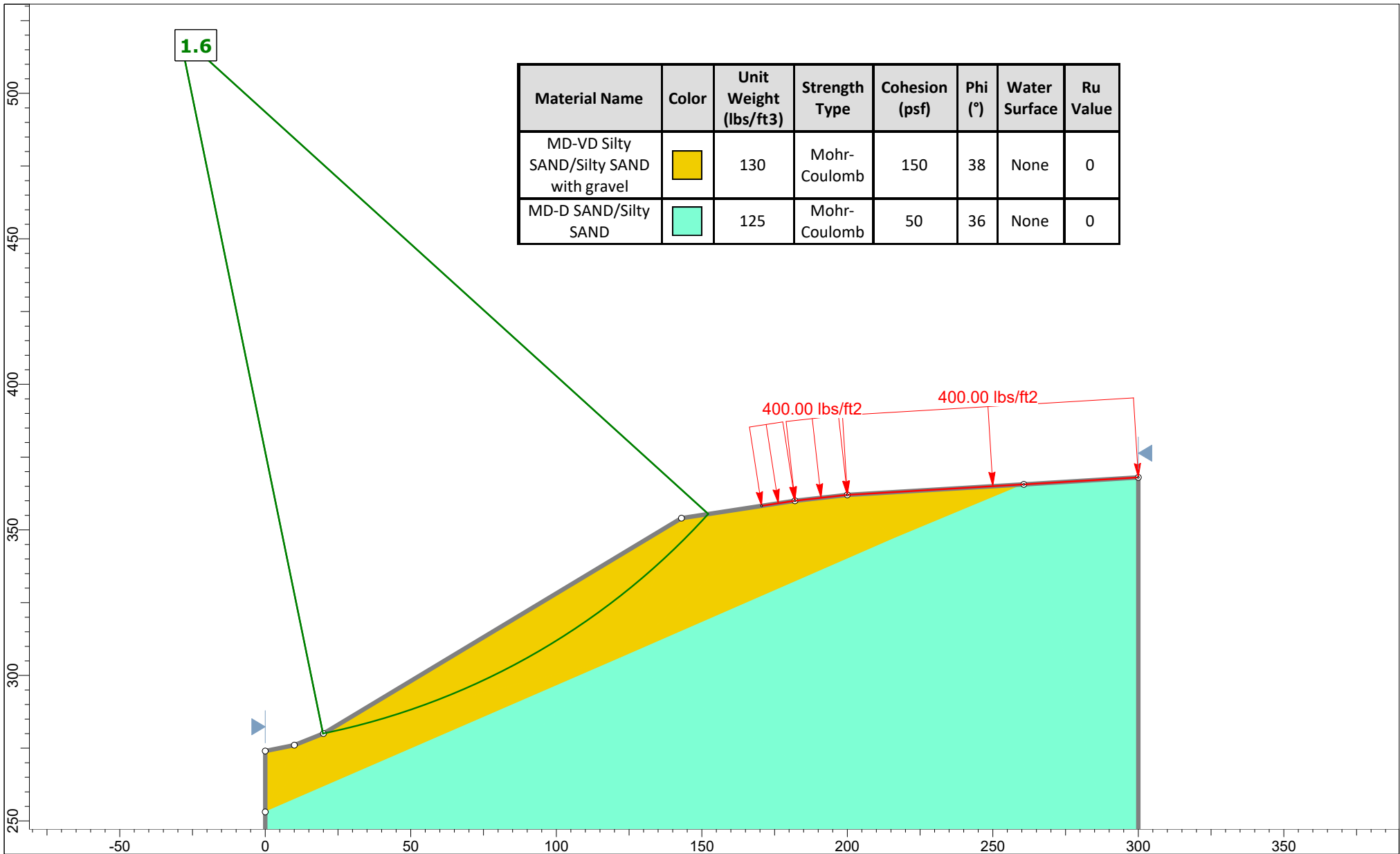


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|------------------------------------------------------------------------------------|----------|----------------------|---------------|------------------------------------------------------------------------|
|  | Project  |                      | Arlington 360 |                                                                        |
|                                                                                    | Group    | Cross Section AA-AA' | Scenario      | Master Scenario                                                        |
|                                                                                    | Drawn By | C. Decker            | Company       | Terra Associates, Inc.                                                 |
|                                                                                    | Date     | April 7, 2025        | File Name     | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |
|                                                                                    |          |                      |               |                                                                        |



|          |                      |                                                                        |
|----------|----------------------|------------------------------------------------------------------------|
| Project  | Arlington 360        |                                                                        |
| Group    | Cross Section AA-AA' | Scenario                                                               |
| Drawn By | C. Decker            | Company                                                                |
| Date     | April 7, 2025        | File Name                                                              |
|          |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |
|          |                      | Seismic                                                                |
|          |                      | Terra Associates, Inc.                                                 |



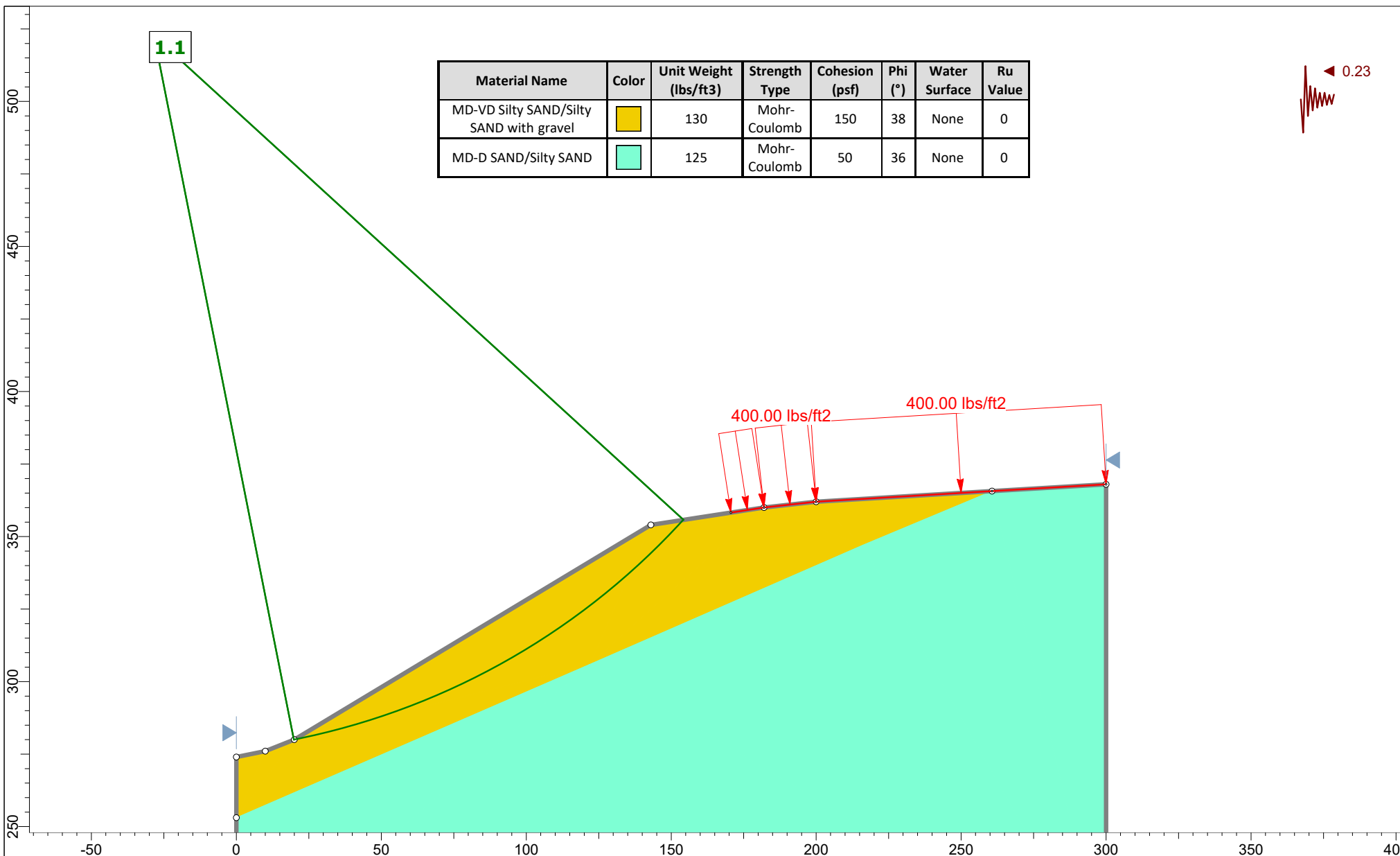


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|------------------------------------------------------------------------------------|----------|---------------|------------------------|------------------------------------------------------------------------|
|  | Project  |               | Arlington 360          |                                                                        |
|                                                                                    | Group    |               | Cross Section BB-BB'   |                                                                        |
|                                                                                    | Scenario |               | Master Scenario        |                                                                        |
|                                                                                    | Drawn By |               | C. Decker              |                                                                        |
|                                                                                    | Company  |               | Terra Associates, Inc. |                                                                        |
| Date                                                                               |          | April 7, 2025 |                        | File Name                                                              |
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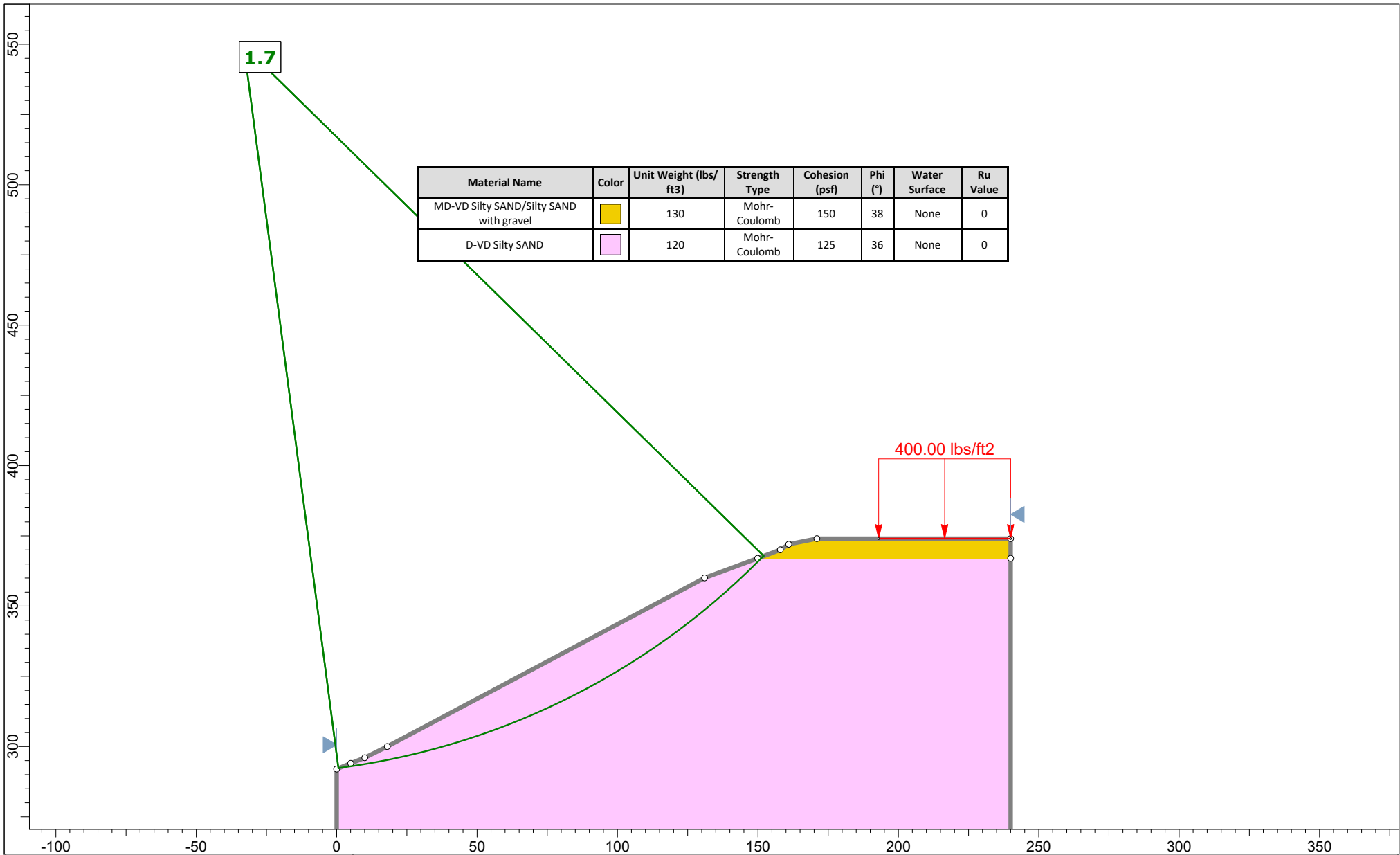
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| Material Name                           | Color                                                                             | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (°) | Water Surface | Ru Value |
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| MD-VD Silty SAND/Silty SAND with gravel |  | 130                   | Mohr-Coulomb  | 150            | 38      | None          | 0        |
| MD-D SAND/Silty SAND                    |  | 125                   | Mohr-Coulomb  | 50             | 36      | None          | 0        |

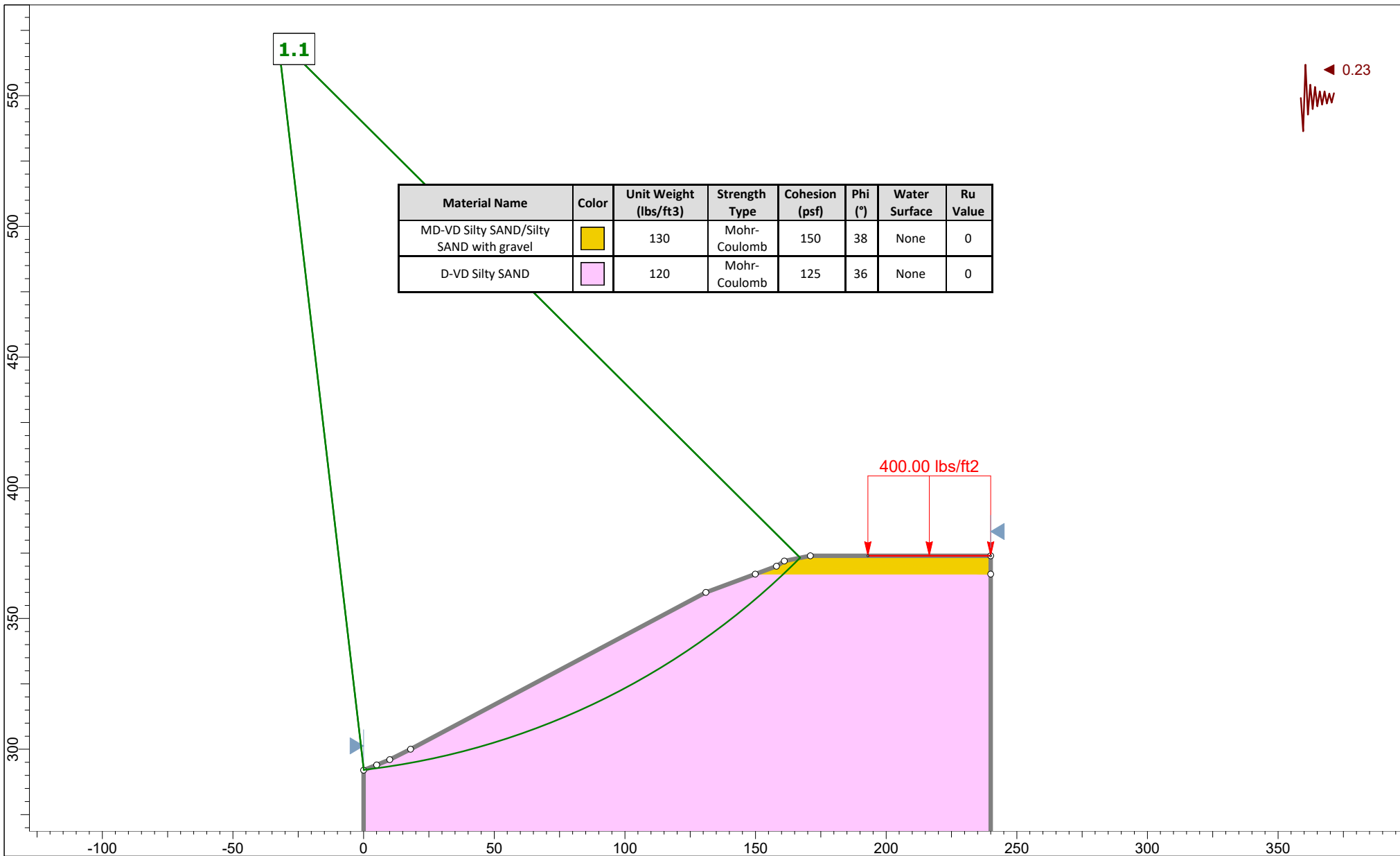
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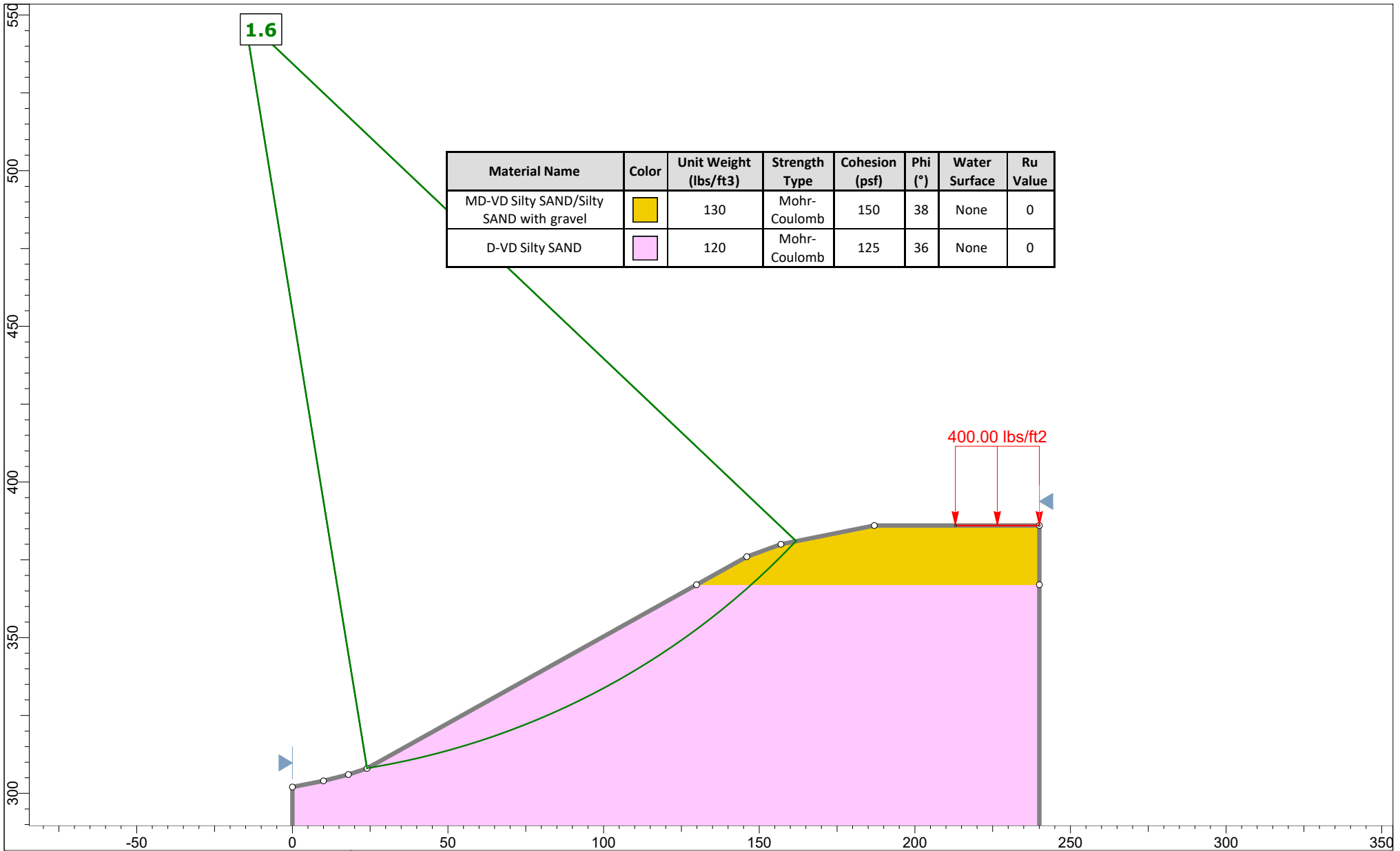
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| Project  | Arlington 360        |           |                                                                        |
| Group    | Cross Section BB-BB' | Scenario  | Seismic                                                                |
| Drawn By | C. Decker            | Company   | Terra Associates, Inc.                                                 |
| Date     | April 7, 2025        | File Name | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |



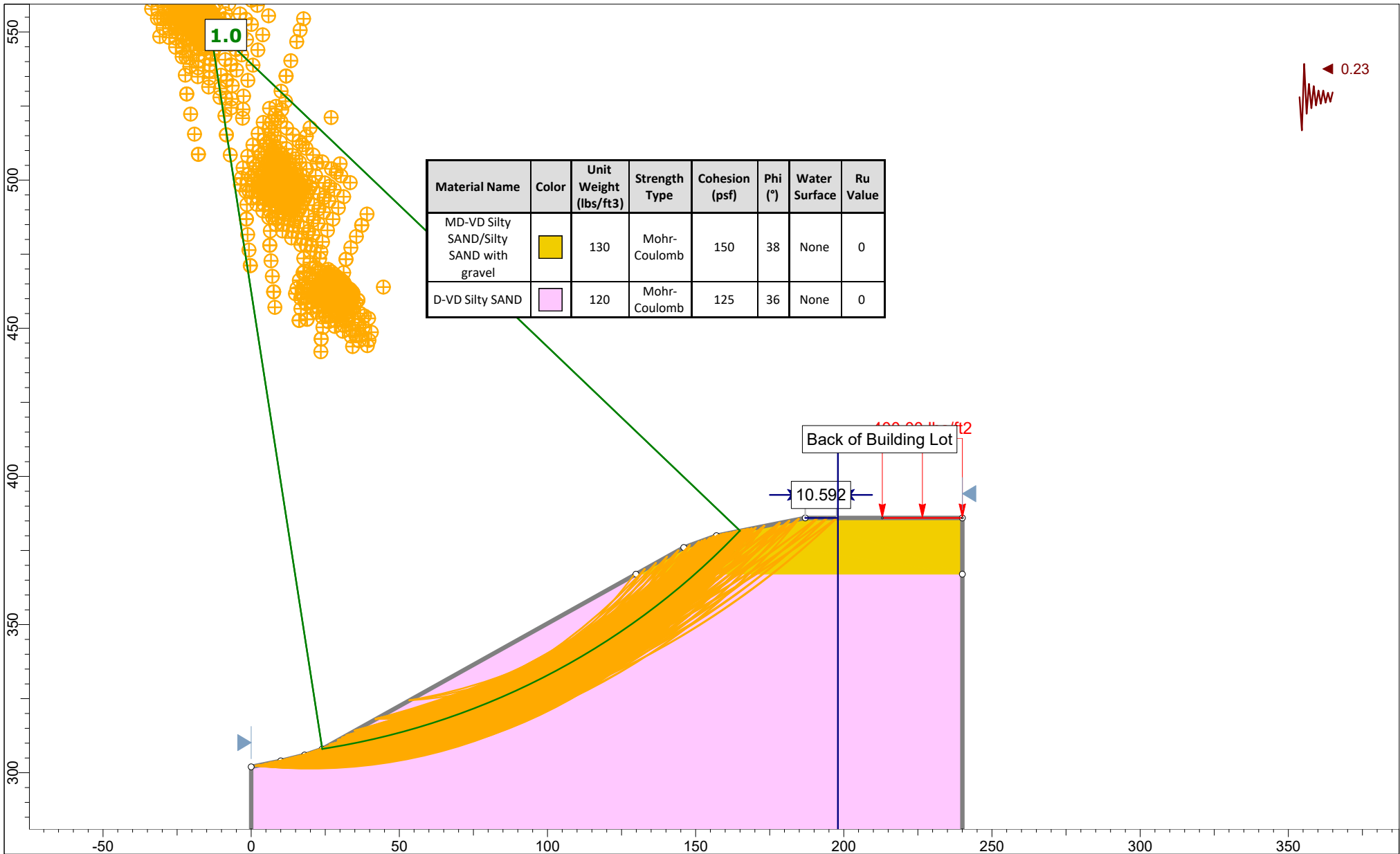
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|                                                                                    | Group    |           | Cross Section CC-CC' |                                                                       |
|                                                                                    | Drawn By |           | C. Decker            |                                                                       |
|                                                                                    | Date     |           | April 7, 2025        |                                                                       |
|                                                                                    | Scenario |           | Master Scenario      |                                                                       |
|                                                                                    |          | Company   |                      | Terra Associates, Inc.                                                |
|                                                                                    |          | File Name |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions.sld |



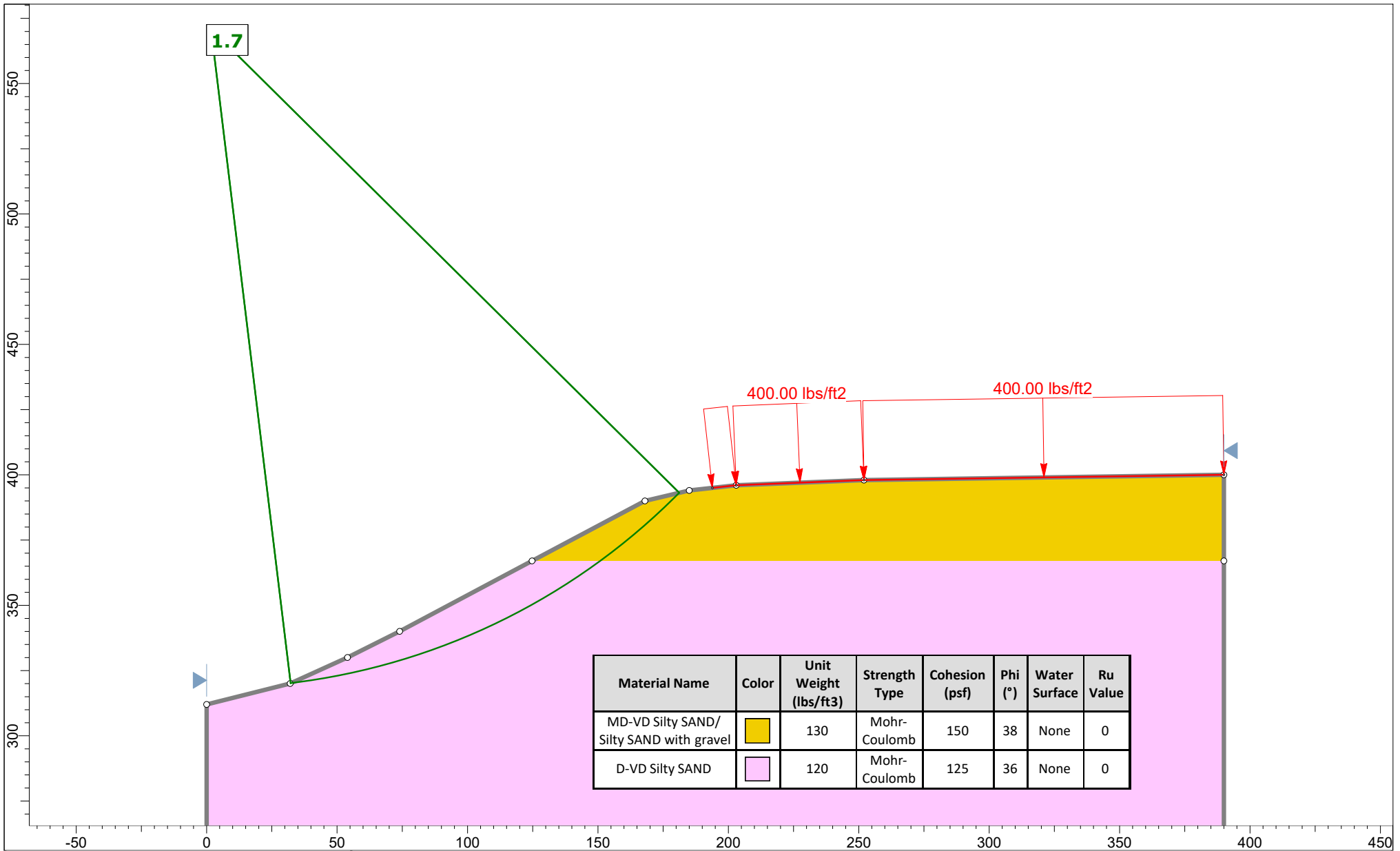
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|                                                                                    | Drawn By |                                                                        | C. Decker            | Company   |
|                                                                                    | Date     |                                                                        | April 7, 2025        | File Name |
| SLIDEINTERPRET 9.038                                                               |          | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |                      |           |



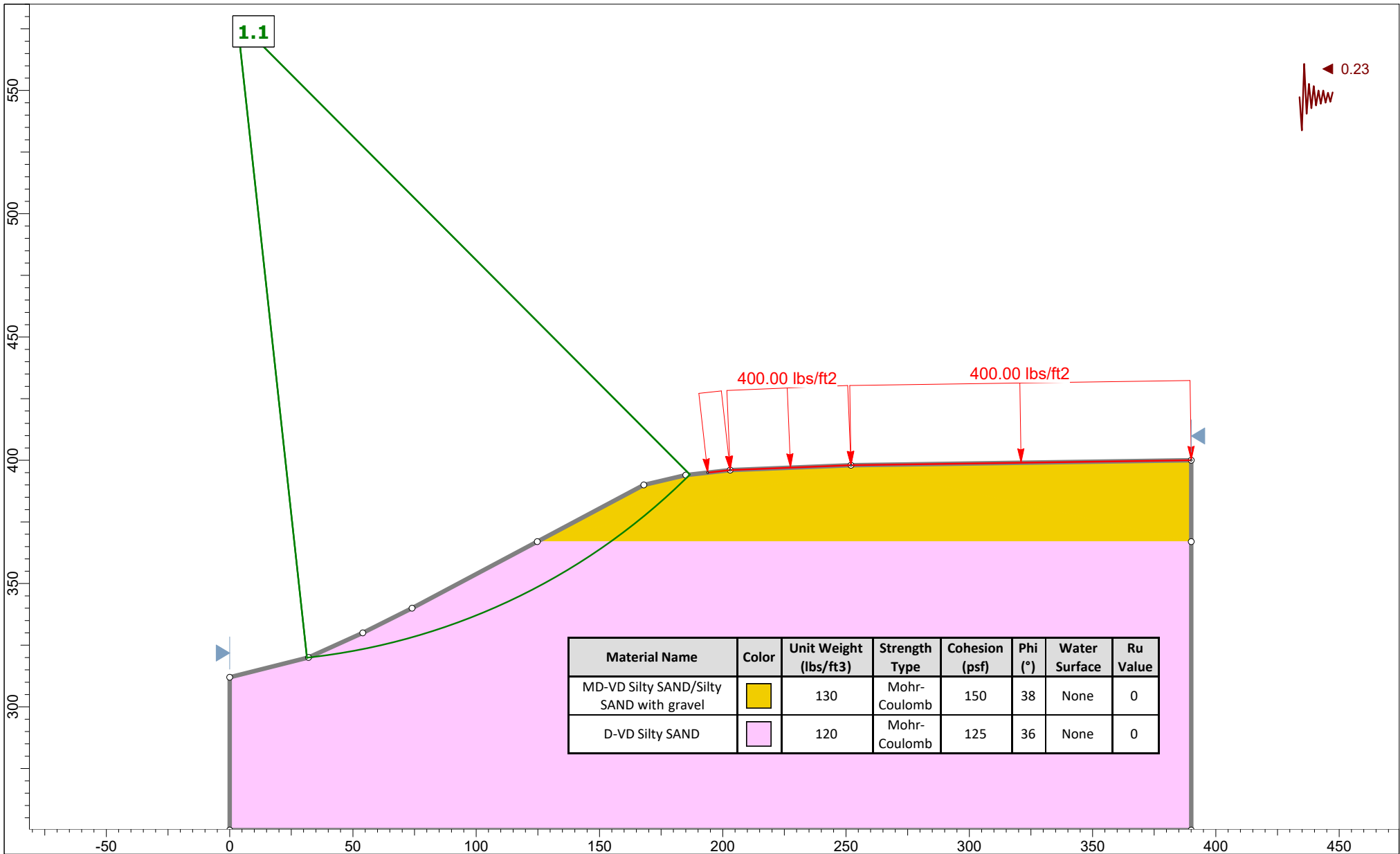
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|  | Project  | Arlington 360        |                                                                        |
|                                                                                    | Group    | Cross Section DD-DD' | Scenario                                                               |
|                                                                                    | Drawn By | C. Decker            | Company                                                                |
|                                                                                    | Date     | April 7, 2025        | File Name                                                              |
|                                                                                    |          |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |



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|------------------------------------------------------------------------------------|----------|-----------|----------------------|------------------------------------------------------------------------|
|  | Project  |           | Arlington 360        |                                                                        |
|                                                                                    | Group    |           | Cross Section DD-DD' |                                                                        |
|                                                                                    | Drawn By |           | C. Decker            |                                                                        |
|                                                                                    | Date     |           | April 7, 2025        |                                                                        |
|                                                                                    | Scenario |           | Seismic              |                                                                        |
|                                                                                    |          | Company   |                      | Terra Associates, Inc.                                                 |
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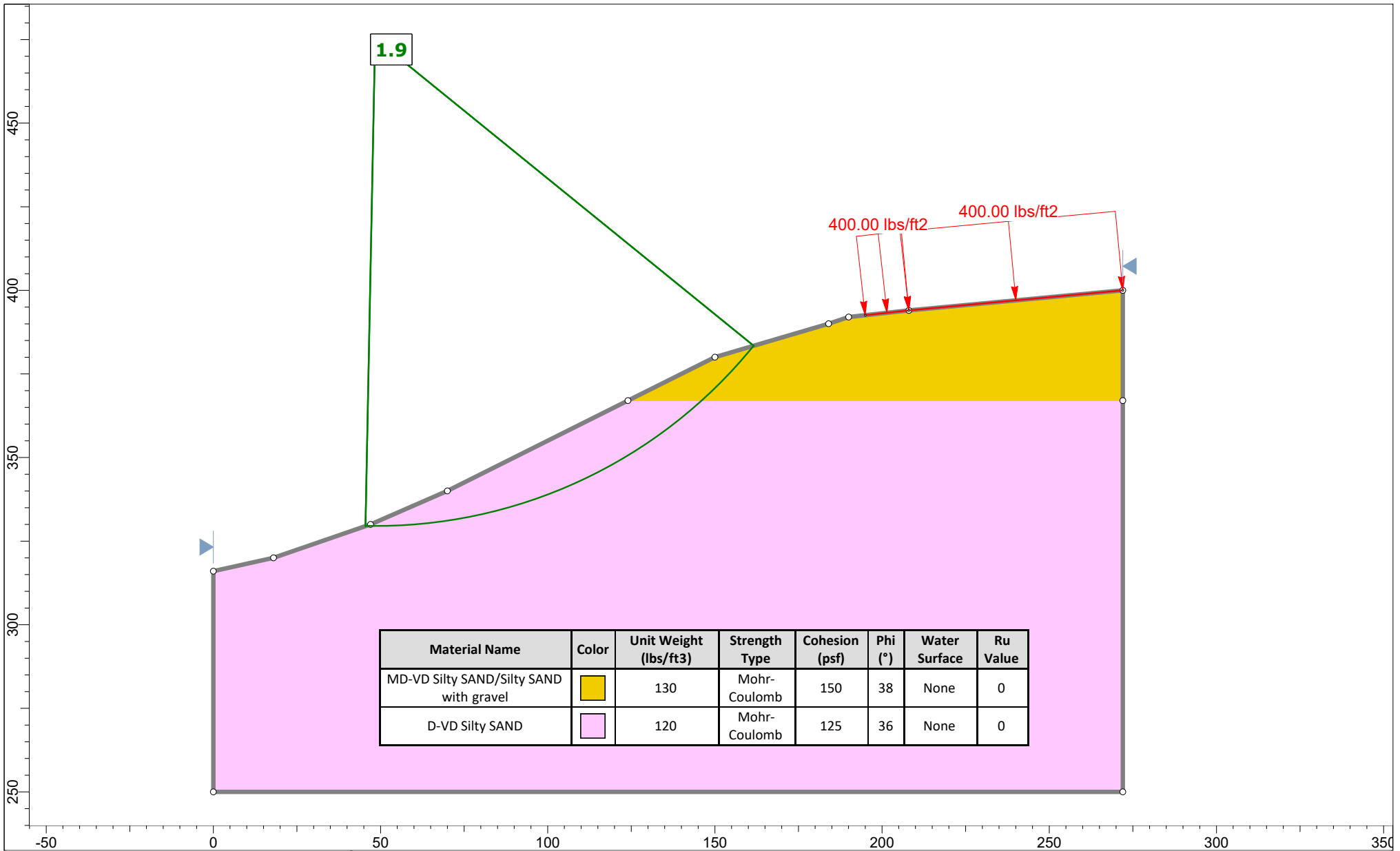


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| Group    | Cross Section EE-EE' | Scenario  | Master Scenario                                                        |
| Drawn By | C. Decker            | Company   | Terra Associates, Inc.                                                 |
| Date     | April 7, 2025        | File Name | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |

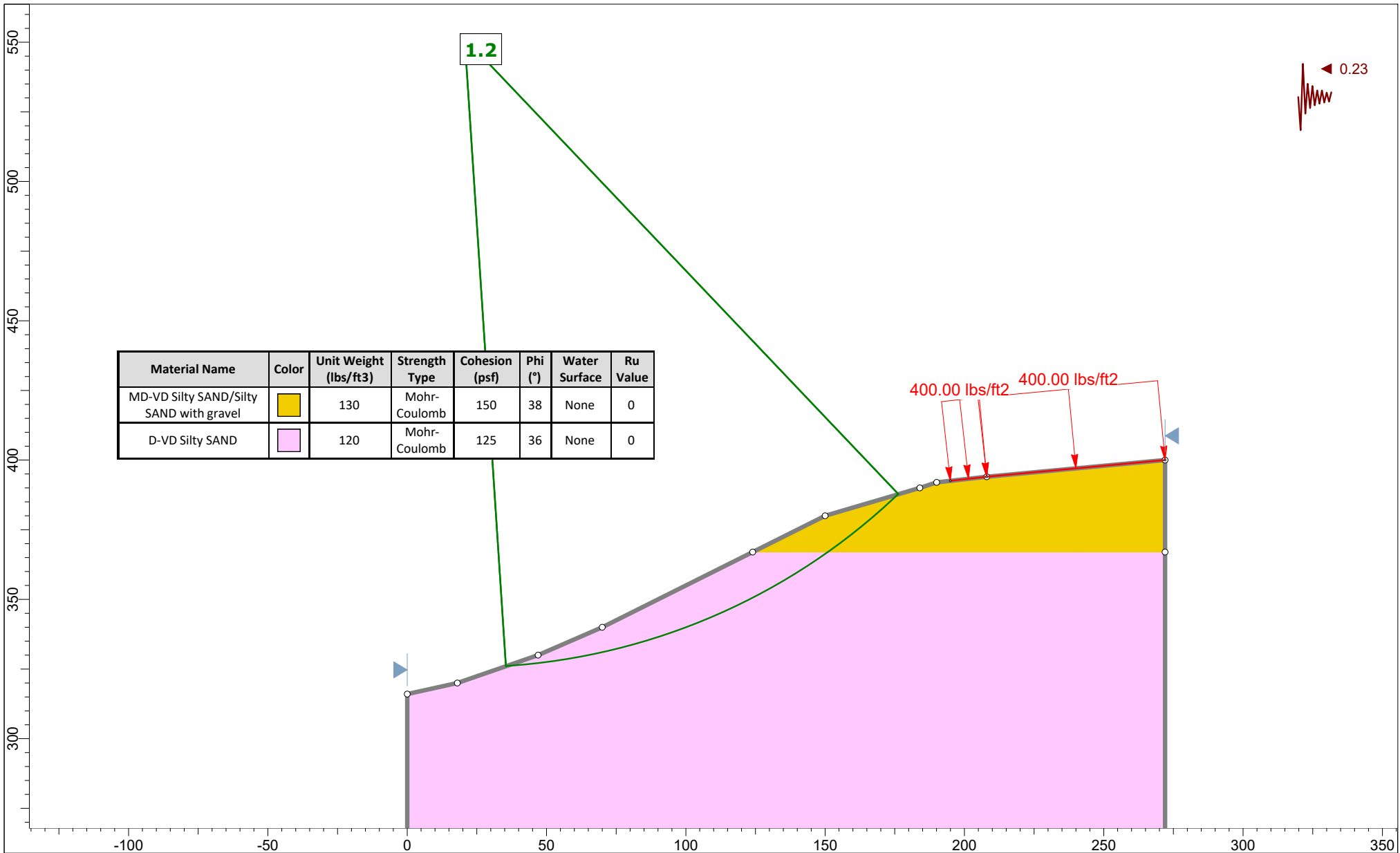


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|                                                                                    | Group    |           | Cross Section EE-EE' |                                                                        |
|                                                                                    | Drawn By |           | C. Decker            |                                                                        |
|                                                                                    | Date     |           | April 7, 2025        |                                                                        |
|                                                                                    |          | Scenario  |                      | Seismic                                                                |
|                                                                                    |          | Company   |                      | Terra Associates, Inc.                                                 |
|                                                                                    |          | File Name |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |

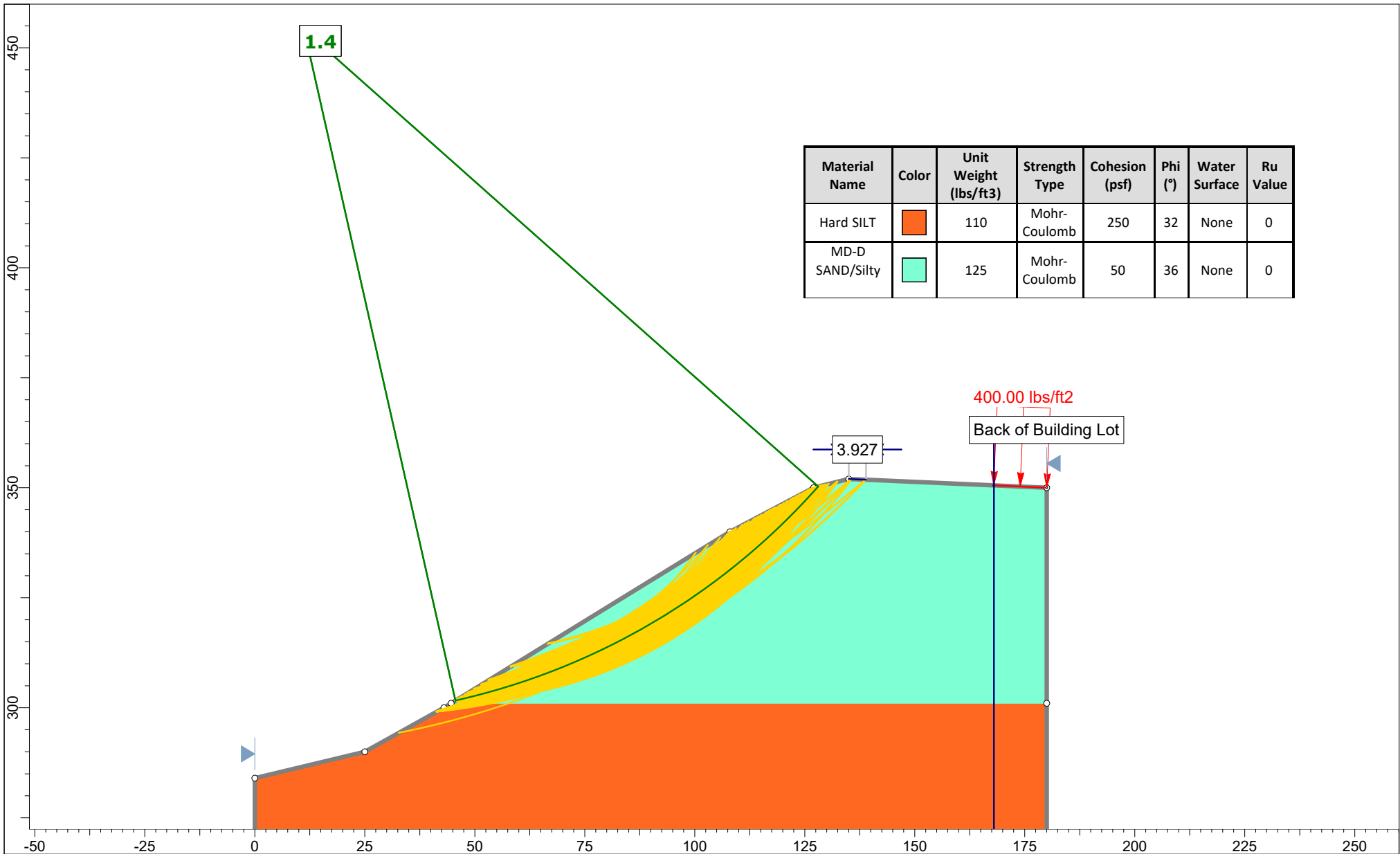




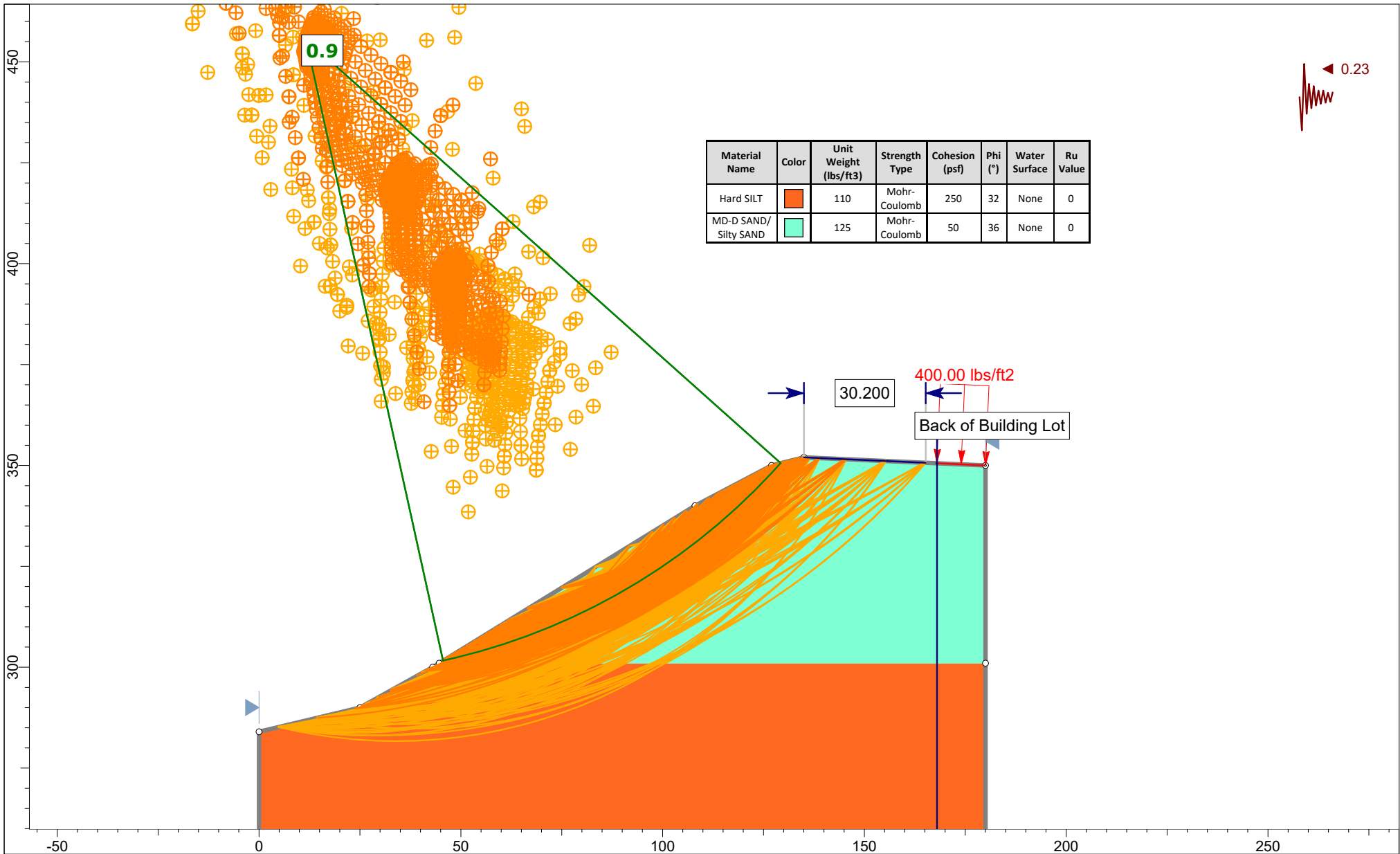
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| Group    | Cross Section FF-FF' | Scenario                                                               |
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| Date     | April 7, 2025        | File Name                                                              |
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|          |                      | Master Scenario                                                        |
|          |                      | Terra Associates, Inc.                                                 |



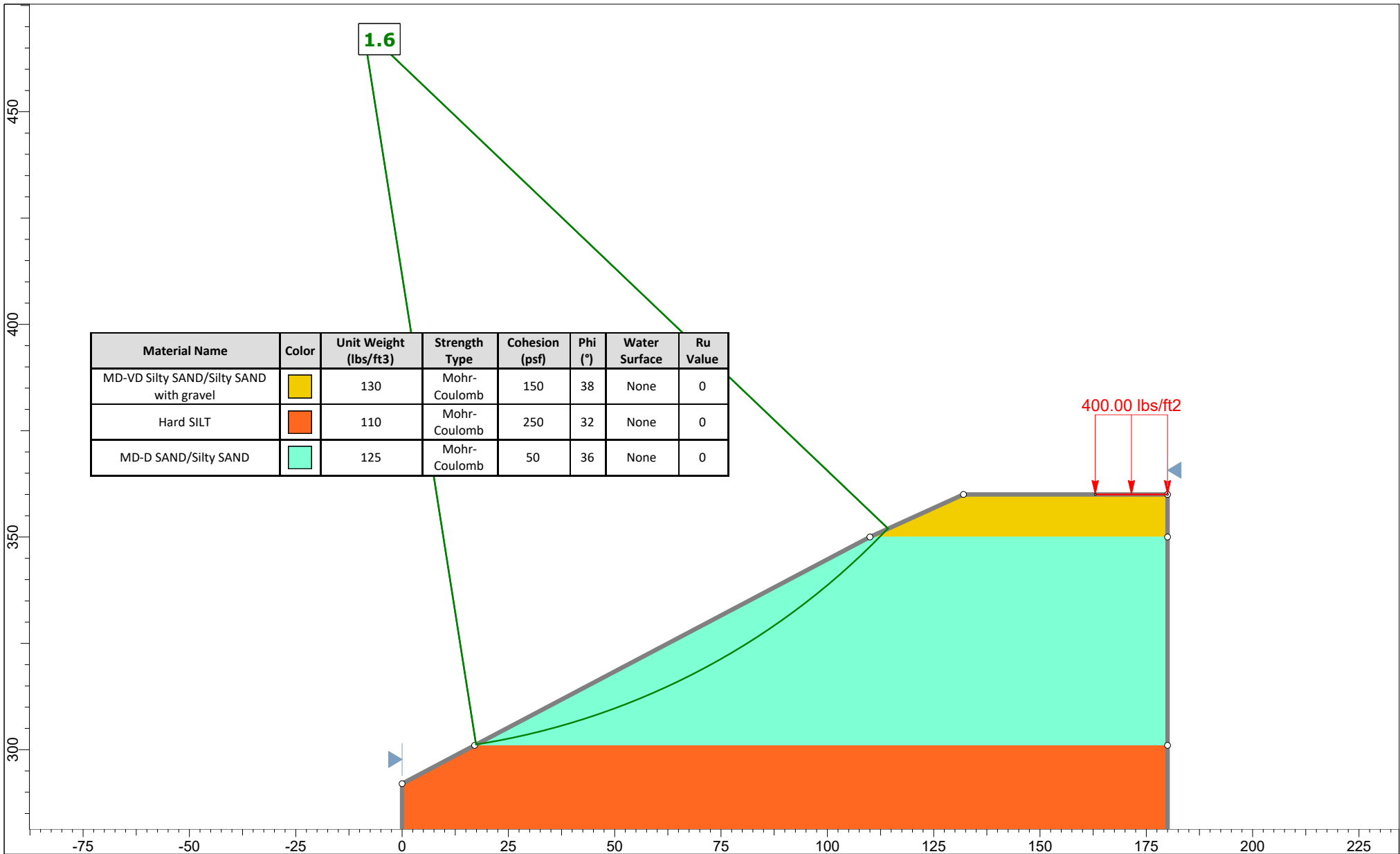
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|                                                                                    | Group    | Cross Section FF-FF' | Scenario Seismic                                                                 |
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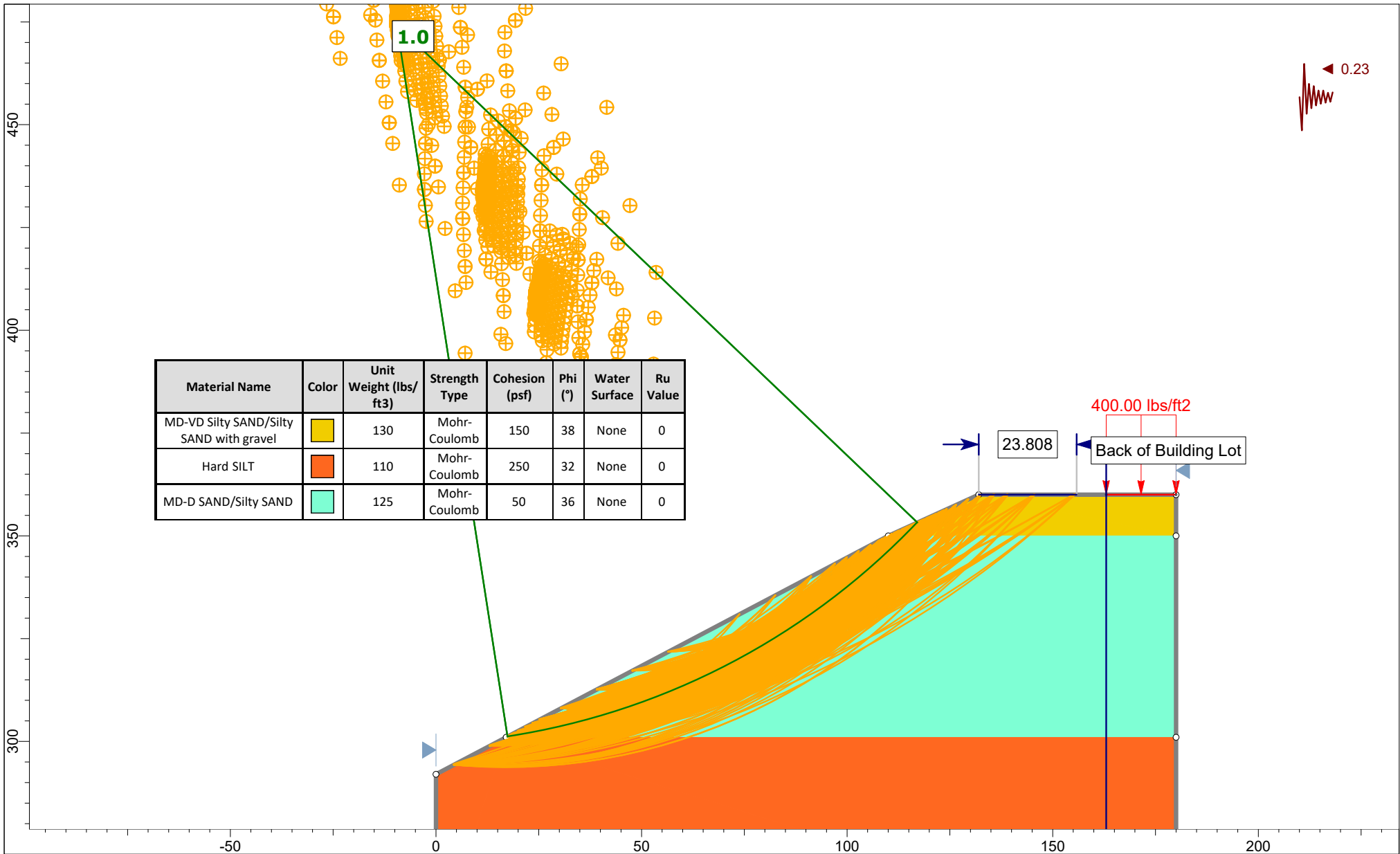
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|  | Project  |           | Arlington 360        |                                                                        |
|                                                                                    | Group    |           | Cross Section GG-GG' |                                                                        |
|                                                                                    | Drawn By |           | C. Decker            |                                                                        |
|                                                                                    | Date     |           | April 7, 2025        |                                                                        |
|                                                                                    |          | Scenario  |                      | Master Scenario                                                        |
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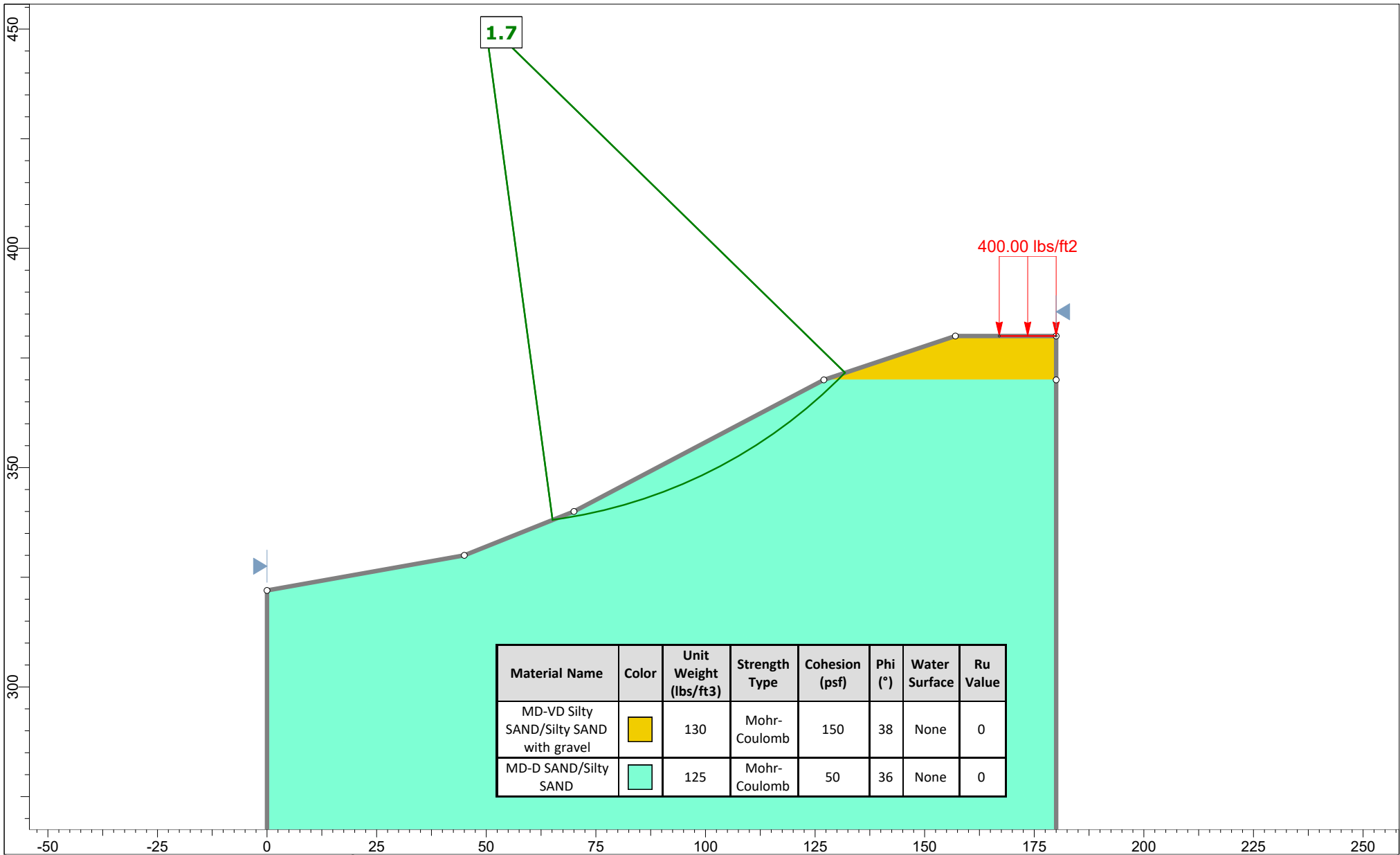
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|                                                                                    | Group    | Cross Section GG-GG'                                                   | Scenario  |
|                                                                                    | Drawn By | C. Decker                                                              | Company   |
|                                                                                    | Date     | April 7, 2025                                                          | File Name |
|                                                                                    |          | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |           |
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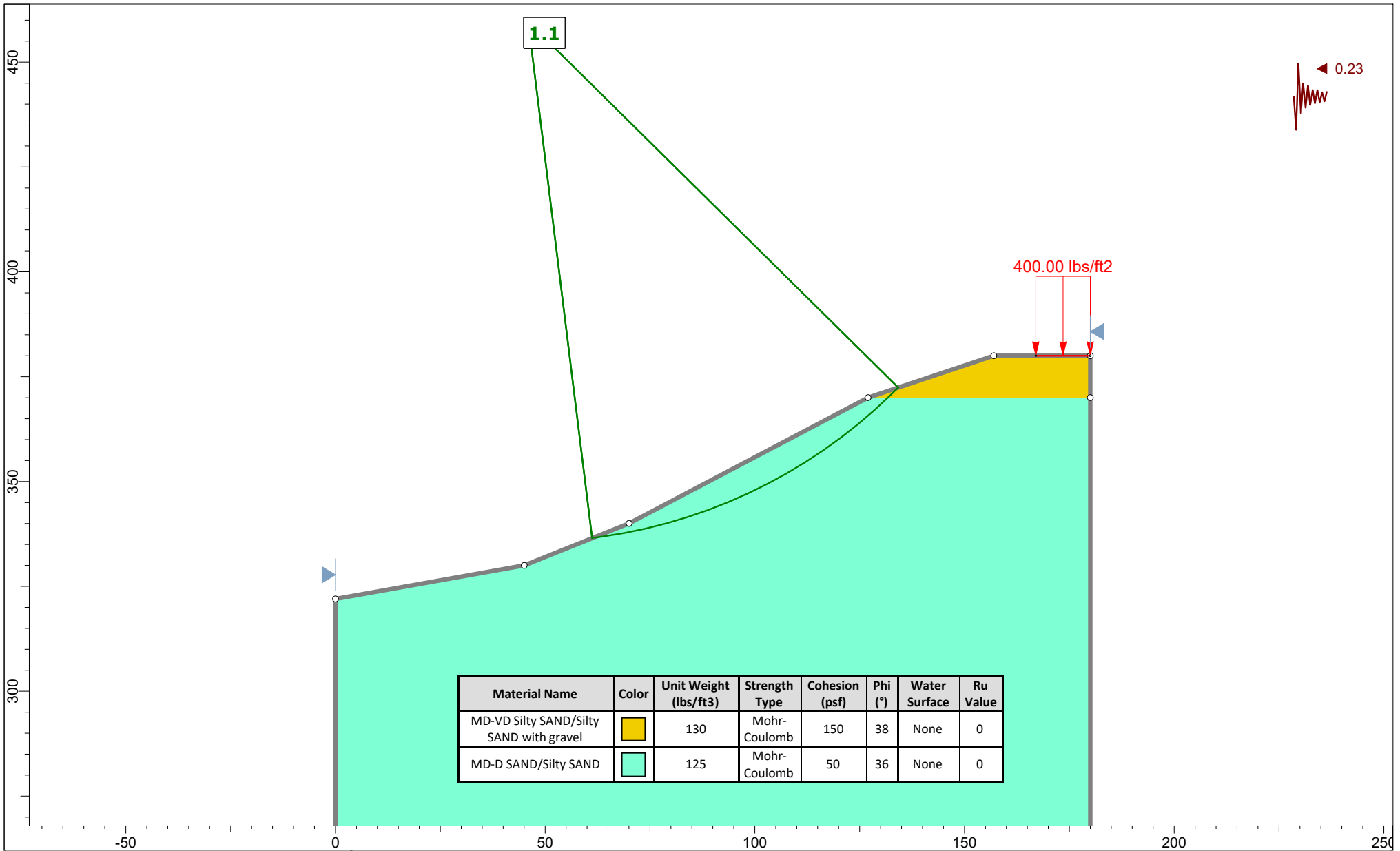
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|  | Project  | Arlington 360        |                                                                        |
|                                                                                    | Group    | Cross Section HH-HH' | Scenario                                                               |
|                                                                                    | Drawn By | C. Decker            | Company                                                                |
|                                                                                    | Date     | April 7, 2025        | File Name                                                              |
|                                                                                    |          |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |



|                                                                                    |          |  |                      |                                                                        |
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|  | Project  |  | Arlington 360        |                                                                        |
|                                                                                    | Group    |  | Cross Section HH-HH' | Scenario                                                               |
|                                                                                    | Drawn By |  | C. Decker            | Company                                                                |
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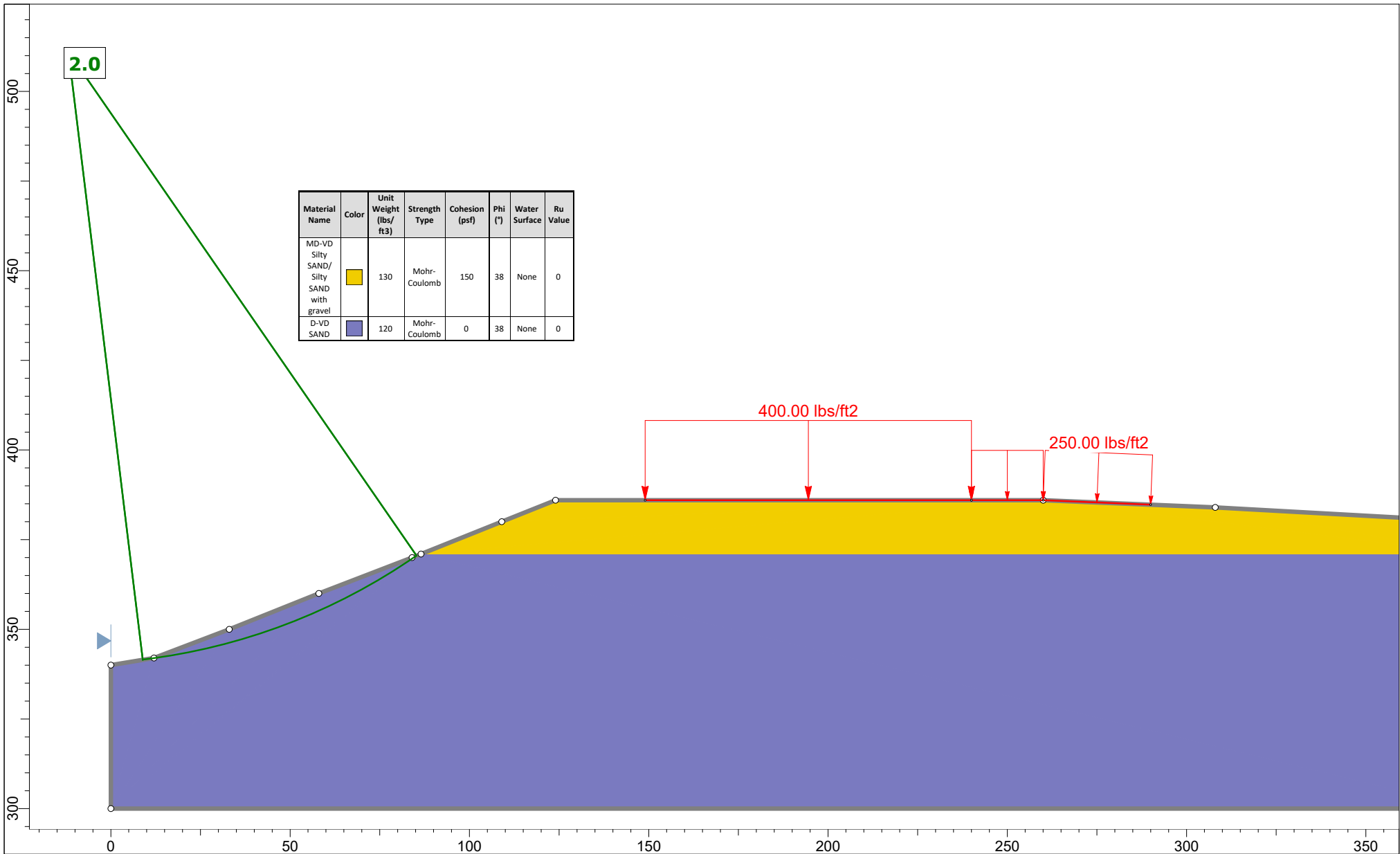


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| Project  | Arlington 360        |                                                                        |
| Group    | Cross Section II-II' | Scenario                                                               |
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| Date     | April 7, 2025        | File Name                                                              |
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|          |                      | Terra Associates, Inc.                                                 |

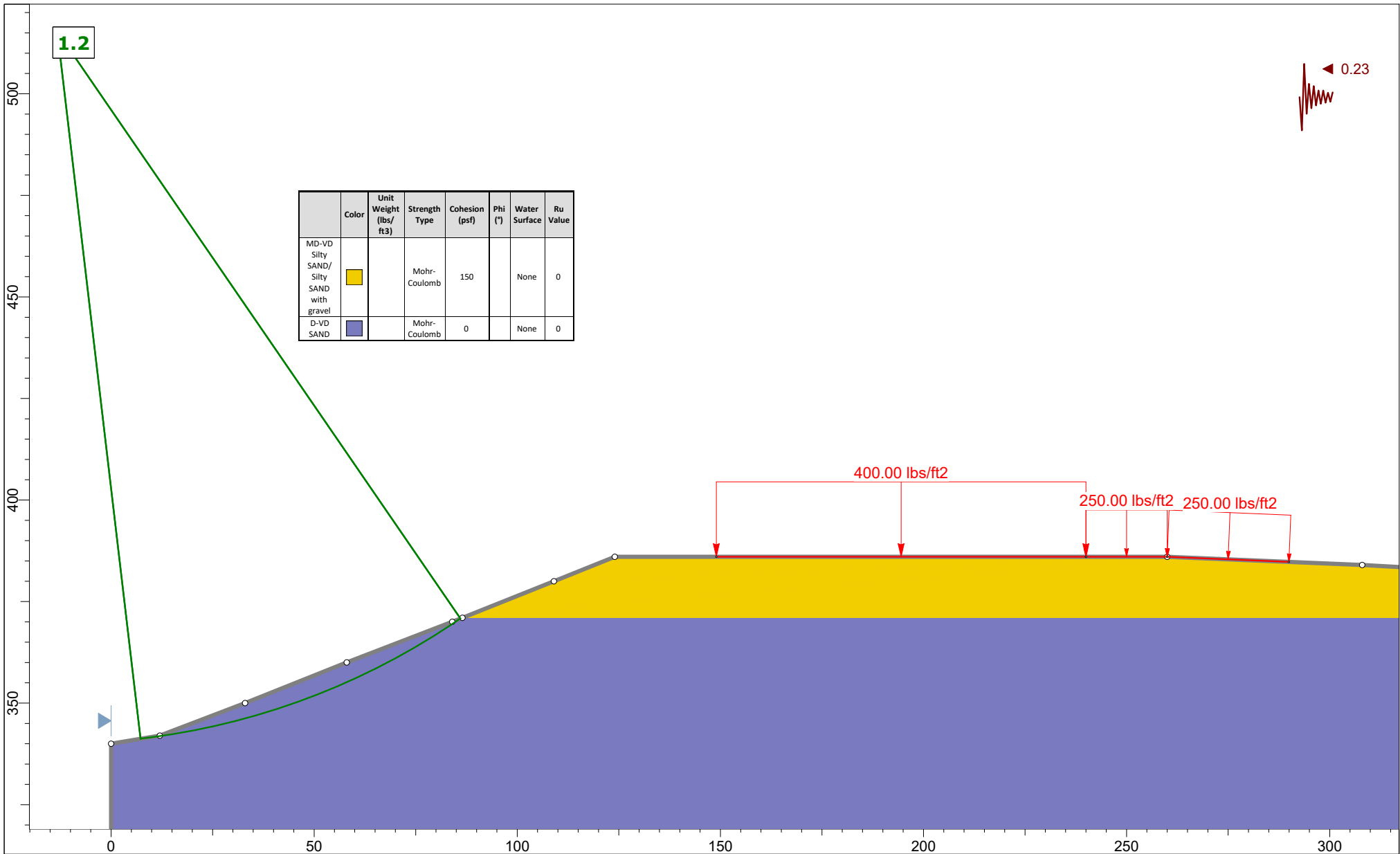


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| Date     | April 7, 2025        | File Name                                                              |
|          |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |
|          |                      | Seismic                                                                |
|          |                      | Terra Associates, Inc.                                                 |





|                                                                                    |          |                      |                                                                        |
|------------------------------------------------------------------------------------|----------|----------------------|------------------------------------------------------------------------|
|  | Project  | Arlington 360        |                                                                        |
|                                                                                    | Group    | Cross Section JJ-JJ' | Scenario                                                               |
|                                                                                    | Drawn By | C. Decker            | Company                                                                |
|                                                                                    | Date     | April 7, 2025        | File Name                                                              |
|                                                                                    |          |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |
| SLIDEINTERPRET 9.038                                                               |          |                      |                                                                        |



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|------------------------------------------------------------------------------------|----------|--|----------------------|------------------------------------------------------------------------|
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|                                                                                    | Group    |  | Cross Section JJ-JJ' | Scenario                                                               |
|                                                                                    | Drawn By |  | C. Decker            | Company                                                                |
|                                                                                    | Date     |  | April 7, 2025        | File Name                                                              |
|                                                                                    |          |  |                      | Steep Slopes - No Landslide Hazard - Post Construction Conditions slmd |



Steep Slopes - No Landslide Hazard  
Arlington 360  
Terra Associates, Inc.  
Date Created: April 7, 2025  
Software Version: 9.034

# Table of Contents

|                                              |    |
|----------------------------------------------|----|
| Project Summary .....                        | 7  |
| Currently Open Scenarios .....               | 7  |
| General Settings .....                       | 10 |
| Analysis Options .....                       | 11 |
| All Open Scenarios .....                     | 11 |
| Groundwater Analysis .....                   | 12 |
| All Open Scenarios .....                     | 12 |
| Random Numbers .....                         | 13 |
| All Open Scenarios .....                     | 13 |
| Surface Options .....                        | 14 |
| Cross Section F-F' .....                     | 14 |
| Cross Section AA-AA' .....                   | 14 |
| Cross Section BB-BB' .....                   | 14 |
| Cross Section CC-CC' .....                   | 14 |
| Cross Section DD-DD' .....                   | 15 |
| Cross Section EE-EE' .....                   | 15 |
| Cross Section FF-FF' .....                   | 15 |
| Cross Section GG-GG' .....                   | 15 |
| Cross Section HH-HH' .....                   | 16 |
| Cross Section II-II' .....                   | 16 |
| Cross Section JJ-JJ' .....                   | 16 |
| Seismic Loading .....                        | 17 |
| Cross Section F-F' - Master Scenario .....   | 17 |
| Cross Section F-F' - Seismic .....           | 17 |
| Cross Section AA-AA' - Master Scenario ..... | 17 |
| Cross Section AA-AA' - Seismic .....         | 17 |
| Cross Section BB-BB' - Master Scenario ..... | 17 |
| Cross Section BB-BB' - Seismic .....         | 17 |
| Cross Section CC-CC' - Master Scenario ..... | 17 |
| Cross Section CC-CC' - Seismic .....         | 17 |
| Cross Section DD-DD' - Master Scenario ..... | 17 |
| Cross Section DD-DD' - Seismic .....         | 17 |
| Cross Section EE-EE' - Master Scenario ..... | 18 |
| Cross Section EE-EE' - Seismic .....         | 18 |
| Cross Section FF-FF' - Master Scenario ..... | 18 |
| Cross Section FF-FF' - Seismic .....         | 18 |
| Cross Section GG-GG' - Master Scenario ..... | 18 |
| Cross Section GG-GG' - Seismic .....         | 18 |
| Cross Section HH-HH' - Master Scenario ..... | 18 |
| Cross Section HH-HH' - Seismic .....         | 18 |
| Cross Section II-II' - Master Scenario ..... | 18 |
| Cross Section II-II' - Seismic .....         | 18 |

|                                              |    |
|----------------------------------------------|----|
| Cross Section JJ-JJ' - Master Scenario ..... | 18 |
| Cross Section JJ-JJ' - Seismic .....         | 18 |
| Materials .....                              | 20 |
| Materials In Use .....                       | 21 |
| Global Minimums .....                        | 22 |
| Cross Section F-F' - Master Scenario .....   | 22 |
| Method: bishop simplified .....              | 22 |
| Method: janbu simplified .....               | 22 |
| Cross Section F-F' - Seismic .....           | 22 |
| Method: bishop simplified .....              | 22 |
| Method: janbu simplified .....               | 22 |
| Cross Section AA-AA' - Master Scenario ..... | 23 |
| Method: bishop simplified .....              | 23 |
| Method: janbu simplified .....               | 23 |
| Cross Section AA-AA' - Seismic .....         | 23 |
| Method: bishop simplified .....              | 23 |
| Method: janbu simplified .....               | 23 |
| Cross Section BB-BB' - Master Scenario ..... | 24 |
| Method: bishop simplified .....              | 24 |
| Method: janbu simplified .....               | 24 |
| Cross Section BB-BB' - Seismic .....         | 24 |
| Method: bishop simplified .....              | 24 |
| Method: janbu simplified .....               | 24 |
| Cross Section CC-CC' - Master Scenario ..... | 25 |
| Method: bishop simplified .....              | 25 |
| Method: janbu simplified .....               | 25 |
| Cross Section CC-CC' - Seismic .....         | 25 |
| Method: bishop simplified .....              | 25 |
| Method: janbu simplified .....               | 25 |
| Cross Section DD-DD' - Master Scenario ..... | 26 |
| Method: bishop simplified .....              | 26 |
| Method: janbu simplified .....               | 26 |
| Cross Section DD-DD' - Seismic .....         | 26 |
| Method: bishop simplified .....              | 26 |
| Method: janbu simplified .....               | 26 |
| Cross Section EE-EE' - Master Scenario ..... | 27 |
| Method: bishop simplified .....              | 27 |
| Method: janbu simplified .....               | 27 |
| Cross Section EE-EE' - Seismic .....         | 27 |
| Method: bishop simplified .....              | 27 |
| Method: janbu simplified .....               | 27 |
| Cross Section FF-FF' - Master Scenario ..... | 28 |
| Method: bishop simplified .....              | 28 |

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| Method: janbu simplified .....                                           | 28 |
| Cross Section FF-FF' - Seismic .....                                     | 28 |
| Method: bishop simplified .....                                          | 28 |
| Method: janbu simplified .....                                           | 28 |
| Cross Section GG-GG' - Master Scenario .....                             | 29 |
| Method: bishop simplified .....                                          | 29 |
| Method: janbu simplified .....                                           | 29 |
| Cross Section GG-GG' - Seismic .....                                     | 29 |
| Method: bishop simplified .....                                          | 29 |
| Method: janbu simplified .....                                           | 29 |
| Cross Section HH-HH' - Master Scenario .....                             | 30 |
| Method: bishop simplified .....                                          | 30 |
| Method: janbu simplified .....                                           | 30 |
| Cross Section HH-HH' - Seismic .....                                     | 30 |
| Method: bishop simplified .....                                          | 30 |
| Method: janbu simplified .....                                           | 30 |
| Cross Section II-II' - Master Scenario .....                             | 31 |
| Method: bishop simplified .....                                          | 31 |
| Method: janbu simplified .....                                           | 31 |
| Cross Section II-II' - Seismic .....                                     | 31 |
| Method: bishop simplified .....                                          | 31 |
| Method: janbu simplified .....                                           | 31 |
| Cross Section JJ-JJ' - Master Scenario .....                             | 32 |
| Method: bishop simplified .....                                          | 32 |
| Method: janbu simplified .....                                           | 32 |
| Cross Section JJ-JJ' - Seismic .....                                     | 32 |
| Method: bishop simplified .....                                          | 32 |
| Method: janbu simplified .....                                           | 32 |
| Global Minimum Support Data .....                                        | 34 |
| All Open Scenarios .....                                                 | 34 |
| Slice Data .....                                                         | 35 |
| Cross Section F-F' - Master Scenario .....                               | 35 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.49431 .....  | 35 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.45038 .....   | 37 |
| Cross Section F-F' - Seismic .....                                       | 39 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.950407 ..... | 39 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.919134 .....  | 41 |
| Cross Section AA-AA' - Master Scenario .....                             | 43 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.04338 .....  | 43 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.95206 .....   | 47 |
| Cross Section AA-AA' - Seismic .....                                     | 51 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.26978 .....  | 51 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.20742 .....   | 55 |

|                                                                          |     |
|--------------------------------------------------------------------------|-----|
| Cross Section BB-BB' - Master Scenario .....                             | 59  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.64466 .....  | 59  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.54759 .....   | 63  |
| Cross Section BB-BB' - Seismic .....                                     | 66  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.05918 .....  | 66  |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.987701 .....  | 70  |
| Cross Section CC-CC' - Master Scenario .....                             | 73  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.71747 .....  | 73  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.65165 .....   | 76  |
| Cross Section CC-CC' - Seismic .....                                     | 79  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.07533 .....  | 79  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.03142 .....   | 82  |
| Cross Section DD-DD' - Master Scenario .....                             | 85  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.63759 .....  | 85  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.57371 .....   | 88  |
| Cross Section DD-DD' - Seismic .....                                     | 91  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.03908 .....  | 91  |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.992887 .....  | 94  |
| Cross Section EE-EE' - Master Scenario .....                             | 97  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.7395 .....   | 97  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.66426 .....   | 100 |
| Cross Section EE-EE' - Seismic .....                                     | 103 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.09086 .....  | 103 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.03934 .....   | 106 |
| Cross Section FF-FF' - Master Scenario .....                             | 109 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.90643 .....  | 109 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.81846 .....   | 112 |
| Cross Section FF-FF' - Seismic .....                                     | 115 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.18105 .....  | 115 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.1227 .....    | 118 |
| Cross Section GG-GG' - Master Scenario .....                             | 121 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.42113 .....  | 121 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.38083 .....   | 124 |
| Cross Section GG-GG' - Seismic .....                                     | 127 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.910885 ..... | 127 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.879895 .....  | 130 |
| Cross Section HH-HH' - Master Scenario .....                             | 133 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.60908 .....  | 133 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.56427 .....   | 136 |
| Cross Section HH-HH' - Seismic .....                                     | 139 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.00487 .....  | 139 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.973997 .....  | 142 |
| Cross Section II-II' - Master Scenario .....                             | 145 |

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Global Minimum Query (bishop simplified) - Safety Factor: 1.69753 ..... | 145 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.63381 .....  | 148 |
| Cross Section II-II' - Seismic .....                                    | 151 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.06403 ..... | 151 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.01933 .....  | 154 |
| Cross Section JJ-JJ' - Master Scenario .....                            | 157 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.04849 ..... | 157 |
| Global Minimum Query (janbu simplified) - Safety Factor: 2.02152 .....  | 159 |
| Cross Section JJ-JJ' - Seismic .....                                    | 161 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.17883 ..... | 161 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.16126 .....  | 163 |
| Entity Information .....                                                | 165 |
| Cross Section F-F' .....                                                | 165 |
| Shared Entities .....                                                   | 165 |
| Scenario-based Entities .....                                           | 165 |
| Cross Section AA-AA' .....                                              | 165 |
| Shared Entities .....                                                   | 165 |
| Cross Section BB-BB' .....                                              | 166 |
| Shared Entities .....                                                   | 166 |
| Cross Section CC-CC' .....                                              | 166 |
| Shared Entities .....                                                   | 166 |
| Cross Section DD-DD' .....                                              | 167 |
| Shared Entities .....                                                   | 167 |
| Cross Section EE-EE' .....                                              | 167 |
| Shared Entities .....                                                   | 167 |
| Cross Section FF-FF' .....                                              | 167 |
| Shared Entities .....                                                   | 168 |
| Cross Section GG-GG' .....                                              | 168 |
| Shared Entities .....                                                   | 168 |
| Cross Section HH-HH' .....                                              | 168 |
| Shared Entities .....                                                   | 168 |
| Cross Section II-II' .....                                              | 168 |
| Shared Entities .....                                                   | 169 |
| Cross Section JJ-JJ' .....                                              | 169 |
| Shared Entities .....                                                   | 169 |



# Slide2 Analysis Information

## Steep Slopes - No Landslide Hazard

### Project Summary

|                         |                                                               |
|-------------------------|---------------------------------------------------------------|
| File Name:              | Steep Slopes - No Landslide Hazard.slmd                       |
| Slide2 Modeler Version: | 9.034                                                         |
| Project Title:          | Arlington 360                                                 |
| Analysis:               | Steep Slopes without a Landslide Hazard - Existing Conditions |
| Author:                 | C. Decker                                                     |
| Company:                | Terra Associates, Inc.                                        |
| Date Created:           | April 7, 2025                                                 |

### Currently Open Scenarios

| Group Name                                                                                               | Scenario Name   | Global Minimum                                                  | Compute Time    |
|----------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|-----------------|
| Cross Section F-F'      | Master Scenario | Bishop Simplified:<br>1.494310<br>Janbu Simplified:<br>1.450380 | 00h:00m:01.277s |
|                                                                                                          | Seismic         | Bishop Simplified:<br>0.950407<br>Janbu Simplified:<br>0.919134 | 00h:00m:01.401s |
| Cross Section AA-AA'  | Master Scenario | Bishop Simplified:<br>2.043380<br>Janbu Simplified:<br>1.952060 | 00h:00m:01.580s |
|                                                                                                          | Seismic         | Bishop Simplified:<br>1.269780<br>Janbu Simplified:<br>1.207420 | 00h:00m:01.476s |
| Cross Section BB-BB'  | Master Scenario | Bishop Simplified:<br>1.644660<br>Janbu Simplified:<br>1.547590 | 00h:00m:01.611s |
|                                                                                                          | Seismic         | Bishop Simplified:<br>1.059180<br>Janbu Simplified:<br>0.987701 | 00h:00m:01.610s |
| Cross Section CC-CC'  | Master Scenario | Bishop Simplified:<br>1.717470<br>Janbu Simplified:<br>1.651650 | 00h:00m:01.396s |

|                         |                                                                                     |                 |                                                                 |                 |
|-------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|-----------------|
| Cross Section<br>DD-DD' |    | Seismic         | Bishop Simplified:<br>1.075330<br>Janbu Simplified:<br>1.031420 | 00h:00m:01.415s |
|                         |                                                                                     | Master Scenario | Bishop Simplified:<br>1.637590<br>Janbu Simplified:<br>1.573710 | 00h:00m:01.564s |
| Cross Section<br>EE-EE' |    | Seismic         | Bishop Simplified:<br>1.039080<br>Janbu Simplified:<br>0.992887 | 00h:00m:01.593s |
|                         |                                                                                     | Master Scenario | Bishop Simplified:<br>1.739500<br>Janbu Simplified:<br>1.664260 | 00h:00m:01.471s |
| Cross Section<br>FF-FF' |    | Seismic         | Bishop Simplified:<br>1.090860<br>Janbu Simplified:<br>1.039340 | 00h:00m:01.481s |
|                         |                                                                                     | Master Scenario | Bishop Simplified:<br>1.906430<br>Janbu Simplified:<br>1.818460 | 00h:00m:01.716s |
| Cross Section<br>GG-GG' |  | Seismic         | Bishop Simplified:<br>1.181050<br>Janbu Simplified:<br>1.122700 | 00h:00m:01.521s |
|                         |                                                                                     | Master Scenario | Bishop Simplified:<br>1.421130<br>Janbu Simplified:<br>1.380830 | 00h:00m:01.405s |
| Cross Section<br>HH-HH' |  | Seismic         | Bishop Simplified:<br>0.910885<br>Janbu Simplified:<br>0.879895 | 00h:00m:01.465s |
|                         |                                                                                     | Master Scenario | Bishop Simplified:<br>1.609080<br>Janbu Simplified:<br>1.564270 | 00h:00m:01.380s |
| Cross Section<br>II-II' |  | Seismic         | Bishop Simplified:<br>1.004870<br>Janbu Simplified:<br>0.973997 | 00h:00m:01.456s |
|                         |                                                                                     | Master Scenario | Bishop Simplified:<br>1.697530<br>Janbu Simplified:<br>1.633810 | 00h:00m:01.606s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>1.064030<br>Janbu Simplified:<br>1.019330 | 00h:00m:01.489s |

|                         |                                                                                   |                 |                                                                 |                 |
|-------------------------|-----------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|-----------------|
| Cross Section<br>JJ-JJ' |  | Master Scenario | Bishop Simplified:<br>2.048490<br>Janbu Simplified:<br>2.021520 | 00h:00m:01.129s |
|                         |                                                                                   | Seismic         | Bishop Simplified:<br>1.178830<br>Janbu Simplified:<br>1.161260 | 00h:00m:01.220s |

# General Settings

---

|                       |                |
|-----------------------|----------------|
| Units of Measurement: | Imperial Units |
| Time Units:           | days           |
| Permeability Units:   | feet/second    |
| Data Output:          | Standard       |
| Failure Direction:    | Right to Left  |

## Analysis Options

---

### All Open Scenarios

|                                                                                |                   |
|--------------------------------------------------------------------------------|-------------------|
| Slices Type:                                                                   | Vertical          |
| <b>Analysis Methods Used</b>                                                   |                   |
|                                                                                | Bishop simplified |
|                                                                                | Janbu simplified  |
| Number of slices:                                                              | 50                |
| Tolerance:                                                                     | 0.005             |
| Maximum number of iterations:                                                  | 75                |
| Check malpha < 0.2:                                                            | Yes               |
| Create Interslice boundaries at intersections with<br>water tables and piezos: | Yes               |
| Initial trial value of FS:                                                     | 1                 |
| Steffensen Iteration:                                                          | Yes               |

# Groundwater Analysis

---

## **All Open Scenarios**

|                                                |                |
|------------------------------------------------|----------------|
| Groundwater Method:                            | Water Surfaces |
| Pore Fluid Unit Weight [lbs/ft <sup>3</sup> ]: | 62.4           |
| Advanced Groundwater Method:                   | None           |

# Random Numbers

---

## **All Open Scenarios**

Pseudo-random Seed:

10116

Random Number Generation Method:

Park and Miller v.3

## Surface Options

---

### **Cross Section F-F'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section AA-AA'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section BB-BB'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section CC-CC'**



|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section DD-DD'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section EE-EE'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section FF-FF'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section GG-GG'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section HH-HH'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section II-II'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section JJ-JJ'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

## Seismic Loading

---

### ◆ **Cross Section F-F' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section F-F' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section AA-AA' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section AA-AA' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section BB-BB' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section BB-BB' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section CC-CC' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section CC-CC' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section DD-DD' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section DD-DD' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section EE-EE' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section EE-EE' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section FF-FF' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section FF-FF' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section GG-GG' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section GG-GG' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section HH-HH' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section HH-HH' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section II-II' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section II-II' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section JJ-JJ' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section JJ-JJ' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

# Materials

## MD-VD Silty SAND/Silty SAND with gravel

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 130 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 150 psf                                                                           |
| Phi           | 38 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

## Hard SILT

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 110 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 250 psf                                                                           |
| Phi           | 32 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

## D-VD SAND

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 0 psf                                                                               |
| Phi           | 38 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## MD-D SAND/Silty SAND

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 125 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 50 psf                                                                              |
| Phi           | 36 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## D-VD Silty SAND

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 125 psf                                                                             |
| Phi           | 36 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

Materials In Use

| Material    | Cross Section F-F' | Seismic | Cross Section AA-AA' | Seismic | Cross Section BB-BB' | Seismic | Cross Section CC-CC' | Seismic | Cross Section DD-DD' | Seismic | Cross Section EE-EE' | Seismic | Cross Section FF-FF' | Seismic | Cross Section GG-GG' | Seismic | Cross Section HH-HH' | Seismic | Cross Section II-II' | Seismic | Cross Section JJ-JJ' | Seismic |
|-------------|--------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|
|             |                    |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |
| MD-SAN grav | ✗                  | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       |
| Harc        | ✓                  | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✗                    | ✗       |
| D-VI        | ✓                  | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       |
| MD-SAN      | ✓                  | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       |
| D-VI SAN    | ✗                  | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       |

## Global Minimums

### ◆ Cross Section F-F' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.494310                |
|------------------------------|-------------------------|
| Center:                      | 123.451, 396.536        |
| Radius:                      | 104.173                 |
| Left Slip Surface Endpoint:  | 142.576, 294.134        |
| Right Slip Surface Endpoint: | 199.928, 325.803        |
| Resisting Moment:            | 2.15637e+06 lb-ft       |
| Driving Moment:              | 1.44305e+06 lb-ft       |
| Total Slice Area:            | 228.481 ft <sup>2</sup> |
| Surface Horizontal Width:    | 57.3525 ft              |
| Surface Average Height:      | 3.9838 ft               |

**Method: janbu simplified**

| FS                           | 1.450380                |
|------------------------------|-------------------------|
| Center:                      | 137.317, 366.510        |
| Radius:                      | 72.200                  |
| Left Slip Surface Endpoint:  | 143.917, 294.613        |
| Right Slip Surface Endpoint: | 195.487, 323.743        |
| Resisting Horizontal Force:  | 18681.4 lb              |
| Driving Horizontal Force:    | 12880.4 lb              |
| Total Slice Area:            | 245.335 ft <sup>2</sup> |
| Surface Horizontal Width:    | 51.5699 ft              |
| Surface Average Height:      | 4.75733 ft              |

### ◆ Cross Section F-F' - Seismic

**Method: bishop simplified**

| FS                           | 0.950407                |
|------------------------------|-------------------------|
| Center:                      | 121.048, 402.106        |
| Radius:                      | 110.521                 |
| Left Slip Surface Endpoint:  | 140.041, 293.229        |
| Right Slip Surface Endpoint: | 201.703, 326.543        |
| Resisting Moment:            | 2.27184e+06 lb-ft       |
| Driving Moment:              | 2.39038e+06 lb-ft       |
| Total Slice Area:            | 256.901 ft <sup>2</sup> |
| Surface Horizontal Width:    | 61.6618 ft              |
| Surface Average Height:      | 4.16628 ft              |

**Method: janbu simplified**



| FS                           | 0.919134               |
|------------------------------|------------------------|
| Center:                      | 136.634, 371.030       |
| Radius:                      | 76.992                 |
| Left Slip Surface Endpoint:  | 143.059, 294.307       |
| Right Slip Surface Endpoint: | 198.509, 325.212       |
| Resisting Horizontal Force:  | 19364.6 lb             |
| Driving Horizontal Force:    | 21068.3 lb             |
| Total Slice Area:            | 286.06 ft <sup>2</sup> |
| Surface Horizontal Width:    | 55.45 ft               |
| Surface Average Height:      | 5.15889 ft             |

### ◆ Cross Section AA-AA' - Master Scenario

**Method: bishop simplified**

| FS                           | 2.043380                |
|------------------------------|-------------------------|
| Center:                      | 10.346, 409.801         |
| Radius:                      | 139.808                 |
| Left Slip Surface Endpoint:  | 9.000, 270.000          |
| Right Slip Surface Endpoint: | 119.292, 322.182        |
| Resisting Moment:            | 1.85163e+07 lb-ft       |
| Driving Moment:              | 9.06163e+06 lb-ft       |
| Total Slice Area:            | 1199.26 ft <sup>2</sup> |
| Surface Horizontal Width:    | 110.292 ft              |
| Surface Average Height:      | 10.8735 ft              |

**Method: janbu simplified**

| FS                           | 1.952060                |
|------------------------------|-------------------------|
| Center:                      | 22.303, 381.095         |
| Radius:                      | 111.724                 |
| Left Slip Surface Endpoint:  | 9.367, 270.122          |
| Right Slip Surface Endpoint: | 116.826, 321.533        |
| Resisting Horizontal Force:  | 134676 lb               |
| Driving Horizontal Force:    | 68991.8 lb              |
| Total Slice Area:            | 1410.22 ft <sup>2</sup> |
| Surface Horizontal Width:    | 107.459 ft              |
| Surface Average Height:      | 13.1232 ft              |

### ◆ Cross Section AA-AA' - Seismic

**Method: bishop simplified**

| FS                           | 1.269780               |
|------------------------------|------------------------|
| Center:                      | -6.720, 464.917        |
| Radius:                      | 195.311                |
| Left Slip Surface Endpoint:  | 9.955, 270.318         |
| Right Slip Surface Endpoint: | 129.384, 324.838       |
| Resisting Moment:            | 2.32593e+07 lb-ft      |
| Driving Moment:              | 1.83175e+07 lb-ft      |
| Total Slice Area:            | 1171.8 ft <sup>2</sup> |
| Surface Horizontal Width:    | 119.43 ft              |
| Surface Average Height:      | 9.81165 ft             |

**Method: janbu simplified**

| FS                           | 1.207420                |
|------------------------------|-------------------------|
| Center:                      | 11.897, 414.627         |
| Radius:                      | 144.649                 |
| Left Slip Surface Endpoint:  | 9.018, 270.006          |
| Right Slip Surface Endpoint: | 124.215, 323.478        |
| Resisting Horizontal Force:  | 120464 lb               |
| Driving Horizontal Force:    | 99769.8 lb              |
| Total Slice Area:            | 1361.05 ft <sup>2</sup> |
| Surface Horizontal Width:    | 115.197 ft              |
| Surface Average Height:      | 11.815 ft               |

### ◆ **Cross Section BB-BB' - Master Scenario**

#### **Method: bishop simplified**

| FS                           | 1.644660                |
|------------------------------|-------------------------|
| Center:                      | -30.073, 521.014        |
| Radius:                      | 246.306                 |
| Left Slip Surface Endpoint:  | 19.232, 279.693         |
| Right Slip Surface Endpoint: | 152.266, 355.425        |
| Resisting Moment:            | 3.8805e+07 lb-ft        |
| Driving Moment:              | 2.35946e+07 lb-ft       |
| Total Slice Area:            | 1496.74 ft <sup>2</sup> |
| Surface Horizontal Width:    | 133.033 ft              |
| Surface Average Height:      | 11.2508 ft              |

#### **Method: janbu simplified**

| FS                           | 1.547590                |
|------------------------------|-------------------------|
| Center:                      | 24.726, 414.272         |
| Radius:                      | 141.021                 |
| Left Slip Surface Endpoint:  | 3.950, 274.790          |
| Right Slip Surface Endpoint: | 152.929, 355.528        |
| Resisting Horizontal Force:  | 268381 lb               |
| Driving Horizontal Force:    | 173419 lb               |
| Total Slice Area:            | 3271.69 ft <sup>2</sup> |
| Surface Horizontal Width:    | 148.979 ft              |
| Surface Average Height:      | 21.9607 ft              |

### ◆ **Cross Section BB-BB' - Seismic**

#### **Method: bishop simplified**

| FS                           | 1.059180                |
|------------------------------|-------------------------|
| Center:                      | -28.376, 522.537        |
| Radius:                      | 247.343                 |
| Left Slip Surface Endpoint:  | 19.856, 279.942         |
| Right Slip Surface Endpoint: | 154.256, 355.732        |
| Resisting Moment:            | 3.67201e+07 lb-ft       |
| Driving Moment:              | 3.46685e+07 lb-ft       |
| Total Slice Area:            | 1583.62 ft <sup>2</sup> |
| Surface Horizontal Width:    | 134.401 ft              |
| Surface Average Height:      | 11.7828 ft              |

#### **Method: janbu simplified**

| FS                           | 0.987701                |
|------------------------------|-------------------------|
| Center:                      | 25.432, 414.927         |
| Radius:                      | 141.773                 |
| Left Slip Surface Endpoint:  | 3.950, 274.790          |
| Right Slip Surface Endpoint: | 154.256, 355.732        |
| Resisting Horizontal Force:  | 250205 lb               |
| Driving Horizontal Force:    | 253321 lb               |
| Total Slice Area:            | 3368.07 ft <sup>2</sup> |
| Surface Horizontal Width:    | 150.306 ft              |
| Surface Average Height:      | 22.4081 ft              |

### ◆ Cross Section CC-CC' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.717470               |
|------------------------------|------------------------|
| Center:                      | -33.104, 549.411       |
| Radius:                      | 259.369                |
| Left Slip Surface Endpoint:  | 0.602, 292.241         |
| Right Slip Surface Endpoint: | 152.079, 367.807       |
| Resisting Moment:            | 4.11098e+07 lb-ft      |
| Driving Moment:              | 2.39363e+07 lb-ft      |
| Total Slice Area:            | 1728.5 ft <sup>2</sup> |
| Surface Horizontal Width:    | 151.477 ft             |
| Surface Average Height:      | 11.411 ft              |

**Method: janbu simplified**

| FS                           | 1.651650                |
|------------------------------|-------------------------|
| Center:                      | -4.945, 482.005         |
| Radius:                      | 190.062                 |
| Left Slip Surface Endpoint:  | 0.019, 292.008          |
| Right Slip Surface Endpoint: | 144.969, 365.174        |
| Resisting Horizontal Force:  | 160465 lb               |
| Driving Horizontal Force:    | 97154 lb                |
| Total Slice Area:            | 2034.36 ft <sup>2</sup> |
| Surface Horizontal Width:    | 144.95 ft               |
| Surface Average Height:      | 14.0349 ft              |

### ◆ Cross Section CC-CC' - Seismic

**Method: bishop simplified**

| FS                           | 1.075330                |
|------------------------------|-------------------------|
| Center:                      | -32.855, 572.111        |
| Radius:                      | 282.012                 |
| Left Slip Surface Endpoint:  | 0.067, 292.027          |
| Right Slip Surface Endpoint: | 167.073, 373.215        |
| Resisting Moment:            | 5.15953e+07 lb-ft       |
| Driving Moment:              | 4.7981e+07 lb-ft        |
| Total Slice Area:            | 2232.31 ft <sup>2</sup> |
| Surface Horizontal Width:    | 167.006 ft              |
| Surface Average Height:      | 13.3666 ft              |

**Method: janbu simplified**

| FS                           | 1.031420                |
|------------------------------|-------------------------|
| Center:                      | -2.637, 489.675         |
| Radius:                      | 197.231                 |
| Left Slip Surface Endpoint:  | 1.204, 292.481          |
| Right Slip Surface Endpoint: | 152.585, 367.995        |
| Resisting Horizontal Force:  | 163726 lb               |
| Driving Horizontal Force:    | 158738 lb               |
| Total Slice Area:            | 2297.39 ft <sup>2</sup> |
| Surface Horizontal Width:    | 151.382 ft              |
| Surface Average Height:      | 15.1761 ft              |

### ◆ Cross Section DD-DD' - Master Scenario

#### Method: bishop simplified

| FS                           | 1.637590                |
|------------------------------|-------------------------|
| Center:                      | -15.298, 548.936        |
| Radius:                      | 244.121                 |
| Left Slip Surface Endpoint:  | 23.988, 307.996         |
| Right Slip Surface Endpoint: | 161.855, 380.971        |
| Resisting Moment:            | 3.54717e+07 lb-ft       |
| Driving Moment:              | 2.16608e+07 lb-ft       |
| Total Slice Area:            | 1577.15 ft <sup>2</sup> |
| Surface Horizontal Width:    | 137.867 ft              |
| Surface Average Height:      | 11.4397 ft              |

#### Method: janbu simplified

| FS                           | 1.573710                |
|------------------------------|-------------------------|
| Center:                      | 10.503, 493.141         |
| Radius:                      | 186.462                 |
| Left Slip Surface Endpoint:  | 20.908, 306.969         |
| Right Slip Surface Endpoint: | 159.025, 380.405        |
| Resisting Horizontal Force:  | 151509 lb               |
| Driving Horizontal Force:    | 96275.2 lb              |
| Total Slice Area:            | 1943.34 ft <sup>2</sup> |
| Surface Horizontal Width:    | 138.117 ft              |
| Surface Average Height:      | 14.0703 ft              |

### ◆ Cross Section DD-DD' - Seismic

#### Method: bishop simplified

| FS                           | 1.039080                |
|------------------------------|-------------------------|
| Center:                      | -14.039, 552.727        |
| Radius:                      | 247.668                 |
| Left Slip Surface Endpoint:  | 23.988, 307.996         |
| Right Slip Surface Endpoint: | 164.999, 381.600        |
| Resisting Moment:            | 3.49612e+07 lb-ft       |
| Driving Moment:              | 3.36464e+07 lb-ft       |
| Total Slice Area:            | 1709.37 ft <sup>2</sup> |
| Surface Horizontal Width:    | 141.011 ft              |
| Surface Average Height:      | 12.1222 ft              |

#### Method: janbu simplified

| FS                           | 0.992887                |
|------------------------------|-------------------------|
| Center:                      | 11.149, 496.226         |
| Radius:                      | 189.726                 |
| Left Slip Surface Endpoint:  | 20.138, 306.713         |
| Right Slip Surface Endpoint: | 161.855, 380.971        |
| Resisting Horizontal Force:  | 146962 lb               |
| Driving Horizontal Force:    | 148015 lb               |
| Total Slice Area:            | 2092.33 ft <sup>2</sup> |
| Surface Horizontal Width:    | 141.717 ft              |
| Surface Average Height:      | 14.7642 ft              |

### ◆ Cross Section EE-EE' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.739500                |
|------------------------------|-------------------------|
| Center:                      | 1.670, 570.918          |
| Radius:                      | 252.680                 |
| Left Slip Surface Endpoint:  | 32.196, 320.089         |
| Right Slip Surface Endpoint: | 181.196, 393.105        |
| Resisting Moment:            | 4.05416e+07 lb-ft       |
| Driving Moment:              | 2.33065e+07 lb-ft       |
| Total Slice Area:            | 1689.02 ft <sup>2</sup> |
| Surface Horizontal Width:    | 149.001 ft              |
| Surface Average Height:      | 11.3356 ft              |

**Method: janbu simplified**

| FS                           | 1.664260               |
|------------------------------|------------------------|
| Center:                      | 28.704, 508.755        |
| Radius:                      | 188.783                |
| Left Slip Surface Endpoint:  | 32.000, 320.000        |
| Right Slip Surface Endpoint: | 177.178, 392.159       |
| Resisting Horizontal Force:  | 165513 lb              |
| Driving Horizontal Force:    | 99451.2 lb             |
| Total Slice Area:            | 2050.1 ft <sup>2</sup> |
| Surface Horizontal Width:    | 145.178 ft             |
| Surface Average Height:      | 14.1214 ft             |

### ◆ Cross Section EE-EE' - Seismic

**Method: bishop simplified**

| FS                           | 1.090860               |
|------------------------------|------------------------|
| Center:                      | 3.053, 578.448         |
| Radius:                      | 260.149                |
| Left Slip Surface Endpoint:  | 31.383, 319.846        |
| Right Slip Surface Endpoint: | 186.701, 394.189       |
| Resisting Moment:            | 4.29198e+07 lb-ft      |
| Driving Moment:              | 3.9345e+07 lb-ft       |
| Total Slice Area:            | 1932.4 ft <sup>2</sup> |
| Surface Horizontal Width:    | 155.318 ft             |
| Surface Average Height:      | 12.4416 ft             |

**Method: janbu simplified**

| FS                           | 1.039340               |
|------------------------------|------------------------|
| Center:                      | 29.906, 511.865        |
| Radius:                      | 191.875                |
| Left Slip Surface Endpoint:  | 32.000, 320.000        |
| Right Slip Surface Endpoint: | 180.478, 392.936       |
| Resisting Horizontal Force:  | 161118 lb              |
| Driving Horizontal Force:    | 155020 lb              |
| Total Slice Area:            | 2204.2 ft <sup>2</sup> |
| Surface Horizontal Width:    | 148.478 ft             |
| Surface Average Height:      | 14.8453 ft             |

### ◆ Cross Section FF-FF' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.906430                |
|------------------------------|-------------------------|
| Center:                      | 48.343, 475.317         |
| Radius:                      | 145.866                 |
| Left Slip Surface Endpoint:  | 45.488, 329.479         |
| Right Slip Surface Endpoint: | 161.619, 383.417        |
| Resisting Moment:            | 1.84704e+07 lb-ft       |
| Driving Moment:              | 9.68849e+06 lb-ft       |
| Total Slice Area:            | 1320.33 ft <sup>2</sup> |
| Surface Horizontal Width:    | 116.131 ft              |
| Surface Average Height:      | 11.3693 ft              |

**Method: janbu simplified**

| FS                           | 1.818460                |
|------------------------------|-------------------------|
| Center:                      | 60.802, 443.912         |
| Radius:                      | 114.987                 |
| Left Slip Surface Endpoint:  | 46.480, 329.821         |
| Right Slip Surface Endpoint: | 157.904, 382.325        |
| Resisting Horizontal Force:  | 124488 lb               |
| Driving Horizontal Force:    | 68457.9 lb              |
| Total Slice Area:            | 1506.55 ft <sup>2</sup> |
| Surface Horizontal Width:    | 111.424 ft              |
| Surface Average Height:      | 13.5209 ft              |

### ◆ Cross Section FF-FF' - Seismic

**Method: bishop simplified**

| FS                           | 1.181050                |
|------------------------------|-------------------------|
| Center:                      | 20.615, 551.449         |
| Radius:                      | 225.926                 |
| Left Slip Surface Endpoint:  | 35.427, 326.009         |
| Right Slip Surface Endpoint: | 176.311, 387.739        |
| Resisting Moment:            | 3.02196e+07 lb-ft       |
| Driving Moment:              | 2.5587e+07 lb-ft        |
| Total Slice Area:            | 1514.64 ft <sup>2</sup> |
| Surface Horizontal Width:    | 140.884 ft              |
| Surface Average Height:      | 10.751 ft               |

**Method: janbu simplified**

| FS                           | 1.122700                |
|------------------------------|-------------------------|
| Center:                      | 45.165, 487.193         |
| Radius:                      | 159.974                 |
| Left Slip Surface Endpoint:  | 39.253, 327.329         |
| Right Slip Surface Endpoint: | 168.642, 385.483        |
| Resisting Horizontal Force:  | 126921 lb               |
| Driving Horizontal Force:    | 113050 lb               |
| Total Slice Area:            | 1655.86 ft <sup>2</sup> |
| Surface Horizontal Width:    | 129.388 ft              |
| Surface Average Height:      | 12.7976 ft              |

### ◆ Cross Section GG-GG' - Master Scenario

#### Method: bishop simplified

| FS                           | 1.421130                |
|------------------------------|-------------------------|
| Center:                      | 11.210, 454.095         |
| Radius:                      | 156.324                 |
| Left Slip Surface Endpoint:  | 45.600, 301.600         |
| Right Slip Surface Endpoint: | 128.076, 350.269        |
| Resisting Moment:            | 7.61511e+06 lb-ft       |
| Driving Moment:              | 5.35847e+06 lb-ft       |
| Total Slice Area:            | 549.748 ft <sup>2</sup> |
| Surface Horizontal Width:    | 82.4759 ft              |
| Surface Average Height:      | 6.66555 ft              |

#### Method: janbu simplified

| FS                           | 1.380830                |
|------------------------------|-------------------------|
| Center:                      | 31.746, 411.540         |
| Radius:                      | 110.711                 |
| Left Slip Surface Endpoint:  | 45.803, 301.725         |
| Right Slip Surface Endpoint: | 121.939, 347.336        |
| Resisting Horizontal Force:  | 44180.8 lb              |
| Driving Horizontal Force:    | 31995.8 lb              |
| Total Slice Area:            | 592.391 ft <sup>2</sup> |
| Surface Horizontal Width:    | 76.1357 ft              |
| Surface Average Height:      | 7.78073 ft              |

### ◆ Cross Section GG-GG' - Seismic

#### Method: bishop simplified

| FS                           | 0.910885                |
|------------------------------|-------------------------|
| Center:                      | 11.619, 455.580         |
| Radius:                      | 157.685                 |
| Left Slip Surface Endpoint:  | 45.602, 301.601         |
| Right Slip Surface Endpoint: | 129.242, 350.561        |
| Resisting Moment:            | 7.1591e+06 lb-ft        |
| Driving Moment:              | 7.8595e+06 lb-ft        |
| Total Slice Area:            | 579.473 ft <sup>2</sup> |
| Surface Horizontal Width:    | 83.6401 ft              |
| Surface Average Height:      | 6.92818 ft              |

#### Method: janbu simplified

| FS                           | 0.879895                |
|------------------------------|-------------------------|
| Center:                      | 31.532, 418.813         |
| Radius:                      | 117.989                 |
| Left Slip Surface Endpoint:  | 45.733, 301.682         |
| Right Slip Surface Endpoint: | 127.458, 350.114        |
| Resisting Horizontal Force:  | 46003.6 lb              |
| Driving Horizontal Force:    | 52283.1 lb              |
| Total Slice Area:            | 696.625 ft <sup>2</sup> |
| Surface Horizontal Width:    | 81.7246 ft              |
| Surface Average Height:      | 8.52405 ft              |

### ◆ Cross Section HH-HH' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.609080                |
|------------------------------|-------------------------|
| Center:                      | -9.151, 469.669         |
| Radius:                      | 170.575                 |
| Left Slip Surface Endpoint:  | 17.397, 301.173         |
| Right Slip Surface Endpoint: | 114.292, 351.951        |
| Resisting Moment:            | 1.04435e+07 lb-ft       |
| Driving Moment:              | 6.49036e+06 lb-ft       |
| Total Slice Area:            | 674.627 ft <sup>2</sup> |
| Surface Horizontal Width:    | 96.8948 ft              |
| Surface Average Height:      | 6.96247 ft              |

**Method: janbu simplified**

| FS                           | 1.564270                |
|------------------------------|-------------------------|
| Center:                      | 11.225, 428.987         |
| Radius:                      | 127.944                 |
| Left Slip Surface Endpoint:  | 17.438, 301.195         |
| Right Slip Surface Endpoint: | 112.894, 351.316        |
| Resisting Horizontal Force:  | 68289.3 lb              |
| Driving Horizontal Force:    | 43655.8 lb              |
| Total Slice Area:            | 873.784 ft <sup>2</sup> |
| Surface Horizontal Width:    | 95.4564 ft              |
| Surface Average Height:      | 9.15375 ft              |

### ◆ Cross Section HH-HH' - Seismic

**Method: bishop simplified**

| FS                           | 1.004870                |
|------------------------------|-------------------------|
| Center:                      | -9.524, 474.203         |
| Radius:                      | 175.115                 |
| Left Slip Surface Endpoint:  | 17.388, 301.168         |
| Right Slip Surface Endpoint: | 117.076, 353.216        |
| Resisting Moment:            | 1.02939e+07 lb-ft       |
| Driving Moment:              | 1.0244e+07 lb-ft        |
| Total Slice Area:            | 722.502 ft <sup>2</sup> |
| Surface Horizontal Width:    | 99.6876 ft              |
| Surface Average Height:      | 7.24766 ft              |

**Method: janbu simplified**



| FS                           | 0.973997                |
|------------------------------|-------------------------|
| Center:                      | 11.353, 432.095         |
| Radius:                      | 131.034                 |
| Left Slip Surface Endpoint:  | 17.456, 301.204         |
| Right Slip Surface Endpoint: | 115.410, 352.459        |
| Resisting Horizontal Force:  | 65392.3 lb              |
| Driving Horizontal Force:    | 67138.1 lb              |
| Total Slice Area:            | 927.952 ft <sup>2</sup> |
| Surface Horizontal Width:    | 97.9541 ft              |
| Surface Average Height:      | 9.47334 ft              |

### ◆ Cross Section II-II' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.697530                |
|------------------------------|-------------------------|
| Center:                      | 49.715, 451.782         |
| Radius:                      | 114.770                 |
| Left Slip Surface Endpoint:  | 65.127, 338.051         |
| Right Slip Surface Endpoint: | 131.847, 371.616        |
| Resisting Moment:            | 3.51009e+06 lb-ft       |
| Driving Moment:              | 2.06776e+06 lb-ft       |
| Total Slice Area:            | 322.457 ft <sup>2</sup> |
| Surface Horizontal Width:    | 66.7198 ft              |
| Surface Average Height:      | 4.83301 ft              |

**Method: janbu simplified**

| FS                           | 1.633810                |
|------------------------------|-------------------------|
| Center:                      | 62.650, 422.739         |
| Radius:                      | 84.660                  |
| Left Slip Surface Endpoint:  | 65.301, 338.120         |
| Right Slip Surface Endpoint: | 129.542, 370.847        |
| Resisting Horizontal Force:  | 31562.4 lb              |
| Driving Horizontal Force:    | 19318.3 lb              |
| Total Slice Area:            | 388.458 ft <sup>2</sup> |
| Surface Horizontal Width:    | 64.2415 ft              |
| Surface Average Height:      | 6.04684 ft              |

### ◆ Cross Section II-II' - Seismic

**Method: bishop simplified**

| FS                           | 1.064030                |
|------------------------------|-------------------------|
| Center:                      | 45.951, 459.614         |
| Radius:                      | 124.075                 |
| Left Slip Surface Endpoint:  | 61.199, 336.480         |
| Right Slip Surface Endpoint: | 134.204, 372.401        |
| Resisting Moment:            | 4.06189e+06 lb-ft       |
| Driving Moment:              | 3.81748e+06 lb-ft       |
| Total Slice Area:            | 384.047 ft <sup>2</sup> |
| Surface Horizontal Width:    | 73.0044 ft              |
| Surface Average Height:      | 5.26059 ft              |

**Method: janbu simplified**

| FS                           | 1.019330                |
|------------------------------|-------------------------|
| Center:                      | 60.910, 426.332         |
| Radius:                      | 89.193                  |
| Left Slip Surface Endpoint:  | 62.902, 337.161         |
| Right Slip Surface Endpoint: | 131.173, 371.391        |
| Resisting Horizontal Force:  | 32291.4 lb              |
| Driving Horizontal Force:    | 31678.9 lb              |
| Total Slice Area:            | 439.813 ft <sup>2</sup> |
| Surface Horizontal Width:    | 68.2708 ft              |
| Surface Average Height:      | 6.44219 ft              |

### ◆ Cross Section JJ-JJ' - Master Scenario

**Method: bishop simplified**

| FS                           | 2.048490                |
|------------------------------|-------------------------|
| Center:                      | -11.840, 511.034        |
| Radius:                      | 170.815                 |
| Left Slip Surface Endpoint:  | 8.885, 341.481          |
| Right Slip Surface Endpoint: | 85.269, 370.508         |
| Resisting Moment:            | 3.67027e+06 lb-ft       |
| Driving Moment:              | 1.7917e+06 lb-ft        |
| Total Slice Area:            | 243.893 ft <sup>2</sup> |
| Surface Horizontal Width:    | 76.3838 ft              |
| Surface Average Height:      | 3.19299 ft              |

**Method: janbu simplified**

| FS                           | 2.021520               |
|------------------------------|------------------------|
| Center:                      | -6.129, 502.790        |
| Radius:                      | 161.037                |
| Left Slip Surface Endpoint:  | 15.008, 343.146        |
| Right Slip Surface Endpoint: | 86.303, 370.921        |
| Resisting Horizontal Force:  | 19149.6 lb             |
| Driving Horizontal Force:    | 9472.88 lb             |
| Total Slice Area:            | 234.76 ft <sup>2</sup> |
| Surface Horizontal Width:    | 71.295 ft              |
| Surface Average Height:      | 3.29279 ft             |

### ◆ Cross Section JJ-JJ' - Seismic

**Method: bishop simplified**

| FS                           | 1.178830                |
|------------------------------|-------------------------|
| Center:                      | -13.244, 515.334        |
| Radius:                      | 175.327                 |
| Left Slip Surface Endpoint:  | 7.255, 341.209          |
| Right Slip Surface Endpoint: | 86.002, 370.801         |
| Resisting Moment:            | 3.48662e+06 lb-ft       |
| Driving Moment:              | 2.9577e+06 lb-ft        |
| Total Slice Area:            | 247.014 ft <sup>2</sup> |
| Surface Horizontal Width:    | 78.7474 ft              |
| Surface Average Height:      | 3.13679 ft              |

**Method: janbu simplified**

| FS                           |  | 1.161260                |
|------------------------------|--|-------------------------|
| Center:                      |  | -6.591, 503.054         |
| Radius:                      |  | 161.463                 |
| Left Slip Surface Endpoint:  |  | 14.587, 342.986         |
| Right Slip Surface Endpoint: |  | 86.077, 370.831         |
| Resisting Horizontal Force:  |  | 17589.4 lb              |
| Driving Horizontal Force:    |  | 15146.8 lb              |
| Total Slice Area:            |  | 236.006 ft <sup>2</sup> |
| Surface Horizontal Width:    |  | 71.4898 ft              |
| Surface Average Height:      |  | 3.30126 ft              |

## Global Minimum Support Data

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### All Open Scenarios

No Supports Present

# Slice Data

## ◆ Cross Section F-F' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 1.49431**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.14185    | 12.8764      | 10.8987                   | D-VD SAND             | 0                   | 38                        | 5.35764            | 8.00597              | 10.2472                  | 0                   | 10.2472                       | 11.2788                    | 11.2788                         |
| 2            | 1.14185    | 37.7205      | 11.539                    | D-VD SAND             | 0                   | 38                        | 15.6089            | 23.3245              | 29.854                   | 0                   | 29.854                        | 33.0407                    | 33.0407                         |
| 3            | 1.14185    | 69.3363      | 12.1807                   | D-VD SAND             | 0                   | 38                        | 28.5343            | 42.6391              | 54.5756                  | 0                   | 54.5756                       | 60.7349                    | 60.7349                         |
| 4            | 1.14185    | 112.703      | 12.824                    | D-VD SAND             | 0                   | 38                        | 46.1262            | 68.9269              | 88.2223                  | 0                   | 88.2223                       | 98.7223                    | 98.7223                         |
| 5            | 1.14185    | 154.388      | 13.469                    | D-VD SAND             | 0                   | 38                        | 62.8391            | 93.9011              | 120.188                  | 0                   | 120.188                       | 135.238                    | 135.238                         |
| 6            | 1.14185    | 194.209      | 14.1157                   | D-VD SAND             | 0                   | 38                        | 78.6102            | 117.468              | 150.353                  | 0                   | 150.353                       | 170.121                    | 170.121                         |
| 7            | 1.14185    | 232.149      | 14.7642                   | D-VD SAND             | 0                   | 38                        | 93.4471            | 139.639              | 178.73                   | 0                   | 178.73                        | 203.357                    | 203.357                         |
| 8            | 1.14185    | 268.192      | 15.4147                   | D-VD SAND             | 0                   | 38                        | 107.357            | 160.424              | 205.333                  | 0                   | 205.333                       | 234.933                    | 234.933                         |
| 9            | 1.14185    | 302.321      | 16.0672                   | D-VD SAND             | 0                   | 38                        | 120.343            | 179.83               | 230.172                  | 0                   | 230.172                       | 264.832                    | 264.832                         |
| 10           | 1.14185    | 334.517      | 16.7218                   | D-VD SAND             | 0                   | 38                        | 132.414            | 197.867              | 253.258                  | 0                   | 253.258                       | 293.039                    | 293.039                         |
| 11           | 1.14185    | 364.925      | 17.3788                   | D-VD SAND             | 0                   | 38                        | 143.637            | 214.638              | 274.724                  | 0                   | 274.724                       | 319.679                    | 319.679                         |
| 12           | 1.14185    | 407.363      | 18.038                    | D-VD SAND             | 0                   | 38                        | 159.434            | 238.244              | 304.938                  | 0                   | 304.938                       | 356.859                    | 356.859                         |
| 13           | 1.14185    | 456.782      | 18.6998                   | D-VD SAND             | 0                   | 38                        | 177.759            | 265.627              | 339.987                  | 0                   | 339.987                       | 400.154                    | 400.154                         |
| 14           | 1.14185    | 504.182      | 19.3642                   | D-VD SAND             | 0                   | 38                        | 195.083            | 291.514              | 373.121                  | 0                   | 373.121                       | 441.683                    | 441.683                         |
| 15           | 1.14185    | 549.54       | 20.0312                   | D-VD SAND             | 0                   | 38                        | 211.409            | 315.91               | 404.345                  | 0                   | 404.345                       | 481.422                    | 481.422                         |
| 16           | 1.14185    | 592.829      | 20.7012                   | D-VD SAND             | 0                   | 38                        | 226.739            | 338.819              | 433.668                  | 0                   | 433.668                       | 519.351                    | 519.351                         |
| 17           | 1.14185    | 634.023      | 21.3741                   | D-VD SAND             | 0                   | 38                        | 241.078            | 360.245              | 461.093                  | 0                   | 461.093                       | 555.445                    | 555.445                         |
| 18           | 1.14185    | 673.093      | 22.0501                   | D-VD SAND             | 0                   | 38                        | 254.427            | 380.193              | 486.624                  | 0                   | 486.624                       | 589.678                    | 589.678                         |
| 19           | 1.14185    | 710.009      | 22.7293                   | D-VD SAND             | 0                   | 38                        | 266.787            | 398.663              | 510.265                  | 0                   | 510.265                       | 622.025                    | 622.025                         |
| 20           | 1.15024    | 749.14       | 23.4145                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 289.327            | 432.344              | 526.252                  | 0                   | 526.252                       | 651.541                    | 651.541                         |
| 21           | 1.15024    | 779.696      | 24.1057                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 298.277            | 445.719              | 544.66                   | 0                   | 544.66                        | 678.122                    | 678.122                         |
| 22           | 1.15024    | 807.85       | 24.8007                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 306.268            | 457.659              | 561.094                  | 0                   | 561.094                       | 702.615                    | 702.615                         |
| 23           | 1.15024    | 833.563      | 25.4997                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 313.297            | 468.163              | 575.552                  | 0                   | 575.552                       | 724.985                    | 724.985                         |
| 24           | 1.15024    | 856.791      | 26.2027                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 319.364            | 477.229              | 588.03                   | 0                   | 588.03                        | 745.195                    | 745.195                         |
| 25           | 1.15024    | 877.362      | 26.91                     | MD-D SAND/Silt y SAND | 50                  | 36                        | 324.423            | 484.788              | 598.434                  | 0                   | 598.434                       | 763.094                    | 763.094                         |
| 26           | 1.15024    | 888.151      | 27.6217                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 326.086            | 487.273              | 601.855                  | 0                   | 601.855                       | 772.486                    | 772.486                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 27 | 1.15024 | 892.165 | 28.3381 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 325.42  | 486.278 | 600.485 | 0 | 600.485 | 775.985 | 775.985 |
| 28 | 1.15024 | 893.5   | 29.0594 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 323.829 | 483.901 | 597.214 | 0 | 597.214 | 777.154 | 777.154 |
| 29 | 1.15024 | 892.1   | 29.7857 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 321.312 | 480.139 | 592.035 | 0 | 592.035 | 775.946 | 775.946 |
| 30 | 1.15024 | 887.907 | 30.5174 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 317.862 | 474.985 | 584.941 | 0 | 584.941 | 772.306 | 772.306 |
| 31 | 1.15024 | 880.856 | 31.2546 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 313.478 | 468.434 | 575.924 | 0 | 575.924 | 766.182 | 766.182 |
| 32 | 1.15024 | 870.882 | 31.9976 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.155 | 460.479 | 564.977 | 0 | 564.977 | 757.515 | 757.515 |
| 33 | 1.15024 | 858.521 | 32.7467 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.084 | 451.407 | 552.49  | 0 | 552.49  | 746.772 | 746.772 |
| 34 | 1.15024 | 851.353 | 33.5021 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 297.705 | 444.864 | 543.484 | 0 | 543.484 | 740.546 | 740.546 |
| 35 | 1.15024 | 843.649 | 34.2642 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 293.162 | 438.075 | 534.14  | 0 | 534.14  | 733.853 | 733.853 |
| 36 | 1.15024 | 832.708 | 35.0333 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 287.606 | 429.773 | 522.713 | 0 | 522.713 | 724.346 | 724.346 |
| 37 | 1.15024 | 818.439 | 35.8096 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 281.029 | 419.945 | 509.186 | 0 | 509.186 | 711.943 | 711.943 |
| 38 | 1.15024 | 800.746 | 36.5937 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 273.425 | 408.581 | 493.545 | 0 | 493.545 | 696.561 | 696.561 |
| 39 | 1.15024 | 779.523 | 37.3858 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 264.783 | 395.668 | 475.771 | 0 | 475.771 | 678.108 | 678.108 |
| 40 | 1.15024 | 753.24  | 38.1863 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 254.662 | 380.544 | 454.954 | 0 | 454.954 | 655.255 | 655.255 |
| 41 | 1.15024 | 708.039 | 38.9958 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 238.893 | 356.98  | 422.521 | 0 | 422.521 | 615.943 | 615.943 |
| 42 | 1.15024 | 654.847 | 39.8146 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 220.908 | 330.105 | 385.532 | 0 | 385.532 | 569.681 | 569.681 |
| 43 | 1.15024 | 597.625 | 40.6433 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 201.955 | 301.783 | 346.55  | 0 | 346.55  | 519.911 | 519.911 |
| 44 | 1.15024 | 536.22  | 41.4824 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 182.025 | 272.002 | 305.559 | 0 | 305.559 | 466.502 | 466.502 |
| 45 | 1.15024 | 470.469 | 42.3325 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 161.11  | 240.749 | 262.544 | 0 | 262.544 | 409.311 | 409.311 |
| 46 | 1.15024 | 400.195 | 43.1943 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 139.204 | 208.014 | 217.488 | 0 | 217.488 | 348.183 | 348.183 |
| 47 | 1.15024 | 325.206 | 44.0685 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 116.298 | 173.786 | 170.376 | 0 | 170.376 | 282.953 | 282.953 |
| 48 | 1.15024 | 245.29  | 44.9557 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 92.3848 | 138.052 | 121.193 | 0 | 121.193 | 213.435 | 213.435 |
| 49 | 1.15024 | 157.063 | 45.8569 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 66.5682 | 99.4736 | 68.0943 | 0 | 68.0943 | 136.684 | 136.684 |
| 50 | 1.15024 | 53.5185 | 46.7729 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 36.9879 | 55.2714 | 7.25544 | 0 | 7.25544 | 46.6063 | 46.6063 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.45038

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.02689    | 16.3319      | 5.6545                    | D-VD SAND             | 0                   | 38                        | 8.13373            | 11.797               | 15.0995                  | 0                   | 15.0995                       | 15.9049                    | 15.9049                         |
| 2            | 1.02689    | 56.1571      | 6.47402                   | D-VD SAND             | 0                   | 38                        | 27.7627            | 40.2664              | 51.5386                  | 0                   | 51.5386                       | 54.689                     | 54.689                          |
| 3            | 1.02689    | 104.121      | 7.29488                   | D-VD SAND             | 0                   | 38                        | 51.0979            | 74.1113              | 94.8581                  | 0                   | 94.8581                       | 101.399                    | 101.399                         |
| 4            | 1.02689    | 150.267      | 8.11725                   | D-VD SAND             | 0                   | 38                        | 73.2056            | 106.176              | 135.899                  | 0                   | 135.899                       | 146.34                     | 146.34                          |
| 5            | 1.02689    | 194.558      | 8.9413                    | D-VD SAND             | 0                   | 38                        | 94.0912            | 136.468              | 174.671                  | 0                   | 174.671                       | 189.474                    | 189.474                         |
| 6            | 1.02689    | 236.982      | 9.76723                   | D-VD SAND             | 0                   | 38                        | 113.772            | 165.012              | 211.206                  | 0                   | 211.206                       | 230.791                    | 230.791                         |
| 7            | 1.02689    | 277.525      | 10.5952                   | D-VD SAND             | 0                   | 38                        | 132.264            | 191.833              | 245.535                  | 0                   | 245.535                       | 270.277                    | 270.277                         |
| 8            | 1.02689    | 316.173      | 11.4254                   | D-VD SAND             | 0                   | 38                        | 149.583            | 216.952              | 277.685                  | 0                   | 277.685                       | 307.916                    | 307.916                         |
| 9            | 1.02689    | 352.909      | 12.2581                   | D-VD SAND             | 0                   | 38                        | 165.742            | 240.389              | 307.684                  | 0                   | 307.684                       | 343.695                    | 343.695                         |
| 10           | 1.02689    | 387.717      | 13.0934                   | D-VD SAND             | 0                   | 38                        | 180.755            | 262.164              | 335.554                  | 0                   | 335.554                       | 377.595                    | 377.595                         |
| 11           | 1.02689    | 420.978      | 13.9315                   | D-VD SAND             | 0                   | 38                        | 194.819            | 282.562              | 361.663                  | 0                   | 361.663                       | 409.99                     | 409.99                          |
| 12           | 1.02689    | 464.702      | 14.7727                   | D-VD SAND             | 0                   | 38                        | 213.468            | 309.61               | 396.283                  | 0                   | 396.283                       | 452.575                    | 452.575                         |
| 13           | 1.02689    | 512.32       | 15.6172                   | D-VD SAND             | 0                   | 38                        | 233.599            | 338.808              | 433.654                  | 0                   | 433.654                       | 498.952                    | 498.952                         |
| 14           | 1.02689    | 557.922      | 16.4652                   | D-VD SAND             | 0                   | 38                        | 252.499            | 366.22               | 468.74                   | 0                   | 468.74                        | 543.367                    | 543.367                         |
| 15           | 1.02689    | 601.483      | 17.3168                   | D-VD SAND             | 0                   | 38                        | 270.177            | 391.859              | 501.556                  | 0                   | 501.556                       | 585.794                    | 585.794                         |
| 16           | 1.02689    | 642.975      | 18.1725                   | D-VD SAND             | 0                   | 38                        | 286.639            | 415.735              | 532.117                  | 0                   | 532.117                       | 626.206                    | 626.206                         |
| 17           | 1.02689    | 682.369      | 19.0324                   | D-VD SAND             | 0                   | 38                        | 301.893            | 437.86               | 560.434                  | 0                   | 560.434                       | 664.575                    | 664.575                         |
| 18           | 1.02689    | 719.632      | 19.8967                   | D-VD SAND             | 0                   | 38                        | 315.945            | 458.24               | 586.52                   | 0                   | 586.52                        | 700.87                     | 700.87                          |
| 19           | 1.02689    | 754.729      | 20.7658                   | D-VD SAND             | 0                   | 38                        | 328.798            | 476.882              | 610.381                  | 0                   | 610.381                       | 735.055                    | 735.055                         |
| 20           | 1.02689    | 787.625      | 21.6399                   | D-VD SAND             | 0                   | 38                        | 340.458            | 493.793              | 632.026                  | 0                   | 632.026                       | 767.097                    | 767.097                         |
| 21           | 1.02689    | 818.279      | 22.5194                   | D-VD SAND             | 0                   | 38                        | 350.925            | 508.975              | 651.459                  | 0                   | 651.459                       | 796.956                    | 796.956                         |
| 22           | 1.02689    | 846.649      | 23.4045                   | D-VD SAND             | 0                   | 38                        | 360.204            | 522.432              | 668.683                  | 0                   | 668.683                       | 824.59                     | 824.59                          |
| 23           | 1.02689    | 872.69       | 24.2955                   | D-VD SAND             | 0                   | 38                        | 368.293            | 534.165              | 683.7                    | 0                   | 683.7                         | 849.956                    | 849.956                         |
| 24           | 1.03524    | 902.675      | 25.1965                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.426            | 553.212              | 692.612                  | 0                   | 692.612                       | 872.069                    | 872.069                         |
| 25           | 1.03524    | 922.063      | 26.1079                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 385.957            | 559.785              | 701.659                  | 0                   | 701.659                       | 890.804                    | 890.804                         |
| 26           | 1.03524    | 938.797      | 27.0265                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 389.323            | 564.667              | 708.377                  | 0                   | 708.377                       | 906.975                    | 906.975                         |
| 27           | 1.03524    | 950.828      | 27.9527                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 390.76             | 566.75               | 711.245                  | 0                   | 711.245                       | 918.602                    | 918.602                         |
| 28           | 1.03524    | 953.311      | 28.8869                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 388.47             | 563.429              | 706.675                  | 0                   | 706.675                       | 921.005                    | 921.005                         |
| 29           | 1.03524    | 952.373      | 29.8295                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 384.845            | 558.171              | 699.437                  | 0                   | 699.437                       | 920.103                    | 920.103                         |
| 30           | 1.03524    | 948.491      | 30.7812                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 380.091            | 551.276              | 689.948                  | 0                   | 689.948                       | 916.358                    | 916.358                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 31 | 1.03524 | 941.579 | 31.7423 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 374.201 | 542.734 | 678.191 | 0 | 678.191 | 909.684 | 909.684 |
| 32 | 1.03524 | 931.541 | 32.7136 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 367.169 | 532.534 | 664.151 | 0 | 664.151 | 899.992 | 899.992 |
| 33 | 1.03524 | 918.278 | 33.6955 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 358.983 | 520.662 | 647.811 | 0 | 647.811 | 887.182 | 887.182 |
| 34 | 1.03524 | 901.677 | 34.6888 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 349.635 | 507.104 | 629.15  | 0 | 629.15  | 871.148 | 871.148 |
| 35 | 1.03524 | 881.619 | 35.6942 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 339.115 | 491.845 | 608.148 | 0 | 608.148 | 851.774 | 851.774 |
| 36 | 1.03524 | 862.256 | 36.7124 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 328.918 | 477.056 | 587.793 | 0 | 587.793 | 833.071 | 833.071 |
| 37 | 1.03524 | 844.174 | 37.7443 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 319.241 | 463.021 | 568.474 | 0 | 568.474 | 815.606 | 815.606 |
| 38 | 1.03524 | 822.211 | 38.7908 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.286 | 447.132 | 546.605 | 0 | 546.605 | 794.392 | 794.392 |
| 39 | 1.03524 | 796.189 | 39.8529 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 296.033 | 429.361 | 522.146 | 0 | 522.146 | 769.255 | 769.255 |
| 40 | 1.03524 | 765.918 | 40.9317 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.465 | 409.682 | 495.06  | 0 | 495.06  | 740.012 | 740.012 |
| 41 | 1.03524 | 731.187 | 42.0284 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 267.562 | 388.066 | 465.308 | 0 | 465.308 | 706.462 | 706.462 |
| 42 | 1.03524 | 691.765 | 43.1444 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 251.302 | 364.483 | 432.848 | 0 | 432.848 | 668.378 | 668.378 |
| 43 | 1.03524 | 646.941 | 44.2812 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 233.517 | 338.688 | 397.345 | 0 | 397.345 | 625.075 | 625.075 |
| 44 | 1.03524 | 585.519 | 45.4404 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 210.691 | 305.582 | 351.779 | 0 | 351.779 | 565.734 | 565.734 |
| 45 | 1.03524 | 513.59  | 46.624  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 184.985 | 268.298 | 300.461 | 0 | 300.461 | 496.241 | 496.241 |
| 46 | 1.03524 | 435.721 | 47.834  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 157.986 | 229.14  | 246.565 | 0 | 246.565 | 421.008 | 421.008 |
| 47 | 1.03524 | 351.49  | 49.073  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 129.682 | 188.088 | 190.061 | 0 | 190.061 | 339.628 | 339.628 |
| 48 | 1.03524 | 260.412 | 50.3437 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 100.058 | 145.121 | 130.923 | 0 | 130.923 | 251.63  | 251.63  |
| 49 | 1.03524 | 161.927 | 51.6495 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 69.1043 | 100.227 | 69.1324 | 0 | 69.1324 | 156.475 | 156.475 |
| 50 | 1.03524 | 55.3785 | 52.994  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 36.8176 | 53.3995 | 4.67906 | 0 | 4.67906 | 53.527  | 53.527  |



## **Cross Section F-F' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.950407**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.25478    | 16.6974      | 10.2257                   | D-VD SAND             | 0                   | 38                        | 9.52658            | 9.05413              | 11.5887                  | 0                   | 11.5887                       | 13.3072                    | 13.3072                         |
| 2            | 1.25478    | 48.9631      | 10.8874                   | D-VD SAND             | 0                   | 38                        | 27.6987            | 26.325               | 33.6945                  | 0                   | 33.6945                       | 39.0221                    | 39.0221                         |
| 3            | 1.25478    | 78.9635      | 11.5506                   | D-VD SAND             | 0                   | 38                        | 44.2919            | 42.0953              | 53.8795                  | 0                   | 53.8795                       | 62.9316                    | 62.9316                         |
| 4            | 1.25478    | 106.714      | 12.2154                   | D-VD SAND             | 0                   | 38                        | 59.3515            | 56.4081              | 72.199                   | 0                   | 72.199                        | 85.048                     | 85.048                          |
| 5            | 1.25478    | 146.896      | 12.8818                   | D-VD SAND             | 0                   | 38                        | 81.0095            | 76.992               | 98.5453                  | 0                   | 98.5453                       | 117.072                    | 117.072                         |
| 6            | 1.25478    | 196.992      | 13.55                     | D-VD SAND             | 0                   | 38                        | 107.719            | 102.377              | 131.037                  | 0                   | 131.037                       | 156.997                    | 156.997                         |
| 7            | 1.25478    | 244.754      | 14.2201                   | D-VD SAND             | 0                   | 38                        | 132.706            | 126.125              | 161.433                  | 0                   | 161.433                       | 195.063                    | 195.063                         |
| 8            | 1.25478    | 290.161      | 14.8922                   | D-VD SAND             | 0                   | 38                        | 155.997            | 148.261              | 189.766                  | 0                   | 189.766                       | 231.251                    | 231.251                         |
| 9            | 1.25478    | 333.19       | 15.5664                   | D-VD SAND             | 0                   | 38                        | 177.618            | 168.809              | 216.066                  | 0                   | 216.066                       | 265.545                    | 265.545                         |
| 10           | 1.25478    | 373.82       | 16.2428                   | D-VD SAND             | 0                   | 38                        | 197.59             | 187.791              | 240.361                  | 0                   | 240.361                       | 297.926                    | 297.926                         |
| 11           | 1.25478    | 412.026      | 16.9215                   | D-VD SAND             | 0                   | 38                        | 215.937            | 205.228              | 262.68                   | 0                   | 262.68                        | 328.375                    | 328.375                         |
| 12           | 1.25478    | 447.868      | 17.6027                   | D-VD SAND             | 0                   | 38                        | 232.727            | 221.185              | 283.104                  | 0                   | 283.104                       | 356.941                    | 356.941                         |
| 13           | 1.25478    | 497.228      | 18.2865                   | D-VD SAND             | 0                   | 38                        | 256.173            | 243.469              | 311.626                  | 0                   | 311.626                       | 396.28                     | 396.28                          |
| 14           | 1.25478    | 555.948      | 18.973                    | D-VD SAND             | 0                   | 38                        | 283.977            | 269.894              | 345.448                  | 0                   | 345.448                       | 443.079                    | 443.079                         |
| 15           | 1.25478    | 612.131      | 19.6623                   | D-VD SAND             | 0                   | 38                        | 309.991            | 294.618              | 377.094                  | 0                   | 377.094                       | 487.856                    | 487.856                         |
| 16           | 1.25478    | 665.745      | 20.3546                   | D-VD SAND             | 0                   | 38                        | 334.237            | 317.661              | 406.587                  | 0                   | 406.587                       | 530.587                    | 530.587                         |
| 17           | 1.25478    | 716.756      | 21.05                     | D-VD SAND             | 0                   | 38                        | 356.729            | 339.038              | 433.949                  | 0                   | 433.949                       | 571.242                    | 571.242                         |
| 18           | 1.25478    | 765.128      | 21.7487                   | D-VD SAND             | 0                   | 38                        | 377.489            | 358.768              | 459.202                  | 0                   | 459.202                       | 609.795                    | 609.795                         |
| 19           | 1.25478    | 810.822      | 22.4508                   | D-VD SAND             | 0                   | 38                        | 396.529            | 376.864              | 482.364                  | 0                   | 482.364                       | 646.213                    | 646.213                         |
| 20           | 1.25478    | 853.799      | 23.1565                   | D-VD SAND             | 0                   | 38                        | 413.866            | 393.341              | 503.454                  | 0                   | 503.454                       | 680.465                    | 680.465                         |
| 21           | 1.21888    | 866.549      | 23.8557                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 445.509            | 423.415              | 513.962                  | 0                   | 513.962                       | 710.972                    | 710.972                         |
| 22           | 1.21888    | 899.145      | 24.5485                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 456.994            | 434.33               | 528.986                  | 0                   | 528.986                       | 737.716                    | 737.716                         |
| 23           | 1.21888    | 929.018      | 25.2451                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 466.972            | 443.813              | 542.038                  | 0                   | 542.038                       | 762.227                    | 762.227                         |
| 24           | 1.21888    | 956.123      | 25.9458                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 475.452            | 451.873              | 553.131                  | 0                   | 553.131                       | 784.467                    | 784.467                         |
| 25           | 1.21888    | 980.179      | 26.6506                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 482.335            | 458.415              | 562.136                  | 0                   | 562.136                       | 804.204                    | 804.204                         |
| 26           | 1.21888    | 992.936      | 27.3598                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 483.95             | 459.949              | 564.247                  | 0                   | 564.247                       | 814.672                    | 814.672                         |
| 27           | 1.21888    | 998.534      | 28.0737                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 482.266            | 458.349              | 562.044                  | 0                   | 562.044                       | 819.266                    | 819.266                         |
| 28           | 1.21888    | 1001.15      | 28.7922                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 479.212            | 455.446              | 558.049                  | 0                   | 558.049                       | 821.413                    | 821.413                         |

|    |         |         |         |                             |    |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|----------|---|----------|---------|---------|
| 29 | 1.21888 | 1000.72 | 29.5158 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 474.791 | 451.245 | 552.266  | 0 | 552.266  | 821.063 | 821.063 |
| 30 | 1.21888 | 997.187 | 30.2446 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 469.01  | 445.75  | 544.704  | 0 | 544.704  | 818.163 | 818.163 |
| 31 | 1.21888 | 990.473 | 30.9788 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 461.873 | 438.967 | 535.367  | 0 | 535.367  | 812.656 | 812.656 |
| 32 | 1.21888 | 980.509 | 31.7188 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 453.383 | 430.898 | 524.261  | 0 | 524.261  | 804.481 | 804.481 |
| 33 | 1.21888 | 971.403 | 32.4646 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 445.311 | 423.227 | 513.702  | 0 | 513.702  | 797.01  | 797.01  |
| 34 | 1.21888 | 967.352 | 33.2167 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 439.399 | 417.608 | 505.97   | 0 | 505.97   | 793.688 | 793.688 |
| 35 | 1.21888 | 960.046 | 33.9754 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 432.144 | 410.713 | 496.479  | 0 | 496.479  | 787.694 | 787.694 |
| 36 | 1.21888 | 949.148 | 34.7408 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 423.445 | 402.445 | 485.099  | 0 | 485.099  | 778.753 | 778.753 |
| 37 | 1.21888 | 934.557 | 35.5135 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 413.302 | 392.805 | 471.831  | 0 | 471.831  | 766.783 | 766.783 |
| 38 | 1.21888 | 916.168 | 36.2936 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 401.716 | 381.794 | 456.675  | 0 | 456.675  | 751.696 | 751.696 |
| 39 | 1.21888 | 893.184 | 37.0816 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 388.417 | 369.154 | 439.277  | 0 | 439.277  | 732.839 | 732.839 |
| 40 | 1.21888 | 850.296 | 37.8779 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 367.438 | 349.216 | 411.835  | 0 | 411.835  | 697.651 | 697.651 |
| 41 | 1.21888 | 796.578 | 38.6829 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 342.565 | 325.576 | 379.299  | 0 | 379.299  | 653.578 | 653.578 |
| 42 | 1.21888 | 738.552 | 39.4971 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 316.45  | 300.756 | 345.136  | 0 | 345.136  | 605.97  | 605.97  |
| 43 | 1.21888 | 676.067 | 40.3209 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 289.094 | 274.757 | 309.351  | 0 | 309.351  | 554.703 | 554.703 |
| 44 | 1.21888 | 608.959 | 41.1549 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 260.503 | 247.584 | 271.951  | 0 | 271.951  | 499.642 | 499.642 |
| 45 | 1.21888 | 537.049 | 41.9997 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 230.68  | 219.24  | 232.939  | 0 | 232.939  | 440.642 | 440.642 |
| 46 | 1.21888 | 460.146 | 42.8558 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 199.631 | 189.731 | 192.323  | 0 | 192.323  | 377.546 | 377.546 |
| 47 | 1.21888 | 378.03  | 43.724  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 167.358 | 159.058 | 150.106  | 0 | 150.106  | 310.171 | 310.171 |
| 48 | 1.21888 | 282.18  | 44.605  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 130.903 | 124.411 | 102.418  | 0 | 102.418  | 231.528 | 231.528 |
| 49 | 1.21888 | 173.489 | 45.4995 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 90.7974 | 86.2945 | 49.9551  | 0 | 49.9551  | 142.35  | 142.35  |
| 50 | 1.21888 | 58.8456 | 46.4084 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 49.6519 | 47.1895 | -3.86832 | 0 | -3.86832 | 48.2867 | 48.2867 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.919134

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.11403    | 19.8137      | 5.20283                   | D-VD SAND             | 0                   | 38                        | 14.0369            | 12.9018              | 16.5135                  | 0                   | 16.5135                       | 17.7917                    | 17.7917                         |
| 2            | 1.11403    | 59.0523      | 6.03589                   | D-VD SAND             | 0                   | 38                        | 41.3583            | 38.0138              | 48.6554                  | 0                   | 48.6554                       | 53.0285                    | 53.0285                         |
| 3            | 1.11403    | 110.803      | 6.87024                   | D-VD SAND             | 0                   | 38                        | 76.7241            | 70.5197              | 90.2614                  | 0                   | 90.2614                       | 99.5056                    | 99.5056                         |
| 4            | 1.11403    | 166.219      | 7.70606                   | D-VD SAND             | 0                   | 38                        | 113.801            | 104.598              | 133.879                  | 0                   | 133.879                       | 149.278                    | 149.278                         |
| 5            | 1.11403    | 219.42       | 8.54353                   | D-VD SAND             | 0                   | 38                        | 148.542            | 136.53               | 174.751                  | 0                   | 174.751                       | 197.066                    | 197.066                         |
| 6            | 1.11403    | 270.393      | 9.38285                   | D-VD SAND             | 0                   | 38                        | 181.01             | 166.372              | 212.946                  | 0                   | 212.946                       | 242.857                    | 242.857                         |
| 7            | 1.11403    | 319.121      | 10.2242                   | D-VD SAND             | 0                   | 38                        | 211.259            | 194.175              | 248.533                  | 0                   | 248.533                       | 286.636                    | 286.636                         |
| 8            | 1.11403    | 365.588      | 11.0678                   | D-VD SAND             | 0                   | 38                        | 239.342            | 219.987              | 281.571                  | 0                   | 281.571                       | 328.389                    | 328.389                         |
| 9            | 1.11403    | 409.776      | 11.9138                   | D-VD SAND             | 0                   | 38                        | 265.308            | 243.854              | 312.12                   | 0                   | 312.12                        | 368.096                    | 368.096                         |
| 10           | 1.11403    | 451.662      | 12.7625                   | D-VD SAND             | 0                   | 38                        | 289.206            | 265.819              | 340.233                  | 0                   | 340.233                       | 405.739                    | 405.739                         |
| 11           | 1.11403    | 492.094      | 13.614                    | D-VD SAND             | 0                   | 38                        | 311.626            | 286.426              | 366.609                  | 0                   | 366.609                       | 442.08                     | 442.08                          |
| 12           | 1.11403    | 545.643      | 14.4686                   | D-VD SAND             | 0                   | 38                        | 341.735            | 314.1                | 402.029                  | 0                   | 402.029                       | 490.208                    | 490.208                         |
| 13           | 1.11403    | 602.514      | 15.3265                   | D-VD SAND             | 0                   | 38                        | 373.197            | 343.018              | 439.043                  | 0                   | 439.043                       | 541.324                    | 541.324                         |
| 14           | 1.11403    | 656.983      | 16.188                    | D-VD SAND             | 0                   | 38                        | 402.448            | 369.904              | 473.456                  | 0                   | 473.456                       | 590.286                    | 590.286                         |
| 15           | 1.11403    | 709.017      | 17.0532                   | D-VD SAND             | 0                   | 38                        | 429.525            | 394.791              | 505.309                  | 0                   | 505.309                       | 637.064                    | 637.064                         |
| 16           | 1.11403    | 758.586      | 17.9224                   | D-VD SAND             | 0                   | 38                        | 454.463            | 417.712              | 534.647                  | 0                   | 534.647                       | 681.631                    | 681.631                         |
| 17           | 1.11403    | 805.652      | 18.796                    | D-VD SAND             | 0                   | 38                        | 477.293            | 438.696              | 561.505                  | 0                   | 561.505                       | 723.951                    | 723.951                         |
| 18           | 1.11403    | 850.177      | 19.674                    | D-VD SAND             | 0                   | 38                        | 498.047            | 457.772              | 585.921                  | 0                   | 585.921                       | 763.993                    | 763.993                         |
| 19           | 1.11403    | 892.121      | 20.557                    | D-VD SAND             | 0                   | 38                        | 516.752            | 474.964              | 607.926                  | 0                   | 607.926                       | 801.717                    | 801.717                         |
| 20           | 1.11403    | 931.439      | 21.445                    | D-VD SAND             | 0                   | 38                        | 533.434            | 490.297              | 627.551                  | 0                   | 627.551                       | 837.086                    | 837.086                         |
| 21           | 1.11403    | 968.084      | 22.3386                   | D-VD SAND             | 0                   | 38                        | 548.116            | 503.792              | 644.824                  | 0                   | 644.824                       | 870.054                    | 870.054                         |
| 22           | 1.11403    | 1002.01      | 23.2378                   | D-VD SAND             | 0                   | 38                        | 560.82             | 515.469              | 659.77                   | 0                   | 659.77                        | 900.577                    | 900.577                         |
| 23           | 1.11403    | 1033.15      | 24.1432                   | D-VD SAND             | 0                   | 38                        | 571.566            | 525.346              | 672.412                  | 0                   | 672.412                       | 928.604                    | 928.604                         |
| 24           | 1.10472    | 1051.28      | 25.0512                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 589.759            | 542.068              | 677.274                  | 0                   | 677.274                       | 952.925                    | 952.925                         |
| 25           | 1.10472    | 1073.84      | 25.9621                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 594.88             | 546.774              | 683.751                  | 0                   | 683.751                       | 973.406                    | 973.406                         |
| 26           | 1.10472    | 1089.08      | 26.8802                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 595.99             | 547.795              | 685.157                  | 0                   | 685.157                       | 987.261                    | 987.261                         |
| 27           | 1.10472    | 1094.99      | 27.8057                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 592.197            | 544.308              | 680.357                  | 0                   | 680.357                       | 992.662                    | 992.662                         |
| 28           | 1.10472    | 1097.69      | 28.7393                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 586.708            | 539.263              | 673.413                  | 0                   | 673.413                       | 995.149                    | 995.149                         |
| 29           | 1.10472    | 1097.14      | 29.6812                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 579.557            | 532.691              | 664.368                  | 0                   | 664.368                       | 994.69                     | 994.69                          |
| 30           | 1.10472    | 1093.25      | 30.6321                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 570.755            | 524.6                | 653.23                   | 0                   | 653.23                        | 991.205                    | 991.205                         |

|    |         |         |         |                             |    |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|----------|---|----------|---------|---------|
| 31 | 1.10472 | 1085.92 | 31.5924 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 560.301 | 514.992 | 640.006  | 0 | 640.006  | 984.603 | 984.603 |
| 32 | 1.10472 | 1075.05 | 32.5627 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 548.203 | 503.872 | 624.701  | 0 | 624.701  | 974.789 | 974.789 |
| 33 | 1.10472 | 1060.52 | 33.5436 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 534.463 | 491.243 | 607.319  | 0 | 607.319  | 961.657 | 961.657 |
| 34 | 1.10472 | 1045.22 | 34.5358 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 520.481 | 478.392 | 589.632  | 0 | 589.632  | 947.827 | 947.827 |
| 35 | 1.10472 | 1033.27 | 35.5399 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 508.151 | 467.059 | 574.032  | 0 | 574.032  | 937.027 | 937.027 |
| 36 | 1.10472 | 1017.56 | 36.5568 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 494.2   | 454.236 | 556.383  | 0 | 556.383  | 922.831 | 922.831 |
| 37 | 1.10472 | 997.638 | 37.5873 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 478.478 | 439.785 | 536.493  | 0 | 536.493  | 904.802 | 904.802 |
| 38 | 1.10472 | 973.309 | 38.6323 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 460.981 | 423.703 | 514.358  | 0 | 514.358  | 882.779 | 882.779 |
| 39 | 1.10472 | 944.385 | 39.6927 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 441.706 | 405.987 | 489.973  | 0 | 489.973  | 856.589 | 856.589 |
| 40 | 1.10472 | 910.652 | 40.7696 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 420.646 | 386.63  | 463.332  | 0 | 463.332  | 826.035 | 826.035 |
| 41 | 1.10472 | 869.371 | 41.8644 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 396.747 | 364.664 | 433.097  | 0 | 433.097  | 788.633 | 788.633 |
| 42 | 1.10472 | 808.486 | 42.9782 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 365.185 | 335.654 | 393.168  | 0 | 393.168  | 733.449 | 733.449 |
| 43 | 1.10472 | 739.74  | 44.1126 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 331.136 | 304.358 | 350.094  | 0 | 350.094  | 671.128 | 671.128 |
| 44 | 1.10472 | 665.072 | 45.2692 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 295.558 | 271.657 | 305.084  | 0 | 305.084  | 603.432 | 603.432 |
| 45 | 1.10472 | 584.115 | 46.4499 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.455 | 237.555 | 258.147  | 0 | 258.147  | 530.025 | 530.025 |
| 46 | 1.10472 | 496.456 | 47.6567 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 219.84  | 202.062 | 209.296  | 0 | 209.296  | 450.53  | 450.53  |
| 47 | 1.10472 | 401.621 | 48.8922 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 179.727 | 165.193 | 158.55   | 0 | 158.55   | 364.519 | 364.519 |
| 48 | 1.10472 | 299.069 | 50.1591 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 138.14  | 126.969 | 105.939  | 0 | 105.939  | 271.498 | 271.498 |
| 49 | 1.10472 | 188.174 | 51.4604 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 95.108  | 87.417  | 51.5001  | 0 | 51.5001  | 170.898 | 170.898 |
| 50 | 1.10472 | 66.8572 | 52.8001 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 50.2025 | 46.1428 | -5.30892 | 0 | -5.30892 | 60.8306 | 60.8306 |

## **Cross Section AA-AA' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 2.04338**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.20583    | 105.994      | -0.103461                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 91.8438            | 187.672              | 48.2176                  | 0                   | 48.2176                       | 48.0518                    | 48.0518                         |
| 2            | 2.20583    | 312.971      | 0.804392                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 126.975            | 259.459              | 140.101                  | 0                   | 140.101                       | 141.884                    | 141.884                         |
| 3            | 2.20583    | 514.074      | 1.70864                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 160.683            | 328.336              | 228.259                  | 0                   | 228.259                       | 233.052                    | 233.052                         |
| 4            | 2.20583    | 779.143      | 2.61331                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 204.886            | 418.659              | 343.868                  | 0                   | 343.868                       | 353.22                     | 353.22                          |
| 5            | 2.20583    | 1061.53      | 3.51863                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 251.497            | 513.903              | 465.775                  | 0                   | 465.775                       | 481.239                    | 481.239                         |
| 6            | 2.20583    | 1333.88      | 4.42483                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 295.863            | 604.561              | 581.81                   | 0                   | 581.81                        | 604.704                    | 604.704                         |
| 7            | 2.20583    | 1596.16      | 5.33214                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 338.017            | 690.697              | 692.059                  | 0                   | 692.059                       | 723.608                    | 723.608                         |
| 8            | 2.20583    | 1848.32      | 6.2408                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 377.985            | 772.366              | 796.591                  | 0                   | 796.591                       | 837.926                    | 837.926                         |
| 9            | 2.20583    | 2090.33      | 7.15104                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 415.791            | 849.619              | 895.47                   | 0                   | 895.47                        | 947.636                    | 947.636                         |
| 10           | 2.20583    | 2322.11      | 8.06309                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 451.46             | 922.505              | 988.759                  | 0                   | 988.759                       | 1052.71                    | 1052.71                         |
| 11           | 2.20583    | 2543.61      | 8.97721                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 485.012            | 991.064              | 1076.51                  | 0                   | 1076.51                       | 1153.13                    | 1153.13                         |
| 12           | 2.20583    | 2754.76      | 9.89364                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 516.465            | 1055.34              | 1158.78                  | 0                   | 1158.78                       | 1248.85                    | 1248.85                         |
| 13           | 2.20583    | 2955.46      | 10.8126                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 545.837            | 1115.35              | 1235.59                  | 0                   | 1235.59                       | 1339.84                    | 1339.84                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.20583 | 3145.63 | 11.7344 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 573.139 | 1171.14 | 1307    | 0 | 1307    | 1426.06 | 1426.06 |
| 15 | 2.20583 | 3325.17 | 12.6594 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 598.391 | 1222.74 | 1373.04 | 0 | 1373.04 | 1507.45 | 1507.45 |
| 16 | 2.20583 | 3493.96 | 13.5876 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 621.593 | 1270.15 | 1433.73 | 0 | 1433.73 | 1583.97 | 1583.97 |
| 17 | 2.20583 | 3651.88 | 14.5196 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 642.763 | 1313.41 | 1489.1  | 0 | 1489.1  | 1655.56 | 1655.56 |
| 18 | 2.20583 | 3798.8  | 15.4554 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 661.903 | 1352.52 | 1539.16 | 0 | 1539.16 | 1722.16 | 1722.16 |
| 19 | 2.20583 | 3934.57 | 16.3955 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 679.022 | 1387.5  | 1583.93 | 0 | 1583.93 | 1783.72 | 1783.72 |
| 20 | 2.20583 | 4059.03 | 17.3402 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 694.12  | 1418.35 | 1623.41 | 0 | 1623.41 | 1840.14 | 1840.14 |
| 21 | 2.20583 | 4172.01 | 18.2898 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 707.196 | 1445.07 | 1657.62 | 0 | 1657.62 | 1891.36 | 1891.36 |
| 22 | 2.20583 | 4273.34 | 19.2446 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 718.256 | 1467.67 | 1686.54 | 0 | 1686.54 | 1937.29 | 1937.29 |
| 23 | 2.20583 | 4362.8  | 20.205  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 727.295 | 1486.14 | 1710.18 | 0 | 1710.18 | 1977.85 | 1977.85 |
| 24 | 2.20583 | 4440.18 | 21.1713 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 734.313 | 1500.48 | 1728.53 | 0 | 1728.53 | 2012.93 | 2012.93 |
| 25 | 2.20583 | 4505.25 | 22.144  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 739.3   | 1510.67 | 1741.57 | 0 | 1741.57 | 2042.43 | 2042.43 |
| 26 | 2.20583 | 4557.76 | 23.1235 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 742.246 | 1516.69 | 1749.28 | 0 | 1749.28 | 2066.24 | 2066.24 |
| 27 | 2.20583 | 4597.44 | 24.1102 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 743.146 | 1518.53 | 1751.64 | 0 | 1751.64 | 2084.22 | 2084.22 |
| 28 | 2.20583 | 4623.98 | 25.1046 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 741.991 | 1516.17 | 1748.61 | 0 | 1748.61 | 2096.26 | 2096.26 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.20583 | 4637.08 | 26.1071 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 738.761 | 1509.57 | 1740.17 | 0 | 1740.17 | 2102.2  | 2102.2  |
| 30 | 2.20583 | 4636.39 | 27.1183 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 733.447 | 1498.71 | 1726.27 | 0 | 1726.27 | 2101.89 | 2101.89 |
| 31 | 2.20583 | 4621.55 | 28.1387 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 726.027 | 1483.55 | 1706.86 | 0 | 1706.86 | 2095.16 | 2095.16 |
| 32 | 2.20583 | 4592.14 | 29.1689 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 716.484 | 1464.05 | 1681.9  | 0 | 1681.9  | 2081.82 | 2081.82 |
| 33 | 2.20583 | 4547.73 | 30.2096 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 704.793 | 1440.16 | 1651.33 | 0 | 1651.33 | 2061.69 | 2061.69 |
| 34 | 2.20583 | 4487.85 | 31.2614 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 690.934 | 1411.84 | 1615.09 | 0 | 1615.09 | 2034.54 | 2034.54 |
| 35 | 2.20583 | 4411.99 | 32.325  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 674.882 | 1379.04 | 1573.1  | 0 | 1573.1  | 2000.15 | 2000.15 |
| 36 | 2.20583 | 4319.58 | 33.4014 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 656.598 | 1341.68 | 1525.29 | 0 | 1525.29 | 1958.26 | 1958.26 |
| 37 | 2.20583 | 4210    | 34.4912 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 636.064 | 1299.72 | 1471.57 | 0 | 1471.57 | 1908.58 | 1908.58 |
| 38 | 2.20583 | 4082.59 | 35.5955 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 613.234 | 1253.07 | 1411.86 | 0 | 1411.86 | 1850.82 | 1850.82 |
| 39 | 2.20583 | 3936.6  | 36.7152 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 588.075 | 1201.66 | 1346.06 | 0 | 1346.06 | 1784.64 | 1784.64 |
| 40 | 2.20583 | 3771.21 | 37.8515 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 560.541 | 1145.4  | 1274.05 | 0 | 1274.05 | 1709.66 | 1709.66 |
| 41 | 2.20583 | 3585.54 | 39.0056 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 530.596 | 1084.21 | 1195.73 | 0 | 1195.73 | 1625.49 | 1625.49 |
| 42 | 2.20583 | 3378.58 | 40.1789 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 498.189 | 1017.99 | 1110.98 | 0 | 1110.98 | 1531.66 | 1531.66 |
| 43 | 2.20583 | 3149.22 | 41.3728 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 463.27  | 946.636 | 1019.65 | 0 | 1019.65 | 1427.68 | 1427.68 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 44 | 2.20583 | 2896.22 | 42.5891 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 425.784 | 870.038 | 921.605 | 0 | 921.605 | 1312.98 | 1312.98 |
| 45 | 2.20583 | 2618.17 | 43.8296 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 385.674 | 788.078 | 816.703 | 0 | 816.703 | 1186.93 | 1186.93 |
| 46 | 2.20583 | 2313.5  | 45.0964 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 342.879 | 700.632 | 704.776 | 0 | 704.776 | 1048.81 | 1048.81 |
| 47 | 2.20583 | 1937.26 | 46.3921 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 291.999 | 596.665 | 571.705 | 0 | 571.705 | 878.249 | 878.249 |
| 48 | 2.20583 | 1428.24 | 47.7193 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 225.961 | 461.725 | 398.989 | 0 | 398.989 | 647.486 | 647.486 |
| 49 | 2.20583 | 882.016 | 49.0813 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 157.028 | 320.867 | 218.7   | 0 | 218.7   | 399.858 | 399.858 |
| 50 | 2.20583 | 300.187 | 50.4817 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 85.7118 | 175.142 | 32.1799 | 0 | 32.1799 | 136.089 | 136.089 |



**Global Minimum Query (janbu simplified) - Safety Factor: 1.95206**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                            | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.14919    | 132.135      | -6.09455                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 105.981            | 206.881              | 72.8041                  | 0                   | 72.8041                       | 61.4882                    | 61.4882                         |
| 2            | 2.14919    | 390.549      | -4.98714                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 154.989            | 302.547              | 195.252                  | 0                   | 195.252                       | 181.727                    | 181.727                         |
| 3            | 2.14919    | 644.461      | -3.88159                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 202.356            | 395.012              | 313.601                  | 0                   | 313.601                       | 299.871                    | 299.871                         |
| 4            | 2.14919    | 960.332      | -2.77749                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 260.748            | 508.995              | 459.493                  | 0                   | 459.493                       | 446.843                    | 446.843                         |
| 5            | 2.14919    | 1283.91      | -1.67442                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 319.683            | 624.04               | 606.742                  | 0                   | 606.742                       | 597.397                    | 597.397                         |
| 6            | 2.14919    | 1595.92      | -0.571965                 | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 375.546            | 733.089              | 746.319                  | 0                   | 746.319                       | 742.57                     | 742.57                          |
| 7            | 2.14919    | 1896.37      | 0.530273                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 428.41             | 836.282              | 878.402                  | 0                   | 878.402                       | 882.367                    | 882.367                         |
| 8            | 2.14919    | 2185.27      | 1.63271                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 478.338            | 933.745              | 1003.15                  | 0                   | 1003.15                       | 1016.78                    | 1016.78                         |
| 9            | 2.14919    | 2462.6       | 2.73575                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 525.391            | 1025.6               | 1120.71                  | 0                   | 1120.71                       | 1145.81                    | 1145.81                         |
| 10           | 2.14919    | 2728.34      | 3.8398                    | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 569.622            | 1111.94              | 1231.22                  | 0                   | 1231.22                       | 1269.45                    | 1269.45                         |
| 11           | 2.14919    | 2982.45      | 4.94529                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 611.078            | 1192.86              | 1334.8                   | 0                   | 1334.8                        | 1387.68                    | 1387.68                         |
| 12           | 2.14919    | 3224.87      | 6.05262                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 649.806            | 1268.46              | 1431.57                  | 0                   | 1431.57                       | 1500.47                    | 1500.47                         |
| 13           | 2.14919    | 3455.54      | 7.16223                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 685.845            | 1338.81              | 1521.6                   | 0                   | 1521.6                        | 1607.79                    | 1607.79                         |
| 14           | 2.14919    | 3674.39      | 8.27455                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 719.225            | 1403.97              | 1605                     | 0                   | 1605                          | 1709.6                     | 1709.6                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 2.14919 | 3881.31 | 9.39002 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 749.977 | 1464    | 1681.84 | 0 | 1681.84 | 1805.87 | 1805.87 |
| 16 | 2.14919 | 4076.2  | 10.5091 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 778.132 | 1518.96 | 1752.2  | 0 | 1752.2  | 1896.54 | 1896.54 |
| 17 | 2.14919 | 4258.93 | 11.6322 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 803.715 | 1568.9  | 1816.1  | 0 | 1816.1  | 1981.55 | 1981.55 |
| 18 | 2.14919 | 4429.37 | 12.7599 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 826.732 | 1613.83 | 1873.62 | 0 | 1873.62 | 2060.84 | 2060.84 |
| 19 | 2.14919 | 4587.36 | 13.8927 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 847.213 | 1653.81 | 1924.79 | 0 | 1924.79 | 2134.34 | 2134.34 |
| 20 | 2.14919 | 4732.71 | 15.031  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 865.163 | 1688.85 | 1969.64 | 0 | 1969.64 | 2201.96 | 2201.96 |
| 21 | 2.14919 | 4865.24 | 16.1754 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 880.588 | 1718.96 | 2008.18 | 0 | 2008.18 | 2263.61 | 2263.61 |
| 22 | 2.14919 | 4984.72 | 17.3265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 893.502 | 1744.17 | 2040.44 | 0 | 2040.44 | 2319.19 | 2319.19 |
| 23 | 2.14919 | 5090.92 | 18.4849 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 903.896 | 1764.46 | 2066.42 | 0 | 2066.42 | 2368.59 | 2368.59 |
| 24 | 2.14919 | 5183.57 | 19.6511 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 911.775 | 1779.84 | 2086.1  | 0 | 2086.1  | 2411.69 | 2411.69 |
| 25 | 2.14919 | 5262.39 | 20.8259 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 917.134 | 1790.3  | 2099.49 | 0 | 2099.49 | 2448.35 | 2448.35 |
| 26 | 2.14919 | 5327.06 | 22.01   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 919.961 | 1795.82 | 2106.55 | 0 | 2106.55 | 2478.43 | 2478.43 |
| 27 | 2.14919 | 5377.23 | 23.204  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 920.243 | 1796.37 | 2107.26 | 0 | 2107.26 | 2501.75 | 2501.75 |
| 28 | 2.14919 | 5412.51 | 24.4088 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 917.969 | 1791.93 | 2101.58 | 0 | 2101.58 | 2518.16 | 2518.16 |
| 29 | 2.14919 | 5432.49 | 25.6252 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 913.117 | 1782.46 | 2089.46 | 0 | 2089.46 | 2527.44 | 2527.44 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 2.14919 | 5436.69 | 26.8541 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 905.664 | 1767.91 | 2070.83 | 0 | 2070.83 | 2529.39 | 2529.39 |
| 31 | 2.14919 | 5424.63 | 28.0965 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 895.582 | 1748.23 | 2045.63 | 0 | 2045.63 | 2523.76 | 2523.76 |
| 32 | 2.14919 | 5395.72 | 29.3535 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 882.837 | 1723.35 | 2013.79 | 0 | 2013.79 | 2510.3  | 2510.3  |
| 33 | 2.14919 | 5349.36 | 30.6262 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 867.391 | 1693.2  | 1975.21 | 0 | 1975.21 | 2488.72 | 2488.72 |
| 34 | 2.14919 | 5284.85 | 31.9159 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 849.211 | 1657.71 | 1929.78 | 0 | 1929.78 | 2458.7  | 2458.7  |
| 35 | 2.14919 | 5201.45 | 33.2239 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 828.243 | 1616.78 | 1877.4  | 0 | 1877.4  | 2419.88 | 2419.88 |
| 36 | 2.14919 | 5098.29 | 34.5518 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 804.442 | 1570.32 | 1817.92 | 0 | 1817.92 | 2371.87 | 2371.87 |
| 37 | 2.14919 | 4974.43 | 35.9013 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 777.742 | 1518.2  | 1751.22 | 0 | 1751.22 | 2314.24 | 2314.24 |
| 38 | 2.14919 | 4828.82 | 37.2742 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 748.087 | 1460.31 | 1677.12 | 0 | 1677.12 | 2246.48 | 2246.48 |
| 39 | 2.14919 | 4660.25 | 38.6726 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 715.403 | 1396.51 | 1595.46 | 0 | 1595.46 | 2168.05 | 2168.05 |
| 40 | 2.14919 | 4467.38 | 40.099  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 679.615 | 1326.65 | 1506.04 | 0 | 1506.04 | 2078.31 | 2078.31 |
| 41 | 2.14919 | 4248.65 | 41.5559 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 640.631 | 1250.55 | 1408.64 | 0 | 1408.64 | 1976.54 | 1976.54 |
| 42 | 2.14919 | 4002.31 | 43.0464 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 598.363 | 1168.04 | 1303.03 | 0 | 1303.03 | 1861.92 | 1861.92 |
| 43 | 2.14919 | 3726.31 | 44.5742 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 552.706 | 1078.92 | 1188.96 | 0 | 1188.96 | 1733.51 | 1733.51 |
| 44 | 2.14919 | 3418.28 | 46.1432 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 503.55  | 982.96  | 1066.14 | 0 | 1066.14 | 1590.2  | 1590.2  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 2.14919 | 3075.42 | 47.7584 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 450.773 | 879.935 | 934.276 | 0 | 934.276 | 1430.68 | 1430.68 |
| 46 | 2.14919 | 2694.42 | 49.4255 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 394.245 | 769.59  | 793.04  | 0 | 793.04  | 1253.43 | 1253.43 |
| 47 | 2.14919 | 2271.28 | 51.1514 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 333.83  | 651.656 | 642.09  | 0 | 642.09  | 1056.57 | 1056.57 |
| 48 | 2.14919 | 1765.19 | 52.9445 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 265.013 | 517.321 | 470.149 | 0 | 470.149 | 821.125 | 821.125 |
| 49 | 2.14919 | 1105.67 | 54.8155 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 180.321 | 351.997 | 258.544 | 0 | 258.544 | 514.312 | 514.312 |
| 50 | 2.14919 | 379.411 | 56.7779 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 91.5308 | 178.674 | 36.7006 | 0 | 36.7006 | 176.456 | 176.456 |

## **Cross Section AA-AA' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.26978**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.38859    | 89.5429      | 5.24959                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 133.66             | 169.719              | 25.2386                  | 0                   | 25.2386                       | 37.5193                    | 37.5193                         |
| 2            | 2.38859    | 264.028      | 5.95368                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 174.946            | 222.143              | 92.3392                  | 0                   | 92.3392                       | 110.584                    | 110.584                         |
| 3            | 2.38859    | 478.009      | 6.65867                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 225.134            | 285.871              | 173.906                  | 0                   | 173.906                       | 200.189                    | 200.189                         |
| 4            | 2.38859    | 756.854      | 7.36468                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 290.083            | 368.342              | 279.465                  | 0                   | 279.465                       | 316.958                    | 316.958                         |
| 5            | 2.38859    | 1027.18      | 8.07181                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 352.084            | 447.069              | 380.23                   | 0                   | 380.23                        | 430.163                    | 430.163                         |
| 6            | 2.38859    | 1288.15      | 8.78018                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 410.996            | 521.874              | 475.978                  | 0                   | 475.978                       | 539.458                    | 539.458                         |
| 7            | 2.38859    | 1539.73      | 9.48991                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 466.864            | 592.815              | 566.779                  | 0                   | 566.779                       | 644.821                    | 644.821                         |
| 8            | 2.38859    | 1781.86      | 10.2011                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 519.733            | 659.946              | 652.702                  | 0                   | 652.702                       | 746.227                    | 746.227                         |
| 9            | 2.38859    | 2014.47      | 10.9139                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 569.64             | 723.317              | 733.814                  | 0                   | 733.814                       | 843.653                    | 843.653                         |
| 10           | 2.38859    | 2237.49      | 11.6284                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 616.623            | 782.976              | 810.171                  | 0                   | 810.171                       | 937.064                    | 937.064                         |
| 11           | 2.38859    | 2450.86      | 12.3448                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 660.72             | 838.969              | 881.839                  | 0                   | 881.839                       | 1026.44                    | 1026.44                         |
| 12           | 2.38859    | 2654.5       | 13.0631                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 701.962            | 891.337              | 948.868                  | 0                   | 948.868                       | 1111.74                    | 1111.74                         |
| 13           | 2.38859    | 2848.33      | 13.7835                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 740.381            | 940.121              | 1011.31                  | 0                   | 1011.31                       | 1192.94                    | 1192.94                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.38859 | 3032.25 | 14.5061 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 776.007 | 985.358 | 1069.21 | 0 | 1069.21 | 1269.99 | 1269.99 |
| 15 | 2.38859 | 3206.18 | 15.2311 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 808.868 | 1027.08 | 1122.62 | 0 | 1122.62 | 1342.85 | 1342.85 |
| 16 | 2.38859 | 3370    | 15.9586 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 838.988 | 1065.33 | 1171.57 | 0 | 1171.57 | 1411.49 | 1411.49 |
| 17 | 2.38859 | 3523.62 | 16.6888 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 866.393 | 1100.13 | 1216.11 | 0 | 1216.11 | 1475.85 | 1475.85 |
| 18 | 2.38859 | 3666.92 | 17.4218 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 891.104 | 1131.51 | 1256.27 | 0 | 1256.27 | 1535.9  | 1535.9  |
| 19 | 2.38859 | 3799.77 | 18.1577 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 913.142 | 1159.49 | 1292.09 | 0 | 1292.09 | 1591.57 | 1591.57 |
| 20 | 2.38859 | 3922.05 | 18.8967 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 932.524 | 1184.1  | 1323.59 | 0 | 1323.59 | 1642.81 | 1642.81 |
| 21 | 2.38859 | 4033.61 | 19.639  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 949.275 | 1205.37 | 1350.82 | 0 | 1350.82 | 1689.57 | 1689.57 |
| 22 | 2.38859 | 4134.32 | 20.3848 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 963.411 | 1223.32 | 1373.78 | 0 | 1373.78 | 1731.78 | 1731.78 |
| 23 | 2.38859 | 4224.01 | 21.1342 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 974.933 | 1237.95 | 1392.51 | 0 | 1392.51 | 1769.38 | 1769.38 |
| 24 | 2.38859 | 4302.52 | 21.8874 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 983.863 | 1249.29 | 1407.03 | 0 | 1407.03 | 1802.29 | 1802.29 |
| 25 | 2.38859 | 4369.68 | 22.6446 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 990.219 | 1257.36 | 1417.36 | 0 | 1417.36 | 1830.45 | 1830.45 |
| 26 | 2.38859 | 4425.29 | 23.406  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 994.007 | 1262.17 | 1423.51 | 0 | 1423.51 | 1853.78 | 1853.78 |
| 27 | 2.38859 | 4469.17 | 24.1718 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 995.235 | 1263.73 | 1425.5  | 0 | 1425.5  | 1872.19 | 1872.19 |
| 28 | 2.38859 | 4501.1  | 24.9422 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 993.904 | 1262.04 | 1423.35 | 0 | 1423.35 | 1885.6  | 1885.6  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.38859 | 4520.85 | 25.7174 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 990.038 | 1257.13 | 1417.06 | 0 | 1417.06 | 1893.91 | 1893.91 |
| 30 | 2.38859 | 4528.2  | 26.4978 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 983.627 | 1248.99 | 1406.65 | 0 | 1406.65 | 1897.02 | 1897.02 |
| 31 | 2.38859 | 4522.9  | 27.2835 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 974.689 | 1237.64 | 1392.11 | 0 | 1392.11 | 1894.83 | 1894.83 |
| 32 | 2.38859 | 4504.67 | 28.0748 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 963.214 | 1223.07 | 1373.47 | 0 | 1373.47 | 1887.23 | 1887.23 |
| 33 | 2.38859 | 4473.23 | 28.872  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 949.212 | 1205.29 | 1350.7  | 0 | 1350.7  | 1874.09 | 1874.09 |
| 34 | 2.38859 | 4428.28 | 29.6753 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 932.673 | 1184.29 | 1323.83 | 0 | 1323.83 | 1855.29 | 1855.29 |
| 35 | 2.38859 | 4369.49 | 30.4851 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 913.615 | 1160.09 | 1292.86 | 0 | 1292.86 | 1830.7  | 1830.7  |
| 36 | 2.38859 | 4296.53 | 31.3017 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 892.025 | 1132.67 | 1257.77 | 0 | 1257.77 | 1800.16 | 1800.16 |
| 37 | 2.38859 | 4209.02 | 32.1254 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 867.902 | 1102.05 | 1218.56 | 0 | 1218.56 | 1763.53 | 1763.53 |
| 38 | 2.38859 | 4106.58 | 32.9567 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 841.245 | 1068.2  | 1175.24 | 0 | 1175.24 | 1720.64 | 1720.64 |
| 39 | 2.38859 | 3988.77 | 33.7958 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 812.048 | 1031.12 | 1127.78 | 0 | 1127.78 | 1671.32 | 1671.32 |
| 40 | 2.38859 | 3855.15 | 34.6433 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 780.307 | 990.818 | 1076.2  | 0 | 1076.2  | 1615.37 | 1615.37 |
| 41 | 2.38859 | 3705.23 | 35.4995 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 746.016 | 947.276 | 1020.47 | 0 | 1020.47 | 1552.59 | 1552.59 |
| 42 | 2.38859 | 3538.5  | 36.3649 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 709.169 | 900.488 | 960.58  | 0 | 960.58  | 1482.75 | 1482.75 |
| 43 | 2.38859 | 3311.74 | 37.2401 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 662.267 | 840.934 | 884.355 | 0 | 884.355 | 1387.77 | 1387.77 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 44 | 2.38859 | 2942.05 | 38.1256 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 591.225 | 750.726 | 768.894  | 0 | 768.894  | 1232.9  | 1232.9  |
| 45 | 2.38859 | 2545.64 | 39.0219 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 516.827 | 656.256 | 647.979  | 0 | 647.979  | 1066.82 | 1066.82 |
| 46 | 2.38859 | 2129.88 | 39.9298 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 440.5   | 559.338 | 523.929  | 0 | 523.929  | 892.633 | 892.633 |
| 47 | 2.38859 | 1693.98 | 40.8498 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 362.254 | 459.983 | 396.759  | 0 | 396.759  | 709.999 | 709.999 |
| 48 | 2.38859 | 1237.12 | 41.7829 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 282.103 | 358.209 | 266.496  | 0 | 266.496  | 518.573 | 518.573 |
| 49 | 2.38859 | 758.355 | 42.7297 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 200.063 | 254.036 | 133.16   | 0 | 133.16   | 317.964 | 317.964 |
| 50 | 2.38859 | 256.69  | 43.6912 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 116.153 | 147.489 | -3.21412 | 0 | -3.21412 | 107.75  | 107.75  |



**Global Minimum Query (janbu simplified) - Safety Factor: 1.20742**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.30395    | 119.131      | -0.684286                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 158.918            | 191.881              | 53.6055                  | 0                   | 53.6055                       | 51.7074                    | 51.7074                         |
| 2            | 2.30395    | 351.898      | 0.228355                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 222.489            | 268.638              | 151.85                   | 0                   | 151.85                        | 152.737                    | 152.737                         |
| 3            | 2.30395    | 583.033      | 1.14105                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 284.314            | 343.287              | 247.395                  | 0                   | 247.395                       | 253.058                    | 253.058                         |
| 4            | 2.30395    | 888.354      | 2.05404                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 365.252            | 441.013              | 372.48                   | 0                   | 372.48                        | 385.58                     | 385.58                          |
| 5            | 2.30395    | 1203.12      | 2.96756                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 447.134            | 539.879              | 499.025                  | 0                   | 499.025                       | 522.204                    | 522.204                         |
| 6            | 2.30395    | 1506.86      | 3.88182                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 524.413            | 633.187              | 618.449                  | 0                   | 618.449                       | 654.033                    | 654.033                         |
| 7            | 2.30395    | 1799.52      | 4.79708                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 597.204            | 721.076              | 730.946                  | 0                   | 730.946                       | 781.064                    | 781.064                         |
| 8            | 2.30395    | 2081.08      | 5.71357                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 665.617            | 803.679              | 836.671                  | 0                   | 836.671                       | 903.268                    | 903.268                         |
| 9            | 2.30395    | 2351.47      | 6.63153                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 729.753            | 881.118              | 935.789                  | 0                   | 935.789                       | 1020.63                    | 1020.63                         |
| 10           | 2.30395    | 2610.65      | 7.5512                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 789.705            | 953.506              | 1028.44                  | 0                   | 1028.44                       | 1133.13                    | 1133.13                         |
| 11           | 2.30395    | 2858.55      | 8.47283                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 845.561            | 1020.95              | 1114.76                  | 0                   | 1114.76                       | 1240.72                    | 1240.72                         |
| 12           | 2.30395    | 3095.08      | 9.39667                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 897.401            | 1083.54              | 1194.88                  | 0                   | 1194.88                       | 1343.39                    | 1343.39                         |
| 13           | 2.30395    | 3320.17      | 10.323                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 945.301            | 1141.38              | 1268.9                   | 0                   | 1268.9                        | 1441.08                    | 1441.08                         |
| 14           | 2.30395    | 3533.71      | 11.2521                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 989.324            | 1194.53              | 1336.95                  | 0                   | 1336.95                       | 1533.77                    | 1533.77                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 2.30395 | 3735.6  | 12.1841 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1029.55 | 1243.1  | 1399.1  | 0 | 1399.1  | 1621.4  | 1621.4  |
| 16 | 2.30395 | 3925.71 | 13.1195 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1066.02 | 1287.13 | 1455.47 | 0 | 1455.47 | 1703.92 | 1703.92 |
| 17 | 2.30395 | 4103.93 | 14.0584 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1098.8  | 1326.71 | 1506.12 | 0 | 1506.12 | 1781.27 | 1781.27 |
| 18 | 2.30395 | 4270.1  | 15.0012 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1127.93 | 1361.89 | 1551.14 | 0 | 1551.14 | 1853.4  | 1853.4  |
| 19 | 2.30395 | 4424.08 | 15.9482 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1153.47 | 1392.72 | 1590.61 | 0 | 1590.61 | 1920.23 | 1920.23 |
| 20 | 2.30395 | 4565.69 | 16.8996 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1175.45 | 1419.26 | 1624.57 | 0 | 1624.57 | 1981.69 | 1981.69 |
| 21 | 2.30395 | 4694.74 | 17.8559 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1193.91 | 1441.55 | 1653.1  | 0 | 1653.1  | 2037.71 | 2037.71 |
| 22 | 2.30395 | 4811.05 | 18.8174 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1208.88 | 1459.63 | 1676.25 | 0 | 1676.25 | 2088.2  | 2088.2  |
| 23 | 2.30395 | 4914.39 | 19.7844 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1220.4  | 1473.54 | 1694.05 | 0 | 1694.05 | 2133.05 | 2133.05 |
| 24 | 2.30395 | 5004.54 | 20.7573 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1228.5  | 1483.31 | 1706.56 | 0 | 1706.56 | 2172.18 | 2172.18 |
| 25 | 2.30395 | 5081.24 | 21.7365 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1233.19 | 1488.98 | 1713.81 | 0 | 1713.81 | 2205.47 | 2205.47 |
| 26 | 2.30395 | 5144.23 | 22.7224 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1234.5  | 1490.56 | 1715.84 | 0 | 1715.84 | 2232.81 | 2232.81 |
| 27 | 2.30395 | 5193.2  | 23.7155 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1232.45 | 1488.08 | 1712.66 | 0 | 1712.66 | 2254.07 | 2254.07 |
| 28 | 2.30395 | 5227.85 | 24.7162 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1227.04 | 1481.55 | 1704.31 | 0 | 1704.31 | 2269.1  | 2269.1  |
| 29 | 2.30395 | 5247.82 | 25.725  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1218.29 | 1470.99 | 1690.79 | 0 | 1690.79 | 2277.77 | 2277.77 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 2.30395 | 5252.76 | 26.7425 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1206.22 | 1456.41 | 1672.13 | 0 | 1672.13 | 2279.92 | 2279.92 |
| 31 | 2.30395 | 5242.26 | 27.7692 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1190.82 | 1437.82 | 1648.33 | 0 | 1648.33 | 2275.36 | 2275.36 |
| 32 | 2.30395 | 5215.89 | 28.8056 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1172.1  | 1415.22 | 1619.4  | 0 | 1619.4  | 2263.92 | 2263.92 |
| 33 | 2.30395 | 5173.18 | 29.8524 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1150.06 | 1388.6  | 1585.34 | 0 | 1585.34 | 2245.38 | 2245.38 |
| 34 | 2.30395 | 5113.6  | 30.9104 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1124.69 | 1357.97 | 1546.14 | 0 | 1546.14 | 2219.52 | 2219.52 |
| 35 | 2.30395 | 5036.62 | 31.9802 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1095.99 | 1323.32 | 1501.78 | 0 | 1501.78 | 2186.11 | 2186.11 |
| 36 | 2.30395 | 4941.62 | 33.0626 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1063.95 | 1284.64 | 1452.28 | 0 | 1452.28 | 2144.87 | 2144.87 |
| 37 | 2.30395 | 4827.93 | 34.1585 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1028.57 | 1241.92 | 1397.6  | 0 | 1397.6  | 2095.53 | 2095.53 |
| 38 | 2.30395 | 4694.83 | 35.2688 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 989.838 | 1195.15 | 1337.73 | 0 | 1337.73 | 2037.76 | 2037.76 |
| 39 | 2.30395 | 4541.51 | 36.3946 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 947.717 | 1144.29 | 1272.64 | 0 | 1272.64 | 1971.22 | 1971.22 |
| 40 | 2.30395 | 4367.11 | 37.5369 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 902.208 | 1089.34 | 1202.31 | 0 | 1202.31 | 1895.52 | 1895.52 |
| 41 | 2.30395 | 4170.65 | 38.697  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 853.288 | 1030.28 | 1126.7  | 0 | 1126.7  | 1810.24 | 1810.24 |
| 42 | 2.30395 | 3951.04 | 39.8763 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 800.938 | 967.068 | 1045.8  | 0 | 1045.8  | 1714.92 | 1714.92 |
| 43 | 2.30395 | 3707.08 | 41.0762 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 745.135 | 899.691 | 959.561 | 0 | 959.561 | 1609.04 | 1609.04 |
| 44 | 2.30395 | 3437.44 | 42.2984 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 685.859 | 828.12  | 867.953 | 0 | 867.953 | 1492    | 1492    |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 45 | 2.30395 | 3096.35 | 43.5449 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 615.392 | 743.037 | 759.053  | 0 | 759.053  | 1343.95 | 1343.95 |
| 46 | 2.30395 | 2612.87 | 44.8177 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 522.273 | 630.603 | 615.144  | 0 | 615.144  | 1134.1  | 1134.1  |
| 47 | 2.30395 | 2092.84 | 46.1192 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 425.633 | 513.918 | 465.794  | 0 | 465.794  | 908.389 | 908.389 |
| 48 | 2.30395 | 1539.75 | 47.4523 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 326.505 | 394.229 | 312.599  | 0 | 312.599  | 668.322 | 668.322 |
| 49 | 2.30395 | 951.03  | 48.8202 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 224.95  | 271.609 | 155.652  | 0 | 155.652  | 412.793 | 412.793 |
| 50 | 2.30395 | 323.711 | 50.2265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 121.05  | 146.158 | -4.91723 | 0 | -4.91723 | 140.508 | 140.508 |

## **Cross Section BB-BB' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.64466**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.66067    | 134.351      | 11.8635                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 104.74             | 172.261              | 28.4931                  | 0                   | 28.4931                       | 50.4956                    | 50.4956                         |
| 2            | 2.66067    | 481.649      | 12.4967                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 160.32             | 263.672              | 145.494                  | 0                   | 145.494                       | 181.026                    | 181.026                         |
| 3            | 2.66067    | 825.989      | 13.1315                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 214.868            | 353.384              | 260.319                  | 0                   | 260.319                       | 310.445                    | 310.445                         |
| 4            | 2.66067    | 1159.56      | 13.7679                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 267.142            | 439.357              | 370.362                  | 0                   | 370.362                       | 435.819                    | 435.819                         |
| 5            | 2.66067    | 1482.29      | 14.406                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 317.157            | 521.615              | 475.646                  | 0                   | 475.646                       | 557.114                    | 557.114                         |
| 6            | 2.66067    | 1794.07      | 15.046                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 364.925            | 600.177              | 576.2                    | 0                   | 576.2                         | 674.295                    | 674.295                         |
| 7            | 2.66067    | 2094.82      | 15.6879                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 410.457            | 675.062              | 672.047                  | 0                   | 672.047                       | 787.328                    | 787.328                         |
| 8            | 2.66067    | 2384.42      | 16.3318                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 453.763            | 746.286              | 763.21                   | 0                   | 763.21                        | 896.172                    | 896.172                         |
| 9            | 2.66067    | 2662.77      | 16.9778                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 494.854            | 813.866              | 849.708                  | 0                   | 849.708                       | 1000.79                    | 1000.79                         |
| 10           | 2.66067    | 2929.76      | 17.6261                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 533.736            | 877.814              | 931.558                  | 0                   | 931.558                       | 1101.14                    | 1101.14                         |
| 11           | 2.66067    | 3185.26      | 18.2767                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 570.418            | 938.143              | 1008.78                  | 0                   | 1008.78                       | 1197.17                    | 1197.17                         |
| 12           | 2.66067    | 3429.15      | 18.9298                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 604.906            | 994.864              | 1081.38                  | 0                   | 1081.38                       | 1288.83                    | 1288.83                         |
| 13           | 2.66067    | 3661.29      | 19.5854                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 637.204            | 1047.98              | 1149.37                  | 0                   | 1149.37                       | 1376.08                    | 1376.08                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.66067 | 3881.54 | 20.2437 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 667.318 | 1097.51 | 1212.76 | 0 | 1212.76 | 1458.86 | 1458.86 |
| 15 | 2.66067 | 4089.76 | 20.9048 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 695.253 | 1143.45 | 1271.56 | 0 | 1271.56 | 1537.12 | 1537.12 |
| 16 | 2.66067 | 4285.78 | 21.5688 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 721.006 | 1185.81 | 1325.78 | 0 | 1325.78 | 1610.79 | 1610.79 |
| 17 | 2.66067 | 4469.43 | 22.2359 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 744.586 | 1224.59 | 1375.41 | 0 | 1375.41 | 1679.82 | 1679.82 |
| 18 | 2.66067 | 4640.56 | 22.9062 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 765.988 | 1259.79 | 1420.47 | 0 | 1420.47 | 1744.14 | 1744.14 |
| 19 | 2.66067 | 4798.95 | 23.5798 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 785.22  | 1291.42 | 1460.95 | 0 | 1460.95 | 1803.67 | 1803.67 |
| 20 | 2.66067 | 4944.44 | 24.2569 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 802.269 | 1319.46 | 1496.84 | 0 | 1496.84 | 1858.35 | 1858.35 |
| 21 | 2.66067 | 5076.8  | 24.9376 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 817.142 | 1343.92 | 1528.14 | 0 | 1528.14 | 1908.1  | 1908.1  |
| 22 | 2.66067 | 5195.83 | 25.6221 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 829.825 | 1364.78 | 1554.85 | 0 | 1554.85 | 1952.83 | 1952.83 |
| 23 | 2.66067 | 5301.29 | 26.3106 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 840.332 | 1382.06 | 1576.96 | 0 | 1576.96 | 1992.47 | 1992.47 |
| 24 | 2.66067 | 5392.95 | 27.0031 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 848.643 | 1395.73 | 1594.46 | 0 | 1594.46 | 2026.92 | 2026.92 |
| 25 | 2.66067 | 5470.55 | 27.7    | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 854.754 | 1405.78 | 1607.33 | 0 | 1607.33 | 2056.09 | 2056.09 |
| 26 | 2.66067 | 5533.83 | 28.4013 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 858.67  | 1412.22 | 1615.57 | 0 | 1615.57 | 2079.87 | 2079.87 |
| 27 | 2.66067 | 5582.5  | 29.1073 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 860.366 | 1415.01 | 1619.14 | 0 | 1619.14 | 2098.16 | 2098.16 |
| 28 | 2.66067 | 5616.25 | 29.8182 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 859.849 | 1414.16 | 1618.05 | 0 | 1618.05 | 2110.85 | 2110.85 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.66067 | 5634.79 | 30.5342 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 857.095 | 1409.63 | 1612.26 | 0 | 1612.26 | 2117.81 | 2117.81 |
| 30 | 2.66067 | 5637.76 | 31.2555 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 852.103 | 1401.42 | 1601.75 | 0 | 1601.75 | 2118.93 | 2118.93 |
| 31 | 2.66067 | 5624.81 | 31.9823 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 844.862 | 1389.51 | 1586.5  | 0 | 1586.5  | 2114.07 | 2114.07 |
| 32 | 2.66067 | 5595.57 | 32.715  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 835.352 | 1373.87 | 1566.48 | 0 | 1566.48 | 2103.08 | 2103.08 |
| 33 | 2.66067 | 5549.64 | 33.4537 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 823.562 | 1354.48 | 1541.66 | 0 | 1541.66 | 2085.81 | 2085.81 |
| 34 | 2.66067 | 5486.58 | 34.1988 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 809.48  | 1331.32 | 1512.02 | 0 | 1512.02 | 2062.11 | 2062.11 |
| 35 | 2.66067 | 5405.94 | 34.9505 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 793.082 | 1304.35 | 1477.5  | 0 | 1477.5  | 2031.8  | 2031.8  |
| 36 | 2.66067 | 5307.25 | 35.7092 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 774.361 | 1273.56 | 1438.09 | 0 | 1438.09 | 1994.71 | 1994.71 |
| 37 | 2.66067 | 5189.98 | 36.4751 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 753.292 | 1238.91 | 1393.74 | 0 | 1393.74 | 1950.64 | 1950.64 |
| 38 | 2.66067 | 5053.58 | 37.2488 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 729.853 | 1200.36 | 1344.4  | 0 | 1344.4  | 1899.37 | 1899.37 |
| 39 | 2.66067 | 4897.47 | 38.0304 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 704.03  | 1157.89 | 1290.04 | 0 | 1290.04 | 1840.7  | 1840.7  |
| 40 | 2.66067 | 4721    | 38.8205 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 675.802 | 1111.46 | 1230.62 | 0 | 1230.62 | 1774.37 | 1774.37 |
| 41 | 2.66067 | 4523.51 | 39.6194 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 645.139 | 1061.03 | 1166.07 | 0 | 1166.07 | 1700.15 | 1700.15 |
| 42 | 2.66067 | 4304.25 | 40.4277 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 612.022 | 1006.57 | 1096.36 | 0 | 1096.36 | 1617.74 | 1617.74 |
| 43 | 2.66067 | 4062.45 | 41.2458 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 576.424 | 948.022 | 1021.42 | 0 | 1021.42 | 1526.86 | 1526.86 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 44 | 2.66067 | 3797.24 | 42.0743 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 538.32  | 885.354 | 941.21  | 0 | 941.21  | 1427.18 | 1427.18 |
| 45 | 2.66067 | 3507.71 | 42.9138 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 497.683 | 818.519 | 855.664 | 0 | 855.664 | 1318.36 | 1318.36 |
| 46 | 2.66067 | 3192.86 | 43.7649 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 454.484 | 747.471 | 764.729 | 0 | 764.729 | 1200.03 | 1200.03 |
| 47 | 2.66067 | 2803.65 | 44.6282 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 402.867 | 662.579 | 656.071 | 0 | 656.071 | 1053.74 | 1053.74 |
| 48 | 2.66067 | 2077.9  | 45.5046 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 311.563 | 512.416 | 463.871 | 0 | 463.871 | 780.972 | 780.972 |
| 49 | 2.66067 | 1268.04 | 46.3949 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 211.913 | 348.525 | 254.1   | 0 | 254.1   | 476.591 | 476.591 |
| 50 | 2.66067 | 427.861 | 47.2999 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 110.64  | 181.964 | 40.9127 | 0 | 40.9127 | 160.811 | 160.811 |



**Global Minimum Query (janbu simplified) - Safety Factor: 1.54759**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                            | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.08002    | 208.235      | -7.84041                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 140.821            | 217.932              | 86.9494                  | 0                   | 86.9494                       | 67.5582                    | 67.5582                         |
| 2            | 3.08002    | 611.068      | -6.57894                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 209.235            | 323.81               | 222.467                  | 0                   | 222.467                       | 198.335                    | 198.335                         |
| 3            | 3.08002    | 1118.24      | -5.32067                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 294.002            | 454.994              | 390.373                  | 0                   | 390.373                       | 362.993                    | 362.993                         |
| 4            | 3.08002    | 1712.79      | -4.06498                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 391.681            | 606.162              | 583.862                  | 0                   | 583.862                       | 556.026                    | 556.026                         |
| 5            | 3.08002    | 2280.19      | -2.81123                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 482.599            | 746.866              | 763.955                  | 0                   | 763.955                       | 740.257                    | 740.257                         |
| 6            | 3.08002    | 2897.95      | -1.55883                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 579.868            | 897.398              | 956.627                  | 0                   | 956.627                       | 940.847                    | 940.847                         |
| 7            | 3.08002    | 3654.45      | -0.307176                 | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 697.803            | 1079.91              | 1190.24                  | 0                   | 1190.24                       | 1186.49                    | 1186.49                         |
| 8            | 3.08002    | 4389.55      | 0.944331                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 809.685            | 1253.06              | 1411.86                  | 0                   | 1411.86                       | 1425.2                     | 1425.2                          |
| 9            | 3.08002    | 5097.69      | 2.19629                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 914.809            | 1415.75              | 1620.09                  | 0                   | 1620.09                       | 1655.18                    | 1655.18                         |
| 10           | 3.08002    | 5778.83      | 3.4493                    | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1013.36            | 1568.27              | 1815.31                  | 0                   | 1815.31                       | 1876.39                    | 1876.39                         |
| 11           | 3.08002    | 6432.88      | 4.70396                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1105.52            | 1710.89              | 1997.85                  | 0                   | 1997.85                       | 2088.82                    | 2088.82                         |
| 12           | 3.08002    | 7059.71      | 5.96089                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1191.43            | 1843.84              | 2168.02                  | 0                   | 2168.02                       | 2292.42                    | 2292.42                         |
| 13           | 3.08002    | 7659.15      | 7.22071                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1271.22            | 1967.33              | 2326.08                  | 0                   | 2326.08                       | 2487.14                    | 2487.14                         |
| 14           | 3.08002    | 8231         | 8.48405                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1345.03            | 2081.55              | 2472.27                  | 0                   | 2472.27                       | 2672.9                     | 2672.9                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 3.08002 | 8775    | 9.75156 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1412.95 | 2186.66 | 2606.81 | 0 | 2606.81 | 2849.63 | 2849.63 |
| 16 | 3.08002 | 9290.86 | 11.0239 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1475.07 | 2282.81 | 2729.87 | 0 | 2729.87 | 3017.23 | 3017.23 |
| 17 | 2.93798 | 9312.51 | 12.2722 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1379.83 | 2135.41 | 2870.32 | 0 | 2870.32 | 3170.47 | 3170.47 |
| 18 | 2.93798 | 9722.05 | 13.4968 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1425.6  | 2206.24 | 2967.8  | 0 | 2967.8  | 3309.98 | 3309.98 |
| 19 | 2.93798 | 10107.1 | 14.7277 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1466.8  | 2270.01 | 3055.59 | 0 | 3055.59 | 3441.15 | 3441.15 |
| 20 | 2.93798 | 10467.3 | 15.9657 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1503.49 | 2326.79 | 3133.73 | 0 | 3133.73 | 3563.88 | 3563.88 |
| 21 | 2.93798 | 10802.3 | 17.2113 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1535.68 | 2376.6  | 3202.29 | 0 | 3202.29 | 3677.99 | 3677.99 |
| 22 | 2.93798 | 11111.4 | 18.4654 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1563.37 | 2419.46 | 3261.26 | 0 | 3261.26 | 3783.31 | 3783.31 |
| 23 | 2.93798 | 11394.1 | 19.7287 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1586.58 | 2455.37 | 3310.73 | 0 | 3310.73 | 3879.7  | 3879.7  |
| 24 | 2.93798 | 11649.9 | 21.0021 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1605.3  | 2484.34 | 3350.6  | 0 | 3350.6  | 3966.88 | 3966.88 |
| 25 | 2.93798 | 11878.1 | 22.2864 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1619.52 | 2506.36 | 3380.89 | 0 | 3380.89 | 4044.66 | 4044.66 |
| 26 | 2.93798 | 12077.8 | 23.5827 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1629.23 | 2521.38 | 3401.56 | 0 | 3401.56 | 4112.76 | 4112.76 |
| 27 | 2.93798 | 12248.4 | 24.8919 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1634.39 | 2529.37 | 3412.56 | 0 | 3412.56 | 4170.94 | 4170.94 |
| 28 | 2.93798 | 12388.8 | 26.2152 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1634.97 | 2530.27 | 3413.8  | 0 | 3413.8  | 4218.85 | 4218.85 |
| 29 | 2.93798 | 12498.1 | 27.5537 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1630.94 | 2524.02 | 3405.2  | 0 | 3405.2  | 4256.15 | 4256.15 |
| 30 | 2.93798 | 12575   | 28.9087 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1622.22 | 2510.53 | 3386.64 | 0 | 3386.64 | 4282.47 | 4282.47 |
| 31 | 2.93798 | 12618.5 | 30.2817 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1608.77 | 2489.71 | 3357.96 | 0 | 3357.96 | 4297.36 | 4297.36 |
| 32 | 2.93798 | 12627   | 31.6742 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1590.49 | 2461.43 | 3319.05 | 0 | 3319.05 | 4300.37 | 4300.37 |
| 33 | 2.93798 | 12599   | 33.0879 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1567.32 | 2425.57 | 3269.69 | 0 | 3269.69 | 4290.94 | 4290.94 |
| 34 | 2.93798 | 12532.7 | 34.5247 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1539.15 | 2381.97 | 3209.69 | 0 | 3209.69 | 4268.49 | 4268.49 |
| 35 | 2.92594 | 12369.3 | 35.9837 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1633.77 | 2528.41 | 3044.23 | 0 | 3044.23 | 4230.53 | 4230.53 |
| 36 | 2.92594 | 12208.4 | 37.4672 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1589.81 | 2460.37 | 2957.12 | 0 | 2957.12 | 4175.58 | 4175.58 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 37 | 2.92594 | 12001.1 | 38.9808 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1540.05 | 2383.37 | 2858.58 | 0 | 2858.58 | 4104.84 | 4104.84 |
| 38 | 2.92594 | 11744.7 | 40.5274 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1484.35 | 2297.17 | 2748.27 | 0 | 2748.27 | 4017.25 | 4017.25 |
| 39 | 2.92594 | 11435.5 | 42.1107 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1422.53 | 2201.49 | 2625.78 | 0 | 2625.78 | 3911.62 | 3911.62 |
| 40 | 2.92594 | 11069.7 | 43.7346 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1354.37 | 2096.01 | 2490.79 | 0 | 2490.79 | 3786.62 | 3786.62 |
| 41 | 2.92594 | 10642.4 | 45.4039 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1279.65 | 1980.38 | 2342.78 | 0 | 2342.78 | 3640.61 | 3640.61 |
| 42 | 2.92594 | 10148.3 | 47.1242 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1198.12 | 1854.2  | 2181.28 | 0 | 2181.28 | 3471.7  | 3471.7  |
| 43 | 2.92594 | 9580.59 | 48.9021 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1109.49 | 1717.03 | 2005.71 | 0 | 2005.71 | 3277.63 | 3277.63 |
| 44 | 2.92594 | 8931.23 | 50.7457 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1013.43 | 1568.37 | 1815.43 | 0 | 1815.43 | 3055.62 | 3055.62 |
| 45 | 2.92594 | 8190.27 | 52.6653 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 909.588 | 1407.67 | 1609.75 | 0 | 1609.75 | 2802.25 | 2802.25 |
| 46 | 2.92594 | 7345.12 | 54.6734 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 797.582 | 1234.33 | 1387.88 | 0 | 1387.88 | 2513.24 | 2513.24 |
| 47 | 2.92594 | 6341.01 | 56.7866 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 673.223 | 1041.87 | 1141.55 | 0 | 1141.55 | 2169.81 | 2169.81 |
| 48 | 2.92594 | 4826.84 | 59.0269 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 505.591 | 782.448 | 809.496 | 0 | 809.496 | 1651.84 | 1651.84 |
| 49 | 2.92594 | 3049.25 | 61.4247 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 323.74  | 501.017 | 449.281 | 0 | 449.281 | 1043.67 | 1043.67 |
| 50 | 2.92594 | 1056.58 | 64.0247 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 137.31  | 212.5   | 79.9967 | 0 | 79.9967 | 361.834 | 361.834 |

## **Cross Section BB-BB' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.05918**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.68801    | 176.565      | 11.5624                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 165.153            | 174.927              | 31.9046                  | 0                   | 31.9046                       | 65.6928                    | 65.6928                         |
| 2            | 2.68801    | 543.785      | 12.1987                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 250.849            | 265.694              | 148.081                  | 0                   | 148.081                       | 202.311                    | 202.311                         |
| 3            | 2.68801    | 900.346      | 12.8366                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 332.767            | 352.46               | 259.137                  | 0                   | 259.137                       | 334.964                    | 334.964                         |
| 4            | 2.68801    | 1245.89      | 13.476                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 410.894            | 435.211              | 365.053                  | 0                   | 365.053                       | 463.518                    | 463.518                         |
| 5            | 2.68801    | 1580.34      | 14.1172                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 485.279            | 513.998              | 465.898                  | 0                   | 465.898                       | 587.947                    | 587.947                         |
| 6            | 2.68801    | 1903.59      | 14.7602                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 555.967            | 588.869              | 561.728                  | 0                   | 561.728                       | 708.208                    | 708.208                         |
| 7            | 2.68801    | 2215.55      | 15.4051                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 623.003            | 659.872              | 652.606                  | 0                   | 652.606                       | 824.27                     | 824.27                          |
| 8            | 2.68801    | 2516.12      | 16.052                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 686.426            | 727.049              | 738.587                  | 0                   | 738.587                       | 936.091                    | 936.091                         |
| 9            | 2.68801    | 2805.19      | 16.701                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 746.277            | 790.442              | 819.728                  | 0                   | 819.728                       | 1043.64                    | 1043.64                         |
| 10           | 2.68801    | 3082.64      | 17.3522                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 802.594            | 850.091              | 896.075                  | 0                   | 896.075                       | 1146.86                    | 1146.86                         |
| 11           | 2.68801    | 3348.35      | 18.0058                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 855.411            | 906.034              | 967.677                  | 0                   | 967.677                       | 1245.71                    | 1245.71                         |
| 12           | 2.68801    | 3602.19      | 18.6618                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 904.76             | 958.304              | 1034.58                  | 0                   | 1034.58                       | 1340.15                    | 1340.15                         |
| 13           | 2.68801    | 3844.02      | 19.3203                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 950.674            | 1006.93              | 1096.83                  | 0                   | 1096.83                       | 1430.13                    | 1430.13                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.68801 | 4073.71 | 19.9815 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 993.182 | 1051.96 | 1154.46 | 0 | 1154.46 | 1515.58 | 1515.58 |
| 15 | 2.68801 | 4291.09 | 20.6455 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1032.31 | 1093.4  | 1207.5  | 0 | 1207.5  | 1596.46 | 1596.46 |
| 16 | 2.68801 | 4496.02 | 21.3123 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1068.09 | 1131.3  | 1256.01 | 0 | 1256.01 | 1672.7  | 1672.7  |
| 17 | 2.68801 | 4688.32 | 21.9823 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1100.54 | 1165.67 | 1300    | 0 | 1300    | 1744.25 | 1744.25 |
| 18 | 2.68801 | 4867.82 | 22.6554 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1129.69 | 1196.54 | 1339.51 | 0 | 1339.51 | 1811.03 | 1811.03 |
| 19 | 2.68801 | 5034.32 | 23.3318 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1155.54 | 1223.93 | 1374.56 | 0 | 1374.56 | 1872.98 | 1872.98 |
| 20 | 2.68801 | 5187.64 | 24.0117 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1178.14 | 1247.86 | 1405.2  | 0 | 1405.2  | 1930.02 | 1930.02 |
| 21 | 2.68801 | 5327.57 | 24.6952 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1197.48 | 1268.35 | 1431.42 | 0 | 1431.42 | 1982.08 | 1982.08 |
| 22 | 2.68801 | 5453.88 | 25.3825 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1213.6  | 1285.42 | 1453.27 | 0 | 1453.27 | 2029.08 | 2029.08 |
| 23 | 2.68801 | 5566.34 | 26.0737 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1226.51 | 1299.09 | 1470.76 | 0 | 1470.76 | 2070.92 | 2070.92 |
| 24 | 2.68801 | 5664.72 | 26.769  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1236.2  | 1309.36 | 1483.92 | 0 | 1483.92 | 2107.53 | 2107.53 |
| 25 | 2.68801 | 5748.75 | 27.4686 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1242.72 | 1316.26 | 1492.74 | 0 | 1492.74 | 2138.79 | 2138.79 |
| 26 | 2.68801 | 5818.17 | 28.1727 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1246.05 | 1319.79 | 1497.26 | 0 | 1497.26 | 2164.62 | 2164.62 |
| 27 | 2.68801 | 5872.68 | 28.8814 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1246.21 | 1319.96 | 1497.48 | 0 | 1497.48 | 2184.9  | 2184.9  |
| 28 | 2.68801 | 5911.98 | 29.595  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1243.22 | 1316.79 | 1493.43 | 0 | 1493.43 | 2199.53 | 2199.53 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.68801 | 5935.75 | 30.3137 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1237.07 | 1310.28 | 1485.09 | 0 | 1485.09 | 2208.37 | 2208.37 |
| 30 | 2.68801 | 5943.65 | 31.0377 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1227.78 | 1300.44 | 1472.49 | 0 | 1472.49 | 2211.32 | 2211.32 |
| 31 | 2.68801 | 5935.32 | 31.7672 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1215.35 | 1287.27 | 1455.64 | 0 | 1455.64 | 2208.22 | 2208.22 |
| 32 | 2.68801 | 5910.38 | 32.5026 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1199.78 | 1270.78 | 1434.53 | 0 | 1434.53 | 2198.94 | 2198.94 |
| 33 | 2.68801 | 5868.41 | 33.244  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1181.06 | 1250.96 | 1409.17 | 0 | 1409.17 | 2183.33 | 2183.33 |
| 34 | 2.68801 | 5808.98 | 33.9918 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1159.23 | 1227.83 | 1379.56 | 0 | 1379.56 | 2161.23 | 2161.23 |
| 35 | 2.68801 | 5731.65 | 34.7462 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1134.25 | 1201.38 | 1345.71 | 0 | 1345.71 | 2132.45 | 2132.45 |
| 36 | 2.68801 | 5635.9  | 35.5075 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1106.15 | 1171.61 | 1307.61 | 0 | 1307.61 | 2096.83 | 2096.83 |
| 37 | 2.68801 | 5521.23 | 36.2762 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1074.92 | 1138.53 | 1265.26 | 0 | 1265.26 | 2054.17 | 2054.17 |
| 38 | 2.68801 | 5387.06 | 37.0524 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1040.54 | 1102.12 | 1218.66 | 0 | 1218.66 | 2004.26 | 2004.26 |
| 39 | 2.68801 | 5232.8  | 37.8368 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1003.03 | 1062.39 | 1167.81 | 0 | 1167.81 | 1946.87 | 1946.87 |
| 40 | 2.68801 | 5057.82 | 38.6295 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 962.383 | 1019.34 | 1112.7  | 0 | 1112.7  | 1881.77 | 1881.77 |
| 41 | 2.68801 | 4861.41 | 39.4311 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 918.589 | 972.951 | 1053.33 | 0 | 1053.33 | 1808.7  | 1808.7  |
| 42 | 2.68801 | 4642.84 | 40.2421 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 871.646 | 923.23  | 989.689 | 0 | 989.689 | 1727.38 | 1727.38 |
| 43 | 2.68801 | 4401.3  | 41.0629 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 821.552 | 870.171 | 921.775 | 0 | 921.775 | 1637.52 | 1637.52 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 44 | 2.68801 | 4135.93 | 41.894  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 768.301 | 813.769 | 849.584 | 0 | 849.584 | 1538.8  | 1538.8  |
| 45 | 2.68801 | 3845.81 | 42.7361 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 711.89  | 754.02  | 773.111 | 0 | 773.111 | 1430.86 | 1430.86 |
| 46 | 2.68801 | 3522.5  | 43.5899 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 651.125 | 689.659 | 690.732 | 0 | 690.732 | 1310.57 | 1310.57 |
| 47 | 2.68801 | 2897.91 | 44.4559 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 543.541 | 575.708 | 544.88  | 0 | 544.88  | 1078.2  | 1078.2  |
| 48 | 2.68801 | 2106.43 | 45.335  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 412.137 | 436.527 | 366.738 | 0 | 366.738 | 783.722 | 783.722 |
| 49 | 2.68801 | 1285.54 | 46.2279 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 279.349 | 295.881 | 186.72  | 0 | 186.72  | 478.306 | 478.306 |
| 50 | 2.68801 | 433.782 | 47.1356 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 145.243 | 153.838 | 4.91302 | 0 | 4.91302 | 161.408 | 161.408 |

**Global Minimum Query (janbu simplified) - Safety Factor: 0.987701**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                            | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.01255    | 201.94       | -8.10031                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 230.882            | 228.042              | 99.8897                  | 0                   | 99.8897                       | 67.0291                    | 67.0291                         |
| 2            | 3.01255    | 592.956      | -6.87226                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 339.969            | 335.788              | 237.798                  | 0                   | 237.798                       | 196.824                    | 196.824                         |
| 3            | 3.01255    | 1074.39      | -5.64739                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 470.795            | 465.005              | 403.189                  | 0                   | 403.189                       | 356.634                    | 356.634                         |
| 4            | 3.01255    | 1650.29      | -4.4251                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 623.341            | 615.675              | 596.038                  | 0                   | 596.038                       | 547.8                      | 547.8                           |
| 5            | 3.01255    | 2200.89      | -3.20482                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 763.579            | 754.188              | 773.326                  | 0                   | 773.326                       | 730.571                    | 730.571                         |
| 6            | 3.01255    | 2780.06      | -1.986                    | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 906.705            | 895.553              | 954.263                  | 0                   | 954.263                       | 922.822                    | 922.822                         |
| 7            | 3.01255    | 3505.45      | -0.768076                 | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1083.8             | 1070.47              | 1178.15                  | 0                   | 1178.15                       | 1163.62                    | 1163.62                         |
| 8            | 3.01255    | 4218.54      | 0.449499                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1251.78            | 1236.38              | 1390.5                   | 0                   | 1390.5                        | 1400.32                    | 1400.32                         |
| 9            | 3.01255    | 4906.54      | 1.66728                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1407.78            | 1390.47              | 1587.73                  | 0                   | 1587.73                       | 1628.71                    | 1628.71                         |
| 10           | 3.01255    | 5569.44      | 2.88581                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1552.36            | 1533.27              | 1770.5                   | 0                   | 1770.5                        | 1848.75                    | 1848.75                         |
| 11           | 3.01255    | 6207.16      | 4.10565                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1685.99            | 1665.25              | 1939.43                  | 0                   | 1939.43                       | 2060.45                    | 2060.45                         |
| 12           | 3.01255    | 6819.61      | 5.32736                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1809.09            | 1786.84              | 2095.06                  | 0                   | 2095.06                       | 2263.76                    | 2263.76                         |
| 13           | 3.01255    | 7406.66      | 6.55151                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1922.07            | 1898.43              | 2237.89                  | 0                   | 2237.89                       | 2458.63                    | 2458.63                         |
| 14           | 3.01255    | 7968.13      | 7.77866                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 2025.27            | 2000.36              | 2368.35                  | 0                   | 2368.35                       | 2645.01                    | 2645.01                         |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 3.01255 | 8503.82 | 9.00942 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2119.01 | 2092.95 | 2486.86 | 0 | 2486.86 | 2822.84 | 2822.84 |
| 16 | 3.01255 | 9013.48 | 10.2444 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2203.58 | 2176.48 | 2593.78 | 0 | 2593.78 | 2992.03 | 2992.03 |
| 17 | 2.98466 | 9401.68 | 11.4784 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2060.06 | 2034.72 | 2731.73 | 0 | 2731.73 | 3150.05 | 3150.05 |
| 18 | 2.98466 | 9840.42 | 12.7121 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2123.53 | 2097.41 | 2818.03 | 0 | 2818.03 | 3297.05 | 3297.05 |
| 19 | 2.98466 | 10253.9 | 13.9518 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2179.52 | 2152.71 | 2894.13 | 0 | 2894.13 | 3435.6  | 3435.6  |
| 20 | 2.98466 | 10641.7 | 15.1983 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2228.14 | 2200.74 | 2960.24 | 0 | 2960.24 | 3565.55 | 3565.55 |
| 21 | 2.98466 | 11003.5 | 16.4521 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2269.55 | 2241.64 | 3016.54 | 0 | 3016.54 | 3686.75 | 3686.75 |
| 22 | 2.98466 | 11338.6 | 17.7141 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2303.86 | 2275.52 | 3063.17 | 0 | 3063.17 | 3799.05 | 3799.05 |
| 23 | 2.98466 | 11646.6 | 18.9851 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2331.14 | 2302.47 | 3100.26 | 0 | 3100.26 | 3902.25 | 3902.25 |
| 24 | 2.98466 | 11926.9 | 20.2658 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2351.49 | 2322.57 | 3127.92 | 0 | 3127.92 | 3996.17 | 3996.17 |
| 25 | 2.98466 | 12178.8 | 21.5572 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2364.97 | 2335.88 | 3146.24 | 0 | 3146.24 | 4080.55 | 4080.55 |
| 26 | 2.98466 | 12401.5 | 22.8602 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2371.64 | 2342.47 | 3155.32 | 0 | 3155.32 | 4155.19 | 4155.19 |
| 27 | 2.98466 | 12594.2 | 24.1758 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2371.53 | 2342.36 | 3155.18 | 0 | 3155.18 | 4219.78 | 4219.78 |
| 28 | 2.98466 | 12756   | 25.5052 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2364.67 | 2335.59 | 3145.84 | 0 | 3145.84 | 4274    | 4274    |
| 29 | 2.98466 | 12886   | 26.8494 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2351.09 | 2322.17 | 3127.38 | 0 | 3127.38 | 4317.54 | 4317.54 |
| 30 | 2.98466 | 12982.9 | 28.2098 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2330.77 | 2302.1  | 3099.75 | 0 | 3099.75 | 4350    | 4350    |
| 31 | 2.98466 | 13045.5 | 29.5878 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2303.7  | 2275.37 | 3062.97 | 0 | 3062.97 | 4371.01 | 4371.01 |
| 32 | 2.98466 | 13072.4 | 30.9848 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2269.88 | 2241.96 | 3016.96 | 0 | 3016.96 | 4380.02 | 4380.02 |
| 33 | 2.98466 | 13062.1 | 32.4027 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2229.23 | 2201.81 | 2961.73 | 0 | 2961.73 | 4376.59 | 4376.59 |
| 34 | 2.98466 | 13012.8 | 33.8432 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2181.73 | 2154.9  | 2897.15 | 0 | 2897.15 | 4360.08 | 4360.08 |
| 35 | 2.98466 | 12922.5 | 35.3084 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2127.3  | 2101.14 | 2823.15 | 0 | 2823.15 | 4329.84 | 4329.84 |
| 36 | 3.02646 | 12959.7 | 36.8114 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2223.15 | 2195.81 | 2618.52 | 0 | 2618.52 | 4282.34 | 4282.34 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 37 | 3.02646 | 12759.4 | 38.3551 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2144.55 | 2118.17 | 2519.14 | 0 | 2519.14 | 4216.15 | 4216.15 |
| 38 | 3.02646 | 12506.3 | 39.9326 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2058.02 | 2032.71 | 2409.76 | 0 | 2409.76 | 4132.52 | 4132.52 |
| 39 | 3.02646 | 12196.6 | 41.5473 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1963.45 | 1939.3  | 2290.21 | 0 | 2290.21 | 4030.21 | 4030.21 |
| 40 | 3.02646 | 11826.3 | 43.2035 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1860.7  | 1837.82 | 2160.31 | 0 | 2160.31 | 3907.84 | 3907.84 |
| 41 | 3.02646 | 11390.1 | 44.9059 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1749.6  | 1728.08 | 2019.85 | 0 | 2019.85 | 3763.71 | 3763.71 |
| 42 | 3.02646 | 10882.1 | 46.6605 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1629.95 | 1609.9  | 1868.59 | 0 | 1868.59 | 3595.86 | 3595.86 |
| 43 | 3.02646 | 10295.2 | 48.4741 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1501.57 | 1483.1  | 1706.29 | 0 | 1706.29 | 3401.95 | 3401.95 |
| 44 | 3.02646 | 9620.77 | 50.3552 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1364.22 | 1347.44 | 1532.65 | 0 | 1532.65 | 3179.08 | 3179.08 |
| 45 | 3.02646 | 8847.91 | 52.3141 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1217.69 | 1202.71 | 1347.41 | 0 | 1347.41 | 2923.71 | 2923.71 |
| 46 | 3.02646 | 7963.08 | 54.3642 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1061.74 | 1048.68 | 1150.26 | 0 | 1150.26 | 2631.33 | 2631.33 |
| 47 | 3.02646 | 6810.76 | 56.5226 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 879.777 | 868.957 | 920.223 | 0 | 920.223 | 2250.56 | 2250.56 |
| 48 | 3.02646 | 5131.14 | 58.8124 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 647.262 | 639.301 | 626.276 | 0 | 626.276 | 1695.56 | 1695.56 |
| 49 | 3.02646 | 3244.88 | 61.2657 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 409.389 | 404.354 | 325.557 | 0 | 325.557 | 1072.26 | 1072.26 |
| 50 | 3.02646 | 1125.28 | 63.9295 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 170.444 | 168.347 | 23.4835 | 0 | 23.4835 | 371.856 | 371.856 |

## ◆ Cross Section CC-CC' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 1.71747**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.07515    | 149.137      | 7.80961                   | D-VD<br>Silty SAND | 125                 | 36                        | 88.1917            | 151.467              | 36.4283                  | 0                   | 36.4283                       | 48.5241                    | 48.5241                         |
| 2            | 3.07515    | 440.475      | 8.49588                   | D-VD<br>Silty SAND | 125                 | 36                        | 125.464            | 215.481              | 124.536                  | 0                   | 124.536                       | 143.278                    | 143.278                         |
| 3            | 3.07515    | 717.904      | 9.18337                   | D-VD<br>Silty SAND | 125                 | 36                        | 160.582            | 275.794              | 207.55                   | 0                   | 207.55                        | 233.511                    | 233.511                         |
| 4            | 3.07515    | 1031.89      | 9.87221                   | D-VD<br>Silty SAND | 125                 | 36                        | 200.038            | 343.56               | 300.822                  | 0                   | 300.822                       | 335.634                    | 335.634                         |
| 5            | 3.07515    | 1394.56      | 10.5625                   | D-VD<br>Silty SAND | 125                 | 36                        | 245.315            | 421.321              | 407.851                  | 0                   | 407.851                       | 453.594                    | 453.594                         |
| 6            | 3.07515    | 1745.3       | 11.2543                   | D-VD<br>Silty SAND | 125                 | 36                        | 288.63             | 495.713              | 510.244                  | 0                   | 510.244                       | 567.679                    | 567.679                         |
| 7            | 3.07515    | 2107.27      | 11.9478                   | D-VD<br>Silty SAND | 125                 | 36                        | 332.93             | 571.798              | 614.964                  | 0                   | 614.964                       | 685.414                    | 685.414                         |
| 8            | 3.07515    | 2462.48      | 12.6431                   | D-VD<br>Silty SAND | 125                 | 36                        | 375.936            | 645.658              | 716.625                  | 0                   | 716.625                       | 800.953                    | 800.953                         |
| 9            | 3.07515    | 2803.19      | 13.3403                   | D-VD<br>Silty SAND | 125                 | 36                        | 416.693            | 715.657              | 812.97                   | 0                   | 812.97                        | 911.781                    | 911.781                         |
| 10           | 3.07515    | 3129.31      | 14.0395                   | D-VD<br>Silty SAND | 125                 | 36                        | 455.214            | 781.817              | 904.032                  | 0                   | 904.032                       | 1017.86                    | 1017.86                         |
| 11           | 3.07515    | 3440.68      | 14.7408                   | D-VD<br>Silty SAND | 125                 | 36                        | 491.511            | 844.155              | 989.831                  | 0                   | 989.831                       | 1119.15                    | 1119.15                         |
| 12           | 3.07515    | 3737.18      | 15.4444                   | D-VD<br>Silty SAND | 125                 | 36                        | 525.591            | 902.686              | 1070.39                  | 0                   | 1070.39                       | 1215.6                     | 1215.6                          |
| 13           | 3.07515    | 4018.65      | 16.1504                   | D-VD<br>Silty SAND | 125                 | 36                        | 557.462            | 957.425              | 1145.73                  | 0                   | 1145.73                       | 1307.17                    | 1307.17                         |
| 14           | 3.07515    | 4284.93      | 16.8589                   | D-VD<br>Silty SAND | 125                 | 36                        | 587.133            | 1008.38              | 1215.87                  | 0                   | 1215.87                       | 1393.8                     | 1393.8                          |
| 15           | 3.07515    | 4535.87      | 17.5701                   | D-VD<br>Silty SAND | 125                 | 36                        | 614.609            | 1055.57              | 1280.82                  | 0                   | 1280.82                       | 1475.44                    | 1475.44                         |
| 16           | 3.07515    | 4771.28      | 18.2841                   | D-VD<br>Silty SAND | 125                 | 36                        | 639.895            | 1099                 | 1340.6                   | 0                   | 1340.6                        | 1552.02                    | 1552.02                         |
| 17           | 3.07515    | 4990.96      | 19.0011                   | D-VD<br>Silty SAND | 125                 | 36                        | 662.993            | 1138.67              | 1395.2                   | 0                   | 1395.2                        | 1623.5                     | 1623.5                          |
| 18           | 3.07515    | 5194.73      | 19.7211                   | D-VD<br>Silty SAND | 125                 | 36                        | 683.907            | 1174.59              | 1444.64                  | 0                   | 1444.64                       | 1689.8                     | 1689.8                          |
| 19           | 3.07515    | 5382.37      | 20.4444                   | D-VD<br>Silty SAND | 125                 | 36                        | 702.644            | 1206.77              | 1488.92                  | 0                   | 1488.92                       | 1750.86                    | 1750.86                         |
| 20           | 3.07515    | 5553.65      | 21.1712                   | D-VD<br>Silty SAND | 125                 | 36                        | 719.192            | 1235.19              | 1528.05                  | 0                   | 1528.05                       | 1806.59                    | 1806.59                         |
| 21           | 3.07515    | 5708.33      | 21.9015                   | D-VD<br>Silty SAND | 125                 | 36                        | 733.562            | 1259.87              | 1562.01                  | 0                   | 1562.01                       | 1856.93                    | 1856.93                         |
| 22           | 3.07515    | 5846.17      | 22.6356                   | D-VD<br>Silty SAND | 125                 | 36                        | 745.748            | 1280.8               | 1590.82                  | 0                   | 1590.82                       | 1901.79                    | 1901.79                         |

|    |         |         |         |                       |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 3.07515 | 5966.89 | 23.3736 | D-VD<br>Silty<br>SAND | 125 | 36 | 755.745 | 1297.97 | 1614.45 | 0 | 1614.45 | 1941.08 | 1941.08 |
| 24 | 3.07515 | 6070.21 | 24.1158 | D-VD<br>Silty<br>SAND | 125 | 36 | 763.548 | 1311.37 | 1632.9  | 0 | 1632.9  | 1974.71 | 1974.71 |
| 25 | 3.07515 | 6155.84 | 24.8623 | D-VD<br>Silty<br>SAND | 125 | 36 | 769.16  | 1321.01 | 1646.17 | 0 | 1646.17 | 2002.58 | 2002.58 |
| 26 | 3.07515 | 6223.45 | 25.6133 | D-VD<br>Silty<br>SAND | 125 | 36 | 772.572 | 1326.87 | 1654.23 | 0 | 1654.23 | 2024.6  | 2024.6  |
| 27 | 3.07515 | 6272.7  | 26.3691 | D-VD<br>Silty<br>SAND | 125 | 36 | 773.772 | 1328.93 | 1657.06 | 0 | 1657.06 | 2040.65 | 2040.65 |
| 28 | 3.07515 | 6303.25 | 27.1298 | D-VD<br>Silty<br>SAND | 125 | 36 | 772.753 | 1327.18 | 1654.66 | 0 | 1654.66 | 2050.61 | 2050.61 |
| 29 | 3.07515 | 6314.7  | 27.8958 | D-VD<br>Silty<br>SAND | 125 | 36 | 769.51  | 1321.61 | 1646.99 | 0 | 1646.99 | 2054.36 | 2054.36 |
| 30 | 3.07515 | 6306.66 | 28.6672 | D-VD<br>Silty<br>SAND | 125 | 36 | 764.031 | 1312.2  | 1634.04 | 0 | 1634.04 | 2051.77 | 2051.77 |
| 31 | 3.07515 | 6278.69 | 29.4444 | D-VD<br>Silty<br>SAND | 125 | 36 | 756.299 | 1298.92 | 1615.77 | 0 | 1615.77 | 2042.69 | 2042.69 |
| 32 | 3.07515 | 6230.35 | 30.2275 | D-VD<br>Silty<br>SAND | 125 | 36 | 746.307 | 1281.76 | 1592.15 | 0 | 1592.15 | 2026.99 | 2026.99 |
| 33 | 3.07515 | 6161.14 | 31.017  | D-VD<br>Silty<br>SAND | 125 | 36 | 734.039 | 1260.69 | 1563.15 | 0 | 1563.15 | 2004.5  | 2004.5  |
| 34 | 3.07515 | 6070.55 | 31.813  | D-VD<br>Silty<br>SAND | 125 | 36 | 719.483 | 1235.69 | 1528.73 | 0 | 1528.73 | 1975.05 | 1975.05 |
| 35 | 3.07515 | 5958.03 | 32.616  | D-VD<br>Silty<br>SAND | 125 | 36 | 702.609 | 1206.71 | 1488.85 | 0 | 1488.85 | 1938.47 | 1938.47 |
| 36 | 3.07515 | 5822.99 | 33.4262 | D-VD<br>Silty<br>SAND | 125 | 36 | 683.418 | 1173.75 | 1443.48 | 0 | 1443.48 | 1894.56 | 1894.56 |
| 37 | 3.07515 | 5664.79 | 34.244  | D-VD<br>Silty<br>SAND | 125 | 36 | 661.875 | 1136.75 | 1392.56 | 0 | 1392.56 | 1843.11 | 1843.11 |
| 38 | 3.07515 | 5482.77 | 35.0699 | D-VD<br>Silty<br>SAND | 125 | 36 | 637.969 | 1095.69 | 1336.04 | 0 | 1336.04 | 1783.91 | 1783.91 |
| 39 | 3.07515 | 5276.2  | 35.9043 | D-VD<br>Silty<br>SAND | 125 | 36 | 611.672 | 1050.53 | 1273.88 | 0 | 1273.88 | 1716.73 | 1716.73 |
| 40 | 3.07515 | 5044.3  | 36.7475 | D-VD<br>Silty<br>SAND | 125 | 36 | 582.965 | 1001.23 | 1206.02 | 0 | 1206.02 | 1641.3  | 1641.3  |
| 41 | 3.07515 | 4786.23 | 37.6001 | D-VD<br>Silty<br>SAND | 125 | 36 | 551.82  | 947.735 | 1132.4  | 0 | 1132.4  | 1557.36 | 1557.36 |
| 42 | 3.07515 | 4501.1  | 38.4626 | D-VD<br>Silty<br>SAND | 125 | 36 | 518.213 | 890.016 | 1052.96 | 0 | 1052.96 | 1464.61 | 1464.61 |
| 43 | 3.07515 | 4155.55 | 39.3355 | D-VD<br>Silty<br>SAND | 125 | 36 | 478.807 | 822.337 | 959.801 | 0 | 959.801 | 1352.2  | 1352.2  |
| 44 | 3.07515 | 3645.9  | 40.2195 | D-VD<br>Silty<br>SAND | 125 | 36 | 423.249 | 726.917 | 828.469 | 0 | 828.469 | 1186.39 | 1186.39 |
| 45 | 3.07515 | 3091.14 | 41.1152 | D-VD<br>Silty<br>SAND | 125 | 36 | 363.933 | 625.044 | 688.251 | 0 | 688.251 | 1005.9  | 1005.9  |
| 46 | 3.07515 | 2504.9  | 42.0233 | D-VD<br>Silty<br>SAND | 125 | 36 | 302.358 | 519.291 | 542.694 | 0 | 542.694 | 815.161 | 815.161 |
| 47 | 3.07515 | 1885.82 | 42.9445 | D-VD<br>Silty<br>SAND | 125 | 36 | 238.505 | 409.626 | 391.755 | 0 | 391.755 | 613.734 | 613.734 |

|    |          |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 3.07515  | 1232.41 | 43.8797 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 172.356 | 296.016 | 235.383 | 0 | 235.383 | 401.128 | 401.128 |
| 49 | 3.07515  | 546.586 | 44.8299 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 104.235 | 179.021 | 74.353  | 0 | 74.353  | 177.971 | 177.971 |
| 50 | 0.794834 | 26.4821 | 45.4339 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 70.1615 | 120.5   | -37.758 | 0 | -37.758 | 33.4744 | 33.4744 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.65165

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.89901    | 184.678      | 1.93364                   | D-VD Silty SAND | 125                 | 36                        | 102.189            | 168.781              | 60.259                   | 0                   | 60.259                        | 63.7091                    | 63.7091                         |
| 2            | 2.89901    | 546.322      | 2.80835                   | D-VD Silty SAND | 125                 | 36                        | 155.235            | 256.394              | 180.848                  | 0                   | 180.848                       | 188.463                    | 188.463                         |
| 3            | 2.89901    | 892.525      | 3.68372                   | D-VD Silty SAND | 125                 | 36                        | 205.306            | 339.094              | 294.674                  | 0                   | 294.674                       | 307.892                    | 307.892                         |
| 4            | 2.89901    | 1238.89      | 4.55995                   | D-VD Silty SAND | 125                 | 36                        | 254.745            | 420.75               | 407.064                  | 0                   | 407.064                       | 427.381                    | 427.381                         |
| 5            | 2.89901    | 1645.04      | 5.43725                   | D-VD Silty SAND | 125                 | 36                        | 312.243            | 515.716              | 537.775                  | 0                   | 537.775                       | 567.495                    | 567.495                         |
| 6            | 2.89901    | 2045.49      | 6.31583                   | D-VD Silty SAND | 125                 | 36                        | 368.162            | 608.074              | 664.896                  | 0                   | 664.896                       | 705.644                    | 705.644                         |
| 7            | 2.89901    | 2440.2       | 7.19591                   | D-VD Silty SAND | 125                 | 36                        | 422.521            | 697.857              | 788.471                  | 0                   | 788.471                       | 841.817                    | 841.817                         |
| 8            | 2.89901    | 2839.82      | 8.07769                   | D-VD Silty SAND | 125                 | 36                        | 476.863            | 787.611              | 912.007                  | 0                   | 912.007                       | 979.685                    | 979.685                         |
| 9            | 2.89901    | 3224.23      | 8.96141                   | D-VD Silty SAND | 125                 | 36                        | 528.325            | 872.608              | 1029                     | 0                   | 1029                          | 1112.31                    | 1112.31                         |
| 10           | 2.89901    | 3592.67      | 9.84728                   | D-VD Silty SAND | 125                 | 36                        | 576.847            | 952.749              | 1139.3                   | 0                   | 1139.3                        | 1239.43                    | 1239.43                         |
| 11           | 2.89901    | 3945.03      | 10.7355                   | D-VD Silty SAND | 125                 | 36                        | 622.457            | 1028.08              | 1242.99                  | 0                   | 1242.99                       | 1361                       | 1361                            |
| 12           | 2.89901    | 4281.17      | 11.6264                   | D-VD Silty SAND | 125                 | 36                        | 665.183            | 1098.65              | 1340.11                  | 0                   | 1340.11                       | 1476.98                    | 1476.98                         |
| 13           | 2.89901    | 4600.93      | 12.5201                   | D-VD Silty SAND | 125                 | 36                        | 705.046            | 1164.49              | 1430.74                  | 0                   | 1430.74                       | 1587.31                    | 1587.31                         |
| 14           | 2.89901    | 4904.16      | 13.417                    | D-VD Silty SAND | 125                 | 36                        | 742.076            | 1225.65              | 1514.92                  | 0                   | 1514.92                       | 1691.94                    | 1691.94                         |
| 15           | 2.89901    | 5190.67      | 14.3172                   | D-VD Silty SAND | 125                 | 36                        | 776.284            | 1282.15              | 1592.68                  | 0                   | 1592.68                       | 1790.8                     | 1790.8                          |
| 16           | 2.89901    | 5460.27      | 15.221                    | D-VD Silty SAND | 125                 | 36                        | 807.683            | 1334.01              | 1664.06                  | 0                   | 1664.06                       | 1883.83                    | 1883.83                         |
| 17           | 2.89901    | 5712.74      | 16.1288                   | D-VD Silty SAND | 125                 | 36                        | 836.297            | 1381.27              | 1729.11                  | 0                   | 1729.11                       | 1970.95                    | 1970.95                         |
| 18           | 2.89901    | 5947.85      | 17.0407                   | D-VD Silty SAND | 125                 | 36                        | 862.132            | 1423.94              | 1787.83                  | 0                   | 1787.83                       | 2052.08                    | 2052.08                         |
| 19           | 2.89901    | 6165.36      | 17.957                    | D-VD Silty SAND | 125                 | 36                        | 885.194            | 1462.03              | 1840.26                  | 0                   | 1840.26                       | 2127.15                    | 2127.15                         |
| 20           | 2.89901    | 6365         | 18.8782                   | D-VD Silty SAND | 125                 | 36                        | 905.495            | 1495.56              | 1886.41                  | 0                   | 1886.41                       | 2196.04                    | 2196.04                         |
| 21           | 2.89901    | 6546.47      | 19.8044                   | D-VD Silty SAND | 125                 | 36                        | 923.035            | 1524.53              | 1926.29                  | 0                   | 1926.29                       | 2258.68                    | 2258.68                         |
| 22           | 2.89901    | 6709.47      | 20.7361                   | D-VD Silty SAND | 125                 | 36                        | 937.814            | 1548.94              | 1959.89                  | 0                   | 1959.89                       | 2314.94                    | 2314.94                         |
| 23           | 2.89901    | 6853.66      | 21.6736                   | D-VD Silty SAND | 125                 | 36                        | 949.844            | 1568.81              | 1987.23                  | 0                   | 1987.23                       | 2364.71                    | 2364.71                         |

|    |         |         |         |                       |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.89901 | 6978.68 | 22.6171 | D-VD<br>Silty<br>SAND | 125 | 36 | 959.108 | 1584.11 | 2008.29 | 0 | 2008.29 | 2407.87 | 2407.87 |
| 25 | 2.89901 | 7084.13 | 23.5673 | D-VD<br>Silty<br>SAND | 125 | 36 | 965.604 | 1594.84 | 2023.07 | 0 | 2023.07 | 2444.27 | 2444.27 |
| 26 | 2.89901 | 7169.6  | 24.5243 | D-VD<br>Silty<br>SAND | 125 | 36 | 969.334 | 1601    | 2031.54 | 0 | 2031.54 | 2473.79 | 2473.79 |
| 27 | 2.89901 | 7234.64 | 25.4887 | D-VD<br>Silty<br>SAND | 125 | 36 | 970.278 | 1602.56 | 2033.69 | 0 | 2033.69 | 2496.25 | 2496.25 |
| 28 | 2.89901 | 7278.75 | 26.4609 | D-VD<br>Silty<br>SAND | 125 | 36 | 968.432 | 1599.51 | 2029.48 | 0 | 2029.48 | 2511.5  | 2511.5  |
| 29 | 2.89901 | 7301.42 | 27.4413 | D-VD<br>Silty<br>SAND | 125 | 36 | 963.77  | 1591.81 | 2018.89 | 0 | 2018.89 | 2519.35 | 2519.35 |
| 30 | 2.89901 | 7302.07 | 28.4306 | D-VD<br>Silty<br>SAND | 125 | 36 | 956.286 | 1579.45 | 2001.88 | 0 | 2001.88 | 2519.6  | 2519.6  |
| 31 | 2.89901 | 7280.09 | 29.4292 | D-VD<br>Silty<br>SAND | 125 | 36 | 945.951 | 1562.38 | 1978.39 | 0 | 1978.39 | 2512.04 | 2512.04 |
| 32 | 2.89901 | 7234.82 | 30.4377 | D-VD<br>Silty<br>SAND | 125 | 36 | 932.752 | 1540.58 | 1948.38 | 0 | 1948.38 | 2496.45 | 2496.45 |
| 33 | 2.89901 | 7165.54 | 31.4568 | D-VD<br>Silty<br>SAND | 125 | 36 | 916.659 | 1514    | 1911.79 | 0 | 1911.79 | 2472.57 | 2472.57 |
| 34 | 2.89901 | 7071.46 | 32.4871 | D-VD<br>Silty<br>SAND | 125 | 36 | 897.636 | 1482.58 | 1868.56 | 0 | 1868.56 | 2440.13 | 2440.13 |
| 35 | 2.89901 | 6951.73 | 33.5293 | D-VD<br>Silty<br>SAND | 125 | 36 | 875.67  | 1446.3  | 1818.61 | 0 | 1818.61 | 2398.84 | 2398.84 |
| 36 | 2.89901 | 6805.44 | 34.5843 | D-VD<br>Silty<br>SAND | 125 | 36 | 850.707 | 1405.07 | 1761.87 | 0 | 1761.87 | 2348.39 | 2348.39 |
| 37 | 2.89901 | 6631.56 | 35.6528 | D-VD<br>Silty<br>SAND | 125 | 36 | 822.723 | 1358.85 | 1698.25 | 0 | 1698.25 | 2288.41 | 2288.41 |
| 38 | 2.89901 | 6428.98 | 36.7358 | D-VD<br>Silty<br>SAND | 125 | 36 | 791.675 | 1307.57 | 1627.67 | 0 | 1627.67 | 2218.54 | 2218.54 |
| 39 | 2.89901 | 6196.5  | 37.8344 | D-VD<br>Silty<br>SAND | 125 | 36 | 757.521 | 1251.16 | 1550.02 | 0 | 1550.02 | 2138.34 | 2138.34 |
| 40 | 2.89901 | 5932.76 | 38.9495 | D-VD<br>Silty<br>SAND | 125 | 36 | 720.207 | 1189.53 | 1465.2  | 0 | 1465.2  | 2047.36 | 2047.36 |
| 41 | 2.89901 | 5636.29 | 40.0825 | D-VD<br>Silty<br>SAND | 125 | 36 | 679.685 | 1122.6  | 1373.08 | 0 | 1373.08 | 1945.08 | 1945.08 |
| 42 | 2.89901 | 5305.44 | 41.2347 | D-VD<br>Silty<br>SAND | 125 | 36 | 635.905 | 1050.29 | 1273.56 | 0 | 1273.56 | 1830.93 | 1830.93 |
| 43 | 2.89901 | 4938.38 | 42.4076 | D-VD<br>Silty<br>SAND | 125 | 36 | 588.806 | 972.502 | 1166.49 | 0 | 1166.49 | 1704.28 | 1704.28 |
| 44 | 2.89901 | 4533.06 | 43.6028 | D-VD<br>Silty<br>SAND | 125 | 36 | 538.33  | 889.132 | 1051.74 | 0 | 1051.74 | 1564.43 | 1564.43 |
| 45 | 2.89901 | 4087.17 | 44.8223 | D-VD<br>Silty<br>SAND | 125 | 36 | 484.41  | 800.076 | 929.163 | 0 | 929.163 | 1410.58 | 1410.58 |
| 46 | 2.89901 | 3543.84 | 46.0682 | D-VD<br>Silty<br>SAND | 125 | 36 | 421.326 | 695.883 | 785.752 | 0 | 785.752 | 1223.09 | 1223.09 |
| 47 | 2.89901 | 2849.33 | 47.3429 | D-VD<br>Silty<br>SAND | 125 | 36 | 344.032 | 568.22  | 610.04  | 0 | 610.04  | 983.425 | 983.425 |
| 48 | 2.89901 | 2102.61 | 48.6492 | D-VD<br>Silty<br>SAND | 125 | 36 | 263.315 | 434.905 | 426.547 | 0 | 426.547 | 725.738 | 725.738 |

|    |         |         |         |                       |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 2.89901 | 1302.44 | 49.9903 | D-VD<br>Silty<br>SAND | 125 | 36 | 179.424 | 296.346 | 235.836 | 0 | 235.836 | 449.592 | 449.592 |
| 50 | 2.89901 | 444.229 | 51.3699 | D-VD<br>Silty<br>SAND | 125 | 36 | 92.3378 | 152.51  | 37.8638 | 0 | 37.8638 | 153.409 | 153.409 |



## ◆ Cross Section CC-CC' - Seismic

**Global Minimum Query (bishop simplified) - Safety Factor: 1.07533**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.34636    | 185.705      | 7.04644                   | D-VD<br>Silty SAND | 125                 | 36                        | 141.891            | 152.58               | 37.9601                  | 0                   | 37.9601                       | 55.4989                    | 55.4989                         |
| 2            | 3.34636    | 548.94       | 7.73202                   | D-VD<br>Silty SAND | 125                 | 36                        | 208.001            | 223.669              | 135.807                  | 0                   | 135.807                       | 164.048                    | 164.048                         |
| 3            | 3.34636    | 895.852      | 8.41872                   | D-VD<br>Silty SAND | 125                 | 36                        | 270.116            | 290.464              | 227.742                  | 0                   | 227.742                       | 267.719                    | 267.719                         |
| 4            | 3.34636    | 1297.6       | 9.10664                   | D-VD<br>Silty SAND | 125                 | 36                        | 341.282            | 366.991              | 333.073                  | 0                   | 333.073                       | 387.778                    | 387.778                         |
| 5            | 3.34636    | 1745.78      | 9.79589                   | D-VD<br>Silty SAND | 125                 | 36                        | 419.77             | 451.391              | 449.237                  | 0                   | 449.237                       | 521.712                    | 521.712                         |
| 6            | 3.34636    | 2185.85      | 10.4866                   | D-VD<br>Silty SAND | 125                 | 36                        | 495.612            | 532.946              | 561.489                  | 0                   | 561.489                       | 653.225                    | 653.225                         |
| 7            | 3.34636    | 2639.54      | 11.1788                   | D-VD<br>Silty SAND | 125                 | 36                        | 572.726            | 615.869              | 675.622                  | 0                   | 675.622                       | 788.804                    | 788.804                         |
| 8            | 3.34636    | 3079.01      | 11.8727                   | D-VD<br>Silty SAND | 125                 | 36                        | 646.15             | 694.825              | 784.299                  | 0                   | 784.299                       | 920.142                    | 920.142                         |
| 9            | 3.34636    | 3501.47      | 12.5683                   | D-VD<br>Silty SAND | 125                 | 36                        | 715.461            | 769.357              | 886.882                  | 0                   | 886.882                       | 1046.39                    | 1046.39                         |
| 10           | 3.34636    | 3906.78      | 13.2659                   | D-VD<br>Silty SAND | 125                 | 36                        | 780.711            | 839.522              | 983.455                  | 0                   | 983.455                       | 1167.52                    | 1167.52                         |
| 11           | 3.34636    | 4294.79      | 13.9654                   | D-VD<br>Silty SAND | 125                 | 36                        | 841.95             | 905.374              | 1074.09                  | 0                   | 1074.09                       | 1283.47                    | 1283.47                         |
| 12           | 3.34636    | 4665.36      | 14.6671                   | D-VD<br>Silty SAND | 125                 | 36                        | 899.224            | 966.963              | 1158.86                  | 0                   | 1158.86                       | 1394.22                    | 1394.22                         |
| 13           | 3.34636    | 5018.31      | 15.371                    | D-VD<br>Silty SAND | 125                 | 36                        | 952.579            | 1024.34              | 1237.83                  | 0                   | 1237.83                       | 1499.7                     | 1499.7                          |
| 14           | 3.34636    | 5353.47      | 16.0774                   | D-VD<br>Silty SAND | 125                 | 36                        | 1002.06            | 1077.54              | 1311.06                  | 0                   | 1311.06                       | 1599.86                    | 1599.86                         |
| 15           | 3.34636    | 5670.66      | 16.7862                   | D-VD<br>Silty SAND | 125                 | 36                        | 1047.7             | 1126.62              | 1378.61                  | 0                   | 1378.61                       | 1694.66                    | 1694.66                         |
| 16           | 3.34636    | 5969.68      | 17.4977                   | D-VD<br>Silty SAND | 125                 | 36                        | 1089.54            | 1171.61              | 1440.53                  | 0                   | 1440.53                       | 1784.02                    | 1784.02                         |
| 17           | 3.34636    | 6250.31      | 18.212                    | D-VD<br>Silty SAND | 125                 | 36                        | 1127.61            | 1212.55              | 1496.88                  | 0                   | 1496.88                       | 1867.88                    | 1867.88                         |
| 18           | 3.34636    | 6512.33      | 18.9292                   | D-VD<br>Silty SAND | 125                 | 36                        | 1161.95            | 1249.48              | 1547.71                  | 0                   | 1547.71                       | 1946.19                    | 1946.19                         |
| 19           | 3.34636    | 6755.52      | 19.6496                   | D-VD<br>Silty SAND | 125                 | 36                        | 1192.58            | 1282.42              | 1593.05                  | 0                   | 1593.05                       | 2018.87                    | 2018.87                         |
| 20           | 3.34636    | 6979.61      | 20.3732                   | D-VD<br>Silty SAND | 125                 | 36                        | 1219.54            | 1311.41              | 1632.95                  | 0                   | 1632.95                       | 2085.84                    | 2085.84                         |
| 21           | 3.34636    | 7184.34      | 21.1002                   | D-VD<br>Silty SAND | 125                 | 36                        | 1242.85            | 1336.47              | 1667.45                  | 0                   | 1667.45                       | 2147.03                    | 2147.03                         |
| 22           | 3.34636    | 7369.43      | 21.8307                   | D-VD<br>Silty SAND | 125                 | 36                        | 1262.53            | 1357.64              | 1696.58                  | 0                   | 1696.58                       | 2202.35                    | 2202.35                         |

|    |         |         |         |                    |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 3.34636 | 7534.59 | 22.565  | D-VD<br>Silty SAND | 125 | 36 | 1278.61 | 1374.93 | 1720.39 | 0 | 1720.39 | 2251.71 | 2251.71 |
| 24 | 3.34636 | 7679.49 | 23.3033 | D-VD<br>Silty SAND | 125 | 36 | 1291.12 | 1388.38 | 1738.89 | 0 | 1738.89 | 2295.02 | 2295.02 |
| 25 | 3.34636 | 7803.81 | 24.0457 | D-VD<br>Silty SAND | 125 | 36 | 1300.05 | 1397.98 | 1752.11 | 0 | 1752.11 | 2332.17 | 2332.17 |
| 26 | 3.34636 | 7907.19 | 24.7924 | D-VD<br>Silty SAND | 125 | 36 | 1305.44 | 1403.78 | 1760.08 | 0 | 1760.08 | 2363.07 | 2363.07 |
| 27 | 3.34636 | 7989.25 | 25.5436 | D-VD<br>Silty SAND | 125 | 36 | 1307.29 | 1405.77 | 1762.83 | 0 | 1762.83 | 2387.6  | 2387.6  |
| 28 | 3.34636 | 8049.59 | 26.2995 | D-VD<br>Silty SAND | 125 | 36 | 1305.63 | 1403.98 | 1760.37 | 0 | 1760.37 | 2405.64 | 2405.64 |
| 29 | 3.34636 | 8087.81 | 27.0604 | D-VD<br>Silty SAND | 125 | 36 | 1300.46 | 1398.42 | 1752.71 | 0 | 1752.71 | 2417.06 | 2417.06 |
| 30 | 3.34636 | 8103.43 | 27.8266 | D-VD<br>Silty SAND | 125 | 36 | 1291.79 | 1389.1  | 1739.89 | 0 | 1739.89 | 2421.73 | 2421.73 |
| 31 | 3.34636 | 8096    | 28.5981 | D-VD<br>Silty SAND | 125 | 36 | 1279.64 | 1376.03 | 1721.89 | 0 | 1721.89 | 2419.52 | 2419.52 |
| 32 | 3.34636 | 8065    | 29.3754 | D-VD<br>Silty SAND | 125 | 36 | 1263.99 | 1359.21 | 1698.75 | 0 | 1698.75 | 2410.26 | 2410.26 |
| 33 | 3.34636 | 8009.9  | 30.1587 | D-VD<br>Silty SAND | 125 | 36 | 1244.88 | 1338.66 | 1670.46 | 0 | 1670.46 | 2393.8  | 2393.8  |
| 34 | 3.34636 | 7930.13 | 30.9482 | D-VD<br>Silty SAND | 125 | 36 | 1222.29 | 1314.37 | 1637.03 | 0 | 1637.03 | 2369.96 | 2369.96 |
| 35 | 3.34636 | 7825.07 | 31.7443 | D-VD<br>Silty SAND | 125 | 36 | 1196.25 | 1286.36 | 1598.47 | 0 | 1598.47 | 2338.57 | 2338.57 |
| 36 | 3.34636 | 7694.08 | 32.5473 | D-VD<br>Silty SAND | 125 | 36 | 1166.72 | 1254.61 | 1554.78 | 0 | 1554.78 | 2299.42 | 2299.42 |
| 37 | 3.34636 | 7536.45 | 33.3576 | D-VD<br>Silty SAND | 125 | 36 | 1133.74 | 1219.14 | 1505.96 | 0 | 1505.96 | 2252.32 | 2252.32 |
| 38 | 3.34636 | 7351.45 | 34.1754 | D-VD<br>Silty SAND | 125 | 36 | 1097.28 | 1179.94 | 1452.01 | 0 | 1452.01 | 2197.03 | 2197.03 |
| 39 | 3.34636 | 7138.28 | 35.0013 | D-VD<br>Silty SAND | 125 | 36 | 1057.37 | 1137.02 | 1392.92 | 0 | 1392.92 | 2133.33 | 2133.33 |
| 40 | 3.34636 | 6813.86 | 35.8356 | D-VD<br>Silty SAND | 125 | 36 | 1002.81 | 1078.35 | 1312.18 | 0 | 1312.18 | 2036.38 | 2036.38 |
| 41 | 3.34636 | 6327.65 | 36.6788 | D-VD<br>Silty SAND | 125 | 36 | 927.302 | 997.156 | 1200.42 | 0 | 1200.42 | 1891.08 | 1891.08 |
| 42 | 3.34636 | 5808.78 | 37.5314 | D-VD<br>Silty SAND | 125 | 36 | 848.682 | 912.613 | 1084.06 | 0 | 1084.06 | 1736.01 | 1736.01 |
| 43 | 3.34636 | 5257.92 | 38.3937 | D-VD<br>Silty SAND | 125 | 36 | 767.195 | 824.988 | 963.452 | 0 | 963.452 | 1571.39 | 1571.39 |
| 44 | 3.34636 | 4673.93 | 39.2666 | D-VD<br>Silty SAND | 125 | 36 | 682.851 | 734.29  | 838.615 | 0 | 838.615 | 1396.86 | 1396.86 |
| 45 | 3.34636 | 4056.6  | 40.1504 | D-VD<br>Silty SAND | 125 | 36 | 595.794 | 640.675 | 709.766 | 0 | 709.766 | 1212.37 | 1212.37 |
| 46 | 3.34636 | 3431.51 | 41.0459 | D-VD<br>Silty SAND | 125 | 36 | 509.455 | 547.832 | 581.978 | 0 | 581.978 | 1025.56 | 1025.56 |
| 47 | 3.34636 | 2781.69 | 41.9537 | D-VD<br>Silty SAND | 125 | 36 | 421.772 | 453.544 | 452.204 | 0 | 452.204 | 831.352 | 831.352 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 3.34636 | 2232.65 | 42.8747 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 348.481 | 374.732 | 343.727 | 0 | 343.727 | 667.269 | 667.269 |
| 49 | 3.19048 | 1543.51 | 43.7875 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 289.453 | 311.258 | 206.401 | 0 | 206.401 | 483.856 | 483.856 |
| 50 | 3.19048 | 522.25  | 44.6923 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 150.366 | 161.693 | 14.9667 | 0 | 14.9667 | 163.727 | 163.727 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.03142

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.07341    | 211.243      | 1.56228                   | D-VD Silty SAND | 125                 | 36                        | 166.407            | 171.636              | 64.1883                  | 0                   | 64.1883                       | 68.7268                    | 68.7268                         |
| 2            | 3.07341    | 624.879      | 2.45569                   | D-VD Silty SAND | 125                 | 36                        | 256.649            | 264.713              | 192.298                  | 0                   | 192.298                       | 203.305                    | 203.305                         |
| 3            | 3.07341    | 1021.88      | 3.3497                    | D-VD Silty SAND | 125                 | 36                        | 341.313            | 352.037              | 312.489                  | 0                   | 312.489                       | 332.466                    | 332.466                         |
| 4            | 3.07341    | 1471.27      | 4.24453                   | D-VD Silty SAND | 125                 | 36                        | 435.599            | 449.286              | 446.341                  | 0                   | 446.341                       | 478.67                     | 478.67                          |
| 5            | 3.07341    | 1944.97      | 5.1404                    | D-VD Silty SAND | 125                 | 36                        | 533.146            | 549.897              | 584.821                  | 0                   | 584.821                       | 632.782                    | 632.782                         |
| 6            | 3.07341    | 2405.82      | 6.03753                   | D-VD Silty SAND | 125                 | 36                        | 625.906            | 645.572              | 716.504                  | 0                   | 716.504                       | 782.704                    | 782.704                         |
| 7            | 3.07341    | 2874.99      | 6.93615                   | D-VD Silty SAND | 125                 | 36                        | 718.481            | 741.056              | 847.928                  | 0                   | 847.928                       | 935.333                    | 935.333                         |
| 8            | 3.07341    | 3329.9       | 7.83649                   | D-VD Silty SAND | 125                 | 36                        | 806.139            | 831.468              | 972.37                   | 0                   | 972.37                        | 1083.32                    | 1083.32                         |
| 9            | 3.07341    | 3766.64      | 8.73878                   | D-VD Silty SAND | 125                 | 36                        | 888.198            | 916.105              | 1088.86                  | 0                   | 1088.86                       | 1225.39                    | 1225.39                         |
| 10           | 3.07341    | 4185.08      | 9.64326                   | D-VD Silty SAND | 125                 | 36                        | 964.778            | 995.091              | 1197.58                  | 0                   | 1197.58                       | 1361.51                    | 1361.51                         |
| 11           | 3.07341    | 4585.08      | 10.5502                   | D-VD Silty SAND | 125                 | 36                        | 1035.99            | 1068.54              | 1298.67                  | 0                   | 1298.67                       | 1491.62                    | 1491.62                         |
| 12           | 3.07341    | 4966.5       | 11.4598                   | D-VD Silty SAND | 125                 | 36                        | 1101.94            | 1136.56              | 1392.3                   | 0                   | 1392.3                        | 1615.68                    | 1615.68                         |
| 13           | 3.07341    | 5329.14      | 12.3723                   | D-VD Silty SAND | 125                 | 36                        | 1162.73            | 1199.26              | 1478.59                  | 0                   | 1478.59                       | 1733.64                    | 1733.64                         |
| 14           | 3.07341    | 5672.83      | 13.288                    | D-VD Silty SAND | 125                 | 36                        | 1218.43            | 1256.71              | 1557.67                  | 0                   | 1557.67                       | 1845.43                    | 1845.43                         |
| 15           | 3.07341    | 5997.35      | 14.2072                   | D-VD Silty SAND | 125                 | 36                        | 1269.14            | 1309.02              | 1629.66                  | 0                   | 1629.66                       | 1950.98                    | 1950.98                         |
| 16           | 3.07341    | 6302.48      | 15.1302                   | D-VD Silty SAND | 125                 | 36                        | 1314.93            | 1356.25              | 1694.68                  | 0                   | 1694.68                       | 2050.22                    | 2050.22                         |
| 17           | 3.07341    | 6587.98      | 16.0572                   | D-VD Silty SAND | 125                 | 36                        | 1355.89            | 1398.49              | 1752.81                  | 0                   | 1752.81                       | 2143.07                    | 2143.07                         |
| 18           | 3.07341    | 6853.56      | 16.9885                   | D-VD Silty SAND | 125                 | 36                        | 1392.05            | 1435.79              | 1804.15                  | 0                   | 1804.15                       | 2229.44                    | 2229.44                         |
| 19           | 3.07341    | 7098.95      | 17.9245                   | D-VD Silty SAND | 125                 | 36                        | 1423.49            | 1468.22              | 1848.79                  | 0                   | 1848.79                       | 2309.23                    | 2309.23                         |
| 20           | 3.07341    | 7323.82      | 18.8654                   | D-VD Silty SAND | 125                 | 36                        | 1450.27            | 1495.84              | 1886.8                   | 0                   | 1886.8                        | 2382.36                    | 2382.36                         |
| 21           | 3.07341    | 7527.85      | 19.8117                   | D-VD Silty SAND | 125                 | 36                        | 1472.43            | 1518.69              | 1918.25                  | 0                   | 1918.25                       | 2448.7                     | 2448.7                          |
| 22           | 3.07341    | 7710.66      | 20.7636                   | D-VD Silty SAND | 125                 | 36                        | 1490.01            | 1536.83              | 1943.22                  | 0                   | 1943.22                       | 2508.14                    | 2508.14                         |
| 23           | 3.07341    | 7871.85      | 21.7216                   | D-VD Silty SAND | 125                 | 36                        | 1503.06            | 1550.29              | 1961.75                  | 0                   | 1961.75                       | 2560.55                    | 2560.55                         |

|    |         |         |         |                       |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 3.07341 | 8011.01 | 22.686  | D-VD<br>Silty<br>SAND | 125 | 36 | 1511.62 | 1559.12 | 1973.89 | 0 | 1973.89 | 2605.79 | 2605.79 |
| 25 | 3.07341 | 8127.67 | 23.6572 | D-VD<br>Silty<br>SAND | 125 | 36 | 1515.72 | 1563.34 | 1979.7  | 0 | 1979.7  | 2643.71 | 2643.71 |
| 26 | 3.07341 | 8221.35 | 24.6357 | D-VD<br>Silty<br>SAND | 125 | 36 | 1515.37 | 1562.98 | 1979.21 | 0 | 1979.21 | 2674.15 | 2674.15 |
| 27 | 3.07341 | 8291.49 | 25.622  | D-VD<br>Silty<br>SAND | 125 | 36 | 1510.61 | 1558.07 | 1972.46 | 0 | 1972.46 | 2696.93 | 2696.93 |
| 28 | 3.07341 | 8337.53 | 26.6164 | D-VD<br>Silty<br>SAND | 125 | 36 | 1501.45 | 1548.63 | 1959.46 | 0 | 1959.46 | 2711.87 | 2711.87 |
| 29 | 3.07341 | 8358.84 | 27.6196 | D-VD<br>Silty<br>SAND | 125 | 36 | 1487.93 | 1534.68 | 1940.26 | 0 | 1940.26 | 2718.78 | 2718.78 |
| 30 | 3.07341 | 8354.75 | 28.632  | D-VD<br>Silty<br>SAND | 125 | 36 | 1470.04 | 1516.23 | 1914.86 | 0 | 1914.86 | 2717.42 | 2717.42 |
| 31 | 3.07341 | 8324.52 | 29.6544 | D-VD<br>Silty<br>SAND | 125 | 36 | 1447.79 | 1493.28 | 1883.28 | 0 | 1883.28 | 2707.56 | 2707.56 |
| 32 | 3.07341 | 8267.37 | 30.6872 | D-VD<br>Silty<br>SAND | 125 | 36 | 1421.2  | 1465.85 | 1845.52 | 0 | 1845.52 | 2688.94 | 2688.94 |
| 33 | 3.07341 | 8182.43 | 31.7312 | D-VD<br>Silty<br>SAND | 125 | 36 | 1390.26 | 1433.94 | 1801.6  | 0 | 1801.6  | 2661.28 | 2661.28 |
| 34 | 3.07341 | 8068.77 | 32.787  | D-VD<br>Silty<br>SAND | 125 | 36 | 1354.97 | 1397.54 | 1751.5  | 0 | 1751.5  | 2624.28 | 2624.28 |
| 35 | 3.07341 | 7925.36 | 33.8556 | D-VD<br>Silty<br>SAND | 125 | 36 | 1315.32 | 1356.65 | 1695.23 | 0 | 1695.23 | 2577.61 | 2577.61 |
| 36 | 3.07341 | 7751.09 | 34.9378 | D-VD<br>Silty<br>SAND | 125 | 36 | 1271.32 | 1311.27 | 1632.77 | 0 | 1632.77 | 2520.9  | 2520.9  |
| 37 | 3.07341 | 7544.73 | 36.0344 | D-VD<br>Silty<br>SAND | 125 | 36 | 1222.96 | 1261.39 | 1564.1  | 0 | 1564.1  | 2453.76 | 2453.76 |
| 38 | 3.07341 | 7304.95 | 37.1465 | D-VD<br>Silty<br>SAND | 125 | 36 | 1170.21 | 1206.98 | 1489.22 | 0 | 1489.22 | 2375.74 | 2375.74 |
| 39 | 3.07341 | 7030.26 | 38.2752 | D-VD<br>Silty<br>SAND | 125 | 36 | 1113.08 | 1148.05 | 1408.1  | 0 | 1408.1  | 2286.38 | 2286.38 |
| 40 | 3.07341 | 6719.03 | 39.4218 | D-VD<br>Silty<br>SAND | 125 | 36 | 1051.53 | 1084.56 | 1320.73 | 0 | 1320.73 | 2185.13 | 2185.13 |
| 41 | 3.07341 | 6369.45 | 40.5875 | D-VD<br>Silty<br>SAND | 125 | 36 | 985.547 | 1016.51 | 1227.06 | 0 | 1227.06 | 2071.41 | 2071.41 |
| 42 | 3.07341 | 5979.49 | 41.774  | D-VD<br>Silty<br>SAND | 125 | 36 | 915.125 | 943.878 | 1127.09 | 0 | 1127.09 | 1944.56 | 1944.56 |
| 43 | 3.07341 | 5493.22 | 42.9828 | D-VD<br>Silty<br>SAND | 125 | 36 | 832.817 | 858.984 | 1010.24 | 0 | 1010.24 | 1786.39 | 1786.39 |
| 44 | 3.07341 | 4838.31 | 44.2159 | D-VD<br>Silty<br>SAND | 125 | 36 | 729.504 | 752.425 | 863.575 | 0 | 863.575 | 1573.38 | 1573.38 |
| 45 | 3.07341 | 4130.44 | 45.4754 | D-VD<br>Silty<br>SAND | 125 | 36 | 621.913 | 641.453 | 710.837 | 0 | 710.837 | 1343.16 | 1343.16 |
| 46 | 3.07341 | 3371.26 | 46.7638 | D-VD<br>Silty<br>SAND | 125 | 36 | 510.757 | 526.805 | 553.038 | 0 | 553.038 | 1096.25 | 1096.25 |
| 47 | 3.07341 | 2557.02 | 48.0837 | D-VD<br>Silty<br>SAND | 125 | 36 | 396.087 | 408.532 | 390.249 | 0 | 390.249 | 831.443 | 831.443 |
| 48 | 3.07341 | 1683.4  | 49.4385 | D-VD<br>Silty<br>SAND | 125 | 36 | 277.975 | 286.709 | 222.573 | 0 | 222.573 | 547.334 | 547.334 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 3.07341 | 752.073 | 50.8319 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 157.345 | 162.289 | 51.3239  | 0 | 51.3239  | 244.467 | 244.467 |
| 50 | 0.78481 | 35.9069 | 51.7227 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 91.8298 | 94.7151 | -70.7615 | 0 | -70.7615 | 45.61   | 45.61   |

## **Cross Section DD-DD' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.63759**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.74413    | 174.644      | 9.58741                   | D-VD<br>Silty SAND | 125                 | 36                        | 97.293             | 159.326              | 47.2458                  | 0                   | 47.2458                       | 63.6797                    | 63.6797                         |
| 2            | 2.74413    | 520.357      | 10.2412                   | D-VD<br>Silty SAND | 125                 | 36                        | 148.579            | 243.312              | 162.842                  | 0                   | 162.842                       | 189.686                    | 189.686                         |
| 3            | 2.74413    | 855.412      | 10.8964                   | D-VD<br>Silty SAND | 125                 | 36                        | 197.779            | 323.881              | 273.737                  | 0                   | 273.737                       | 311.81                     | 311.81                          |
| 4            | 2.74413    | 1179.74      | 11.5531                   | D-VD<br>Silty SAND | 125                 | 36                        | 244.908            | 401.059              | 379.964                  | 0                   | 379.964                       | 430.027                    | 430.027                         |
| 5            | 2.74413    | 1493.26      | 12.2112                   | D-VD<br>Silty SAND | 125                 | 36                        | 289.98             | 474.869              | 481.552                  | 0                   | 481.552                       | 544.307                    | 544.307                         |
| 6            | 2.74413    | 1795.91      | 12.871                    | D-VD<br>Silty SAND | 125                 | 36                        | 333.008            | 545.33               | 578.535                  | 0                   | 578.535                       | 654.626                    | 654.626                         |
| 7            | 2.74413    | 2087.59      | 13.5326                   | D-VD<br>Silty SAND | 125                 | 36                        | 374.003            | 612.463              | 670.936                  | 0                   | 670.936                       | 760.951                    | 760.951                         |
| 8            | 2.74413    | 2368.21      | 14.196                    | D-VD<br>Silty SAND | 125                 | 36                        | 412.976            | 676.285              | 758.778                  | 0                   | 758.778                       | 863.246                    | 863.246                         |
| 9            | 2.74413    | 2637.69      | 14.8613                   | D-VD<br>Silty SAND | 125                 | 36                        | 449.937            | 736.813              | 842.088                  | 0                   | 842.088                       | 961.482                    | 961.482                         |
| 10           | 2.74413    | 2895.92      | 15.5287                   | D-VD<br>Silty SAND | 125                 | 36                        | 484.895            | 794.06               | 920.883                  | 0                   | 920.883                       | 1055.62                    | 1055.62                         |
| 11           | 2.74413    | 3142.79      | 16.1983                   | D-VD<br>Silty SAND | 125                 | 36                        | 517.859            | 848.041              | 995.179                  | 0                   | 995.179                       | 1145.61                    | 1145.61                         |
| 12           | 2.74413    | 3378.18      | 16.8701                   | D-VD<br>Silty SAND | 125                 | 36                        | 548.835            | 898.766              | 1065                     | 0                   | 1065                          | 1231.43                    | 1231.43                         |
| 13           | 2.74413    | 3601.99      | 17.5444                   | D-VD<br>Silty SAND | 125                 | 36                        | 577.828            | 946.246              | 1130.35                  | 0                   | 1130.35                       | 1313.03                    | 1313.03                         |
| 14           | 2.74413    | 3814.08      | 18.2212                   | D-VD<br>Silty SAND | 125                 | 36                        | 604.845            | 990.488              | 1191.24                  | 0                   | 1191.24                       | 1390.35                    | 1390.35                         |
| 15           | 2.74413    | 4014.31      | 18.9006                   | D-VD<br>Silty SAND | 125                 | 36                        | 629.89             | 1031.5               | 1247.69                  | 0                   | 1247.69                       | 1463.36                    | 1463.36                         |
| 16           | 2.74413    | 4202.54      | 19.5827                   | D-VD<br>Silty SAND | 125                 | 36                        | 652.965            | 1069.29              | 1299.7                   | 0                   | 1299.7                        | 1531.99                    | 1531.99                         |
| 17           | 2.74413    | 4378.63      | 20.2678                   | D-VD<br>Silty SAND | 125                 | 36                        | 674.073            | 1103.86              | 1347.28                  | 0                   | 1347.28                       | 1596.2                     | 1596.2                          |
| 18           | 2.74413    | 4542.42      | 20.9559                   | D-VD<br>Silty SAND | 125                 | 36                        | 693.22             | 1135.21              | 1390.43                  | 0                   | 1390.43                       | 1655.92                    | 1655.92                         |
| 19           | 2.74413    | 4693.72      | 21.6472                   | D-VD<br>Silty SAND | 125                 | 36                        | 710.398            | 1163.34              | 1429.15                  | 0                   | 1429.15                       | 1711.09                    | 1711.09                         |
| 20           | 2.74413    | 4832.38      | 22.3419                   | D-VD<br>Silty SAND | 125                 | 36                        | 725.615            | 1188.26              | 1463.45                  | 0                   | 1463.45                       | 1761.66                    | 1761.66                         |
| 21           | 2.74413    | 4958.2       | 23.04                     | D-VD<br>Silty SAND | 125                 | 36                        | 738.86             | 1209.95              | 1493.31                  | 0                   | 1493.31                       | 1807.55                    | 1807.55                         |
| 22           | 2.74413    | 5070.98      | 23.7417                   | D-VD<br>Silty SAND | 125                 | 36                        | 750.145            | 1228.43              | 1518.74                  | 0                   | 1518.74                       | 1848.68                    | 1848.68                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.74413 | 5170.51 | 24.4473 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 759.457 | 1243.68 | 1539.73 | 0 | 1539.73 | 1884.99 | 1884.99 |
| 24 | 2.74413 | 5256.58 | 25.1568 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 766.791 | 1255.69 | 1556.26 | 0 | 1556.26 | 1916.38 | 1916.38 |
| 25 | 2.74413 | 5328.95 | 25.8705 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 772.153 | 1264.47 | 1568.34 | 0 | 1568.34 | 1942.79 | 1942.79 |
| 26 | 2.74413 | 5387.37 | 26.5885 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 775.53  | 1270    | 1575.95 | 0 | 1575.95 | 1964.11 | 1964.11 |
| 27 | 2.74413 | 5431.59 | 27.311  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 776.91  | 1272.26 | 1579.07 | 0 | 1579.07 | 1980.25 | 1980.25 |
| 28 | 2.74413 | 5461.32 | 28.0383 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 776.299 | 1271.26 | 1577.69 | 0 | 1577.69 | 1991.12 | 1991.12 |
| 29 | 2.74413 | 5476.28 | 28.7705 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 773.674 | 1266.96 | 1571.78 | 0 | 1571.78 | 1996.59 | 1996.59 |
| 30 | 2.74413 | 5476.15 | 29.5079 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 769.039 | 1259.37 | 1561.33 | 0 | 1561.33 | 1996.57 | 1996.57 |
| 31 | 2.74413 | 5460.6  | 30.2507 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 762.376 | 1248.46 | 1546.31 | 0 | 1546.31 | 1990.93 | 1990.93 |
| 32 | 2.74413 | 5429.3  | 30.9992 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 753.675 | 1234.21 | 1526.7  | 0 | 1526.7  | 1979.54 | 1979.54 |
| 33 | 2.74413 | 5381.86 | 31.7536 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 742.921 | 1216.6  | 1502.46 | 0 | 1502.46 | 1962.26 | 1962.26 |
| 34 | 2.74413 | 5317.9  | 32.5142 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 730.109 | 1195.62 | 1473.58 | 0 | 1473.58 | 1938.97 | 1938.97 |
| 35 | 2.74413 | 5236.99 | 33.2813 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 715.216 | 1171.23 | 1440.01 | 0 | 1440.01 | 1909.49 | 1909.49 |
| 36 | 2.74413 | 5138.69 | 34.0552 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 698.233 | 1143.42 | 1401.73 | 0 | 1401.73 | 1873.67 | 1873.67 |
| 37 | 2.74413 | 5022.52 | 34.8362 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 679.138 | 1112.15 | 1358.69 | 0 | 1358.69 | 1831.34 | 1831.34 |
| 38 | 2.74413 | 4887.98 | 35.6247 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 657.916 | 1077.4  | 1310.86 | 0 | 1310.86 | 1782.31 | 1782.31 |
| 39 | 2.74413 | 4738.24 | 36.4211 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 635.001 | 1039.87 | 1259.21 | 0 | 1259.21 | 1727.74 | 1727.74 |
| 40 | 2.74413 | 4600.22 | 37.2257 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 613.692 | 1004.98 | 1211.18 | 0 | 1211.18 | 1677.43 | 1677.43 |
| 41 | 2.74413 | 4449.09 | 38.039  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 590.977 | 967.778 | 1159.98 | 0 | 1159.98 | 1622.35 | 1622.35 |
| 42 | 2.74413 | 4277.17 | 38.8615 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 565.975 | 926.835 | 1103.63 | 0 | 1103.63 | 1559.69 | 1559.69 |
| 43 | 2.74413 | 4083.72 | 39.6936 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 538.662 | 882.107 | 1042.07 | 0 | 1042.07 | 1489.17 | 1489.17 |
| 44 | 2.74413 | 3867.96 | 40.5358 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 509.01  | 833.549 | 975.234 | 0 | 975.234 | 1410.52 | 1410.52 |
| 45 | 2.74413 | 3601.69 | 41.3887 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 473.809 | 775.905 | 895.895 | 0 | 895.895 | 1313.45 | 1313.45 |
| 46 | 2.87619 | 3272.24 | 42.2741 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 442.776 | 725.085 | 736.075 | 0 | 736.075 | 1138.6  | 1138.6  |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 2.87619 | 2669.64 | 43.1933 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 369.36  | 604.861 | 582.196 | 0 | 582.196 | 928.967 | 928.967 |
| 48 | 2.87619 | 2034.32 | 44.1265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 293.52  | 480.665 | 423.232 | 0 | 423.232 | 707.935 | 707.935 |
| 49 | 2.87619 | 1323.06 | 45.0746 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 210.568 | 344.824 | 249.363 | 0 | 249.363 | 460.48  | 460.48  |
| 50 | 2.87619 | 450.03  | 46.0388 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 111.306 | 182.274 | 41.3093 | 0 | 41.3093 | 156.727 | 156.727 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.57371

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.75901    | 123.318      | 3.62365                   | D-VD Silty SAND | 125                 | 36                        | 97.2264            | 153.006              | 38.5472                  | 0                   | 38.5472                       | 44.7044                    | 44.7044                         |
| 2            | 2.75901    | 442.266      | 4.47359                   | D-VD Silty SAND | 125                 | 36                        | 148.094            | 233.057              | 148.727                  | 0                   | 148.727                       | 160.314                    | 160.314                         |
| 3            | 2.75901    | 871.615      | 5.32451                   | D-VD Silty SAND | 125                 | 36                        | 215.999            | 339.919              | 295.811                  | 0                   | 295.811                       | 315.942                    | 315.942                         |
| 4            | 2.75901    | 1288.76      | 6.17661                   | D-VD Silty SAND | 125                 | 36                        | 281.058            | 442.304              | 436.731                  | 0                   | 436.731                       | 467.148                    | 467.148                         |
| 5            | 2.75901    | 1692.15      | 7.03009                   | D-VD Silty SAND | 125                 | 36                        | 343.076            | 539.902              | 571.066                  | 0                   | 571.066                       | 613.373                    | 613.373                         |
| 6            | 2.75901    | 2081.71      | 7.88513                   | D-VD Silty SAND | 125                 | 36                        | 402.093            | 632.778              | 698.894                  | 0                   | 698.894                       | 754.583                    | 754.583                         |
| 7            | 2.75901    | 2457.36      | 8.74195                   | D-VD Silty SAND | 125                 | 36                        | 458.146            | 720.989              | 820.309                  | 0                   | 820.309                       | 890.759                    | 890.759                         |
| 8            | 2.75901    | 2819.01      | 9.60075                   | D-VD Silty SAND | 125                 | 36                        | 511.27             | 804.591              | 935.377                  | 0                   | 935.377                       | 1021.86                    | 1021.86                         |
| 9            | 2.75901    | 3166.56      | 10.4617                   | D-VD Silty SAND | 125                 | 36                        | 561.497            | 883.634              | 1044.17                  | 0                   | 1044.17                       | 1147.85                    | 1147.85                         |
| 10           | 2.75901    | 3499.89      | 11.3251                   | D-VD Silty SAND | 125                 | 36                        | 608.856            | 958.163              | 1146.75                  | 0                   | 1146.75                       | 1268.69                    | 1268.69                         |
| 11           | 2.75901    | 3818.89      | 12.1911                   | D-VD Silty SAND | 125                 | 36                        | 653.373            | 1028.22              | 1243.17                  | 0                   | 1243.17                       | 1384.33                    | 1384.33                         |
| 12           | 2.75901    | 4123.41      | 13.0599                   | D-VD Silty SAND | 125                 | 36                        | 695.072            | 1093.84              | 1333.49                  | 0                   | 1333.49                       | 1494.73                    | 1494.73                         |
| 13           | 2.75901    | 4413.3       | 13.9318                   | D-VD Silty SAND | 125                 | 36                        | 733.973            | 1155.06              | 1417.76                  | 0                   | 1417.76                       | 1599.83                    | 1599.83                         |
| 14           | 2.75901    | 4688.41      | 14.807                    | D-VD Silty SAND | 125                 | 36                        | 770.097            | 1211.91              | 1496                     | 0                   | 1496                          | 1699.57                    | 1699.57                         |
| 15           | 2.75901    | 4948.56      | 15.6858                   | D-VD Silty SAND | 125                 | 36                        | 803.458            | 1264.41              | 1568.26                  | 0                   | 1568.26                       | 1793.89                    | 1793.89                         |
| 16           | 2.75901    | 5193.56      | 16.5683                   | D-VD Silty SAND | 125                 | 36                        | 834.074            | 1312.59              | 1634.57                  | 0                   | 1634.57                       | 1882.72                    | 1882.72                         |
| 17           | 2.75901    | 5423.2       | 17.4549                   | D-VD Silty SAND | 125                 | 36                        | 861.95             | 1356.46              | 1694.95                  | 0                   | 1694.95                       | 1965.98                    | 1965.98                         |
| 18           | 2.75901    | 5637.28      | 18.3459                   | D-VD Silty SAND | 125                 | 36                        | 887.101            | 1396.04              | 1749.43                  | 0                   | 1749.43                       | 2043.6                     | 2043.6                          |
| 19           | 2.75901    | 5835.54      | 19.2414                   | D-VD Silty SAND | 125                 | 36                        | 909.532            | 1431.34              | 1798.02                  | 0                   | 1798.02                       | 2115.49                    | 2115.49                         |
| 20           | 2.75901    | 6017.75      | 20.1419                   | D-VD Silty SAND | 125                 | 36                        | 929.25             | 1462.37              | 1840.73                  | 0                   | 1840.73                       | 2181.56                    | 2181.56                         |
| 21           | 2.75901    | 6183.61      | 21.0476                   | D-VD Silty SAND | 125                 | 36                        | 946.261            | 1489.14              | 1877.57                  | 0                   | 1877.57                       | 2241.71                    | 2241.71                         |
| 22           | 2.75901    | 6332.84      | 21.9589                   | D-VD Silty SAND | 125                 | 36                        | 960.558            | 1511.64              | 1908.54                  | 0                   | 1908.54                       | 2295.83                    | 2295.83                         |
| 23           | 2.75901    | 6465.13      | 22.876                    | D-VD Silty SAND | 125                 | 36                        | 972.142            | 1529.87              | 1933.63                  | 0                   | 1933.63                       | 2343.8                     | 2343.8                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.75901 | 6580.13 | 23.7994 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 981.013 | 1543.83 | 1952.85 | 0 | 1952.85 | 2385.51 | 2385.51 |
| 25 | 2.75901 | 6677.48 | 24.7294 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 987.164 | 1553.51 | 1966.17 | 0 | 1966.17 | 2420.83 | 2420.83 |
| 26 | 2.75901 | 6756.78 | 25.6664 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 990.583 | 1558.89 | 1973.58 | 0 | 1973.58 | 2449.6  | 2449.6  |
| 27 | 2.75901 | 6817.62 | 26.6108 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 991.263 | 1559.96 | 1975.05 | 0 | 1975.05 | 2471.67 | 2471.67 |
| 28 | 2.75901 | 6859.55 | 27.5631 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 989.191 | 1556.7  | 1970.57 | 0 | 1970.57 | 2486.9  | 2486.9  |
| 29 | 2.75901 | 6882.06 | 28.5237 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 984.355 | 1549.09 | 1960.09 | 0 | 1960.09 | 2495.08 | 2495.08 |
| 30 | 2.75901 | 6884.64 | 29.4932 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 976.73  | 1537.09 | 1943.58 | 0 | 1943.58 | 2496.03 | 2496.03 |
| 31 | 2.75901 | 6866.72 | 30.472  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 966.309 | 1520.69 | 1921    | 0 | 1921    | 2489.56 | 2489.56 |
| 32 | 2.75901 | 6827.67 | 31.4608 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 953.054 | 1499.83 | 1892.29 | 0 | 1892.29 | 2475.43 | 2475.43 |
| 33 | 2.75901 | 6766.83 | 32.4601 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 936.952 | 1474.49 | 1857.41 | 0 | 1857.41 | 2453.39 | 2453.39 |
| 34 | 2.75901 | 6683.49 | 33.4707 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 917.965 | 1444.61 | 1816.29 | 0 | 1816.29 | 2423.2  | 2423.2  |
| 35 | 2.75901 | 6576.84 | 34.4931 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 896.067 | 1410.15 | 1768.86 | 0 | 1768.86 | 2384.55 | 2384.55 |
| 36 | 2.75901 | 6446.04 | 35.5283 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 871.228 | 1371.06 | 1715.06 | 0 | 1715.06 | 2337.15 | 2337.15 |
| 37 | 2.75901 | 6290.14 | 36.5771 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 843.415 | 1327.29 | 1654.81 | 0 | 1654.81 | 2280.66 | 2280.66 |
| 38 | 2.75901 | 6108.13 | 37.6402 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 812.577 | 1278.76 | 1588.01 | 0 | 1588.01 | 2214.69 | 2214.69 |
| 39 | 2.75901 | 5898.88 | 38.7188 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 778.676 | 1225.41 | 1514.58 | 0 | 1514.58 | 2138.84 | 2138.84 |
| 40 | 2.75901 | 5666.73 | 39.814  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 742.341 | 1168.23 | 1435.88 | 0 | 1435.88 | 2054.69 | 2054.69 |
| 41 | 2.75901 | 5436.54 | 40.9269 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 706.641 | 1112.05 | 1358.55 | 0 | 1358.55 | 1971.25 | 1971.25 |
| 42 | 2.75901 | 5180.01 | 42.0589 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 668.223 | 1051.59 | 1275.34 | 0 | 1275.34 | 1878.26 | 1878.26 |
| 43 | 2.75901 | 4890.42 | 43.2115 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 626.42  | 985.803 | 1184.79 | 0 | 1184.79 | 1773.28 | 1773.28 |
| 44 | 2.75901 | 4565.87 | 44.3862 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 581.167 | 914.588 | 1086.77 | 0 | 1086.77 | 1655.62 | 1655.62 |
| 45 | 2.75901 | 4204.24 | 45.5851 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 532.395 | 837.836 | 981.136 | 0 | 981.136 | 1524.52 | 1524.52 |
| 46 | 2.75901 | 3761.29 | 46.8102 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 475.342 | 748.05  | 857.554 | 0 | 857.554 | 1363.92 | 1363.92 |
| 47 | 2.80063 | 3135.72 | 48.0735 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 419.547 | 660.245 | 653.083 | 0 | 653.083 | 1120.24 | 1120.24 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.80063 | 2344.44 | 49.3784 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 323.76  | 509.504 | 460.144 | 0 | 460.144 | 837.593 | 837.593 |
| 49 | 2.80063 | 1497.54 | 50.719  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 224.619 | 353.485 | 260.449 | 0 | 260.449 | 535.065 | 535.065 |
| 50 | 2.80063 | 546.518 | 52.0991 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 117.415 | 184.777 | 44.5123 | 0 | 44.5123 | 195.333 | 195.333 |

## **Cross Section DD-DD' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.03908**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.79592    | 184.91       | 9.15985                   | D-VD<br>Silty SAND | 125                 | 36                        | 149.669            | 155.518              | 42.0041                  | 0                   | 42.0041                       | 66.1376                    | 66.1376                         |
| 2            | 2.79592    | 550.985      | 9.81565                   | D-VD<br>Silty SAND | 125                 | 36                        | 230.241            | 239.239              | 157.236                  | 0                   | 157.236                       | 197.071                    | 197.071                         |
| 3            | 2.79592    | 905.991      | 10.4728                   | D-VD<br>Silty SAND | 125                 | 36                        | 307.175            | 319.179              | 267.265                  | 0                   | 267.265                       | 324.045                    | 324.045                         |
| 4            | 2.79592    | 1249.86      | 11.1312                   | D-VD<br>Silty SAND | 125                 | 36                        | 380.522            | 395.393              | 372.164                  | 0                   | 372.164                       | 447.035                    | 447.035                         |
| 5            | 2.79592    | 1582.52      | 11.7912                   | D-VD<br>Silty SAND | 125                 | 36                        | 450.335            | 467.934              | 472.007                  | 0                   | 472.007                       | 566.015                    | 566.015                         |
| 6            | 2.79592    | 1903.88      | 12.4528                   | D-VD<br>Silty SAND | 125                 | 36                        | 516.66             | 536.851              | 566.864                  | 0                   | 566.864                       | 680.958                    | 680.958                         |
| 7            | 2.79592    | 2213.87      | 13.1161                   | D-VD<br>Silty SAND | 125                 | 36                        | 579.543            | 602.192              | 656.797                  | 0                   | 656.797                       | 791.832                    | 791.832                         |
| 8            | 2.79592    | 2512.4       | 13.7811                   | D-VD<br>Silty SAND | 125                 | 36                        | 639.027            | 664                  | 741.871                  | 0                   | 741.871                       | 898.608                    | 898.608                         |
| 9            | 2.79592    | 2799.36      | 14.4481                   | D-VD<br>Silty SAND | 125                 | 36                        | 695.152            | 722.319              | 822.138                  | 0                   | 822.138                       | 1001.24                    | 1001.24                         |
| 10           | 2.79592    | 3074.67      | 15.1171                   | D-VD<br>Silty SAND | 125                 | 36                        | 747.958            | 777.188              | 897.661                  | 0                   | 897.661                       | 1099.71                    | 1099.71                         |
| 11           | 2.79592    | 3338.2       | 15.7882                   | D-VD<br>Silty SAND | 125                 | 36                        | 797.48             | 828.645              | 968.484                  | 0                   | 968.484                       | 1193.97                    | 1193.97                         |
| 12           | 2.79592    | 3589.84      | 16.4615                   | D-VD<br>Silty SAND | 125                 | 36                        | 843.753            | 876.727              | 1034.66                  | 0                   | 1034.66                       | 1283.98                    | 1283.98                         |
| 13           | 2.79592    | 3829.48      | 17.1371                   | D-VD<br>Silty SAND | 125                 | 36                        | 886.809            | 921.466              | 1096.24                  | 0                   | 1096.24                       | 1369.69                    | 1369.69                         |
| 14           | 2.79592    | 4056.98      | 17.8153                   | D-VD<br>Silty SAND | 125                 | 36                        | 926.679            | 962.894              | 1153.26                  | 0                   | 1153.26                       | 1451.06                    | 1451.06                         |
| 15           | 2.79592    | 4272.21      | 18.496                    | D-VD<br>Silty SAND | 125                 | 36                        | 963.393            | 1001.04              | 1205.77                  | 0                   | 1205.77                       | 1528.04                    | 1528.04                         |
| 16           | 2.79592    | 4475.02      | 19.1794                   | D-VD<br>Silty SAND | 125                 | 36                        | 996.975            | 1035.94              | 1253.8                   | 0                   | 1253.8                        | 1600.58                    | 1600.58                         |
| 17           | 2.79592    | 4665.26      | 19.8657                   | D-VD<br>Silty SAND | 125                 | 36                        | 1027.45            | 1067.61              | 1297.38                  | 0                   | 1297.38                       | 1668.62                    | 1668.62                         |
| 18           | 2.79592    | 4842.76      | 20.555                    | D-VD<br>Silty SAND | 125                 | 36                        | 1054.85            | 1096.07              | 1336.57                  | 0                   | 1336.57                       | 1732.11                    | 1732.11                         |
| 19           | 2.79592    | 5007.37      | 21.2474                   | D-VD<br>Silty SAND | 125                 | 36                        | 1079.19            | 1121.36              | 1371.37                  | 0                   | 1371.37                       | 1790.99                    | 1790.99                         |
| 20           | 2.79592    | 5158.89      | 21.943                    | D-VD<br>Silty SAND | 125                 | 36                        | 1100.48            | 1143.49              | 1401.83                  | 0                   | 1401.83                       | 1845.18                    | 1845.18                         |
| 21           | 2.79592    | 5297.15      | 22.6421                   | D-VD<br>Silty SAND | 125                 | 36                        | 1118.76            | 1162.48              | 1427.97                  | 0                   | 1427.97                       | 1894.63                    | 1894.63                         |
| 22           | 2.79592    | 5421.92      | 23.3448                   | D-VD<br>Silty SAND | 125                 | 36                        | 1134.04            | 1178.36              | 1449.82                  | 0                   | 1449.82                       | 1939.27                    | 1939.27                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.79592 | 5533.02 | 24.0512 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1146.33 | 1191.13 | 1467.39 | 0 | 1467.39 | 1979    | 1979    |
| 24 | 2.79592 | 5630.2  | 24.7615 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1155.65 | 1200.81 | 1480.72 | 0 | 1480.72 | 2013.76 | 2013.76 |
| 25 | 2.79592 | 5713.24 | 25.4759 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1162.01 | 1207.42 | 1489.82 | 0 | 1489.82 | 2043.47 | 2043.47 |
| 26 | 2.79592 | 5781.89 | 26.1945 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1165.42 | 1210.96 | 1494.7  | 0 | 1494.7  | 2068.01 | 2068.01 |
| 27 | 2.79592 | 5835.87 | 26.9177 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1165.9  | 1211.46 | 1495.38 | 0 | 1495.38 | 2087.33 | 2087.33 |
| 28 | 2.79592 | 5874.91 | 27.6455 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1163.44 | 1208.91 | 1491.88 | 0 | 1491.88 | 2101.29 | 2101.29 |
| 29 | 2.79592 | 5898.72 | 28.3781 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1158.08 | 1203.34 | 1484.21 | 0 | 1484.21 | 2109.81 | 2109.81 |
| 30 | 2.79592 | 5906.97 | 29.1159 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1149.81 | 1194.74 | 1472.37 | 0 | 1472.37 | 2112.76 | 2112.76 |
| 31 | 2.79592 | 5899.33 | 29.859  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1138.62 | 1183.12 | 1456.38 | 0 | 1456.38 | 2110.03 | 2110.03 |
| 32 | 2.79592 | 5875.46 | 30.6077 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1124.54 | 1168.49 | 1436.24 | 0 | 1436.24 | 2101.49 | 2101.49 |
| 33 | 2.79592 | 5834.97 | 31.3622 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1107.57 | 1150.85 | 1411.96 | 0 | 1411.96 | 2087.02 | 2087.02 |
| 34 | 2.79592 | 5777.47 | 32.1228 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1087.69 | 1130.2  | 1383.54 | 0 | 1383.54 | 2066.45 | 2066.45 |
| 35 | 2.79592 | 5702.53 | 32.8898 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1064.93 | 1106.55 | 1350.98 | 0 | 1350.98 | 2039.64 | 2039.64 |
| 36 | 2.79592 | 5609.7  | 33.6635 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1039.27 | 1079.89 | 1314.29 | 0 | 1314.29 | 2006.44 | 2006.44 |
| 37 | 2.79592 | 5498.5  | 34.4442 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1010.73 | 1050.22 | 1273.46 | 0 | 1273.46 | 1966.67 | 1966.67 |
| 38 | 2.79592 | 5368.81 | 35.2323 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 979.355 | 1017.63 | 1228.6  | 0 | 1228.6  | 1920.28 | 1920.28 |
| 39 | 2.79592 | 5246.59 | 36.0282 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 949.548 | 986.656 | 1185.97 | 0 | 1185.97 | 1876.57 | 1876.57 |
| 40 | 2.79592 | 5120.6  | 36.8321 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 919.424 | 955.355 | 1142.89 | 0 | 1142.89 | 1831.51 | 1831.51 |
| 41 | 2.79592 | 4973.95 | 37.6446 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 886.254 | 920.889 | 1095.45 | 0 | 1095.45 | 1779.06 | 1779.06 |
| 42 | 2.79592 | 4805.96 | 38.4661 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 850.033 | 883.252 | 1043.64 | 0 | 1043.64 | 1718.97 | 1718.97 |
| 43 | 2.79592 | 4615.9  | 39.2971 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 810.753 | 842.437 | 987.466 | 0 | 987.466 | 1650.99 | 1650.99 |
| 44 | 2.79592 | 4390.16 | 40.138  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 766.39  | 796.341 | 924.023 | 0 | 924.023 | 1570.25 | 1570.25 |
| 45 | 2.79592 | 3996.87 | 40.9895 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 696.622 | 723.846 | 824.241 | 0 | 824.241 | 1429.58 | 1429.58 |
| 46 | 3.03895 | 3781.99 | 41.8902 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 645.084 | 670.294 | 665.947 | 0 | 665.947 | 1244.55 | 1244.55 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 3.03895 | 3123.45 | 42.8418 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 540.389 | 561.507 | 526.706 | 0 | 526.706 | 1027.84 | 1027.84 |
| 48 | 3.03895 | 2388.25 | 43.8083 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 427.18  | 443.874 | 376.141 | 0 | 376.141 | 785.91  | 785.91  |
| 49 | 3.03895 | 1469.91 | 44.7907 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 290.914 | 302.283 | 194.914 | 0 | 194.914 | 483.71  | 483.71  |
| 50 | 3.03895 | 497.022 | 45.7902 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 150.79  | 156.683 | 8.55411 | 0 | 8.55411 | 163.562 | 163.562 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.992887

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.82442    | 133.265      | 3.14288                   | D-VD Silty SAND | 125                 | 36                        | 154.227            | 153.13               | 38.7174                  | 0                   | 38.7174                       | 47.1858                    | 47.1858                         |
| 2            | 2.82442    | 435.549      | 3.99753                   | D-VD Silty SAND | 125                 | 36                        | 227.126            | 225.51               | 138.341                  | 0                   | 138.341                       | 154.213                    | 154.213                         |
| 3            | 2.82442    | 880.556      | 4.85306                   | D-VD Silty SAND | 125                 | 36                        | 333.326            | 330.955              | 283.473                  | 0                   | 283.473                       | 311.774                    | 311.774                         |
| 4            | 2.82442    | 1325.63      | 5.70968                   | D-VD Silty SAND | 125                 | 36                        | 437.35             | 434.239              | 425.629                  | 0                   | 425.629                       | 469.357                    | 469.357                         |
| 5            | 2.82442    | 1756.23      | 6.56758                   | D-VD Silty SAND | 125                 | 36                        | 535.774            | 531.963              | 560.136                  | 0                   | 560.136                       | 621.82                     | 621.82                          |
| 6            | 2.82442    | 2172.3       | 7.42697                   | D-VD Silty SAND | 125                 | 36                        | 628.736            | 624.264              | 687.178                  | 0                   | 687.178                       | 769.138                    | 769.138                         |
| 7            | 2.82442    | 2573.75      | 8.28803                   | D-VD Silty SAND | 125                 | 36                        | 716.361            | 711.266              | 806.925                  | 0                   | 806.925                       | 911.278                    | 911.278                         |
| 8            | 2.82442    | 2960.49      | 9.15099                   | D-VD Silty SAND | 125                 | 36                        | 798.769            | 793.087              | 919.544                  | 0                   | 919.544                       | 1048.22                    | 1048.22                         |
| 9            | 2.82442    | 3332.42      | 10.016                    | D-VD Silty SAND | 125                 | 36                        | 876.066            | 869.835              | 1025.18                  | 0                   | 1025.18                       | 1179.9                     | 1179.9                          |
| 10           | 2.82442    | 3689.42      | 10.8834                   | D-VD Silty SAND | 125                 | 36                        | 948.359            | 941.613              | 1123.97                  | 0                   | 1123.97                       | 1306.31                    | 1306.31                         |
| 11           | 2.82442    | 4031.37      | 11.7533                   | D-VD Silty SAND | 125                 | 36                        | 1015.74            | 1008.51              | 1216.05                  | 0                   | 1216.05                       | 1427.39                    | 1427.39                         |
| 12           | 2.82442    | 4358.14      | 12.626                    | D-VD Silty SAND | 125                 | 36                        | 1078.3             | 1070.63              | 1301.55                  | 0                   | 1301.55                       | 1543.09                    | 1543.09                         |
| 13           | 2.82442    | 4669.56      | 13.5016                   | D-VD Silty SAND | 125                 | 36                        | 1136.12            | 1128.04              | 1380.57                  | 0                   | 1380.57                       | 1653.36                    | 1653.36                         |
| 14           | 2.82442    | 4965.48      | 14.3805                   | D-VD Silty SAND | 125                 | 36                        | 1189.28            | 1180.82              | 1453.22                  | 0                   | 1453.22                       | 1758.14                    | 1758.14                         |
| 15           | 2.82442    | 5245.72      | 15.2629                   | D-VD Silty SAND | 125                 | 36                        | 1237.85            | 1229.05              | 1519.6                   | 0                   | 1519.6                        | 1857.37                    | 1857.37                         |
| 16           | 2.82442    | 5510.08      | 16.1489                   | D-VD Silty SAND | 125                 | 36                        | 1281.91            | 1272.79              | 1579.79                  | 0                   | 1579.79                       | 1950.98                    | 1950.98                         |
| 17           | 2.82442    | 5758.36      | 17.039                    | D-VD Silty SAND | 125                 | 36                        | 1321.49            | 1312.09              | 1633.89                  | 0                   | 1633.89                       | 2038.9                     | 2038.9                          |
| 18           | 2.82442    | 5990.33      | 17.9333                   | D-VD Silty SAND | 125                 | 36                        | 1356.67            | 1347.02              | 1681.97                  | 0                   | 1681.97                       | 2121.04                    | 2121.04                         |
| 19           | 2.82442    | 6205.75      | 18.8322                   | D-VD Silty SAND | 125                 | 36                        | 1387.5             | 1377.63              | 1724.1                   | 0                   | 1724.1                        | 2197.31                    | 2197.31                         |
| 20           | 2.82442    | 6404.36      | 19.7359                   | D-VD Silty SAND | 125                 | 36                        | 1414.03            | 1403.97              | 1760.35                  | 0                   | 1760.35                       | 2267.65                    | 2267.65                         |
| 21           | 2.82442    | 6585.88      | 20.6447                   | D-VD Silty SAND | 125                 | 36                        | 1436.3             | 1426.08              | 1790.78                  | 0                   | 1790.78                       | 2331.93                    | 2331.93                         |
| 22           | 2.82442    | 6750         | 21.559                    | D-VD Silty SAND | 125                 | 36                        | 1454.33            | 1443.99              | 1815.43                  | 0                   | 1815.43                       | 2390.04                    | 2390.04                         |
| 23           | 2.82442    | 6896.4       | 22.4791                   | D-VD Silty SAND | 125                 | 36                        | 1468.19            | 1457.75              | 1834.37                  | 0                   | 1834.37                       | 2441.89                    | 2441.89                         |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.82442 | 7024.73 | 23.4054 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1477.89 | 1467.38 | 1847.63 | 0 | 1847.63 | 2487.33 | 2487.33 |
| 25 | 2.82442 | 7134.62 | 24.3382 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1483.46 | 1472.91 | 1855.25 | 0 | 1855.25 | 2526.25 | 2526.25 |
| 26 | 2.82442 | 7225.66 | 25.2779 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1484.94 | 1474.38 | 1857.26 | 0 | 1857.26 | 2558.49 | 2558.49 |
| 27 | 2.82442 | 7297.42 | 26.225  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1482.33 | 1471.79 | 1853.7  | 0 | 1853.7  | 2583.9  | 2583.9  |
| 28 | 2.82442 | 7349.43 | 27.1798 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1475.68 | 1465.18 | 1844.59 | 0 | 1844.59 | 2602.33 | 2602.33 |
| 29 | 2.82442 | 7381.19 | 28.1429 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1464.96 | 1454.54 | 1829.96 | 0 | 1829.96 | 2613.58 | 2613.58 |
| 30 | 2.82442 | 7392.16 | 29.1147 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1450.22 | 1439.9  | 1809.81 | 0 | 1809.81 | 2617.47 | 2617.47 |
| 31 | 2.82442 | 7381.75 | 30.0958 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1431.44 | 1421.26 | 1784.15 | 0 | 1784.15 | 2613.79 | 2613.79 |
| 32 | 2.82442 | 7349.32 | 31.0867 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1408.65 | 1398.63 | 1753.01 | 0 | 1753.01 | 2602.31 | 2602.31 |
| 33 | 2.82442 | 7294.19 | 32.0881 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1381.85 | 1372.02 | 1716.37 | 0 | 1716.37 | 2582.8  | 2582.8  |
| 34 | 2.82442 | 7215.62 | 33.1006 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1351.02 | 1341.41 | 1674.25 | 0 | 1674.25 | 2554.98 | 2554.98 |
| 35 | 2.82442 | 7112.79 | 34.1249 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1316.18 | 1306.82 | 1626.63 | 0 | 1626.63 | 2518.59 | 2518.59 |
| 36 | 2.82442 | 6984.82 | 35.1617 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1277.31 | 1268.22 | 1573.51 | 0 | 1573.51 | 2473.27 | 2473.27 |
| 37 | 2.82442 | 6830.76 | 36.212  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1234.41 | 1225.63 | 1514.89 | 0 | 1514.89 | 2418.73 | 2418.73 |
| 38 | 2.82442 | 6649.54 | 37.2765 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1187.47 | 1179.02 | 1450.73 | 0 | 1450.73 | 2354.57 | 2354.57 |
| 39 | 2.82442 | 6440.55 | 38.3564 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1136.55 | 1128.47 | 1381.16 | 0 | 1381.16 | 2280.57 | 2280.57 |
| 40 | 2.82442 | 6230.03 | 39.4526 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1086.11 | 1078.39 | 1312.23 | 0 | 1312.23 | 2206.04 | 2206.04 |
| 41 | 2.82442 | 6004.41 | 40.5663 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1033.98 | 1026.63 | 1240.98 | 0 | 1240.98 | 2126.15 | 2126.15 |
| 42 | 2.82442 | 5746.25 | 41.6989 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 977.527 | 970.574 | 1163.83 | 0 | 1163.83 | 2034.74 | 2034.74 |
| 43 | 2.82442 | 5453.81 | 42.8519 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 916.734 | 910.213 | 1080.75 | 0 | 1080.75 | 1931.2  | 1931.2  |
| 44 | 2.82442 | 5125.16 | 44.0268 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 851.574 | 845.517 | 991.707 | 0 | 991.707 | 1814.83 | 1814.83 |
| 45 | 2.82442 | 4738.85 | 45.2254 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 779.153 | 773.611 | 892.737 | 0 | 892.737 | 1678.05 | 1678.05 |
| 46 | 2.82442 | 4161.77 | 46.45   | D-VD<br>Silty<br>SAND                                | 125 | 36 | 680.478 | 675.638 | 757.889 | 0 | 757.889 | 1473.71 | 1473.71 |
| 47 | 2.94839 | 3599.5  | 47.7309 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 595.957 | 591.718 | 565.373 | 0 | 565.373 | 1221.03 | 1221.03 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.94839 | 2737.12 | 49.0723 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 462.223 | 458.935 | 395.418 | 0 | 395.418 | 928.502 | 928.502 |
| 49 | 2.94839 | 1773.47 | 50.4511 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 319.769 | 317.494 | 214.382 | 0 | 214.382 | 601.619 | 601.619 |
| 50 | 2.94839 | 606.879 | 51.8714 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 156.347 | 155.235 | 6.70083 | 0 | 6.70083 | 205.893 | 205.893 |

## **Cross Section EE-EE' - Master Scenario**

### **Global Minimum Query (bishop simplified) - Safety Factor: 1.7395**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.96719    | 172.653      | 7.27776                   | D-VD<br>Silty SAND | 125                 | 36                        | 91.3044            | 158.824              | 46.5548                  | 0                   | 46.5548                       | 58.2152                    | 58.2152                         |
| 2            | 2.96719    | 511.588      | 7.95658                   | D-VD<br>Silty SAND | 125                 | 36                        | 135.955            | 236.494              | 153.458                  | 0                   | 153.458                       | 172.46                     | 172.46                          |
| 3            | 2.96719    | 837.75       | 8.63653                   | D-VD<br>Silty SAND | 125                 | 36                        | 178.488            | 310.48               | 255.292                  | 0                   | 255.292                       | 282.402                    | 282.402                         |
| 4            | 2.96719    | 1151.07      | 9.31771                   | D-VD<br>Silty SAND | 125                 | 36                        | 218.922            | 380.815              | 352.101                  | 0                   | 352.101                       | 388.02                     | 388.02                          |
| 5            | 2.96719    | 1451.48      | 10.0002                   | D-VD<br>Silty SAND | 125                 | 36                        | 257.273            | 447.527              | 443.921                  | 0                   | 443.921                       | 489.286                    | 489.286                         |
| 6            | 2.96719    | 1738.9       | 10.6842                   | D-VD<br>Silty SAND | 125                 | 36                        | 293.557            | 510.642              | 530.79                   | 0                   | 530.79                        | 586.174                    | 586.174                         |
| 7            | 2.96719    | 2013.25      | 11.3697                   | D-VD<br>Silty SAND | 125                 | 36                        | 327.787            | 570.186              | 612.747                  | 0                   | 612.747                       | 678.659                    | 678.659                         |
| 8            | 2.96719    | 2284.61      | 12.0568                   | D-VD<br>Silty SAND | 125                 | 36                        | 361.296            | 628.474              | 692.972                  | 0                   | 692.972                       | 770.142                    | 770.142                         |
| 9            | 2.96719    | 2577.63      | 12.7457                   | D-VD<br>Silty SAND | 125                 | 36                        | 397.255            | 691.025              | 779.067                  | 0                   | 779.067                       | 868.925                    | 868.925                         |
| 10           | 2.96719    | 2860.19      | 13.4365                   | D-VD<br>Silty SAND | 125                 | 36                        | 431.515            | 750.62               | 861.092                  | 0                   | 861.092                       | 964.184                    | 964.184                         |
| 11           | 2.96719    | 3129.27      | 14.1293                   | D-VD<br>Silty SAND | 125                 | 36                        | 463.709            | 806.622              | 938.173                  | 0                   | 938.173                       | 1054.9                     | 1054.9                          |
| 12           | 2.96719    | 3384.74      | 14.8242                   | D-VD<br>Silty SAND | 125                 | 36                        | 493.847            | 859.047              | 1010.33                  | 0                   | 1010.33                       | 1141.03                    | 1141.03                         |
| 13           | 2.96719    | 3626.47      | 15.5213                   | D-VD<br>Silty SAND | 125                 | 36                        | 521.936            | 907.908              | 1077.58                  | 0                   | 1077.58                       | 1222.53                    | 1222.53                         |
| 14           | 2.96719    | 3854.33      | 16.2208                   | D-VD<br>Silty SAND | 125                 | 36                        | 547.984            | 953.218              | 1139.94                  | 0                   | 1139.94                       | 1299.36                    | 1299.36                         |
| 15           | 2.96719    | 4082.18      | 16.9228                   | D-VD<br>Silty SAND | 125                 | 36                        | 573.745            | 998.029              | 1201.62                  | 0                   | 1201.62                       | 1376.19                    | 1376.19                         |
| 16           | 2.96719    | 4315.44      | 17.6274                   | D-VD<br>Silty SAND | 125                 | 36                        | 599.893            | 1043.51              | 1264.23                  | 0                   | 1264.23                       | 1454.84                    | 1454.84                         |
| 17           | 2.96719    | 4534.5       | 18.3348                   | D-VD<br>Silty SAND | 125                 | 36                        | 623.99             | 1085.43              | 1321.92                  | 0                   | 1321.92                       | 1528.71                    | 1528.71                         |
| 18           | 2.96719    | 4739.06      | 19.0451                   | D-VD<br>Silty SAND | 125                 | 36                        | 646.023            | 1123.76              | 1374.67                  | 0                   | 1374.67                       | 1597.68                    | 1597.68                         |
| 19           | 2.96719    | 4928.92      | 19.7585                   | D-VD<br>Silty SAND | 125                 | 36                        | 665.99             | 1158.49              | 1422.48                  | 0                   | 1422.48                       | 1661.71                    | 1661.71                         |
| 20           | 2.96719    | 5103.9       | 20.475                    | D-VD<br>Silty SAND | 125                 | 36                        | 683.903            | 1189.65              | 1465.36                  | 0                   | 1465.36                       | 1720.72                    | 1720.72                         |
| 21           | 2.96719    | 5263.79      | 21.1949                   | D-VD<br>Silty SAND | 125                 | 36                        | 699.747            | 1217.21              | 1503.3                   | 0                   | 1503.3                        | 1774.64                    | 1774.64                         |
| 22           | 2.96719    | 5408.36      | 21.9184                   | D-VD<br>Silty SAND | 125                 | 36                        | 713.533            | 1241.19              | 1536.3                   | 0                   | 1536.3                        | 1823.4                     | 1823.4                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.96719 | 5537.4  | 22.6455 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 725.249 | 1261.57 | 1564.36 | 0 | 1564.36 | 1866.93 | 1866.93 |
| 24 | 2.96719 | 5650.65 | 23.3765 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 734.901 | 1278.36 | 1587.47 | 0 | 1587.47 | 1905.13 | 1905.13 |
| 25 | 2.96719 | 5747.85 | 24.1116 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 742.483 | 1291.55 | 1605.62 | 0 | 1605.62 | 1937.93 | 1937.93 |
| 26 | 2.96719 | 5828.74 | 24.8509 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 747.985 | 1301.12 | 1618.79 | 0 | 1618.79 | 1965.22 | 1965.22 |
| 27 | 2.96719 | 5893.02 | 25.5946 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 751.411 | 1307.08 | 1626.99 | 0 | 1626.99 | 1986.92 | 1986.92 |
| 28 | 2.96719 | 5940.38 | 26.3431 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 752.739 | 1309.39 | 1630.18 | 0 | 1630.18 | 2002.91 | 2002.91 |
| 29 | 2.96719 | 5970.5  | 27.0963 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 751.975 | 1308.06 | 1628.34 | 0 | 1628.34 | 2013.09 | 2013.09 |
| 30 | 2.96719 | 5983.03 | 27.8547 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 749.1   | 1303.06 | 1621.47 | 0 | 1621.47 | 2017.34 | 2017.34 |
| 31 | 2.96719 | 5977.61 | 28.6185 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 744.11  | 1294.38 | 1609.52 | 0 | 1609.52 | 2015.53 | 2015.53 |
| 32 | 2.96719 | 5968.98 | 29.3878 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 738.718 | 1285    | 1596.61 | 0 | 1596.61 | 2012.65 | 2012.65 |
| 33 | 2.96719 | 5972.38 | 30.163  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 734.654 | 1277.93 | 1586.88 | 0 | 1586.88 | 2013.82 | 2013.82 |
| 34 | 2.96719 | 5957.48 | 30.9443 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 728.474 | 1267.18 | 1572.08 | 0 | 1572.08 | 2008.82 | 2008.82 |
| 35 | 2.96719 | 5922.91 | 31.7321 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 720.057 | 1252.54 | 1551.92 | 0 | 1551.92 | 1997.2  | 1997.2  |
| 36 | 2.96719 | 5868.17 | 32.5266 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 709.382 | 1233.97 | 1526.37 | 0 | 1526.37 | 1978.76 | 1978.76 |
| 37 | 2.96719 | 5792.72 | 33.3282 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 696.442 | 1211.46 | 1495.38 | 0 | 1495.38 | 1953.35 | 1953.35 |
| 38 | 2.96719 | 5696    | 34.1373 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 681.201 | 1184.95 | 1458.9  | 0 | 1458.9  | 1920.76 | 1920.76 |
| 39 | 2.96719 | 5577.39 | 34.9542 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 663.656 | 1154.43 | 1416.88 | 0 | 1416.88 | 1880.79 | 1880.79 |
| 40 | 2.96719 | 5436.23 | 35.7793 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 643.767 | 1119.83 | 1369.27 | 0 | 1369.27 | 1833.22 | 1833.22 |
| 41 | 3.03132 | 5349.53 | 36.6222 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 659.291 | 1146.84 | 1275.89 | 0 | 1275.89 | 1765.92 | 1765.92 |
| 42 | 3.03132 | 5082.96 | 37.4836 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 624.705 | 1086.67 | 1198.89 | 0 | 1198.89 | 1677.96 | 1677.96 |
| 43 | 3.03132 | 4787.7  | 38.3549 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 587.357 | 1021.71 | 1115.74 | 0 | 1115.74 | 1580.52 | 1580.52 |
| 44 | 3.03132 | 4462.7  | 39.2369 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 547.22  | 951.89  | 1026.37 | 0 | 1026.37 | 1473.26 | 1473.26 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 3.03132 | 4106.84 | 40.1302 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 504.264 | 877.167 | 930.733 | 0 | 930.733 | 1355.82 | 1355.82 |
| 46 | 3.03132 | 3696.77 | 41.0353 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 456.1   | 793.386 | 823.498 | 0 | 823.498 | 1220.47 | 1220.47 |
| 47 | 3.03132 | 2995.16 | 41.9531 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 377.833 | 657.241 | 649.239 | 0 | 649.239 | 988.881 | 988.881 |
| 48 | 3.03132 | 2184.61 | 42.8842 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 289.462 | 503.519 | 452.483 | 0 | 452.483 | 721.319 | 721.319 |
| 49 | 3.03132 | 1337.6  | 43.8297 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 198.877 | 345.947 | 250.801 | 0 | 250.801 | 441.715 | 441.715 |
| 50 | 3.03132 | 452.387 | 44.7904 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 106.077 | 184.521 | 44.1848 | 0 | 44.1848 | 149.488 | 149.488 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.66426

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.89003    | 215.053      | 1.45584                   | D-VD Silty SAND | 125                 | 36                        | 106.415            | 177.102              | 71.712                   | 0                   | 71.712                        | 74.4165                    | 74.4165                         |
| 2            | 2.89003    | 637.621      | 2.31686                   | D-VD Silty SAND | 125                 | 36                        | 168.454            | 280.352              | 213.824                  | 0                   | 213.824                       | 220.639                    | 220.639                         |
| 3            | 2.89003    | 1044.95      | 3.19503                   | D-VD Silty SAND | 125                 | 36                        | 227.421            | 378.488              | 348.896                  | 0                   | 348.896                       | 361.591                    | 361.591                         |
| 4            | 2.89003    | 1436.86      | 4.07396                   | D-VD Silty SAND | 125                 | 36                        | 283.359            | 471.583              | 477.032                  | 0                   | 477.032                       | 497.214                    | 497.214                         |
| 5            | 2.89003    | 1813.31      | 4.95385                   | D-VD Silty SAND | 125                 | 36                        | 336.315            | 559.716              | 598.335                  | 0                   | 598.335                       | 627.485                    | 627.485                         |
| 6            | 2.89003    | 2174.24      | 5.83491                   | D-VD Silty SAND | 125                 | 36                        | 386.334            | 642.96               | 712.912                  | 0                   | 712.912                       | 752.392                    | 752.392                         |
| 7            | 2.89003    | 2519.59      | 6.71736                   | D-VD Silty SAND | 125                 | 36                        | 433.456            | 721.384              | 820.853                  | 0                   | 820.853                       | 871.906                    | 871.906                         |
| 8            | 2.89003    | 2852.68      | 7.60141                   | D-VD Silty SAND | 125                 | 36                        | 478.209            | 795.864              | 923.367                  | 0                   | 923.367                       | 987.186                    | 987.186                         |
| 9            | 2.89003    | 3203.62      | 8.48729                   | D-VD Silty SAND | 125                 | 36                        | 524.897            | 873.565              | 1030.31                  | 0                   | 1030.31                       | 1108.64                    | 1108.64                         |
| 10           | 2.89003    | 3547.23      | 9.37522                   | D-VD Silty SAND | 125                 | 36                        | 569.928            | 948.509              | 1133.46                  | 0                   | 1133.46                       | 1227.56                    | 1227.56                         |
| 11           | 2.89003    | 3874.87      | 10.2654                   | D-VD Silty SAND | 125                 | 36                        | 612.115            | 1018.72              | 1230.1                   | 0                   | 1230.1                        | 1340.96                    | 1340.96                         |
| 12           | 2.89003    | 4186.4       | 11.1581                   | D-VD Silty SAND | 125                 | 36                        | 651.484            | 1084.24              | 1320.28                  | 0                   | 1320.28                       | 1448.78                    | 1448.78                         |
| 13           | 2.89003    | 4481.68      | 12.0536                   | D-VD Silty SAND | 125                 | 36                        | 688.06             | 1145.11              | 1404.06                  | 0                   | 1404.06                       | 1550.98                    | 1550.98                         |
| 14           | 2.89003    | 4760.55      | 12.9521                   | D-VD Silty SAND | 125                 | 36                        | 721.864            | 1201.37              | 1481.49                  | 0                   | 1481.49                       | 1647.51                    | 1647.51                         |
| 15           | 2.89003    | 5026.34      | 13.8538                   | D-VD Silty SAND | 125                 | 36                        | 753.392            | 1253.84              | 1553.71                  | 0                   | 1553.71                       | 1739.51                    | 1739.51                         |
| 16           | 2.89003    | 5299.31      | 14.7591                   | D-VD Silty SAND | 125                 | 36                        | 785.418            | 1307.14              | 1627.08                  | 0                   | 1627.08                       | 1834                       | 1834                            |
| 17           | 2.89003    | 5559.85      | 15.6681                   | D-VD Silty SAND | 125                 | 36                        | 815.293            | 1356.86              | 1695.51                  | 0                   | 1695.51                       | 1924.19                    | 1924.19                         |
| 18           | 2.89003    | 5803.2       | 16.5812                   | D-VD Silty SAND | 125                 | 36                        | 842.398            | 1401.97              | 1757.6                   | 0                   | 1757.6                        | 2008.42                    | 2008.42                         |
| 19           | 2.89003    | 6029.11      | 17.4986                   | D-VD Silty SAND | 125                 | 36                        | 866.746            | 1442.49              | 1813.37                  | 0                   | 1813.37                       | 2086.63                    | 2086.63                         |
| 20           | 2.89003    | 6237.33      | 18.4207                   | D-VD Silty SAND | 125                 | 36                        | 888.347            | 1478.44              | 1862.85                  | 0                   | 1862.85                       | 2158.72                    | 2158.72                         |
| 21           | 2.89003    | 6427.59      | 19.3478                   | D-VD Silty SAND | 125                 | 36                        | 907.202            | 1509.82              | 1906.04                  | 0                   | 1906.04                       | 2224.59                    | 2224.59                         |
| 22           | 2.89003    | 6599.57      | 20.2801                   | D-VD Silty SAND | 125                 | 36                        | 923.317            | 1536.64              | 1942.96                  | 0                   | 1942.96                       | 2284.14                    | 2284.14                         |
| 23           | 2.89003    | 6752.95      | 21.2182                   | D-VD Silty SAND | 125                 | 36                        | 936.693            | 1558.9               | 1973.59                  | 0                   | 1973.59                       | 2337.25                    | 2337.25                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.89003 | 6887.39 | 22.1622 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 947.322 | 1576.59 | 1997.94 | 0 | 1997.94 | 2383.8  | 2383.8  |
| 25 | 2.89003 | 7002.51 | 23.1126 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 955.205 | 1589.71 | 2016    | 0 | 2016    | 2423.67 | 2423.67 |
| 26 | 2.89003 | 7097.9  | 24.0697 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 960.331 | 1598.24 | 2027.74 | 0 | 2027.74 | 2456.71 | 2456.71 |
| 27 | 2.89003 | 7173.12 | 25.0341 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 962.698 | 1602.18 | 2033.17 | 0 | 2033.17 | 2482.78 | 2482.78 |
| 28 | 2.89003 | 7227.71 | 26.0061 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 962.29  | 1601.5  | 2032.23 | 0 | 2032.23 | 2501.7  | 2501.7  |
| 29 | 2.89003 | 7261.16 | 26.9863 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 959.093 | 1596.18 | 2024.91 | 0 | 2024.91 | 2513.3  | 2513.3  |
| 30 | 2.89003 | 7272.91 | 27.975  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 953.096 | 1586.2  | 2011.17 | 0 | 2011.17 | 2517.4  | 2517.4  |
| 31 | 2.89003 | 7262.38 | 28.9729 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 944.27  | 1571.51 | 1990.95 | 0 | 1990.95 | 2513.79 | 2513.79 |
| 32 | 2.89003 | 7228.93 | 29.9805 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 932.601 | 1552.09 | 1964.22 | 0 | 1964.22 | 2502.24 | 2502.24 |
| 33 | 2.89003 | 7189.98 | 30.9985 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 920.229 | 1531.5  | 1935.89 | 0 | 1935.89 | 2488.78 | 2488.78 |
| 34 | 2.89003 | 7152.75 | 32.0275 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 908.025 | 1511.19 | 1907.93 | 0 | 1907.93 | 2475.93 | 2475.93 |
| 35 | 2.89003 | 7090.54 | 33.0681 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 892.823 | 1485.89 | 1873.11 | 0 | 1873.11 | 2454.42 | 2454.42 |
| 36 | 2.89003 | 7002.23 | 34.1212 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 874.569 | 1455.51 | 1831.29 | 0 | 1831.29 | 2423.89 | 2423.89 |
| 37 | 2.89003 | 6886.87 | 35.1876 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 853.22  | 1419.98 | 1782.38 | 0 | 1782.38 | 2383.99 | 2383.99 |
| 38 | 2.89003 | 6743.37 | 36.2682 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 828.729 | 1379.22 | 1726.29 | 0 | 1726.29 | 2334.34 | 2334.34 |
| 39 | 2.89003 | 6570.58 | 37.3639 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 801.059 | 1333.17 | 1662.91 | 0 | 1662.91 | 2274.56 | 2274.56 |
| 40 | 2.89003 | 6367.21 | 38.4759 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 770.156 | 1281.74 | 1592.11 | 0 | 1592.11 | 2204.19 | 2204.19 |
| 41 | 2.89003 | 6131.82 | 39.6054 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 735.961 | 1224.83 | 1513.78 | 0 | 1513.78 | 2122.74 | 2122.74 |
| 42 | 2.89003 | 5862.86 | 40.7536 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 698.419 | 1162.35 | 1427.79 | 0 | 1427.79 | 2029.66 | 2029.66 |
| 43 | 2.97452 | 5676.17 | 41.9394 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 693.81  | 1154.68 | 1285.93 | 0 | 1285.93 | 1909.31 | 1909.31 |
| 44 | 2.97452 | 5231.86 | 43.1651 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 636.193 | 1058.79 | 1163.2  | 0 | 1163.2  | 1759.89 | 1759.89 |
| 45 | 2.97452 | 4740.77 | 44.4159 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 574.517 | 956.146 | 1031.82 | 0 | 1031.82 | 1594.74 | 1594.74 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 46 | 2.97452 | 4199.88 | 45.6941 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 508.71  | 846.626 | 891.641 | 0 | 891.641 | 1412.83 | 1412.83 |
| 47 | 2.97452 | 3604.47 | 47.0022 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 438.568 | 729.892 | 742.228 | 0 | 742.228 | 1212.57 | 1212.57 |
| 48 | 2.97452 | 2754.56 | 48.3433 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 343.765 | 572.114 | 540.283 | 0 | 540.283 | 926.703 | 926.703 |
| 49 | 2.97452 | 1700.1  | 49.7206 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 230.805 | 384.119 | 299.658 | 0 | 299.658 | 572.011 | 572.011 |
| 50 | 2.97452 | 578.391 | 51.1382 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 114.702 | 190.894 | 52.3419 | 0 | 52.3419 | 194.688 | 194.688 |



## **Cross Section EE-EE' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.09086**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.08052    | 150.995      | 6.59317                   | D-VD<br>Silty SAND | 125                 | 36                        | 136.714            | 149.136              | 33.2199                  | 0                   | 33.2199                       | 49.0218                    | 49.0218                         |
| 2            | 3.08052    | 525.42       | 7.27665                   | D-VD<br>Silty SAND | 125                 | 36                        | 210.308            | 229.417              | 143.718                  | 0                   | 143.718                       | 170.572                    | 170.572                         |
| 3            | 3.08052    | 890.705      | 7.96117                   | D-VD<br>Silty SAND | 125                 | 36                        | 281                | 306.532              | 249.857                  | 0                   | 249.857                       | 289.155                    | 289.155                         |
| 4            | 3.08052    | 1242.11      | 8.64684                   | D-VD<br>Silty SAND | 125                 | 36                        | 347.914            | 379.526              | 350.325                  | 0                   | 350.325                       | 403.233                    | 403.233                         |
| 5            | 3.08052    | 1579.55      | 9.33375                   | D-VD<br>Silty SAND | 125                 | 36                        | 411.11             | 448.463              | 445.21                   | 0                   | 445.21                        | 512.78                     | 512.78                          |
| 6            | 3.08052    | 1902.96      | 10.022                    | D-VD<br>Silty SAND | 125                 | 36                        | 470.644            | 513.407              | 534.598                  | 0                   | 534.598                       | 617.772                    | 617.772                         |
| 7            | 3.08052    | 2212.25      | 10.7118                   | D-VD<br>Silty SAND | 125                 | 36                        | 526.572            | 574.416              | 618.569                  | 0                   | 618.569                       | 718.178                    | 718.178                         |
| 8            | 3.08052    | 2518.52      | 11.4031                   | D-VD<br>Silty SAND | 125                 | 36                        | 581.079            | 633.876              | 700.408                  | 0                   | 700.408                       | 817.607                    | 817.607                         |
| 9            | 3.08052    | 2848.01      | 12.0961                   | D-VD<br>Silty SAND | 125                 | 36                        | 639.149            | 697.222              | 787.597                  | 0                   | 787.597                       | 924.573                    | 924.573                         |
| 10           | 3.08052    | 3166.1       | 12.7909                   | D-VD<br>Silty SAND | 125                 | 36                        | 694.191            | 757.265              | 870.24                   | 0                   | 870.24                        | 1027.84                    | 1027.84                         |
| 11           | 3.08052    | 3469.65      | 13.4876                   | D-VD<br>Silty SAND | 125                 | 36                        | 745.672            | 813.424              | 947.536                  | 0                   | 947.536                       | 1126.39                    | 1126.39                         |
| 12           | 3.08052    | 3758.53      | 14.1863                   | D-VD<br>Silty SAND | 125                 | 36                        | 793.636            | 865.746              | 1019.55                  | 0                   | 1019.55                       | 1220.17                    | 1220.17                         |
| 13           | 3.08052    | 4032.61      | 14.8873                   | D-VD<br>Silty SAND | 125                 | 36                        | 838.122            | 914.274              | 1086.34                  | 0                   | 1086.34                       | 1309.15                    | 1309.15                         |
| 14           | 3.08052    | 4292.25      | 15.5905                   | D-VD<br>Silty SAND | 125                 | 36                        | 879.259            | 959.148              | 1148.11                  | 0                   | 1148.11                       | 1393.44                    | 1393.44                         |
| 15           | 3.08052    | 4560         | 16.2961                   | D-VD<br>Silty SAND | 125                 | 36                        | 921.187            | 1004.89              | 1211.06                  | 0                   | 1211.06                       | 1480.36                    | 1480.36                         |
| 16           | 3.08052    | 4825.14      | 17.0043                   | D-VD<br>Silty SAND | 125                 | 36                        | 961.954            | 1049.36              | 1272.27                  | 0                   | 1272.27                       | 1566.45                    | 1566.45                         |
| 17           | 3.08052    | 5074.86      | 17.7151                   | D-VD<br>Silty SAND | 125                 | 36                        | 999.283            | 1090.08              | 1328.32                  | 0                   | 1328.32                       | 1647.52                    | 1647.52                         |
| 18           | 3.08052    | 5308.98      | 18.4288                   | D-VD<br>Silty SAND | 125                 | 36                        | 1033.2             | 1127.08              | 1379.25                  | 0                   | 1379.25                       | 1723.53                    | 1723.53                         |
| 19           | 3.08052    | 5527.3       | 19.1455                   | D-VD<br>Silty SAND | 125                 | 36                        | 1063.75            | 1160.4               | 1425.11                  | 0                   | 1425.11                       | 1794.41                    | 1794.41                         |
| 20           | 3.08052    | 5729.63      | 19.8653                   | D-VD<br>Silty SAND | 125                 | 36                        | 1090.94            | 1190.06              | 1465.93                  | 0                   | 1465.93                       | 1860.1                     | 1860.1                          |
| 21           | 3.08052    | 5915.75      | 20.5883                   | D-VD<br>Silty SAND | 125                 | 36                        | 1114.8             | 1216.09              | 1501.76                  | 0                   | 1501.76                       | 1920.53                    | 1920.53                         |
| 22           | 3.08052    | 6085.42      | 21.3149                   | D-VD<br>Silty SAND | 125                 | 36                        | 1135.35            | 1238.51              | 1532.62                  | 0                   | 1532.62                       | 1975.61                    | 1975.61                         |

|    |         |         |         |                                                   |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 3.08052 | 6238.42 | 22.045  | D-VD<br>Silty SAND                                | 125 | 36 | 1152.62 | 1257.35 | 1558.54 | 0 | 1558.54 | 2025.29 | 2025.29 |
| 24 | 3.08052 | 6374.48 | 22.7789 | D-VD<br>Silty SAND                                | 125 | 36 | 1166.62 | 1272.62 | 1579.57 | 0 | 1579.57 | 2069.46 | 2069.46 |
| 25 | 3.08052 | 6493.33 | 23.5168 | D-VD<br>Silty SAND                                | 125 | 36 | 1177.37 | 1284.35 | 1595.71 | 0 | 1595.71 | 2108.06 | 2108.06 |
| 26 | 3.08052 | 6594.69 | 24.2588 | D-VD<br>Silty SAND                                | 125 | 36 | 1184.89 | 1292.55 | 1606.99 | 0 | 1606.99 | 2140.96 | 2140.96 |
| 27 | 3.08052 | 6678.25 | 25.0053 | D-VD<br>Silty SAND                                | 125 | 36 | 1189.18 | 1297.23 | 1613.44 | 0 | 1613.44 | 2168.1  | 2168.1  |
| 28 | 3.08052 | 6743.69 | 25.7562 | D-VD<br>Silty SAND                                | 125 | 36 | 1190.27 | 1298.42 | 1615.07 | 0 | 1615.07 | 2189.35 | 2189.35 |
| 29 | 3.08052 | 6790.67 | 26.512  | D-VD<br>Silty SAND                                | 125 | 36 | 1188.15 | 1296.11 | 1611.9  | 0 | 1611.9  | 2204.6  | 2204.6  |
| 30 | 3.08052 | 6818.83 | 27.2727 | D-VD<br>Silty SAND                                | 125 | 36 | 1182.86 | 1290.33 | 1603.95 | 0 | 1603.95 | 2213.75 | 2213.75 |
| 31 | 3.08052 | 6839.71 | 28.0387 | D-VD<br>Silty SAND                                | 125 | 36 | 1176.28 | 1283.16 | 1594.07 | 0 | 1594.07 | 2220.54 | 2220.54 |
| 32 | 3.08052 | 6877.06 | 28.8102 | D-VD<br>Silty SAND                                | 125 | 36 | 1172.21 | 1278.72 | 1587.97 | 0 | 1587.97 | 2232.67 | 2232.67 |
| 33 | 3.08052 | 6896.82 | 29.5875 | D-VD<br>Silty SAND                                | 125 | 36 | 1165.24 | 1271.11 | 1577.48 | 0 | 1577.48 | 2239.09 | 2239.09 |
| 34 | 3.08052 | 6896.07 | 30.3708 | D-VD<br>Silty SAND                                | 125 | 36 | 1154.95 | 1259.89 | 1562.04 | 0 | 1562.04 | 2238.85 | 2238.85 |
| 35 | 3.08052 | 6874.32 | 31.1604 | D-VD<br>Silty SAND                                | 125 | 36 | 1141.37 | 1245.07 | 1541.64 | 0 | 1541.64 | 2231.8  | 2231.8  |
| 36 | 3.08052 | 6831.04 | 31.9567 | D-VD<br>Silty SAND                                | 125 | 36 | 1124.47 | 1226.64 | 1516.28 | 0 | 1516.28 | 2217.75 | 2217.75 |
| 37 | 3.08052 | 6765.67 | 32.7599 | D-VD<br>Silty SAND                                | 125 | 36 | 1104.28 | 1204.62 | 1485.97 | 0 | 1485.97 | 2196.54 | 2196.54 |
| 38 | 3.08052 | 6677.63 | 33.5704 | D-VD<br>Silty SAND                                | 125 | 36 | 1080.79 | 1178.99 | 1450.69 | 0 | 1450.69 | 2167.96 | 2167.96 |
| 39 | 3.08052 | 6566.26 | 34.3886 | D-VD<br>Silty SAND                                | 125 | 36 | 1053.98 | 1149.74 | 1410.44 | 0 | 1410.44 | 2131.8  | 2131.8  |
| 40 | 3.08052 | 6430.89 | 35.2149 | D-VD<br>Silty SAND                                | 125 | 36 | 1023.86 | 1116.88 | 1365.21 | 0 | 1365.21 | 2087.86 | 2087.86 |
| 41 | 3.20971 | 6492.17 | 36.0674 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1042.53 | 1137.25 | 1263.63 | 0 | 1263.63 | 2022.94 | 2022.94 |
| 42 | 3.20971 | 6213.18 | 36.947  | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 990.537 | 1080.54 | 1191.03 | 0 | 1191.03 | 1936.02 | 1936.02 |
| 43 | 3.20971 | 5901.81 | 37.8368 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 934.674 | 1019.6  | 1113.04 | 0 | 1113.04 | 1839    | 1839    |
| 44 | 3.20971 | 5556.87 | 38.7375 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 874.938 | 954.435 | 1029.63 | 0 | 1029.63 | 1731.53 | 1731.53 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 3.20971 | 5041.49 | 39.6497 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 792.34  | 864.332 | 914.302 | 0 | 914.302 | 1570.94 | 1570.94 |
| 46 | 3.20971 | 4234.23 | 40.5741 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 670.969 | 731.933 | 744.84  | 0 | 744.84  | 1319.4  | 1319.4  |
| 47 | 3.20971 | 3383.23 | 41.5115 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 546.276 | 595.911 | 570.739 | 0 | 570.739 | 1054.24 | 1054.24 |
| 48 | 3.20971 | 2492.86 | 42.4626 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 419.143 | 457.226 | 393.233 | 0 | 393.233 | 776.804 | 776.804 |
| 49 | 3.20971 | 1561.29 | 43.4284 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 289.616 | 315.93  | 212.381 | 0 | 212.381 | 486.529 | 486.529 |
| 50 | 3.20971 | 563.203 | 44.41   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 154.688 | 168.743 | 23.9897 | 0 | 23.9897 | 175.524 | 175.524 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.03934

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.94582    | 226.837      | 1.08183                   | D-VD Silty SAND | 125                 | 36                        | 171.825            | 178.585              | 73.7534                  | 0                   | 73.7534                       | 76.9981                    | 76.9981                         |
| 2            | 2.94582    | 672.658      | 1.94526                   | D-VD Silty SAND | 125                 | 36                        | 273.39             | 284.145              | 219.044                  | 0                   | 219.044                       | 228.329                    | 228.329                         |
| 3            | 2.94582    | 1102.61      | 2.82571                   | D-VD Silty SAND | 125                 | 36                        | 369.162            | 383.685              | 356.048                  | 0                   | 356.048                       | 374.269                    | 374.269                         |
| 4            | 2.94582    | 1516.52      | 3.70683                   | D-VD Silty SAND | 125                 | 36                        | 459.306            | 477.375              | 485.004                  | 0                   | 485.004                       | 514.761                    | 514.761                         |
| 5            | 2.94582    | 1914.33      | 4.58882                   | D-VD Silty SAND | 125                 | 36                        | 543.974            | 565.374              | 606.123                  | 0                   | 606.123                       | 649.783                    | 649.783                         |
| 6            | 2.94582    | 2296         | 5.47191                   | D-VD Silty SAND | 125                 | 36                        | 623.309            | 647.83               | 719.615                  | 0                   | 719.615                       | 779.324                    | 779.324                         |
| 7            | 2.94582    | 2661.46      | 6.3563                    | D-VD Silty SAND | 125                 | 36                        | 697.444            | 724.881              | 825.667                  | 0                   | 825.667                       | 903.359                    | 903.359                         |
| 8            | 2.94582    | 3017.33      | 7.24222                   | D-VD Silty SAND | 125                 | 36                        | 767.959            | 798.171              | 926.54                   | 0                   | 926.54                        | 1024.13                    | 1024.13                         |
| 9            | 2.94582    | 3392.26      | 8.12988                   | D-VD Silty SAND | 125                 | 36                        | 841.134            | 874.224              | 1031.22                  | 0                   | 1031.22                       | 1151.38                    | 1151.38                         |
| 10           | 2.94582    | 3755.91      | 9.01951                   | D-VD Silty SAND | 125                 | 36                        | 910.38             | 946.194              | 1130.28                  | 0                   | 1130.28                       | 1274.79                    | 1274.79                         |
| 11           | 2.94582    | 4102.95      | 9.91134                   | D-VD Silty SAND | 125                 | 36                        | 974.673            | 1013.02              | 1222.25                  | 0                   | 1222.25                       | 1392.56                    | 1392.56                         |
| 12           | 2.94582    | 4433.27      | 10.8056                   | D-VD Silty SAND | 125                 | 36                        | 1034.11            | 1074.79              | 1307.28                  | 0                   | 1307.28                       | 1504.65                    | 1504.65                         |
| 13           | 2.94582    | 4746.72      | 11.7025                   | D-VD Silty SAND | 125                 | 36                        | 1088.78            | 1131.61              | 1385.48                  | 0                   | 1385.48                       | 1611.01                    | 1611.01                         |
| 14           | 2.94582    | 5043.13      | 12.6024                   | D-VD Silty SAND | 125                 | 36                        | 1138.77            | 1183.57              | 1456.99                  | 0                   | 1456.99                       | 1711.59                    | 1711.59                         |
| 15           | 2.94582    | 5331.5       | 13.5054                   | D-VD Silty SAND | 125                 | 36                        | 1186.01            | 1232.67              | 1524.58                  | 0                   | 1524.58                       | 1809.44                    | 1809.44                         |
| 16           | 2.94582    | 5625.45      | 14.4119                   | D-VD Silty SAND | 125                 | 36                        | 1233.31            | 1281.83              | 1592.24                  | 0                   | 1592.24                       | 1909.18                    | 1909.18                         |
| 17           | 2.94582    | 5902.9       | 15.322                    | D-VD Silty SAND | 125                 | 36                        | 1276.23            | 1326.44              | 1653.65                  | 0                   | 1653.65                       | 2003.31                    | 2003.31                         |
| 18           | 2.94582    | 6162.53      | 16.2362                   | D-VD Silty SAND | 125                 | 36                        | 1314.62            | 1366.34              | 1708.56                  | 0                   | 1708.56                       | 2091.4                     | 2091.4                          |
| 19           | 2.94582    | 6404.08      | 17.1546                   | D-VD Silty SAND | 125                 | 36                        | 1348.54            | 1401.59              | 1757.08                  | 0                   | 1757.08                       | 2173.35                    | 2173.35                         |
| 20           | 2.94582    | 6627.31      | 18.0776                   | D-VD Silty SAND | 125                 | 36                        | 1378.03            | 1432.24              | 1799.26                  | 0                   | 1799.26                       | 2249.08                    | 2249.08                         |
| 21           | 2.94582    | 6831.92      | 19.0054                   | D-VD Silty SAND | 125                 | 36                        | 1403.15            | 1458.35              | 1835.2                   | 0                   | 1835.2                        | 2318.49                    | 2318.49                         |
| 22           | 2.94582    | 7017.62      | 19.9385                   | D-VD Silty SAND | 125                 | 36                        | 1423.94            | 1479.96              | 1864.94                  | 0                   | 1864.94                       | 2381.48                    | 2381.48                         |
| 23           | 2.94582    | 7184.06      | 20.8771                   | D-VD Silty SAND | 125                 | 36                        | 1440.43            | 1497.1               | 1888.54                  | 0                   | 1888.54                       | 2437.93                    | 2437.93                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.94582 | 7330.9  | 21.8216 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1452.68 | 1509.83 | 1906.06 | 0 | 1906.06 | 2487.73 | 2487.73 |
| 25 | 2.94582 | 7457.75 | 22.7724 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1460.72 | 1518.18 | 1917.54 | 0 | 1917.54 | 2530.74 | 2530.74 |
| 26 | 2.94582 | 7564.2  | 23.7299 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1464.54 | 1522.16 | 1923.03 | 0 | 1923.03 | 2566.83 | 2566.83 |
| 27 | 2.94582 | 7649.8  | 24.6944 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1464.22 | 1521.82 | 1922.56 | 0 | 1922.56 | 2595.85 | 2595.85 |
| 28 | 2.94582 | 7714.08 | 25.6665 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1459.74 | 1517.17 | 1916.15 | 0 | 1916.15 | 2617.63 | 2617.63 |
| 29 | 2.94582 | 7756.51 | 26.6466 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1451.13 | 1508.22 | 1903.84 | 0 | 1903.84 | 2631.99 | 2631.99 |
| 30 | 2.94582 | 7776.55 | 27.6351 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1438.42 | 1495.01 | 1885.65 | 0 | 1885.65 | 2638.76 | 2638.76 |
| 31 | 2.94582 | 7773.58 | 28.6327 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1421.59 | 1477.52 | 1861.59 | 0 | 1861.59 | 2637.72 | 2637.72 |
| 32 | 2.94582 | 7753    | 29.6399 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1401.71 | 1456.85 | 1833.13 | 0 | 1833.13 | 2630.7  | 2630.7  |
| 33 | 2.94582 | 7742.66 | 30.6572 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1383.5  | 1437.93 | 1807.09 | 0 | 1807.09 | 2627.16 | 2627.16 |
| 34 | 2.94582 | 7712.71 | 31.6854 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1361.96 | 1415.54 | 1776.28 | 0 | 1776.28 | 2616.96 | 2616.96 |
| 35 | 2.94582 | 7656.8  | 32.7251 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1336.15 | 1388.71 | 1739.34 | 0 | 1739.34 | 2597.96 | 2597.96 |
| 36 | 2.94582 | 7574.02 | 33.777  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1306.04 | 1357.42 | 1696.27 | 0 | 1696.27 | 2569.83 | 2569.83 |
| 37 | 2.94582 | 7463.38 | 34.8421 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1271.63 | 1321.66 | 1647.06 | 0 | 1647.06 | 2532.26 | 2532.26 |
| 38 | 2.94582 | 7323.81 | 35.9211 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1232.93 | 1281.43 | 1591.69 | 0 | 1591.69 | 2484.87 | 2484.87 |
| 39 | 2.94582 | 7154.11 | 37.015  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1189.89 | 1236.7  | 1530.12 | 0 | 1530.12 | 2427.26 | 2427.26 |
| 40 | 2.94582 | 6952.98 | 38.125  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1142.5  | 1187.45 | 1462.34 | 0 | 1462.34 | 2358.98 | 2358.98 |
| 41 | 2.94582 | 6718.98 | 39.2521 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1090.75 | 1133.66 | 1388.3  | 0 | 1388.3  | 2279.55 | 2279.55 |
| 42 | 2.94582 | 6450.52 | 40.3976 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1034.61 | 1075.31 | 1307.99 | 0 | 1307.99 | 2188.44 | 2188.44 |
| 43 | 3.09424 | 6403.88 | 41.5929 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1019.11 | 1059.2  | 1163.72 | 0 | 1163.72 | 2068.3  | 2068.3  |
| 44 | 3.09424 | 5936.44 | 42.8407 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 934.289 | 971.044 | 1050.89 | 0 | 1050.89 | 1917.28 | 1917.28 |
| 45 | 3.09424 | 5418.01 | 44.1142 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 844.317 | 877.532 | 931.198 | 0 | 931.198 | 1749.8  | 1749.8  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 46 | 3.09424 | 4845.05 | 45.4159 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 749.157 | 778.629 | 804.61  | 0 | 804.61  | 1564.72 | 1564.72 |
| 47 | 3.09424 | 4017.66 | 46.7483 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 622.356 | 646.839 | 635.925 | 0 | 635.925 | 1297.47 | 1297.47 |
| 48 | 3.09424 | 2955.06 | 48.1145 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 468.74  | 487.18  | 431.57  | 0 | 431.57  | 954.256 | 954.256 |
| 49 | 3.09424 | 1824.84 | 49.5181 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 312.249 | 324.533 | 223.391 | 0 | 223.391 | 589.222 | 589.222 |
| 50 | 3.09424 | 621.077 | 50.9633 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 153.082 | 159.104 | 11.6524 | 0 | 11.6524 | 200.445 | 200.445 |

## ◆ Cross Section FF-FF' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 1.90643**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.33838    | 120.613      | -0.662236                 | D-VD<br>Silty SAND | 125                 | 36                        | 85.6009            | 163.192              | 52.5671                  | 0                   | 52.5671                       | 51.5776                    | 51.5776                         |
| 2            | 2.33838    | 395.894      | 0.256318                  | D-VD<br>Silty SAND | 125                 | 36                        | 129.868            | 247.584              | 168.723                  | 0                   | 168.723                       | 169.304                    | 169.304                         |
| 3            | 2.33838    | 672.986      | 1.17494                   | D-VD<br>Silty SAND | 125                 | 36                        | 173.893            | 331.514              | 284.242                  | 0                   | 284.242                       | 287.808                    | 287.808                         |
| 4            | 2.33838    | 939.55       | 2.09386                   | D-VD<br>Silty SAND | 125                 | 36                        | 215.694            | 411.205              | 393.927                  | 0                   | 393.927                       | 401.813                    | 401.813                         |
| 5            | 2.33838    | 1195.57      | 3.01332                   | D-VD<br>Silty SAND | 125                 | 36                        | 255.308            | 486.726              | 497.874                  | 0                   | 497.874                       | 511.313                    | 511.313                         |
| 6            | 2.33838    | 1441.03      | 3.93356                   | D-VD<br>Silty SAND | 125                 | 36                        | 292.767            | 558.14               | 596.164                  | 0                   | 596.164                       | 616.295                    | 616.295                         |
| 7            | 2.33838    | 1675.89      | 4.85481                   | D-VD<br>Silty SAND | 125                 | 36                        | 328.103            | 625.505              | 688.887                  | 0                   | 688.887                       | 716.755                    | 716.755                         |
| 8            | 2.33838    | 1900.12      | 5.77733                   | D-VD<br>Silty SAND | 125                 | 36                        | 361.341            | 688.872              | 776.103                  | 0                   | 776.103                       | 812.663                    | 812.663                         |
| 9            | 2.33838    | 2113.67      | 6.70135                   | D-VD<br>Silty SAND | 125                 | 36                        | 392.51             | 748.292              | 857.889                  | 0                   | 857.889                       | 904.007                    | 904.007                         |
| 10           | 2.33838    | 2316.47      | 7.62713                   | D-VD<br>Silty SAND | 125                 | 36                        | 421.63             | 803.808              | 934.3                    | 0                   | 934.3                         | 990.761                    | 990.761                         |
| 11           | 2.33838    | 2514.21      | 8.55491                   | D-VD<br>Silty SAND | 125                 | 36                        | 449.607            | 857.145              | 1007.71                  | 0                   | 1007.71                       | 1075.34                    | 1075.34                         |
| 12           | 2.33838    | 2733.15      | 9.48497                   | D-VD<br>Silty SAND | 125                 | 36                        | 480.482            | 916.006              | 1088.73                  | 0                   | 1088.73                       | 1169                       | 1169                            |
| 13           | 2.33838    | 2946.1       | 10.4175                   | D-VD<br>Silty SAND | 125                 | 36                        | 510.055            | 972.385              | 1166.32                  | 0                   | 1166.32                       | 1260.1                     | 1260.1                          |
| 14           | 2.33838    | 3147.99      | 11.3529                   | D-VD<br>Silty SAND | 125                 | 36                        | 537.575            | 1024.85              | 1238.54                  | 0                   | 1238.54                       | 1346.47                    | 1346.47                         |
| 15           | 2.33838    | 3338.71      | 12.2914                   | D-VD<br>Silty SAND | 125                 | 36                        | 563.053            | 1073.42              | 1305.39                  | 0                   | 1305.39                       | 1428.07                    | 1428.07                         |
| 16           | 2.33838    | 3518.16      | 13.2332                   | D-VD<br>Silty SAND | 125                 | 36                        | 586.503            | 1118.13              | 1366.92                  | 0                   | 1366.92                       | 1504.84                    | 1504.84                         |
| 17           | 2.33838    | 3686.2       | 14.1787                   | D-VD<br>Silty SAND | 125                 | 36                        | 607.932            | 1158.98              | 1423.15                  | 0                   | 1423.15                       | 1576.74                    | 1576.74                         |
| 18           | 2.33838    | 3842.7       | 15.1281                   | D-VD<br>Silty SAND | 125                 | 36                        | 627.351            | 1196                 | 1474.1                   | 0                   | 1474.1                        | 1643.7                     | 1643.7                          |
| 19           | 2.33838    | 3987.51      | 16.0818                   | D-VD<br>Silty SAND | 125                 | 36                        | 644.76             | 1229.19              | 1519.78                  | 0                   | 1519.78                       | 1705.66                    | 1705.66                         |
| 20           | 2.33838    | 4120.45      | 17.0401                   | D-VD<br>Silty SAND | 125                 | 36                        | 660.166            | 1258.56              | 1560.21                  | 0                   | 1560.21                       | 1762.55                    | 1762.55                         |
| 21           | 2.33838    | 4241.35      | 18.0034                   | D-VD<br>Silty SAND | 125                 | 36                        | 673.573            | 1284.12              | 1595.39                  | 0                   | 1595.39                       | 1814.3                     | 1814.3                          |
| 22           | 2.33838    | 4350.02      | 18.9719                   | D-VD<br>Silty SAND | 125                 | 36                        | 684.982            | 1305.87              | 1625.32                  | 0                   | 1625.32                       | 1860.81                    | 1860.81                         |

|    |         |         |         |                                                   |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.33838 | 4446.25 | 19.9461 | D-VD<br>Silty SAND                                | 125 | 36 | 694.387 | 1323.8  | 1650    | 0 | 1650    | 1902    | 1902    |
| 24 | 2.33838 | 4529.82 | 20.9264 | D-VD<br>Silty SAND                                | 125 | 36 | 701.783 | 1337.9  | 1669.41 | 0 | 1669.41 | 1937.77 | 1937.77 |
| 25 | 2.33838 | 4600.47 | 21.9131 | D-VD<br>Silty SAND                                | 125 | 36 | 707.17  | 1348.17 | 1683.55 | 0 | 1683.55 | 1968.02 | 1968.02 |
| 26 | 2.33838 | 4657.94 | 22.9067 | D-VD<br>Silty SAND                                | 125 | 36 | 710.537 | 1354.59 | 1692.39 | 0 | 1692.39 | 1992.63 | 1992.63 |
| 27 | 2.33838 | 4701.95 | 23.9077 | D-VD<br>Silty SAND                                | 125 | 36 | 711.88  | 1357.15 | 1695.91 | 0 | 1695.91 | 2011.49 | 2011.49 |
| 28 | 2.33838 | 4732.19 | 24.9164 | D-VD<br>Silty SAND                                | 125 | 36 | 711.183 | 1355.82 | 1694.08 | 0 | 1694.08 | 2024.45 | 2024.45 |
| 29 | 2.33838 | 4748.32 | 25.9335 | D-VD<br>Silty SAND                                | 125 | 36 | 708.439 | 1350.59 | 1686.88 | 0 | 1686.88 | 2031.39 | 2031.39 |
| 30 | 2.33838 | 4749.99 | 26.9594 | D-VD<br>Silty SAND                                | 125 | 36 | 703.624 | 1341.41 | 1674.24 | 0 | 1674.24 | 2032.13 | 2032.13 |
| 31 | 2.33838 | 4736.79 | 27.9948 | D-VD<br>Silty SAND                                | 125 | 36 | 696.721 | 1328.25 | 1656.14 | 0 | 1656.14 | 2026.51 | 2026.51 |
| 32 | 2.33838 | 4708.3  | 29.0402 | D-VD<br>Silty SAND                                | 125 | 36 | 687.72  | 1311.09 | 1632.51 | 0 | 1632.51 | 2014.35 | 2014.35 |
| 33 | 2.33838 | 4664.07 | 30.0964 | D-VD<br>Silty SAND                                | 125 | 36 | 676.594 | 1289.88 | 1603.31 | 0 | 1603.31 | 1995.47 | 1995.47 |
| 34 | 2.33838 | 4606.06 | 31.1639 | D-VD<br>Silty SAND                                | 125 | 36 | 663.638 | 1265.18 | 1569.33 | 0 | 1569.33 | 1970.67 | 1970.67 |
| 35 | 2.33838 | 4551.59 | 32.2436 | D-VD<br>Silty SAND                                | 125 | 36 | 651.18  | 1241.43 | 1536.64 | 0 | 1536.64 | 1947.4  | 1947.4  |
| 36 | 2.33838 | 4484.25 | 33.3363 | D-VD<br>Silty SAND                                | 125 | 36 | 637.06  | 1214.51 | 1499.58 | 0 | 1499.58 | 1918.63 | 1918.63 |
| 37 | 2.33838 | 4398.86 | 34.4429 | D-VD<br>Silty SAND                                | 125 | 36 | 620.636 | 1183.2  | 1456.48 | 0 | 1456.48 | 1882.13 | 1882.13 |
| 38 | 2.33838 | 4294.71 | 35.5644 | D-VD<br>Silty SAND                                | 125 | 36 | 601.874 | 1147.43 | 1407.26 | 0 | 1407.26 | 1837.59 | 1837.59 |
| 39 | 2.33838 | 4170.99 | 36.7018 | D-VD<br>Silty SAND                                | 125 | 36 | 580.738 | 1107.14 | 1351.79 | 0 | 1351.79 | 1784.69 | 1784.69 |
| 40 | 2.33838 | 4026.85 | 37.8563 | D-VD<br>Silty SAND                                | 125 | 36 | 557.181 | 1062.23 | 1289.98 | 0 | 1289.98 | 1723.05 | 1723.05 |
| 41 | 2.33838 | 3861.32 | 39.0291 | D-VD<br>Silty SAND                                | 125 | 36 | 531.154 | 1012.61 | 1221.69 | 0 | 1221.69 | 1652.25 | 1652.25 |
| 42 | 2.33838 | 3673.33 | 40.2218 | D-VD<br>Silty SAND                                | 125 | 36 | 502.608 | 958.187 | 1146.78 | 0 | 1146.78 | 1571.85 | 1571.85 |
| 43 | 2.33838 | 3461.67 | 41.4359 | D-VD<br>Silty SAND                                | 125 | 36 | 471.486 | 898.855 | 1065.12 | 0 | 1065.12 | 1481.32 | 1481.32 |
| 44 | 2.22579 | 3052.95 | 42.6428 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 465.505 | 887.453 | 943.899 | 0 | 943.899 | 1372.59 | 1372.59 |
| 45 | 2.22579 | 2765.92 | 43.8432 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 422.162 | 804.823 | 838.137 | 0 | 838.137 | 1243.59 | 1243.59 |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 46 | 2.22579 | 2363.59 | 45.0683 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 364.481 | 694.857 | 697.385 | 0 | 697.385 | 1062.74 | 1062.74 |
| 47 | 2.22579 | 1893.01 | 46.3202 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 299.14  | 570.289 | 537.945 | 0 | 537.945 | 851.198 | 851.198 |
| 48 | 2.22579 | 1392.54 | 47.6015 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 231.438 | 441.22  | 372.744 | 0 | 372.744 | 626.214 | 626.214 |
| 49 | 2.22579 | 859.959 | 48.915  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 161.35  | 307.603 | 201.723 | 0 | 201.723 | 386.78  | 386.78  |
| 50 | 2.22579 | 292.668 | 50.2641 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 88.8595 | 169.404 | 24.8365 | 0 | 24.8365 | 131.732 | 131.732 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.81846

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.21776    | 151.462      | -6.59842                  | D-VD Silty SAND | 125                 | 36                        | 100.681            | 183.085              | 79.9468                  | 0                   | 79.9468                       | 68.3004                    | 68.3004                         |
| 2            | 2.21776    | 469.105      | -5.48711                  | D-VD Silty SAND | 125                 | 36                        | 159.37             | 289.808              | 226.838                  | 0                   | 226.838                       | 211.529                    | 211.529                         |
| 3            | 2.21776    | 776.661      | -4.37786                  | D-VD Silty SAND | 125                 | 36                        | 215.245            | 391.414              | 366.687                  | 0                   | 366.687                       | 350.208                    | 350.208                         |
| 4            | 2.21776    | 1072.73      | -3.27026                  | D-VD Silty SAND | 125                 | 36                        | 268.12             | 487.565              | 499.028                  | 0                   | 499.028                       | 483.708                    | 483.708                         |
| 5            | 2.21776    | 1357.36      | -2.16388                  | D-VD Silty SAND | 125                 | 36                        | 318.076            | 578.409              | 624.063                  | 0                   | 624.063                       | 612.045                    | 612.045                         |
| 6            | 2.21776    | 1630.58      | -1.0583                   | D-VD Silty SAND | 125                 | 36                        | 365.19             | 664.084              | 741.987                  | 0                   | 741.987                       | 735.241                    | 735.241                         |
| 7            | 2.21776    | 1892.4       | 0.0468793                 | D-VD Silty SAND | 125                 | 36                        | 409.528            | 744.711              | 852.96                   | 0                   | 852.96                        | 853.295                    | 853.295                         |
| 8            | 2.21776    | 2142.84      | 1.15208                   | D-VD Silty SAND | 125                 | 36                        | 451.153            | 820.404              | 957.142                  | 0                   | 957.142                       | 966.215                    | 966.215                         |
| 9            | 2.21776    | 2381.89      | 2.2577                    | D-VD Silty SAND | 125                 | 36                        | 490.121            | 891.265              | 1054.67                  | 0                   | 1054.67                       | 1074                       | 1074                            |
| 10           | 2.21776    | 2609.52      | 3.36417                   | D-VD Silty SAND | 125                 | 36                        | 526.483            | 957.388              | 1145.69                  | 0                   | 1145.69                       | 1176.63                    | 1176.63                         |
| 11           | 2.21776    | 2828.71      | 4.4719                    | D-VD Silty SAND | 125                 | 36                        | 560.81             | 1019.81              | 1231.6                   | 0                   | 1231.6                        | 1275.46                    | 1275.46                         |
| 12           | 2.21776    | 3064.85      | 5.58131                   | D-VD Silty SAND | 125                 | 36                        | 597.542            | 1086.61              | 1323.54                  | 0                   | 1323.54                       | 1381.93                    | 1381.93                         |
| 13           | 2.21776    | 3296.49      | 6.69282                   | D-VD Silty SAND | 125                 | 36                        | 632.926            | 1150.95              | 1412.1                   | 0                   | 1412.1                        | 1486.37                    | 1486.37                         |
| 14           | 2.21776    | 3516.51      | 7.80686                   | D-VD Silty SAND | 125                 | 36                        | 665.767            | 1210.67              | 1494.29                  | 0                   | 1494.29                       | 1585.57                    | 1585.57                         |
| 15           | 2.21776    | 3724.81      | 8.92389                   | D-VD Silty SAND | 125                 | 36                        | 696.089            | 1265.81              | 1570.19                  | 0                   | 1570.19                       | 1679.49                    | 1679.49                         |
| 16           | 2.21776    | 3921.31      | 10.0443                   | D-VD Silty SAND | 125                 | 36                        | 723.926            | 1316.43              | 1639.86                  | 0                   | 1639.86                       | 1768.08                    | 1768.08                         |
| 17           | 2.21776    | 4105.88      | 11.1687                   | D-VD Silty SAND | 125                 | 36                        | 749.293            | 1362.56              | 1703.36                  | 0                   | 1703.36                       | 1851.3                     | 1851.3                          |
| 18           | 2.21776    | 4278.4       | 12.2974                   | D-VD Silty SAND | 125                 | 36                        | 772.219            | 1404.25              | 1760.74                  | 0                   | 1760.74                       | 1929.08                    | 1929.08                         |
| 19           | 2.21776    | 4438.7       | 13.431                    | D-VD Silty SAND | 125                 | 36                        | 792.715            | 1441.52              | 1812.04                  | 0                   | 1812.04                       | 2001.35                    | 2001.35                         |
| 20           | 2.21776    | 4586.63      | 14.57                     | D-VD Silty SAND | 125                 | 36                        | 810.796            | 1474.4               | 1857.3                   | 0                   | 1857.3                        | 2068.04                    | 2068.04                         |
| 21           | 2.21776    | 4722         | 15.7149                   | D-VD Silty SAND | 125                 | 36                        | 826.474            | 1502.91              | 1896.53                  | 0                   | 1896.53                       | 2129.07                    | 2129.07                         |
| 22           | 2.21776    | 4844.6       | 16.8663                   | D-VD Silty SAND | 125                 | 36                        | 839.744            | 1527.04              | 1929.75                  | 0                   | 1929.75                       | 2184.34                    | 2184.34                         |
| 23           | 2.21776    | 4954.21      | 18.0247                   | D-VD Silty SAND | 125                 | 36                        | 850.621            | 1546.82              | 1956.97                  | 0                   | 1956.97                       | 2233.76                    | 2233.76                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.21776 | 5050.57 | 19.1909 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 859.095 | 1562.23 | 1978.18 | 0 | 1978.18 | 2277.19 | 2277.19 |
| 25 | 2.21776 | 5133.42 | 20.3653 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 865.172 | 1573.28 | 1993.38 | 0 | 1993.38 | 2314.54 | 2314.54 |
| 26 | 2.21776 | 5202.45 | 21.5488 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 868.834 | 1579.94 | 2002.56 | 0 | 2002.56 | 2345.65 | 2345.65 |
| 27 | 2.21776 | 5257.32 | 22.7419 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 870.082 | 1582.21 | 2005.67 | 0 | 2005.67 | 2370.39 | 2370.39 |
| 28 | 2.21776 | 5297.67 | 23.9456 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 868.895 | 1580.05 | 2002.7  | 0 | 2002.7  | 2388.57 | 2388.57 |
| 29 | 2.21776 | 5323.1  | 25.1607 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 865.254 | 1573.43 | 1993.6  | 0 | 1993.6  | 2400.03 | 2400.03 |
| 30 | 2.21776 | 5333.18 | 26.388  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 859.145 | 1562.32 | 1978.3  | 0 | 1978.3  | 2404.56 | 2404.56 |
| 31 | 2.21776 | 5327.4  | 27.6284 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 850.538 | 1546.67 | 1956.76 | 0 | 1956.76 | 2401.95 | 2401.95 |
| 32 | 2.21776 | 5305.25 | 28.8831 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 839.408 | 1526.43 | 1928.9  | 0 | 1928.9  | 2391.95 | 2391.95 |
| 33 | 2.21776 | 5266.13 | 30.1532 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 825.715 | 1501.53 | 1894.63 | 0 | 1894.63 | 2374.31 | 2374.31 |
| 34 | 2.21776 | 5209.39 | 31.4398 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 809.427 | 1471.91 | 1853.86 | 0 | 1853.86 | 2348.71 | 2348.71 |
| 35 | 2.21776 | 5134.32 | 32.7444 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 790.504 | 1437.5  | 1806.5  | 0 | 1806.5  | 2314.86 | 2314.86 |
| 36 | 2.21776 | 5053.49 | 34.0684 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 770.79  | 1401.65 | 1757.16 | 0 | 1757.16 | 2278.41 | 2278.41 |
| 37 | 2.21776 | 4963.8  | 35.4134 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 749.865 | 1363.6  | 1704.79 | 0 | 1704.79 | 2237.96 | 2237.96 |
| 38 | 2.21776 | 4853.05 | 36.7813 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 726.065 | 1320.32 | 1645.22 | 0 | 1645.22 | 2188.02 | 2188.02 |
| 39 | 2.21776 | 4720.12 | 38.174  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 699.323 | 1271.69 | 1578.28 | 0 | 1578.28 | 2128.08 | 2128.08 |
| 40 | 2.21776 | 4563.73 | 39.5939 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 669.556 | 1217.56 | 1503.78 | 0 | 1503.78 | 2057.56 | 2057.56 |
| 41 | 2.21776 | 4382.42 | 41.0436 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 636.682 | 1157.78 | 1421.5  | 0 | 1421.5  | 1975.81 | 1975.81 |
| 42 | 2.21776 | 4174.53 | 42.526  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 600.608 | 1092.18 | 1331.21 | 0 | 1331.21 | 1882.07 | 1882.07 |
| 43 | 2.21776 | 3938.15 | 44.0444 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 561.234 | 1020.58 | 1232.66 | 0 | 1232.66 | 1775.48 | 1775.48 |
| 44 | 2.21776 | 3671.04 | 45.6029 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 518.447 | 942.776 | 1125.57 | 0 | 1125.57 | 1655.05 | 1655.05 |
| 45 | 2.21776 | 3370.6  | 47.2061 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 472.124 | 858.539 | 1009.63 | 0 | 1009.63 | 1519.59 | 1519.59 |
| 46 | 2.32498 | 3139.87 | 48.9006 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 443.957 | 807.318 | 841.329 | 0 | 841.329 | 1350.26 | 1350.26 |
| 47 | 2.32498 | 2647.66 | 50.6963 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 374.901 | 681.743 | 680.599 | 0 | 680.599 | 1138.58 | 1138.58 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.32498 | 1992.23 | 52.5637 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 288.599 | 524.805 | 479.728 | 0 | 479.728 | 856.705 | 856.705 |
| 49 | 2.32498 | 1247.1  | 54.5146 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 195.231 | 355.02  | 262.414 | 0 | 262.414 | 536.265 | 536.265 |
| 50 | 2.32498 | 428.793 | 56.5638 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 97.9566 | 178.13  | 36.0052 | 0 | 36.0052 | 184.36  | 184.36  |

## **Cross Section FF-FF' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.18105**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.82078    | 130.253      | 4.11784                   | D-VD<br>Silty SAND | 125                 | 36                        | 128.557            | 151.832              | 36.9314                  | 0                   | 36.9314                       | 46.1868                    | 46.1868                         |
| 2            | 2.82078    | 384.743      | 4.83541                   | D-VD<br>Silty SAND | 125                 | 36                        | 180.369            | 213.024              | 121.155                  | 0                   | 121.155                       | 136.414                    | 136.414                         |
| 3            | 2.82078    | 627.182      | 5.55374                   | D-VD<br>Silty SAND | 125                 | 36                        | 228.938            | 270.387              | 200.108                  | 0                   | 200.108                       | 222.369                    | 222.369                         |
| 4            | 2.82078    | 857.529      | 6.27295                   | D-VD<br>Silty SAND | 125                 | 36                        | 274.323            | 323.989              | 273.885                  | 0                   | 273.885                       | 304.039                    | 304.039                         |
| 5            | 2.82078    | 1110.32      | 6.99315                   | D-VD<br>Silty SAND | 125                 | 36                        | 323.592            | 382.178              | 353.975                  | 0                   | 353.975                       | 393.668                    | 393.668                         |
| 6            | 2.82078    | 1401.77      | 7.71446                   | D-VD<br>Silty SAND | 125                 | 36                        | 379.92             | 448.704              | 445.541                  | 0                   | 445.541                       | 497.006                    | 497.006                         |
| 7            | 2.82078    | 1681.43      | 8.43701                   | D-VD<br>Silty SAND | 125                 | 36                        | 433.061            | 511.467              | 531.926                  | 0                   | 531.926                       | 596.16                     | 596.16                          |
| 8            | 2.82078    | 1948.76      | 9.16091                   | D-VD<br>Silty SAND | 125                 | 36                        | 482.974            | 570.417              | 613.064                  | 0                   | 613.064                       | 690.951                    | 690.951                         |
| 9            | 2.82078    | 2203.71      | 9.88629                   | D-VD<br>Silty SAND | 125                 | 36                        | 529.707            | 625.61               | 689.031                  | 0                   | 689.031                       | 781.349                    | 781.349                         |
| 10           | 2.82078    | 2446.18      | 10.6133                   | D-VD<br>Silty SAND | 125                 | 36                        | 573.302            | 677.098              | 759.898                  | 0                   | 759.898                       | 867.325                    | 867.325                         |
| 11           | 2.82078    | 2676.1       | 11.342                    | D-VD<br>Silty SAND | 125                 | 36                        | 613.803            | 724.932              | 825.735                  | 0                   | 825.735                       | 948.853                    | 948.853                         |
| 12           | 2.82078    | 2893.37      | 12.0726                   | D-VD<br>Silty SAND | 125                 | 36                        | 651.248            | 769.157              | 886.606                  | 0                   | 886.606                       | 1025.9                     | 1025.9                          |
| 13           | 2.82078    | 3115.11      | 12.8051                   | D-VD<br>Silty SAND | 125                 | 36                        | 688.972            | 813.71               | 947.927                  | 0                   | 947.927                       | 1104.52                    | 1104.52                         |
| 14           | 2.82078    | 3366.99      | 13.5399                   | D-VD<br>Silty SAND | 125                 | 36                        | 731.835            | 864.334              | 1017.61                  | 0                   | 1017.61                       | 1193.84                    | 1193.84                         |
| 15           | 2.82078    | 3607.95      | 14.2769                   | D-VD<br>Silty SAND | 125                 | 36                        | 771.97             | 911.735              | 1082.85                  | 0                   | 1082.85                       | 1279.29                    | 1279.29                         |
| 16           | 2.82078    | 3835.8       | 15.0163                   | D-VD<br>Silty SAND | 125                 | 36                        | 809.016            | 955.488              | 1143.07                  | 0                   | 1143.07                       | 1360.09                    | 1360.09                         |
| 17           | 2.82078    | 4050.43      | 15.7582                   | D-VD<br>Silty SAND | 125                 | 36                        | 843.003            | 995.629              | 1198.32                  | 0                   | 1198.32                       | 1436.2                     | 1436.2                          |
| 18           | 2.82078    | 4251.68      | 16.5029                   | D-VD<br>Silty SAND | 125                 | 36                        | 873.961            | 1032.19              | 1248.64                  | 0                   | 1248.64                       | 1507.57                    | 1507.57                         |
| 19           | 2.82078    | 4439.4       | 17.2505                   | D-VD<br>Silty SAND | 125                 | 36                        | 901.915            | 1065.21              | 1294.08                  | 0                   | 1294.08                       | 1574.15                    | 1574.15                         |
| 20           | 2.82078    | 4613.43      | 18.0012                   | D-VD<br>Silty SAND | 125                 | 36                        | 926.889            | 1094.7               | 1334.68                  | 0                   | 1334.68                       | 1635.87                    | 1635.87                         |
| 21           | 2.82078    | 4773.61      | 18.755                    | D-VD<br>Silty SAND | 125                 | 36                        | 948.906            | 1120.71              | 1370.47                  | 0                   | 1370.47                       | 1692.67                    | 1692.67                         |
| 22           | 2.82078    | 4919.74      | 19.5122                   | D-VD<br>Silty SAND | 125                 | 36                        | 967.986            | 1143.24              | 1401.49                  | 0                   | 1401.49                       | 1744.5                     | 1744.5                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.82078 | 5051.63 | 20.273  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 984.15  | 1162.33 | 1427.76 | 0 | 1427.76 | 1791.28 | 1791.28 |
| 24 | 2.82078 | 5169.07 | 21.0375 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 997.409 | 1177.99 | 1449.32 | 0 | 1449.32 | 1832.94 | 1832.94 |
| 25 | 2.82078 | 5271.86 | 21.806  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1007.79 | 1190.25 | 1466.19 | 0 | 1466.19 | 1869.4  | 1869.4  |
| 26 | 2.82078 | 5359.74 | 22.5786 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1015.3  | 1199.12 | 1478.4  | 0 | 1478.4  | 1900.58 | 1900.58 |
| 27 | 2.82078 | 5432.48 | 23.3556 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1019.95 | 1204.61 | 1485.96 | 0 | 1485.96 | 1926.39 | 1926.39 |
| 28 | 2.82078 | 5489.8  | 24.1372 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1021.75 | 1206.74 | 1488.89 | 0 | 1488.89 | 1946.73 | 1946.73 |
| 29 | 2.82078 | 5531.44 | 24.9235 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1020.72 | 1205.52 | 1487.2  | 0 | 1487.2  | 1961.51 | 1961.51 |
| 30 | 2.82078 | 5557.09 | 25.7149 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1016.85 | 1200.95 | 1480.92 | 0 | 1480.92 | 1970.62 | 1970.62 |
| 31 | 2.82078 | 5566.44 | 26.5117 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1010.16 | 1193.05 | 1470.05 | 0 | 1470.05 | 1973.95 | 1973.95 |
| 32 | 2.82078 | 5566.3  | 27.3139 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1001.84 | 1183.22 | 1456.52 | 0 | 1456.52 | 1973.92 | 1973.92 |
| 33 | 2.82078 | 5578.61 | 28.1221 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 995.521 | 1175.76 | 1446.25 | 0 | 1446.25 | 1978.3  | 1978.3  |
| 34 | 2.82078 | 5576.71 | 28.9363 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 986.808 | 1165.47 | 1432.08 | 0 | 1432.08 | 1977.64 | 1977.64 |
| 35 | 2.82078 | 5557.02 | 29.7571 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 975.166 | 1151.72 | 1413.16 | 0 | 1413.16 | 1970.68 | 1970.68 |
| 36 | 2.82078 | 5519.11 | 30.5846 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 960.611 | 1134.53 | 1389.49 | 0 | 1389.49 | 1957.25 | 1957.25 |
| 37 | 2.82078 | 5462.51 | 31.4192 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 943.124 | 1113.88 | 1361.07 | 0 | 1361.07 | 1937.19 | 1937.19 |
| 38 | 2.82078 | 5386.72 | 32.2613 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 922.71  | 1089.77 | 1327.89 | 0 | 1327.89 | 1910.33 | 1910.33 |
| 39 | 2.82078 | 5291.2  | 33.1113 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 899.362 | 1062.19 | 1289.93 | 0 | 1289.93 | 1876.47 | 1876.47 |
| 40 | 2.82078 | 5175.39 | 33.9697 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 873.072 | 1031.14 | 1247.2  | 0 | 1247.2  | 1835.42 | 1835.42 |
| 41 | 2.82078 | 5023.09 | 34.8367 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 841.452 | 993.797 | 1195.8  | 0 | 1195.8  | 1781.42 | 1781.42 |
| 42 | 2.80352 | 4636.67 | 35.7103 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 827.856 | 977.739 | 1059.46 | 0 | 1059.46 | 1654.56 | 1654.56 |
| 43 | 2.80352 | 4190.65 | 36.5909 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 748.599 | 884.133 | 939.647 | 0 | 939.647 | 1495.42 | 1495.42 |
| 44 | 2.80352 | 3720.13 | 37.4816 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 666.901 | 787.643 | 816.146 | 0 | 816.146 | 1327.54 | 1327.54 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 45 | 2.80352 | 3224.21 | 38.3831 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 582.772 | 688.283 | 688.972  | 0 | 688.972  | 1150.59 | 1150.59 |
| 46 | 2.80352 | 2701.96 | 39.296  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 496.227 | 586.069 | 558.144  | 0 | 558.144  | 964.244 | 964.244 |
| 47 | 2.80352 | 2152.34 | 40.221  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 407.283 | 481.021 | 423.687  | 0 | 423.687  | 768.123 | 768.123 |
| 48 | 2.80352 | 1574.21 | 41.1587 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 315.957 | 373.161 | 285.633  | 0 | 285.633  | 561.831 | 561.831 |
| 49 | 2.80352 | 966.353 | 42.1101 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 222.273 | 262.516 | 144.014  | 0 | 144.014  | 344.924 | 344.924 |
| 50 | 2.80352 | 327.415 | 43.076  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 126.259 | 149.118 | -1.12853 | 0 | -1.12853 | 116.923 | 116.923 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.1227

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.5926     | 150.706      | -1.6531                   | D-VD Silty SAND | 125                 | 36                        | 151.801            | 170.427              | 62.5247                  | 0                   | 62.5247                       | 58.1437                    | 58.1437                         |
| 2            | 2.5926     | 445.578      | -0.724298                 | D-VD Silty SAND | 125                 | 36                        | 224.401            | 251.935              | 174.711                  | 0                   | 174.711                       | 171.874                    | 171.874                         |
| 3            | 2.5926     | 727.378      | 0.20431                   | D-VD Silty SAND | 125                 | 36                        | 292.223            | 328.079              | 279.514                  | 0                   | 279.514                       | 280.556                    | 280.556                         |
| 4            | 2.5926     | 1033.25      | 1.13297                   | D-VD Silty SAND | 125                 | 36                        | 364.566            | 409.298              | 391.303                  | 0                   | 391.303                       | 398.513                    | 398.513                         |
| 5            | 2.5926     | 1361.44      | 2.06193                   | D-VD Silty SAND | 125                 | 36                        | 440.862            | 494.956              | 509.201                  | 0                   | 509.201                       | 525.073                    | 525.073                         |
| 6            | 2.5926     | 1676.54      | 2.99144                   | D-VD Silty SAND | 125                 | 36                        | 512.433            | 575.308              | 619.797                  | 0                   | 619.797                       | 646.576                    | 646.576                         |
| 7            | 2.5926     | 1978.51      | 3.92173                   | D-VD Silty SAND | 125                 | 36                        | 579.404            | 650.497              | 723.285                  | 0                   | 723.285                       | 763.005                    | 763.005                         |
| 8            | 2.5926     | 2267.31      | 4.85306                   | D-VD Silty SAND | 125                 | 36                        | 641.895            | 720.656              | 819.849                  | 0                   | 819.849                       | 874.35                     | 874.35                          |
| 9            | 2.5926     | 2542.89      | 5.78567                   | D-VD Silty SAND | 125                 | 36                        | 700.019            | 785.911              | 909.664                  | 0                   | 909.664                       | 980.592                    | 980.592                         |
| 10           | 2.5926     | 2805.2       | 6.71983                   | D-VD Silty SAND | 125                 | 36                        | 753.875            | 846.375              | 992.889                  | 0                   | 992.889                       | 1081.71                    | 1081.71                         |
| 11           | 2.5926     | 3054.17      | 7.65579                   | D-VD Silty SAND | 125                 | 36                        | 803.558            | 902.155              | 1069.66                  | 0                   | 1069.66                       | 1177.68                    | 1177.68                         |
| 12           | 2.5926     | 3290.22      | 8.5938                    | D-VD Silty SAND | 125                 | 36                        | 849.278            | 953.484              | 1140.31                  | 0                   | 1140.31                       | 1268.66                    | 1268.66                         |
| 13           | 2.5926     | 3545.41      | 9.53415                   | D-VD Silty SAND | 125                 | 36                        | 898.344            | 1008.57              | 1216.13                  | 0                   | 1216.13                       | 1367.02                    | 1367.02                         |
| 14           | 2.5926     | 3806.39      | 10.4771                   | D-VD Silty SAND | 125                 | 36                        | 947.667            | 1063.95              | 1292.35                  | 0                   | 1292.35                       | 1467.6                     | 1467.6                          |
| 15           | 2.5926     | 4053.61      | 11.4229                   | D-VD Silty SAND | 125                 | 36                        | 992.906            | 1114.74              | 1362.25                  | 0                   | 1362.25                       | 1562.87                    | 1562.87                         |
| 16           | 2.5926     | 4286.96      | 12.3719                   | D-VD Silty SAND | 125                 | 36                        | 1034.13            | 1161.02              | 1425.95                  | 0                   | 1425.95                       | 1652.79                    | 1652.79                         |
| 17           | 2.5926     | 4506.28      | 13.3244                   | D-VD Silty SAND | 125                 | 36                        | 1071.4             | 1202.86              | 1483.55                  | 0                   | 1483.55                       | 1737.3                     | 1737.3                          |
| 18           | 2.5926     | 4711.4       | 14.2806                   | D-VD Silty SAND | 125                 | 36                        | 1104.77            | 1240.33              | 1535.12                  | 0                   | 1535.12                       | 1816.33                    | 1816.33                         |
| 19           | 2.5926     | 4902.16      | 15.2409                   | D-VD Silty SAND | 125                 | 36                        | 1134.31            | 1273.49              | 1580.76                  | 0                   | 1580.76                       | 1889.81                    | 1889.81                         |
| 20           | 2.5926     | 5078.37      | 16.2056                   | D-VD Silty SAND | 125                 | 36                        | 1160.05            | 1302.39              | 1620.54                  | 0                   | 1620.54                       | 1957.69                    | 1957.69                         |
| 21           | 2.5926     | 5239.8       | 17.175                    | D-VD Silty SAND | 125                 | 36                        | 1182.04            | 1327.08              | 1654.52                  | 0                   | 1654.52                       | 2019.86                    | 2019.86                         |
| 22           | 2.5926     | 5386.24      | 18.1496                   | D-VD Silty SAND | 125                 | 36                        | 1200.33            | 1347.61              | 1682.77                  | 0                   | 1682.77                       | 2076.25                    | 2076.25                         |
| 23           | 2.5926     | 5517.45      | 19.1296                   | D-VD Silty SAND | 125                 | 36                        | 1214.94            | 1364.01              | 1705.36                  | 0                   | 1705.36                       | 2126.77                    | 2126.77                         |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.5926  | 5633.15 | 20.1155 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1225.91 | 1376.33 | 1722.31 | 0 | 1722.31 | 2171.3  | 2171.3  |
| 25 | 2.5926  | 5733.06 | 21.1076 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1233.27 | 1384.59 | 1733.68 | 0 | 1733.68 | 2209.75 | 2209.75 |
| 26 | 2.5926  | 5816.86 | 22.1064 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1237.04 | 1388.83 | 1739.52 | 0 | 1739.52 | 2241.99 | 2241.99 |
| 27 | 2.5926  | 5884.22 | 23.1123 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1237.25 | 1389.06 | 1739.84 | 0 | 1739.84 | 2267.88 | 2267.88 |
| 28 | 2.5926  | 5934.77 | 24.1258 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1233.92 | 1385.32 | 1734.68 | 0 | 1734.68 | 2287.3  | 2287.3  |
| 29 | 2.5926  | 5968.12 | 25.1475 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1227.04 | 1377.6  | 1724.06 | 0 | 1724.06 | 2300.09 | 2300.09 |
| 30 | 2.5926  | 5983.84 | 26.1777 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1216.65 | 1365.93 | 1708    | 0 | 1708    | 2306.08 | 2306.08 |
| 31 | 2.5926  | 5981.46 | 27.2171 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1202.74 | 1350.32 | 1686.51 | 0 | 1686.51 | 2305.09 | 2305.09 |
| 32 | 2.5926  | 5960.49 | 28.2664 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1185.33 | 1330.77 | 1659.6  | 0 | 1659.6  | 2296.94 | 2296.94 |
| 33 | 2.5926  | 5922.02 | 29.3261 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1164.72 | 1307.63 | 1627.75 | 0 | 1627.75 | 2282.05 | 2282.05 |
| 34 | 2.5926  | 5887.83 | 30.3969 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1144.93 | 1285.41 | 1597.16 | 0 | 1597.16 | 2268.81 | 2268.81 |
| 35 | 2.5926  | 5841.21 | 31.4796 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1122.94 | 1260.72 | 1563.19 | 0 | 1563.19 | 2250.77 | 2250.77 |
| 36 | 2.5926  | 5773.5  | 32.5749 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1097.28 | 1231.92 | 1523.54 | 0 | 1523.54 | 2224.61 | 2224.61 |
| 37 | 2.5926  | 5683.94 | 33.6838 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1067.95 | 1198.99 | 1478.23 | 0 | 1478.23 | 2190.03 | 2190.03 |
| 38 | 2.5926  | 5571.66 | 34.8073 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1034.93 | 1161.92 | 1427.2  | 0 | 1427.2  | 2146.69 | 2146.69 |
| 39 | 2.5926  | 5435.76 | 35.9462 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 998.211 | 1120.69 | 1370.45 | 0 | 1370.45 | 2094.26 | 2094.26 |
| 40 | 2.5926  | 5275.2  | 37.1019 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 957.756 | 1075.27 | 1307.94 | 0 | 1307.94 | 2032.33 | 2032.33 |
| 41 | 2.5926  | 5088.85 | 38.2754 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 913.549 | 1025.64 | 1239.63 | 0 | 1239.63 | 1960.47 | 1960.47 |
| 42 | 2.5926  | 4875.46 | 39.4682 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 865.562 | 971.767 | 1165.47 | 0 | 1165.47 | 1878.18 | 1878.18 |
| 43 | 2.5926  | 4626.38 | 40.6819 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 812.611 | 912.318 | 1083.65 | 0 | 1083.65 | 1782.16 | 1782.16 |
| 44 | 2.55805 | 4138.36 | 41.9097 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 774.234 | 869.233 | 920.576 | 0 | 920.576 | 1615.49 | 1615.49 |
| 45 | 2.55805 | 3608.03 | 43.1532 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 673.979 | 756.676 | 776.509 | 0 | 776.509 | 1408.38 | 1408.38 |
| 46 | 2.55805 | 3042.62 | 44.4226 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 570.773 | 640.807 | 628.204 | 0 | 628.204 | 1187.59 | 1187.59 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 47 | 2.55805 | 2439.8  | 45.7202 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 464.658 | 521.672 | 475.719  | 0 | 475.719  | 952.207 | 952.207 |
| 48 | 2.55805 | 1796.94 | 47.0486 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 355.688 | 399.331 | 319.13   | 0 | 319.13   | 701.209 | 701.209 |
| 49 | 2.55805 | 1110.99 | 48.4111 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 243.938 | 273.869 | 158.546  | 0 | 158.546  | 433.407 | 433.407 |
| 50 | 2.55805 | 378.417 | 49.8111 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 129.51  | 145.401 | -5.88693 | 0 | -5.88693 | 147.428 | 147.428 |

## **Cross Section GG-GG' - Master Scenario**

### **Global Minimum Query (bishop simplified) - Safety Factor: 1.42113**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.64952    | 65.3316      | 13.0186                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 49.5806            | 70.4605              | 28.1614                  | 0                   | 28.1614                       | 39.6249                    | 39.6249                         |
| 2            | 1.64952    | 194.047      | 13.6399                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 84.8195            | 120.54               | 97.089                   | 0                   | 97.089                        | 117.672                    | 117.672                         |
| 3            | 1.64952    | 318.852      | 14.2629                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 118.615            | 168.568              | 163.196                  | 0                   | 163.196                       | 193.349                    | 193.349                         |
| 4            | 1.64952    | 439.714      | 14.8876                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 150.979            | 214.561              | 226.498                  | 0                   | 226.498                       | 266.636                    | 266.636                         |
| 5            | 1.64952    | 556.6        | 15.5141                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 181.917            | 258.528              | 287.015                  | 0                   | 287.015                       | 337.513                    | 337.513                         |
| 6            | 1.64952    | 669.473      | 16.1425                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 211.439            | 300.483              | 344.759                  | 0                   | 344.759                       | 405.958                    | 405.958                         |
| 7            | 1.64952    | 778.298      | 16.7729                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 239.552            | 340.434              | 399.748                  | 0                   | 399.748                       | 471.95                     | 471.95                          |
| 8            | 1.64952    | 883.033      | 17.4055                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 266.261            | 378.392              | 451.993                  | 0                   | 451.993                       | 535.462                    | 535.462                         |
| 9            | 1.64952    | 983.636      | 18.0402                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 291.574            | 414.365              | 501.506                  | 0                   | 501.506                       | 596.47                     | 596.47                          |
| 10           | 1.64952    | 1080.06      | 18.6772                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 315.497            | 448.362              | 548.298                  | 0                   | 548.298                       | 654.947                    | 654.947                         |
| 11           | 1.64952    | 1172.27      | 19.3166                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 338.032            | 480.388              | 592.379                  | 0                   | 592.379                       | 710.866                    | 710.866                         |
| 12           | 1.64952    | 1260.21      | 19.9585                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 359.187            | 510.451              | 633.756                  | 0                   | 633.756                       | 764.195                    | 764.195                         |
| 13           | 1.64952    | 1343.82      | 20.6031                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 378.963            | 538.555              | 672.438                  | 0                   | 672.438                       | 814.904                    | 814.904                         |
| 14           | 1.64952    | 1423.06      | 21.2504                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 397.363            | 564.705              | 708.429                  | 0                   | 708.429                       | 862.958                    | 862.958                         |
| 15           | 1.64952    | 1497.86      | 21.9005                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 414.393            | 588.906              | 741.74                   | 0                   | 741.74                        | 908.33                     | 908.33                          |
| 16           | 1.64952    | 1568.17      | 22.5537                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 430.051            | 611.158              | 772.367                  | 0                   | 772.367                       | 950.972                    | 950.972                         |
| 17           | 1.64952    | 1633.93      | 23.2099                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 444.341            | 631.466              | 800.318                  | 0                   | 800.318                       | 990.853                    | 990.853                         |
| 18           | 1.64952    | 1695.06      | 23.8694                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 457.262            | 649.829              | 825.592                  | 0                   | 825.592                       | 1027.93                    | 1027.93                         |
| 19           | 1.64952    | 1751.49      | 24.5322                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 468.816            | 666.249              | 848.197                  | 0                   | 848.197                       | 1062.17                    | 1062.17                         |
| 20           | 1.64952    | 1803.16      | 25.1986                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 479.003            | 680.725              | 868.119                  | 0                   | 868.119                       | 1093.51                    | 1093.51                         |
| 21           | 1.64952    | 1849.98      | 25.8686                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 487.821            | 693.257              | 885.369                  | 0                   | 885.369                       | 1121.91                    | 1121.91                         |
| 22           | 1.64952    | 1891.88      | 26.5425                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 495.269            | 703.841              | 899.935                  | 0                   | 899.935                       | 1147.33                    | 1147.33                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.64952 | 1928.76 | 27.2203 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 501.345 | 712.477 | 911.822 | 0 | 911.822 | 1169.7  | 1169.7  |
| 24 | 1.64952 | 1960.54 | 27.9023 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 506.048 | 719.16  | 921.02  | 0 | 921.02  | 1188.99 | 1188.99 |
| 25 | 1.64952 | 1987.12 | 28.5886 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 509.373 | 723.885 | 927.521 | 0 | 927.521 | 1205.11 | 1205.11 |
| 26 | 1.64952 | 2008.39 | 29.2795 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 511.317 | 726.648 | 931.327 | 0 | 931.327 | 1218.02 | 1218.02 |
| 27 | 1.64952 | 2024.26 | 29.975  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 511.877 | 727.444 | 932.423 | 0 | 932.423 | 1227.66 | 1227.66 |
| 28 | 1.64952 | 2034.6  | 30.6755 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 511.047 | 726.264 | 930.795 | 0 | 930.795 | 1233.94 | 1233.94 |
| 29 | 1.64952 | 2039.3  | 31.381  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 508.822 | 723.102 | 926.446 | 0 | 926.446 | 1236.8  | 1236.8  |
| 30 | 1.64952 | 2038.23 | 32.0919 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 505.197 | 717.95  | 919.354 | 0 | 919.354 | 1236.16 | 1236.16 |
| 31 | 1.64952 | 2031.26 | 32.8084 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 500.163 | 710.797 | 909.51  | 0 | 909.51  | 1231.95 | 1231.95 |
| 32 | 1.64952 | 2018.24 | 33.5307 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 493.716 | 701.635 | 896.896 | 0 | 896.896 | 1224.06 | 1224.06 |
| 33 | 1.64952 | 1999.03 | 34.2591 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 485.846 | 690.451 | 881.507 | 0 | 881.507 | 1212.42 | 1212.42 |
| 34 | 1.64952 | 1973.45 | 34.9938 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 476.547 | 677.235 | 863.316 | 0 | 863.316 | 1196.92 | 1196.92 |
| 35 | 1.64952 | 1941.35 | 35.7352 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 465.807 | 661.973 | 842.309 | 0 | 842.309 | 1177.46 | 1177.46 |
| 36 | 1.64952 | 1902.53 | 36.4836 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 453.619 | 644.652 | 818.47  | 0 | 818.47  | 1153.93 | 1153.93 |
| 37 | 1.64952 | 1856.81 | 37.2393 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 439.972 | 625.257 | 791.772 | 0 | 791.772 | 1126.2  | 1126.2  |
| 38 | 1.64952 | 1803.53 | 38.0026 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 424.758 | 603.636 | 762.015 | 0 | 762.015 | 1093.9  | 1093.9  |
| 39 | 1.64952 | 1723.48 | 38.774  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 403.791 | 573.84  | 721.002 | 0 | 721.002 | 1045.36 | 1045.36 |
| 40 | 1.64952 | 1625.43 | 39.5538 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 379.132 | 538.796 | 672.77  | 0 | 672.77  | 985.901 | 985.901 |
| 41 | 1.64952 | 1519.55 | 40.3425 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 353.078 | 501.77  | 621.809 | 0 | 621.809 | 921.691 | 921.691 |
| 42 | 1.64952 | 1405.56 | 41.1405 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 325.62  | 462.748 | 568.098 | 0 | 568.098 | 852.56  | 852.56  |
| 43 | 1.64952 | 1283.16 | 41.9483 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 296.747 | 421.716 | 511.622 | 0 | 511.622 | 778.33  | 778.33  |
| 44 | 1.64952 | 1152.04 | 42.7665 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 266.449 | 378.658 | 452.358 | 0 | 452.358 | 698.804 | 698.804 |
| 45 | 1.64952 | 1011.84 | 43.5957 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 234.715 | 333.561 | 390.289 | 0 | 390.289 | 613.772 | 613.772 |
| 46 | 1.64952 | 862.179 | 44.4365 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 201.538 | 286.411 | 325.392 | 0 | 325.392 | 523.003 | 523.003 |
| 47 | 1.64952 | 702.658 | 45.2895 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 166.905 | 237.193 | 257.649 | 0 | 257.649 | 426.249 | 426.249 |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 1.64952 | 532.822 | 46.1556 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 130.807 | 185.894 | 187.043 | 0 | 187.043 | 323.236 | 323.236 |
| 49 | 1.64952 | 352.179 | 47.0355 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 93.2378 | 132.503 | 113.556 | 0 | 113.556 | 213.666 | 213.666 |
| 50 | 1.64952 | 140.206 | 47.9302 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 50.2321 | 71.3863 | 29.4357 | 0 | 29.4357 | 85.0876 | 85.0876 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.38083

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.52271    | 69.6052      | 7.69244                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 56.2647            | 77.692               | 38.1147                  | 0                   | 38.1147                       | 45.7145                    | 45.7145                         |
| 2            | 1.52271    | 206.762      | 8.48843                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 99.82              | 137.834              | 120.893                  | 0                   | 120.893                       | 135.791                    | 135.791                         |
| 3            | 1.52271    | 339.797      | 9.28608                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 141.46             | 195.332              | 200.032                  | 0                   | 200.032                       | 223.162                    | 223.162                         |
| 4            | 1.52271    | 468.685      | 10.0855                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 181.209            | 250.219              | 275.578                  | 0                   | 275.578                       | 307.809                    | 307.809                         |
| 5            | 1.52271    | 593.395      | 10.887                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 219.091            | 302.528              | 347.574                  | 0                   | 347.574                       | 389.713                    | 389.713                         |
| 6            | 1.52271    | 713.895      | 11.6906                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 255.127            | 352.287              | 416.063                  | 0                   | 416.063                       | 468.853                    | 468.853                         |
| 7            | 1.52271    | 830.15       | 12.4966                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 289.336            | 399.524              | 481.078                  | 0                   | 481.078                       | 545.205                    | 545.205                         |
| 8            | 1.52271    | 942.12       | 13.3051                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 321.737            | 444.264              | 542.658                  | 0                   | 542.658                       | 618.743                    | 618.743                         |
| 9            | 1.52271    | 1049.76      | 14.1162                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 352.345            | 486.529              | 600.831                  | 0                   | 600.831                       | 689.441                    | 689.441                         |
| 10           | 1.52271    | 1153.04      | 14.9303                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.178            | 526.342              | 655.631                  | 0                   | 655.631                       | 757.27                     | 757.27                          |
| 11           | 1.52271    | 1251.89      | 15.7475                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 408.246            | 563.719              | 707.075                  | 0                   | 707.075                       | 822.193                    | 822.193                         |
| 12           | 1.52271    | 1346.27      | 16.568                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 433.565            | 598.68               | 755.19                   | 0                   | 755.19                        | 884.178                    | 884.178                         |
| 13           | 1.52271    | 1436.13      | 17.392                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 457.144            | 631.238              | 800.005                  | 0                   | 800.005                       | 943.195                    | 943.195                         |
| 14           | 1.52271    | 1521.39      | 18.2197                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 478.992            | 661.407              | 841.527                  | 0                   | 841.527                       | 999.194                    | 999.194                         |
| 15           | 1.52271    | 1602         | 19.0514                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 499.119            | 689.199              | 879.784                  | 0                   | 879.784                       | 1052.15                    | 1052.15                         |
| 16           | 1.52271    | 1677.9       | 19.8873                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 517.532            | 714.624              | 914.776                  | 0                   | 914.776                       | 1101.99                    | 1101.99                         |
| 17           | 1.52271    | 1748.99      | 20.7276                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 534.236            | 737.689              | 946.524                  | 0                   | 946.524                       | 1148.69                    | 1148.69                         |
| 18           | 1.52271    | 1815.22      | 21.5726                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 549.236            | 758.401              | 975.027                  | 0                   | 975.027                       | 1192.18                    | 1192.18                         |
| 19           | 1.52271    | 1876.48      | 22.4225                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 562.535            | 776.765              | 1000.31                  | 0                   | 1000.31                       | 1232.43                    | 1232.43                         |
| 20           | 1.52271    | 1932.7       | 23.2777                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 574.135            | 792.783              | 1022.35                  | 0                   | 1022.35                       | 1269.35                    | 1269.35                         |
| 21           | 1.52271    | 1983.77      | 24.1384                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 584.038            | 806.457              | 1041.17                  | 0                   | 1041.17                       | 1302.9                     | 1302.9                          |
| 22           | 1.52271    | 2029.6       | 25.005                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 592.243            | 817.787              | 1056.77                  | 0                   | 1056.77                       | 1333                       | 1333                            |
| 23           | 1.52271    | 2070.07      | 25.8777                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 598.749            | 826.771              | 1069.13                  | 0                   | 1069.13                       | 1359.58                    | 1359.58                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.52271 | 2105.06 | 26.7569 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 603.553 | 833.404 | 1078.26 | 0 | 1078.26 | 1382.57 | 1382.57 |
| 25 | 1.52271 | 2134.46 | 27.643  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 606.65  | 837.681 | 1084.15 | 0 | 1084.15 | 1401.88 | 1401.88 |
| 26 | 1.52271 | 2158.12 | 28.5363 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 608.037 | 839.596 | 1086.79 | 0 | 1086.79 | 1417.42 | 1417.42 |
| 27 | 1.52271 | 2175.89 | 29.4372 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 607.706 | 839.138 | 1086.16 | 0 | 1086.16 | 1429.1  | 1429.1  |
| 28 | 1.52271 | 2187.63 | 30.3463 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 605.649 | 836.298 | 1082.25 | 0 | 1082.25 | 1436.82 | 1436.82 |
| 29 | 1.52271 | 2193.17 | 31.2638 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 601.857 | 831.062 | 1075.04 | 0 | 1075.04 | 1440.45 | 1440.45 |
| 30 | 1.52271 | 2192.31 | 32.1904 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 596.32  | 823.416 | 1064.52 | 0 | 1064.52 | 1439.9  | 1439.9  |
| 31 | 1.52271 | 2184.88 | 33.1265 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 589.026 | 813.345 | 1050.65 | 0 | 1050.65 | 1435.02 | 1435.02 |
| 32 | 1.52271 | 2170.66 | 34.0726 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 579.961 | 800.828 | 1033.43 | 0 | 1033.43 | 1425.69 | 1425.69 |
| 33 | 1.52271 | 2149.42 | 35.0295 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 569.112 | 785.847 | 1012.81 | 0 | 1012.81 | 1411.74 | 1411.74 |
| 34 | 1.52271 | 2120.92 | 35.9977 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 556.462 | 768.38  | 988.766 | 0 | 988.766 | 1393.03 | 1393.03 |
| 35 | 1.52271 | 2084.88 | 36.978  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 541.994 | 748.401 | 961.265 | 0 | 961.265 | 1369.36 | 1369.36 |
| 36 | 1.52271 | 2041.02 | 37.9711 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 525.687 | 725.884 | 930.275 | 0 | 930.275 | 1340.56 | 1340.56 |
| 37 | 1.52271 | 1989.02 | 38.9777 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 507.522 | 700.801 | 895.749 | 0 | 895.749 | 1306.41 | 1306.41 |
| 38 | 1.52271 | 1928.53 | 39.999  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 487.476 | 673.121 | 857.651 | 0 | 857.651 | 1266.68 | 1266.68 |
| 39 | 1.52271 | 1859.16 | 41.0357 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 465.526 | 642.812 | 815.937 | 0 | 815.937 | 1221.12 | 1221.12 |
| 40 | 1.52271 | 1780.49 | 42.089  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 441.647 | 609.839 | 770.554 | 0 | 770.554 | 1169.46 | 1169.46 |
| 41 | 1.52271 | 1691.76 | 43.1601 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 415.741 | 574.067 | 721.318 | 0 | 721.318 | 1111.18 | 1111.18 |
| 42 | 1.52271 | 1576.47 | 44.2504 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 384.134 | 530.424 | 661.248 | 0 | 661.248 | 1035.46 | 1035.46 |
| 43 | 1.52271 | 1441.08 | 45.3613 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 348.532 | 481.264 | 593.586 | 0 | 593.586 | 946.541 | 946.541 |
| 44 | 1.52271 | 1294.19 | 46.4944 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 311.051 | 429.508 | 522.347 | 0 | 522.347 | 850.062 | 850.062 |
| 45 | 1.52271 | 1135.06 | 47.6517 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 271.666 | 375.124 | 447.496 | 0 | 447.496 | 745.548 | 745.548 |
| 46 | 1.52271 | 962.873 | 48.8353 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 230.358 | 318.085 | 368.988 | 0 | 368.988 | 632.451 | 632.451 |
| 47 | 1.52271 | 776.679 | 50.0475 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 187.109 | 258.366 | 286.792 | 0 | 286.792 | 510.156 | 510.156 |
| 48 | 1.52271 | 575.399 | 51.2912 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 141.906 | 195.948 | 200.88  | 0 | 200.88  | 377.952 | 377.952 |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.52271 | 357.78  | 52.5696 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 94.739  | 130.819 | 111.237 | 0 | 111.237 | 235.014 | 235.014 |
| 50 | 1.52271 | 122.359 | 53.8864 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 45.6105 | 62.9803 | 17.8658 | 0 | 17.8658 | 80.3822 | 80.3822 |



## **Cross Section GG-GG' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.910885**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.6728     | 68.0282      | 12.7573                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 73.9763            | 67.3839              | 23.9269                  | 0                   | 23.9269                       | 40.676                     | 40.676                          |
| 2            | 1.6728     | 202.077      | 13.3813                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 127.135            | 115.805              | 90.5737                  | 0                   | 90.5737                       | 120.818                    | 120.818                         |
| 3            | 1.6728     | 332.096      | 14.0069                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 177.869            | 162.018              | 154.179                  | 0                   | 154.179                       | 198.55                     | 198.55                          |
| 4            | 1.6728     | 458.051      | 14.6343                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 226.21             | 206.051              | 214.786                  | 0                   | 214.786                       | 273.854                    | 273.854                         |
| 5            | 1.6728     | 579.91       | 15.2634                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 272.19             | 247.934              | 272.433                  | 0                   | 272.433                       | 346.709                    | 346.709                         |
| 6            | 1.6728     | 697.636      | 15.8944                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 315.84             | 287.694              | 327.157                  | 0                   | 327.157                       | 417.093                    | 417.093                         |
| 7            | 1.6728     | 811.19       | 16.5274                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 357.187            | 325.356              | 378.995                  | 0                   | 378.995                       | 484.984                    | 484.984                         |
| 8            | 1.6728     | 920.532      | 17.1625                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 396.257            | 360.945              | 427.979                  | 0                   | 427.979                       | 550.357                    | 550.357                         |
| 9            | 1.6728     | 1025.62      | 17.7998                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 433.079            | 394.485              | 474.143                  | 0                   | 474.143                       | 613.188                    | 613.188                         |
| 10           | 1.6728     | 1126.41      | 18.4393                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 467.675            | 425.998              | 517.517                  | 0                   | 517.517                       | 673.448                    | 673.448                         |
| 11           | 1.6728     | 1222.85      | 19.0813                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 500.068            | 455.504              | 558.129                  | 0                   | 558.129                       | 731.11                     | 731.11                          |
| 12           | 1.6728     | 1314.89      | 19.7257                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 530.28             | 483.024              | 596.005                  | 0                   | 596.005                       | 786.141                    | 786.141                         |
| 13           | 1.6728     | 1402.49      | 20.3728                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 558.332            | 508.576              | 631.174                  | 0                   | 631.174                       | 838.513                    | 838.513                         |
| 14           | 1.6728     | 1485.58      | 21.0226                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 584.244            | 532.179              | 663.663                  | 0                   | 663.663                       | 888.197                    | 888.197                         |
| 15           | 1.6728     | 1564.11      | 21.6752                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 608.034            | 553.849              | 693.491                  | 0                   | 693.491                       | 935.152                    | 935.152                         |
| 16           | 1.6728     | 1638.01      | 22.3308                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 629.719            | 573.602              | 720.678                  | 0                   | 720.678                       | 979.34                     | 979.34                          |
| 17           | 1.6728     | 1707.22      | 22.9895                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 649.316            | 591.452              | 745.244                  | 0                   | 745.244                       | 1020.72                    | 1020.72                         |
| 18           | 1.6728     | 1771.68      | 23.6514                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 666.84             | 607.415              | 767.218                  | 0                   | 767.218                       | 1059.27                    | 1059.27                         |
| 19           | 1.6728     | 1831.31      | 24.3167                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 682.307            | 621.503              | 786.608                  | 0                   | 786.608                       | 1094.92                    | 1094.92                         |
| 20           | 1.6728     | 1886.03      | 24.9855                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 695.728            | 633.728              | 803.435                  | 0                   | 803.435                       | 1127.64                    | 1127.64                         |
| 21           | 1.6728     | 1935.77      | 25.6579                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 707.117            | 644.102              | 817.71                   | 0                   | 817.71                        | 1157.38                    | 1157.38                         |
| 22           | 1.6728     | 1980.45      | 26.3342                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 716.485            | 652.635              | 829.454                  | 0                   | 829.454                       | 1184.1                     | 1184.1                          |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.6728 | 2019.96 | 27.0144 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 723.843 | 659.338 | 838.683 | 0 | 838.683 | 1207.73 | 1207.73 |
| 24 | 1.6728 | 2054.23 | 27.6988 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 729.202 | 664.219 | 845.398 | 0 | 845.398 | 1228.22 | 1228.22 |
| 25 | 1.6728 | 2083.15 | 28.3875 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 732.571 | 667.288 | 849.622 | 0 | 849.622 | 1245.51 | 1245.51 |
| 26 | 1.6728 | 2106.63 | 29.0807 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 733.958 | 668.551 | 851.36  | 0 | 851.36  | 1259.55 | 1259.55 |
| 27 | 1.6728 | 2124.54 | 29.7786 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 733.37  | 668.016 | 850.625 | 0 | 850.625 | 1270.27 | 1270.27 |
| 28 | 1.6728 | 2136.77 | 30.4814 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 730.815 | 665.688 | 847.424 | 0 | 847.424 | 1277.59 | 1277.59 |
| 29 | 1.6728 | 2143.2  | 31.1893 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 726.299 | 661.575 | 841.76  | 0 | 841.76  | 1281.44 | 1281.44 |
| 30 | 1.6728 | 2143.71 | 31.9026 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 719.827 | 655.68  | 833.646 | 0 | 833.646 | 1281.74 | 1281.74 |
| 31 | 1.6728 | 2138.15 | 32.6214 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 711.405 | 648.008 | 823.087 | 0 | 823.087 | 1278.42 | 1278.42 |
| 32 | 1.6728 | 2126.38 | 33.3461 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 701.037 | 638.564 | 810.086 | 0 | 810.086 | 1271.39 | 1271.39 |
| 33 | 1.6728 | 2108.24 | 34.0768 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 688.726 | 627.35  | 794.656 | 0 | 794.656 | 1260.55 | 1260.55 |
| 34 | 1.6728 | 2083.57 | 34.8139 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 674.475 | 614.369 | 776.789 | 0 | 776.789 | 1245.8  | 1245.8  |
| 35 | 1.6728 | 2052.19 | 35.5576 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 658.287 | 599.624 | 756.494 | 0 | 756.494 | 1227.04 | 1227.04 |
| 36 | 1.6728 | 2013.91 | 36.3083 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 640.165 | 583.117 | 733.774 | 0 | 733.774 | 1204.17 | 1204.17 |
| 37 | 1.6728 | 1968.55 | 37.0663 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 620.111 | 564.85  | 708.627 | 0 | 708.627 | 1177.04 | 1177.04 |
| 38 | 1.6728 | 1908.27 | 37.832  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 595.886 | 542.784 | 678.257 | 0 | 678.257 | 1141.01 | 1141.01 |
| 39 | 1.6728 | 1818.33 | 38.6057 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 563.329 | 513.128 | 637.443 | 0 | 637.443 | 1087.23 | 1087.23 |
| 40 | 1.6728 | 1719.19 | 39.3878 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 528.623 | 481.515 | 593.927 | 0 | 593.927 | 1027.96 | 1027.96 |
| 41 | 1.6728 | 1612    | 40.1788 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 492.189 | 448.328 | 548.252 | 0 | 548.252 | 963.873 | 963.873 |
| 42 | 1.6728 | 1496.5  | 40.9792 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 454.034 | 413.573 | 500.414 | 0 | 500.414 | 894.811 | 894.811 |
| 43 | 1.6728 | 1372.36 | 41.7894 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 414.161 | 377.253 | 450.426 | 0 | 450.426 | 820.59  | 820.59  |
| 44 | 1.6728 | 1239.27 | 42.6099 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 372.578 | 339.376 | 398.291 | 0 | 398.291 | 741.013 | 741.013 |
| 45 | 1.6728 | 1096.86 | 43.4414 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 329.291 | 299.946 | 344.021 | 0 | 344.021 | 655.867 | 655.867 |
| 46 | 1.6728 | 944.752 | 44.2845 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 284.307 | 258.971 | 287.624 | 0 | 287.624 | 564.918 | 564.918 |
| 47 | 1.6728 | 782.523 | 45.1399 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 237.639 | 216.462 | 229.115 | 0 | 229.115 | 467.918 | 467.918 |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 1.6728 | 609.714 | 46.0083 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 189.298 | 172.429 | 168.509 | 0 | 168.509 | 364.59  | 364.59  |
| 49 | 1.6728 | 420.223 | 46.8906 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 137.858 | 125.573 | 104.017 | 0 | 104.017 | 251.286 | 251.286 |
| 50 | 1.6728 | 149.072 | 47.7877 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 67.0487 | 61.0737 | 15.2417 | 0 | 15.2417 | 89.1542 | 89.1542 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.879895

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.63449    | 81.3235      | 7.31326                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 88.5274            | 77.8948              | 38.3939                  | 0                   | 38.3939                       | 49.7553                    | 49.7553                         |
| 2            | 1.63449    | 241.593      | 8.11425                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 160.034            | 140.814              | 124.994                  | 0                   | 124.994                       | 147.811                    | 147.811                         |
| 3            | 1.63449    | 397.095      | 8.91684                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 227.906            | 200.533              | 207.192                  | 0                   | 207.192                       | 242.949                    | 242.949                         |
| 4            | 1.63449    | 547.797      | 9.7212                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 292.227            | 257.129              | 285.089                  | 0                   | 285.089                       | 335.151                    | 335.151                         |
| 5            | 1.63449    | 693.668      | 10.5275                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 353.078            | 310.672              | 358.783                  | 0                   | 358.783                       | 424.398                    | 424.398                         |
| 6            | 1.63449    | 834.67       | 11.3359                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 410.533            | 361.226              | 428.366                  | 0                   | 428.366                       | 510.666                    | 510.666                         |
| 7            | 1.63449    | 970.764      | 12.1466                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 464.662            | 408.854              | 493.92                   | 0                   | 493.92                        | 593.93                     | 593.93                          |
| 8            | 1.63449    | 1101.91      | 12.9598                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 515.532            | 453.614              | 555.527                  | 0                   | 555.527                       | 674.166                    | 674.166                         |
| 9            | 1.63449    | 1228.05      | 13.7757                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 563.202            | 495.559              | 613.263                  | 0                   | 613.263                       | 751.345                    | 751.345                         |
| 10           | 1.63449    | 1349.14      | 14.5944                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 607.734            | 534.742              | 667.192                  | 0                   | 667.192                       | 825.431                    | 825.431                         |
| 11           | 1.63449    | 1465.13      | 15.4161                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 649.179            | 571.209              | 717.383                  | 0                   | 717.383                       | 896.394                    | 896.394                         |
| 12           | 1.63449    | 1575.95      | 16.2412                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 687.587            | 605.004              | 763.896                  | 0                   | 763.896                       | 964.194                    | 964.194                         |
| 13           | 1.63449    | 1681.54      | 17.0697                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 723.007            | 636.17               | 806.796                  | 0                   | 806.796                       | 1028.8                     | 1028.8                          |
| 14           | 1.63449    | 1781.84      | 17.9019                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 755.482            | 664.745              | 846.125                  | 0                   | 846.125                       | 1090.17                    | 1090.17                         |
| 15           | 1.63449    | 1876.77      | 18.738                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 785.054            | 690.765              | 881.937                  | 0                   | 881.937                       | 1148.24                    | 1148.24                         |
| 16           | 1.63449    | 1966.25      | 19.5783                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 811.762            | 714.265              | 914.284                  | 0                   | 914.284                       | 1202.99                    | 1202.99                         |
| 17           | 1.63449    | 2050.19      | 20.423                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 835.638            | 735.274              | 943.201                  | 0                   | 943.201                       | 1254.35                    | 1254.35                         |
| 18           | 1.63449    | 2128.52      | 21.2723                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 856.719            | 753.823              | 968.73                   | 0                   | 968.73                        | 1302.27                    | 1302.27                         |
| 19           | 1.63449    | 2201.13      | 22.1266                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 875.033            | 769.937              | 990.911                  | 0                   | 990.911                       | 1346.7                     | 1346.7                          |
| 20           | 1.63449    | 2267.91      | 22.9861                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 890.609            | 783.642              | 1009.77                  | 0                   | 1009.77                       | 1387.56                    | 1387.56                         |
| 21           | 1.63449    | 2328.77      | 23.8512                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 903.471            | 794.96               | 1025.35                  | 0                   | 1025.35                       | 1424.79                    | 1424.79                         |
| 22           | 1.63449    | 2383.57      | 24.722                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 913.644            | 803.911              | 1037.67                  | 0                   | 1037.67                       | 1458.33                    | 1458.33                         |
| 23           | 1.63449    | 2432.21      | 25.5989                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 921.15             | 810.515              | 1046.76                  | 0                   | 1046.76                       | 1488.08                    | 1488.08                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.63449 | 2474.53 | 26.4824 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 926.006 | 814.788 | 1052.64 | 0 | 1052.64 | 1513.97 | 1513.97 |
| 25 | 1.63449 | 2510.4  | 27.3727 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 928.23  | 816.745 | 1055.33 | 0 | 1055.33 | 1535.92 | 1535.92 |
| 26 | 1.63449 | 2539.66 | 28.2702 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 927.838 | 816.4   | 1054.86 | 0 | 1054.86 | 1553.83 | 1553.83 |
| 27 | 1.63449 | 2562.15 | 29.1753 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 924.842 | 813.764 | 1051.23 | 0 | 1051.23 | 1567.58 | 1567.58 |
| 28 | 1.63449 | 2577.68 | 30.0885 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 919.254 | 808.847 | 1044.46 | 0 | 1044.46 | 1577.09 | 1577.09 |
| 29 | 1.63449 | 2586.08 | 31.0102 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 911.085 | 801.659 | 1034.57 | 0 | 1034.57 | 1582.22 | 1582.22 |
| 30 | 1.63449 | 2587.12 | 31.9409 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 900.34  | 792.205 | 1021.56 | 0 | 1021.56 | 1582.86 | 1582.86 |
| 31 | 1.63449 | 2580.58 | 32.8812 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 887.029 | 780.492 | 1005.44 | 0 | 1005.44 | 1578.87 | 1578.87 |
| 32 | 1.63449 | 2566.23 | 33.8315 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 871.153 | 766.523 | 986.207 | 0 | 986.207 | 1570.09 | 1570.09 |
| 33 | 1.63449 | 2543.81 | 34.7925 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 852.717 | 750.301 | 963.884 | 0 | 963.884 | 1556.37 | 1556.37 |
| 34 | 1.63449 | 2513.03 | 35.7649 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 831.722 | 731.828 | 938.455 | 0 | 938.455 | 1537.54 | 1537.54 |
| 35 | 1.63449 | 2473.58 | 36.7493 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 808.17  | 711.105 | 909.933 | 0 | 909.933 | 1513.41 | 1513.41 |
| 36 | 1.63449 | 2425.14 | 37.7465 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 782.059 | 688.13  | 878.309 | 0 | 878.309 | 1483.77 | 1483.77 |
| 37 | 1.63449 | 2367.33 | 38.7573 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 753.386 | 662.901 | 843.586 | 0 | 843.586 | 1448.4  | 1448.4  |
| 38 | 1.63449 | 2299.76 | 39.7826 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 722.151 | 635.417 | 805.756 | 0 | 805.756 | 1407.06 | 1407.06 |
| 39 | 1.63449 | 2209.82 | 40.8235 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 684.759 | 602.516 | 760.471 | 0 | 760.471 | 1352.03 | 1352.03 |
| 40 | 1.63449 | 2091.76 | 41.881  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 639.846 | 562.997 | 706.078 | 0 | 706.078 | 1279.8  | 1279.8  |
| 41 | 1.63449 | 1962.33 | 42.9563 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 592.595 | 521.421 | 648.857 | 0 | 648.857 | 1200.62 | 1200.62 |
| 42 | 1.63449 | 1821.1  | 44.0507 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 543.051 | 477.828 | 588.856 | 0 | 588.856 | 1114.2  | 1114.2  |
| 43 | 1.63449 | 1667.39 | 45.1658 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 491.221 | 432.223 | 526.085 | 0 | 526.085 | 1020.16 | 1020.16 |
| 44 | 1.63449 | 1500.46 | 46.3031 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 437.117 | 384.617 | 460.561 | 0 | 460.561 | 918.028 | 918.028 |
| 45 | 1.63449 | 1319.48 | 47.4646 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 380.751 | 335.021 | 392.298 | 0 | 392.298 | 807.3   | 807.3   |
| 46 | 1.63449 | 1123.51 | 48.6524 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 322.145 | 283.454 | 321.321 | 0 | 321.321 | 687.398 | 687.398 |
| 47 | 1.63449 | 911.455 | 49.8689 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 261.327 | 229.94  | 247.666 | 0 | 247.666 | 557.659 | 557.659 |
| 48 | 1.63449 | 682.092 | 51.1169 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 198.335 | 174.514 | 171.379 | 0 | 171.379 | 417.327 | 417.327 |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.63449 | 433.981 | 52.3995 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 133.228 | 117.226 | 92.5293 | 0 | 92.5293 | 265.526 | 265.526 |
| 50 | 1.63449 | 161.828 | 53.7206 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 65.2176 | 57.3846 | 10.1641 | 0 | 10.1641 | 99.0141 | 99.0141 |

## **Cross Section HH-HH' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.60908**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.93887    | 85.4763      | 9.28385                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 47.4817            | 76.4019              | 36.3391                  | 0                   | 36.3391                       | 44.1008                    | 44.1008                         |
| 2            | 1.93887    | 253.642      | 9.9444                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 83.5417            | 134.425              | 116.202                  | 0                   | 116.202                       | 130.849                    | 130.849                         |
| 3            | 1.93887    | 416.219      | 10.6063                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 118.042            | 189.939              | 192.61                   | 0                   | 192.61                        | 214.714                    | 214.714                         |
| 4            | 1.93887    | 573.17       | 11.2696                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 150.995            | 242.963              | 265.591                  | 0                   | 265.591                       | 295.68                     | 295.68                          |
| 5            | 1.93887    | 724.458      | 11.9345                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 182.412            | 293.515              | 335.17                   | 0                   | 335.17                        | 373.725                    | 373.725                         |
| 6            | 1.93887    | 870.042      | 12.601                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 212.303            | 341.613              | 401.371                  | 0                   | 401.371                       | 448.83                     | 448.83                          |
| 7            | 1.93887    | 1009.88      | 13.2692                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 240.679            | 387.271              | 464.214                  | 0                   | 464.214                       | 520.971                    | 520.971                         |
| 8            | 1.93887    | 1143.92      | 13.9393                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 267.547            | 430.504              | 523.718                  | 0                   | 523.718                       | 590.124                    | 590.124                         |
| 9            | 1.93887    | 1272.12      | 14.6113                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 292.916            | 471.326              | 579.907                  | 0                   | 579.907                       | 656.268                    | 656.268                         |
| 10           | 1.93887    | 1394.43      | 15.2854                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 316.795            | 509.748              | 632.79                   | 0                   | 632.79                        | 719.369                    | 719.369                         |
| 11           | 1.93887    | 1510.78      | 15.9617                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 339.188            | 545.78               | 682.386                  | 0                   | 682.386                       | 779.401                    | 779.401                         |
| 12           | 1.93887    | 1621.13      | 16.6402                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 360.103            | 579.434              | 728.702                  | 0                   | 728.702                       | 836.328                    | 836.328                         |
| 13           | 1.93887    | 1725.4       | 17.3212                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 379.544            | 610.717              | 771.759                  | 0                   | 771.759                       | 890.128                    | 890.128                         |
| 14           | 1.93887    | 1823.53      | 18.0047                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 397.517            | 639.637              | 811.566                  | 0                   | 811.566                       | 940.764                    | 940.764                         |
| 15           | 1.93887    | 1915.45      | 18.6909                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 414.026            | 666.201              | 848.128                  | 0                   | 848.128                       | 988.195                    | 988.195                         |
| 16           | 1.93887    | 2001.08      | 19.3798                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 429.073            | 690.412              | 881.453                  | 0                   | 881.453                       | 1032.38                    | 1032.38                         |
| 17           | 1.93887    | 2080.35      | 20.0717                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 442.661            | 712.277              | 911.546                  | 0                   | 911.546                       | 1073.29                    | 1073.29                         |
| 18           | 1.93887    | 2153.18      | 20.7666                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 454.793            | 731.798              | 938.414                  | 0                   | 938.414                       | 1110.87                    | 1110.87                         |
| 19           | 1.93887    | 2219.47      | 21.4648                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 465.468            | 748.976              | 962.06                   | 0                   | 962.06                        | 1145.08                    | 1145.08                         |
| 20           | 1.93887    | 2279.13      | 22.1663                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 474.69             | 763.814              | 982.48                   | 0                   | 982.48                        | 1175.87                    | 1175.87                         |
| 21           | 1.93887    | 2332.07      | 22.8714                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 482.457            | 776.312              | 999.682                  | 0                   | 999.682                       | 1203.2                     | 1203.2                          |
| 22           | 1.93887    | 2378.18      | 23.5801                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 488.768            | 786.467              | 1013.66                  | 0                   | 1013.66                       | 1227                       | 1227                            |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.93887 | 2417.35 | 24.2926 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 493.623 | 794.279 | 1024.41 | 0 | 1024.41 | 1247.22 | 1247.22 |
| 24 | 1.93887 | 2449.46 | 25.0092 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 497.019 | 799.744 | 1031.94 | 0 | 1031.94 | 1263.8  | 1263.8  |
| 25 | 1.93887 | 2474.39 | 25.73   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 498.955 | 802.858 | 1036.22 | 0 | 1036.22 | 1276.67 | 1276.67 |
| 26 | 1.93887 | 2492.02 | 26.4552 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 499.426 | 803.616 | 1037.26 | 0 | 1037.26 | 1285.78 | 1285.78 |
| 27 | 1.93887 | 2502.2  | 27.185  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 498.428 | 802.011 | 1035.05 | 0 | 1035.05 | 1291.04 | 1291.04 |
| 28 | 1.93887 | 2504.8  | 27.9196 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 495.958 | 798.036 | 1029.58 | 0 | 1029.58 | 1292.4  | 1292.4  |
| 29 | 1.93887 | 2499.64 | 28.6592 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 492.01  | 791.683 | 1020.84 | 0 | 1020.84 | 1289.75 | 1289.75 |
| 30 | 1.93887 | 2486.59 | 29.4041 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 486.577 | 782.942 | 1008.81 | 0 | 1008.81 | 1283.03 | 1283.03 |
| 31 | 1.93887 | 2465.45 | 30.1545 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 479.655 | 771.803 | 993.476 | 0 | 993.476 | 1272.13 | 1272.13 |
| 32 | 1.93887 | 2436.04 | 30.9106 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 471.234 | 758.254 | 974.829 | 0 | 974.829 | 1256.98 | 1256.98 |
| 33 | 1.93887 | 2398.18 | 31.6728 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 461.308 | 742.282 | 952.845 | 0 | 952.845 | 1237.45 | 1237.45 |
| 34 | 1.93887 | 2351.65 | 32.4413 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 449.868 | 723.873 | 927.507 | 0 | 927.507 | 1213.46 | 1213.46 |
| 35 | 1.93887 | 2296.23 | 33.2163 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 436.903 | 703.012 | 898.792 | 0 | 898.792 | 1184.87 | 1184.87 |
| 36 | 1.93887 | 2231.69 | 33.9983 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 422.405 | 679.683 | 866.683 | 0 | 866.683 | 1151.58 | 1151.58 |
| 37 | 1.93887 | 2157.77 | 34.7876 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 406.361 | 653.868 | 831.152 | 0 | 831.152 | 1113.45 | 1113.45 |
| 38 | 1.93887 | 2074.2  | 35.5845 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 388.762 | 625.549 | 792.173 | 0 | 792.173 | 1070.34 | 1070.34 |
| 39 | 1.93887 | 1980.7  | 36.3894 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 369.594 | 594.707 | 749.726 | 0 | 749.726 | 1022.11 | 1022.11 |
| 40 | 1.93887 | 1876.96 | 37.2028 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 348.845 | 561.32  | 703.77  | 0 | 703.77  | 968.585 | 968.585 |
| 41 | 1.93887 | 1762.64 | 38.025  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 326.501 | 525.367 | 654.285 | 0 | 654.285 | 909.606 | 909.606 |
| 42 | 1.93887 | 1637.39 | 38.8565 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.549 | 486.825 | 601.237 | 0 | 601.237 | 844.985 | 844.985 |
| 43 | 1.93887 | 1500.83 | 39.6979 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 276.972 | 445.67  | 544.593 | 0 | 544.593 | 774.523 | 774.523 |
| 44 | 1.93887 | 1352.53 | 40.5497 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 249.756 | 401.877 | 484.318 | 0 | 484.318 | 698.005 | 698.005 |
| 45 | 1.93887 | 1192.05 | 41.4124 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 220.884 | 355.42  | 420.374 | 0 | 420.374 | 615.195 | 615.195 |
| 46 | 1.93887 | 1018.9  | 42.2868 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 190.341 | 306.274 | 352.731 | 0 | 352.731 | 525.848 | 525.848 |
| 47 | 1.93887 | 832.545 | 43.1735 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 158.11  | 254.412 | 281.348 | 0 | 281.348 | 429.686 | 429.686 |



|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 1.93887 | 631.682 | 44.0733 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 124.055 | 199.615 | 205.928  | 0 | 205.928  | 326.033 | 326.033 |
| 49 | 1.93887 | 398.932 | 44.9869 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 85.4757 | 137.537 | 120.485  | 0 | 120.485  | 205.921 | 205.921 |
| 50 | 1.89031 | 134.133 | 45.9036 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 85.1087 | 136.947 | -16.7075 | 0 | -16.7075 | 71.1288 | 71.1288 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.56427

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.9273     | 109.366      | 3.21574                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 56.8379            | 88.9098              | 53.5548                  | 0                   | 53.5548                       | 56.7482                    | 56.7482                         |
| 2            | 1.9273     | 324.578      | 4.08061                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 106.653            | 166.834              | 160.808                  | 0                   | 160.808                       | 168.417                    | 168.417                         |
| 3            | 1.9273     | 532.742      | 4.94641                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 154.158            | 241.145              | 263.088                  | 0                   | 263.088                       | 276.43                     | 276.43                          |
| 4            | 1.9273     | 733.832      | 5.81334                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 199.389            | 311.899              | 360.473                  | 0                   | 360.473                       | 380.773                    | 380.773                         |
| 5            | 1.9273     | 927.818      | 6.68162                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 242.381            | 379.15               | 453.036                  | 0                   | 453.036                       | 481.431                    | 481.431                         |
| 6            | 1.9273     | 1114.66      | 7.55144                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 283.166            | 442.948              | 540.845                  | 0                   | 540.845                       | 578.383                    | 578.383                         |
| 7            | 1.9273     | 1294.33      | 8.42301                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 321.772            | 503.339              | 623.965                  | 0                   | 623.965                       | 671.612                    | 671.612                         |
| 8            | 1.9273     | 1466.77      | 9.29655                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 358.227            | 560.364              | 702.455                  | 0                   | 702.455                       | 761.095                    | 761.095                         |
| 9            | 1.9273     | 1631.93      | 10.1723                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 392.554            | 614.061              | 776.363                  | 0                   | 776.363                       | 846.799                    | 846.799                         |
| 10           | 1.9273     | 1789.75      | 11.0504                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 424.778            | 664.467              | 845.741                  | 0                   | 845.741                       | 928.698                    | 928.698                         |
| 11           | 1.9273     | 1940.18      | 11.9312                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 454.918            | 711.614              | 910.635                  | 0                   | 910.635                       | 1006.76                    | 1006.76                         |
| 12           | 1.9273     | 2083.13      | 12.8148                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 482.992            | 755.53               | 971.08                   | 0                   | 971.08                        | 1080.94                    | 1080.94                         |
| 13           | 1.9273     | 2218.54      | 13.7016                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 509.018            | 796.242              | 1027.11                  | 0                   | 1027.11                       | 1151.21                    | 1151.21                         |
| 14           | 1.9273     | 2346.33      | 14.5917                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 533.011            | 833.773              | 1078.77                  | 0                   | 1078.77                       | 1217.53                    | 1217.53                         |
| 15           | 1.9273     | 2466.39      | 15.4854                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 554.983            | 868.143              | 1126.08                  | 0                   | 1126.08                       | 1279.84                    | 1279.84                         |
| 16           | 1.9273     | 2578.64      | 16.383                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 574.946            | 899.37               | 1169.06                  | 0                   | 1169.06                       | 1338.09                    | 1338.09                         |
| 17           | 1.9273     | 2682.96      | 17.2848                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 592.909            | 927.469              | 1207.73                  | 0                   | 1207.73                       | 1392.23                    | 1392.23                         |
| 18           | 1.9273     | 2779.25      | 18.191                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 608.88             | 952.453              | 1242.12                  | 0                   | 1242.12                       | 1442.2                     | 1442.2                          |
| 19           | 1.9273     | 2867.38      | 19.102                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 622.866            | 974.331              | 1272.23                  | 0                   | 1272.23                       | 1487.94                    | 1487.94                         |
| 20           | 1.9273     | 2947.22      | 20.0179                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 634.872            | 993.111              | 1298.08                  | 0                   | 1298.08                       | 1529.38                    | 1529.38                         |
| 21           | 1.9273     | 3018.62      | 20.9393                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 644.9              | 1008.8               | 1319.67                  | 0                   | 1319.67                       | 1566.44                    | 1566.44                         |
| 22           | 1.9273     | 3081.44      | 21.8664                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 652.952            | 1021.39              | 1337.01                  | 0                   | 1337.01                       | 1599.04                    | 1599.04                         |
| 23           | 1.9273     | 3135.51      | 22.7995                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 659.027            | 1030.9               | 1350.09                  | 0                   | 1350.09                       | 1627.11                    | 1627.11                         |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.9273 | 3180.64 | 23.739  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 663.125 | 1037.31 | 1358.91 | 0 | 1358.91 | 1650.54 | 1650.54 |
| 25 | 1.9273 | 3216.65 | 24.6854 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 665.241 | 1040.62 | 1363.46 | 0 | 1363.46 | 1669.24 | 1669.24 |
| 26 | 1.9273 | 3243.34 | 25.639  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 665.37  | 1040.82 | 1363.74 | 0 | 1363.74 | 1683.09 | 1683.09 |
| 27 | 1.9273 | 3260.48 | 26.6004 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 663.506 | 1037.9  | 1359.73 | 0 | 1359.73 | 1691.99 | 1691.99 |
| 28 | 1.9273 | 3267.82 | 27.5698 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 659.641 | 1031.86 | 1351.41 | 0 | 1351.41 | 1695.82 | 1695.82 |
| 29 | 1.9273 | 3265.13 | 28.5479 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 653.764 | 1022.66 | 1338.76 | 0 | 1338.76 | 1694.43 | 1694.43 |
| 30 | 1.9273 | 3252.11 | 29.5352 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 645.864 | 1010.3  | 1321.75 | 0 | 1321.75 | 1687.68 | 1687.68 |
| 31 | 1.9273 | 3228.47 | 30.5322 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 635.926 | 994.76  | 1300.35 | 0 | 1300.35 | 1675.42 | 1675.42 |
| 32 | 1.9273 | 3193.87 | 31.5396 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 623.937 | 976.006 | 1274.54 | 0 | 1274.54 | 1657.48 | 1657.48 |
| 33 | 1.9273 | 3147.98 | 32.5579 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 609.878 | 954.014 | 1244.27 | 0 | 1244.27 | 1633.67 | 1633.67 |
| 34 | 1.9273 | 3090.39 | 33.588  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 593.731 | 928.755 | 1209.5  | 0 | 1209.5  | 1603.8  | 1603.8  |
| 35 | 1.9273 | 3020.7  | 34.6305 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 575.474 | 900.196 | 1170.19 | 0 | 1170.19 | 1567.64 | 1567.64 |
| 36 | 1.9273 | 2938.45 | 35.6863 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 555.084 | 868.301 | 1126.29 | 0 | 1126.29 | 1524.96 | 1524.96 |
| 37 | 1.9273 | 2843.13 | 36.7562 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 532.537 | 833.032 | 1077.75 | 0 | 1077.75 | 1475.5  | 1475.5  |
| 38 | 1.9273 | 2734.21 | 37.8413 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 507.806 | 794.346 | 1024.5  | 0 | 1024.5  | 1418.99 | 1418.99 |
| 39 | 1.9273 | 2611.07 | 38.9426 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 480.861 | 752.197 | 966.491 | 0 | 966.491 | 1355.09 | 1355.09 |
| 40 | 1.9273 | 2473.05 | 40.0613 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 451.673 | 706.538 | 903.647 | 0 | 903.647 | 1283.47 | 1283.47 |
| 41 | 1.9273 | 2319.42 | 41.1987 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 420.206 | 657.316 | 835.898 | 0 | 835.898 | 1203.74 | 1203.74 |
| 42 | 1.9273 | 2149.34 | 42.3563 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 386.428 | 604.478 | 763.172 | 0 | 763.172 | 1115.49 | 1115.49 |
| 43 | 1.9273 | 1961.92 | 43.5355 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 350.301 | 547.965 | 685.392 | 0 | 685.392 | 1018.23 | 1018.23 |
| 44 | 1.9273 | 1756.11 | 44.7383 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 311.788 | 487.72  | 602.469 | 0 | 602.469 | 911.422 | 911.422 |
| 45 | 1.9273 | 1530.76 | 45.9667 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 270.849 | 423.681 | 514.327 | 0 | 514.327 | 794.473 | 794.473 |
| 46 | 1.9273 | 1284.55 | 47.223  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 227.445 | 355.786 | 420.878 | 0 | 420.878 | 666.695 | 666.695 |
| 47 | 1.9273 | 1015.96 | 48.5099 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 181.54  | 283.977 | 322.041 | 0 | 322.041 | 527.306 | 527.306 |
| 48 | 1.9273 | 723.273 | 49.8303 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 133.095 | 208.196 | 217.738 | 0 | 217.738 | 375.403 | 375.403 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 1.9273  | 392.467 | 51.1879 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 80.2457 | 125.526 | 103.953  | 0 | 103.953  | 203.715 | 203.715 |
| 50 | 1.01867 | 56.4499 | 52.2489 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 75.1398 | 117.539 | -41.5483 | 0 | -41.5483 | 55.4925 | 55.4925 |

## **Cross Section HH-HH' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.00487**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.01112    | 92.4647      | 9.17367                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 74.2839            | 74.6457              | 33.9219                  | 0                   | 33.9219                       | 45.9183                    | 45.9183                         |
| 2            | 2.01112    | 274.368      | 9.84087                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 131.787            | 132.429              | 113.453                  | 0                   | 113.453                       | 136.314                    | 136.314                         |
| 3            | 2.01112    | 450.2        | 10.5094                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 186.477            | 187.385              | 189.094                  | 0                   | 189.094                       | 223.687                    | 223.687                         |
| 4            | 2.01112    | 619.923      | 11.1794                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 238.396            | 239.557              | 260.903                  | 0                   | 260.903                       | 308.018                    | 308.018                         |
| 5            | 2.01112    | 783.496      | 11.851                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 287.588            | 288.989              | 328.94                   | 0                   | 328.94                        | 389.287                    | 389.287                         |
| 6            | 2.01112    | 940.874      | 12.5242                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 334.093            | 335.72               | 393.26                   | 0                   | 393.26                        | 467.474                    | 467.474                         |
| 7            | 2.01112    | 1092.01      | 13.1991                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 377.946            | 379.787              | 453.913                  | 0                   | 453.913                       | 542.554                    | 542.554                         |
| 8            | 2.01112    | 1236.85      | 13.876                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 419.186            | 421.227              | 510.949                  | 0                   | 510.949                       | 614.501                    | 614.501                         |
| 9            | 2.01112    | 1375.35      | 14.5548                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 457.845            | 460.075              | 564.418                  | 0                   | 564.418                       | 683.292                    | 683.292                         |
| 10           | 2.01112    | 1507.44      | 15.2357                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 493.955            | 496.361              | 614.365                  | 0                   | 614.365                       | 748.9                      | 748.9                           |
| 11           | 2.01112    | 1633.07      | 15.9188                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 527.548            | 530.117              | 660.822                  | 0                   | 660.822                       | 811.285                    | 811.285                         |
| 12           | 2.01112    | 1752.17      | 16.6043                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 558.65             | 561.371              | 703.84                   | 0                   | 703.84                        | 870.426                    | 870.426                         |
| 13           | 2.01112    | 1864.67      | 17.2922                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 587.291            | 590.151              | 743.456                  | 0                   | 743.456                       | 926.289                    | 926.289                         |
| 14           | 2.01112    | 1970.5       | 17.9827                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 613.496            | 616.484              | 779.697                  | 0                   | 779.697                       | 978.829                    | 978.829                         |
| 15           | 2.01112    | 2069.58      | 18.6759                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 637.288            | 640.392              | 812.604                  | 0                   | 812.604                       | 1028.02                    | 1028.02                         |
| 16           | 2.01112    | 2161.82      | 19.372                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 658.692            | 661.9                | 842.208                  | 0                   | 842.208                       | 1073.81                    | 1073.81                         |
| 17           | 2.01112    | 2247.16      | 20.071                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 677.727            | 681.028              | 868.535                  | 0                   | 868.535                       | 1116.16                    | 1116.16                         |
| 18           | 2.01112    | 2325.48      | 20.7732                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 694.415            | 697.797              | 891.615                  | 0                   | 891.615                       | 1155.03                    | 1155.03                         |
| 19           | 2.01112    | 2396.7       | 21.4786                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 708.775            | 712.227              | 911.476                  | 0                   | 911.476                       | 1190.36                    | 1190.36                         |
| 20           | 2.01112    | 2460.71      | 22.1875                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 720.825            | 724.335              | 928.144                  | 0                   | 928.144                       | 1222.12                    | 1222.12                         |
| 21           | 2.01112    | 2517.41      | 22.9                      | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 730.579            | 734.137              | 941.637                  | 0                   | 941.637                       | 1250.25                    | 1250.25                         |
| 22           | 2.01112    | 2566.68      | 23.6162                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 738.056            | 741.65               | 951.976                  | 0                   | 951.976                       | 1274.67                    | 1274.67                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.01112 | 2608.4  | 24.3364 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 743.268 | 746.888 | 959.183 | 0 | 959.183 | 1295.35 | 1295.35 |
| 24 | 2.01112 | 2642.44 | 25.0607 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 746.23  | 749.864 | 963.279 | 0 | 963.279 | 1312.21 | 1312.21 |
| 25 | 2.01112 | 2668.67 | 25.7893 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 746.953 | 750.591 | 964.279 | 0 | 964.279 | 1325.2  | 1325.2  |
| 26 | 2.01112 | 2686.94 | 26.5224 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 745.449 | 749.079 | 962.198 | 0 | 962.198 | 1334.23 | 1334.23 |
| 27 | 2.01112 | 2697.11 | 27.2603 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 741.728 | 745.34  | 957.053 | 0 | 957.053 | 1339.24 | 1339.24 |
| 28 | 2.01112 | 2699.01 | 28.003  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 735.8   | 739.383 | 948.854 | 0 | 948.854 | 1340.14 | 1340.14 |
| 29 | 2.01112 | 2692.47 | 28.7509 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 727.673 | 731.217 | 937.614 | 0 | 937.614 | 1336.84 | 1336.84 |
| 30 | 2.01112 | 2677.31 | 29.5042 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 717.356 | 720.85  | 923.344 | 0 | 923.344 | 1329.27 | 1329.27 |
| 31 | 2.01112 | 2653.34 | 30.2632 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 704.855 | 708.288 | 906.056 | 0 | 906.056 | 1317.33 | 1317.33 |
| 32 | 2.01112 | 2620.36 | 31.0281 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 690.176 | 693.537 | 885.752 | 0 | 885.752 | 1300.91 | 1300.91 |
| 33 | 2.01112 | 2578.15 | 31.7991 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 673.326 | 676.605 | 862.447 | 0 | 862.447 | 1279.91 | 1279.91 |
| 34 | 2.01112 | 2526.47 | 32.5767 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 654.308 | 657.494 | 836.143 | 0 | 836.143 | 1254.21 | 1254.21 |
| 35 | 2.01112 | 2465.09 | 33.361  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 633.127 | 636.21  | 806.848 | 0 | 806.848 | 1223.7  | 1223.7  |
| 36 | 2.01112 | 2393.75 | 34.1525 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 609.786 | 612.756 | 774.567 | 0 | 774.567 | 1188.24 | 1188.24 |
| 37 | 2.01112 | 2312.15 | 34.9515 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 584.291 | 587.136 | 739.304 | 0 | 739.304 | 1147.69 | 1147.69 |
| 38 | 2.01112 | 2220    | 35.7584 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 556.641 | 559.352 | 701.062 | 0 | 701.062 | 1101.91 | 1101.91 |
| 39 | 2.01112 | 2116.99 | 36.5735 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 526.841 | 529.407 | 659.846 | 0 | 659.846 | 1050.74 | 1050.74 |
| 40 | 2.01112 | 2002.75 | 37.3973 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 494.893 | 497.303 | 615.658 | 0 | 615.658 | 993.996 | 993.996 |
| 41 | 2.01112 | 1876.94 | 38.2303 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 460.798 | 463.042 | 568.504 | 0 | 568.504 | 931.511 | 931.511 |
| 42 | 2.01112 | 1739.14 | 39.0729 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 424.559 | 426.627 | 518.382 | 0 | 518.382 | 863.079 | 863.079 |
| 43 | 2.01112 | 1588.92 | 39.9258 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 386.18  | 388.061 | 465.299 | 0 | 465.299 | 788.491 | 788.491 |
| 44 | 2.01112 | 1425.82 | 40.7893 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 345.662 | 347.345 | 409.259 | 0 | 409.259 | 707.514 | 707.514 |
| 45 | 2.01112 | 1249.33 | 41.6643 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 303.008 | 304.484 | 350.267 | 0 | 350.267 | 619.9   | 619.9   |
| 46 | 2.01112 | 1058.91 | 42.5513 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.225 | 259.483 | 288.328 | 0 | 288.328 | 525.374 | 525.374 |
| 47 | 2.01112 | 841.509 | 43.4512 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 208.667 | 209.683 | 219.785 | 0 | 219.785 | 417.465 | 417.465 |

|    |         |         |         |                                            |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|--------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 2.01112 | 593.822 | 44.3646 | MD-D<br>SAND/Silty SAND                    | 50  | 36 | 153.89  | 154.639 | 144.023  | 0 | 144.023  | 294.536 | 294.536 |
| 49 | 1.57689 | 276.205 | 45.1909 | MD-VD<br>Silty SAND/Silty SAND with gravel | 150 | 38 | 159.786 | 160.564 | 13.5209  | 0 | 13.5209  | 174.375 | 174.375 |
| 50 | 1.57689 | 93.4818 | 45.9278 | MD-VD<br>Silty SAND/Silty SAND with gravel | 150 | 38 | 108.115 | 108.642 | -52.9362 | 0 | -52.9362 | 58.7384 | 58.7384 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.973997

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.9597     | 113.566      | 3.09859                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 90.8969            | 88.5333              | 53.0367                  | 0                   | 53.0367                       | 57.9572                    | 57.9572                         |
| 2            | 1.9597     | 337.086      | 3.95715                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 170.839            | 166.397              | 160.207                  | 0                   | 160.207                       | 172.025                    | 172.025                         |
| 3            | 1.9597     | 553.375      | 4.8166                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 246.498            | 240.088              | 261.634                  | 0                   | 261.634                       | 282.405                    | 282.405                         |
| 4            | 1.9597     | 762.407      | 5.67713                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 317.989            | 309.72               | 357.473                  | 0                   | 357.473                       | 389.084                    | 389.084                         |
| 5            | 1.9597     | 964.151      | 6.53895                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 385.418            | 375.396              | 447.869                  | 0                   | 447.869                       | 492.048                    | 492.048                         |
| 6            | 1.9597     | 1158.57      | 7.40227                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 448.889            | 437.217              | 532.956                  | 0                   | 532.956                       | 591.275                    | 591.275                         |
| 7            | 1.9597     | 1345.63      | 8.26727                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 508.494            | 495.272              | 612.864                  | 0                   | 612.864                       | 686.749                    | 686.749                         |
| 8            | 1.9597     | 1525.28      | 9.13418                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 564.323            | 549.649              | 687.709                  | 0                   | 687.709                       | 778.444                    | 778.444                         |
| 9            | 1.9597     | 1697.47      | 10.0032                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 616.458            | 600.428              | 757.598                  | 0                   | 757.598                       | 866.331                    | 866.331                         |
| 10           | 1.9597     | 1862.14      | 10.8746                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 664.972            | 647.681              | 822.638                  | 0                   | 822.638                       | 950.385                    | 950.385                         |
| 11           | 1.9597     | 2019.23      | 11.7485                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 709.942            | 691.481              | 882.921                  | 0                   | 882.921                       | 1030.57                    | 1030.57                         |
| 12           | 1.9597     | 2168.66      | 12.6252                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 751.43             | 731.891              | 938.541                  | 0                   | 938.541                       | 1106.85                    | 1106.85                         |
| 13           | 1.9597     | 2310.37      | 13.5049                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 789.5              | 768.971              | 989.579                  | 0                   | 989.579                       | 1179.19                    | 1179.19                         |
| 14           | 1.9597     | 2444.27      | 14.3878                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 824.211            | 802.779              | 1036.11                  | 0                   | 1036.11                       | 1247.55                    | 1247.55                         |
| 15           | 1.9597     | 2570.27      | 15.2743                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 855.616            | 833.367              | 1078.21                  | 0                   | 1078.21                       | 1311.87                    | 1311.87                         |
| 16           | 1.9597     | 2688.26      | 16.1645                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 883.764            | 860.783              | 1115.95                  | 0                   | 1115.95                       | 1372.11                    | 1372.11                         |
| 17           | 1.9597     | 2798.16      | 17.0588                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 908.702            | 885.073              | 1149.38                  | 0                   | 1149.38                       | 1428.22                    | 1428.22                         |
| 18           | 1.9597     | 2899.83      | 17.9573                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 930.473            | 906.278              | 1178.56                  | 0                   | 1178.56                       | 1480.13                    | 1480.13                         |
| 19           | 1.9597     | 2993.16      | 18.8605                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 949.118            | 924.438              | 1203.56                  | 0                   | 1203.56                       | 1527.79                    | 1527.79                         |
| 20           | 1.9597     | 3078.02      | 19.7686                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 964.671            | 939.587              | 1224.41                  | 0                   | 1224.41                       | 1571.12                    | 1571.12                         |
| 21           | 1.9597     | 3154.26      | 20.6818                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 977.167            | 951.758              | 1241.16                  | 0                   | 1241.16                       | 1610.05                    | 1610.05                         |
| 22           | 1.9597     | 3221.73      | 21.6006                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 986.638            | 960.982              | 1253.86                  | 0                   | 1253.86                       | 1644.51                    | 1644.51                         |
| 23           | 1.9597     | 3280.27      | 22.5252                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 993.109            | 967.285              | 1262.54                  | 0                   | 1262.54                       | 1674.41                    | 1674.41                         |



|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.9597 | 3329.69 | 23.4561 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 996.607 | 970.692 | 1267.22 | 0 | 1267.22 | 1699.65 | 1699.65 |
| 25 | 1.9597 | 3369.82 | 24.3936 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 997.154 | 971.225 | 1267.96 | 0 | 1267.96 | 1720.15 | 1720.15 |
| 26 | 1.9597 | 3400.43 | 25.3381 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 994.771 | 968.904 | 1264.76 | 0 | 1264.76 | 1735.8  | 1735.8  |
| 27 | 1.9597 | 3421.32 | 26.2901 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 989.476 | 963.747 | 1257.67 | 0 | 1257.67 | 1746.48 | 1746.48 |
| 28 | 1.9597 | 3432.24 | 27.2499 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 981.284 | 955.768 | 1246.68 | 0 | 1246.68 | 1752.07 | 1752.07 |
| 29 | 1.9597 | 3432.94 | 28.2181 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 970.209 | 944.981 | 1231.84 | 0 | 1231.84 | 1752.45 | 1752.45 |
| 30 | 1.9597 | 3423.14 | 29.1951 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 956.263 | 931.397 | 1213.14 | 0 | 1213.14 | 1747.47 | 1747.47 |
| 31 | 1.9597 | 3402.54 | 30.1816 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 939.454 | 915.025 | 1190.61 | 0 | 1190.61 | 1736.98 | 1736.98 |
| 32 | 1.9597 | 3370.83 | 31.178  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 919.789 | 895.872 | 1164.24 | 0 | 1164.24 | 1720.81 | 1720.81 |
| 33 | 1.9597 | 3327.64 | 32.185  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 897.276 | 873.944 | 1134.06 | 0 | 1134.06 | 1698.78 | 1698.78 |
| 34 | 1.9597 | 3272.6  | 33.2034 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 871.915 | 849.243 | 1100.06 | 0 | 1100.06 | 1670.7  | 1670.7  |
| 35 | 1.9597 | 3205.31 | 34.2337 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 843.713 | 821.774 | 1062.26 | 0 | 1062.26 | 1636.37 | 1636.37 |
| 36 | 1.9597 | 3125.3  | 35.2767 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 812.667 | 791.535 | 1020.64 | 0 | 1020.64 | 1595.54 | 1595.54 |
| 37 | 1.9597 | 3032.08 | 36.3334 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 778.777 | 758.526 | 975.202 | 0 | 975.202 | 1547.97 | 1547.97 |
| 38 | 1.9597 | 2925.12 | 37.4046 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 742.041 | 722.746 | 925.956 | 0 | 925.956 | 1493.38 | 1493.38 |
| 39 | 1.9597 | 2803.83 | 38.4914 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 702.458 | 684.192 | 872.891 | 0 | 872.891 | 1431.48 | 1431.48 |
| 40 | 1.9597 | 2667.55 | 39.5948 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 660.024 | 642.861 | 816.003 | 0 | 816.003 | 1361.92 | 1361.92 |
| 41 | 1.9597 | 2515.57 | 40.7161 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 614.734 | 598.749 | 755.287 | 0 | 755.287 | 1284.34 | 1284.34 |
| 42 | 1.9597 | 2347.08 | 41.8567 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 566.587 | 551.854 | 690.742 | 0 | 690.742 | 1198.34 | 1198.34 |
| 43 | 1.9597 | 2161.19 | 43.0179 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 515.58  | 502.173 | 622.364 | 0 | 622.364 | 1103.45 | 1103.45 |
| 44 | 1.9597 | 1956.91 | 44.2016 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 461.712 | 449.706 | 550.149 | 0 | 550.149 | 999.169 | 999.169 |
| 45 | 1.9597 | 1733.12 | 45.4096 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 404.987 | 394.456 | 474.104 | 0 | 474.104 | 884.923 | 884.923 |
| 46 | 1.9597 | 1488.55 | 46.644  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 345.411 | 336.429 | 394.238 | 0 | 394.238 | 760.061 | 760.061 |
| 47 | 1.9597 | 1221.75 | 47.9072 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.999 | 275.64  | 310.567 | 0 | 310.567 | 623.847 | 623.847 |
| 48 | 1.9597 | 923.17  | 49.2021 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 216.16  | 210.539 | 220.963 | 0 | 220.963 | 471.406 | 471.406 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.9597  | 581.159 | 50.5319 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 143.089 | 139.368 | 123.005 | 0 | 123.005 | 296.784 | 296.784 |
| 50 | 1.92896 | 198.399 | 51.8893 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 117.009 | 113.966 | -46.121 | 0 | -46.121 | 103.049 | 103.049 |

## **Cross Section II-II' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.69753**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.3288     | 28.5303      | 8.05234                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 36.4423            | 61.8619              | 16.3264                  | 0                   | 16.3264                       | 21.482                     | 21.482                          |
| 2            | 1.3288     | 84.2713      | 8.72289                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 53.1174            | 90.1684              | 55.2871                  | 0                   | 55.2871                       | 63.4369                    | 63.4369                         |
| 3            | 1.3288     | 137.366      | 9.39465                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 68.8355            | 116.85               | 92.0114                  | 0                   | 92.0114                       | 103.4                      | 103.4                           |
| 4            | 1.3288     | 189.342      | 10.0677                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 84.0665            | 142.705              | 127.598                  | 0                   | 127.598                       | 142.524                    | 142.524                         |
| 5            | 1.3288     | 258.77       | 10.7422                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 104.349            | 177.135              | 174.987                  | 0                   | 174.987                       | 194.783                    | 194.783                         |
| 6            | 1.3288     | 331.711      | 11.4182                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 125.475            | 212.997              | 224.346                  | 0                   | 224.346                       | 249.687                    | 249.687                         |
| 7            | 1.3288     | 401.938      | 12.0958                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 145.592            | 247.147              | 271.349                  | 0                   | 271.349                       | 302.55                     | 302.55                          |
| 8            | 1.3288     | 469.431      | 12.7751                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 164.707            | 279.595              | 316.011                  | 0                   | 316.011                       | 353.356                    | 353.356                         |
| 9            | 1.3288     | 534.169      | 13.4562                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 182.826            | 310.352              | 358.344                  | 0                   | 358.344                       | 402.089                    | 402.089                         |
| 10           | 1.3288     | 596.129      | 14.1393                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 199.953            | 339.426              | 398.361                  | 0                   | 398.361                       | 448.732                    | 448.732                         |
| 11           | 1.3288     | 655.286      | 14.8245                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 216.093            | 366.825              | 436.073                  | 0                   | 436.073                       | 493.266                    | 493.266                         |
| 12           | 1.3288     | 711.614      | 15.5118                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 231.251            | 392.556              | 471.488                  | 0                   | 471.488                       | 535.671                    | 535.671                         |
| 13           | 1.3288     | 765.085      | 16.2014                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 245.43             | 416.625              | 504.616                  | 0                   | 504.616                       | 575.927                    | 575.927                         |
| 14           | 1.3288     | 815.67       | 16.8935                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 258.633            | 439.038              | 535.465                  | 0                   | 535.465                       | 614.012                    | 614.012                         |
| 15           | 1.3288     | 863.338      | 17.5881                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 270.864            | 459.799              | 564.04                   | 0                   | 564.04                        | 649.901                    | 649.901                         |
| 16           | 1.3288     | 908.056      | 18.2854                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 282.122            | 478.911              | 590.346                  | 0                   | 590.346                       | 683.569                    | 683.569                         |
| 17           | 1.3288     | 949.788      | 18.9854                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 292.413            | 496.379              | 614.388                  | 0                   | 614.388                       | 714.99                     | 714.99                          |
| 18           | 1.3288     | 988.497      | 19.6885                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 301.735            | 512.204              | 636.169                  | 0                   | 636.169                       | 744.138                    | 744.138                         |
| 19           | 1.3288     | 1024.14      | 20.3946                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 310.091            | 526.388              | 655.692                  | 0                   | 655.692                       | 770.98                     | 770.98                          |
| 20           | 1.3288     | 1056.69      | 21.104                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 317.48             | 538.931              | 672.956                  | 0                   | 672.956                       | 795.487                    | 795.487                         |
| 21           | 1.3288     | 1086.08      | 21.8168                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 323.902            | 549.834              | 687.962                  | 0                   | 687.962                       | 817.625                    | 817.625                         |
| 22           | 1.3288     | 1112.28      | 22.5332                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 329.359            | 559.096              | 700.709                  | 0                   | 700.709                       | 837.357                    | 837.357                         |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.3288 | 1135.24 | 23.2533 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 333.846 | 566.714 | 711.194 | 0 | 711.194 | 854.649 | 854.649 |
| 24 | 1.3288 | 1154.91 | 23.9773 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 337.365 | 572.687 | 719.419 | 0 | 719.419 | 869.464 | 869.464 |
| 25 | 1.3288 | 1171.22 | 24.7055 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 339.913 | 577.012 | 725.373 | 0 | 725.373 | 881.754 | 881.754 |
| 26 | 1.3288 | 1184.12 | 25.4379 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 341.487 | 579.685 | 729.047 | 0 | 729.047 | 891.473 | 891.473 |
| 27 | 1.3288 | 1193.55 | 26.1747 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 342.086 | 580.701 | 730.45  | 0 | 730.45  | 898.59  | 898.59  |
| 28 | 1.3288 | 1199.45 | 26.9163 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 341.705 | 580.054 | 729.56  | 0 | 729.56  | 903.039 | 903.039 |
| 29 | 1.3288 | 1201.74 | 27.6628 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 340.341 | 577.739 | 726.372 | 0 | 726.372 | 904.773 | 904.773 |
| 30 | 1.3288 | 1200.35 | 28.4144 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 337.99  | 573.748 | 720.878 | 0 | 720.878 | 903.739 | 903.739 |
| 31 | 1.3288 | 1195.21 | 29.1714 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 334.647 | 568.073 | 713.067 | 0 | 713.067 | 899.876 | 899.876 |
| 32 | 1.3288 | 1186.23 | 29.934  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 330.306 | 560.705 | 702.926 | 0 | 702.926 | 893.121 | 893.121 |
| 33 | 1.3288 | 1173.31 | 30.7025 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 324.963 | 551.635 | 690.439 | 0 | 690.439 | 883.407 | 883.407 |
| 34 | 1.3288 | 1156.38 | 31.4771 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 318.612 | 540.853 | 675.603 | 0 | 675.603 | 870.674 | 870.674 |
| 35 | 1.3288 | 1135.33 | 32.2583 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 311.244 | 528.346 | 658.389 | 0 | 658.389 | 854.832 | 854.832 |
| 36 | 1.3288 | 1110.05 | 33.0462 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.854 | 514.104 | 638.785 | 0 | 638.785 | 835.808 | 835.808 |
| 37 | 1.3288 | 1080.43 | 33.8412 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 293.433 | 498.112 | 616.772 | 0 | 616.772 | 813.515 | 813.515 |
| 38 | 1.3288 | 1046.35 | 34.6437 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.973 | 480.356 | 592.334 | 0 | 592.334 | 787.864 | 787.864 |
| 39 | 1.3288 | 1007.67 | 35.4541 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 271.466 | 460.822 | 565.448 | 0 | 565.448 | 758.755 | 758.755 |
| 40 | 1.3288 | 964.27  | 36.2727 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.902 | 439.494 | 536.092 | 0 | 536.092 | 726.085 | 726.085 |
| 41 | 1.3288 | 915.988 | 37.1    | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 245.271 | 416.355 | 504.244 | 0 | 504.244 | 689.74  | 689.74  |
| 42 | 1.3288 | 862.668 | 37.9364 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 230.563 | 391.387 | 469.879 | 0 | 469.879 | 649.602 | 649.602 |
| 43 | 1.3288 | 804.137 | 38.7824 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 214.766 | 364.571 | 432.97  | 0 | 432.97  | 605.537 | 605.537 |
| 44 | 1.3288 | 740.208 | 39.6386 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 197.869 | 335.889 | 393.492 | 0 | 393.492 | 557.408 | 557.408 |
| 45 | 1.3288 | 670.68  | 40.5056 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 179.861 | 305.319 | 351.416 | 0 | 351.416 | 505.062 | 505.062 |
| 46 | 1.3288 | 595.335 | 41.3839 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 160.728 | 272.841 | 306.714 | 0 | 306.714 | 448.334 | 448.334 |
| 47 | 1.3288 | 510.152 | 42.2742 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 139.58  | 236.942 | 257.303 | 0 | 257.303 | 384.197 | 384.197 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 1.3288  | 389.077 | 43.1773 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 110.496 | 187.57  | 189.349  | 0 | 189.349  | 293.029 | 293.029 |
| 49 | 1.3288  | 255.12  | 44.094  | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 78.9574 | 134.033 | 115.661  | 0 | 115.661  | 192.16  | 192.16  |
| 50 | 1.60852 | 112.853 | 45.1249 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 82.5695 | 140.164 | -12.5892 | 0 | -12.5892 | 70.3411 | 70.3411 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.63381

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material        | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.29746    | 37.9808      | 2.23387                   | MD-D SAND/Silty SAND | 50                  | 36                        | 42.8781            | 70.0547              | 27.6029                  | 0                   | 27.6029                       | 29.2755                    | 29.2755                         |
| 2            | 1.29746    | 112.325      | 3.11294                   | MD-D SAND/Silty SAND | 50                  | 36                        | 67.472             | 110.237              | 82.9083                  | 0                   | 82.9083                       | 86.5777                    | 86.5777                         |
| 3            | 1.29746    | 183.429      | 3.99275                   | MD-D SAND/Silty SAND | 50                  | 36                        | 90.6616            | 148.124              | 135.056                  | 0                   | 135.056                       | 141.384                    | 141.384                         |
| 4            | 1.29746    | 253.184      | 4.87351                   | MD-D SAND/Silty SAND | 50                  | 36                        | 113.097            | 184.779              | 185.508                  | 0                   | 185.508                       | 195.151                    | 195.151                         |
| 5            | 1.29746    | 339.218      | 5.75542                   | MD-D SAND/Silty SAND | 50                  | 36                        | 140.575            | 229.673              | 247.298                  | 0                   | 247.298                       | 261.467                    | 261.467                         |
| 6            | 1.29746    | 427.118      | 6.6387                    | MD-D SAND/Silty SAND | 50                  | 36                        | 168.296            | 274.963              | 309.635                  | 0                   | 309.635                       | 329.222                    | 329.222                         |
| 7            | 1.29746    | 511.726      | 7.52357                   | MD-D SAND/Silty SAND | 50                  | 36                        | 194.581            | 317.908              | 368.744                  | 0                   | 368.744                       | 394.442                    | 394.442                         |
| 8            | 1.29746    | 593.025      | 8.41025                   | MD-D SAND/Silty SAND | 50                  | 36                        | 219.448            | 358.537              | 424.665                  | 0                   | 424.665                       | 457.111                    | 457.111                         |
| 9            | 1.29746    | 670.992      | 9.29896                   | MD-D SAND/Silty SAND | 50                  | 36                        | 242.916            | 396.879              | 477.438                  | 0                   | 477.438                       | 517.213                    | 517.213                         |
| 10           | 1.29746    | 745.603      | 10.1899                   | MD-D SAND/Silty SAND | 50                  | 36                        | 264.999            | 432.958              | 527.097                  | 0                   | 527.097                       | 574.729                    | 574.729                         |
| 11           | 1.29746    | 816.831      | 11.0834                   | MD-D SAND/Silty SAND | 50                  | 36                        | 285.71             | 466.796              | 573.67                   | 0                   | 573.67                        | 629.638                    | 629.638                         |
| 12           | 1.29746    | 884.647      | 11.9796                   | MD-D SAND/Silty SAND | 50                  | 36                        | 305.062            | 498.414              | 617.189                  | 0                   | 617.189                       | 681.918                    | 681.918                         |
| 13           | 1.29746    | 949.016      | 12.8788                   | MD-D SAND/Silty SAND | 50                  | 36                        | 323.067            | 527.83               | 657.676                  | 0                   | 657.676                       | 731.543                    | 731.543                         |
| 14           | 1.29746    | 1009.9       | 13.7813                   | MD-D SAND/Silty SAND | 50                  | 36                        | 339.734            | 555.06               | 695.155                  | 0                   | 695.155                       | 778.484                    | 778.484                         |
| 15           | 1.29746    | 1067.27      | 14.6872                   | MD-D SAND/Silty SAND | 50                  | 36                        | 355.071            | 580.119              | 729.645                  | 0                   | 729.645                       | 822.712                    | 822.712                         |
| 16           | 1.29746    | 1121.07      | 15.5969                   | MD-D SAND/Silty SAND | 50                  | 36                        | 369.087            | 603.018              | 761.161                  | 0                   | 761.161                       | 864.19                     | 864.19                          |
| 17           | 1.29746    | 1171.27      | 16.5107                   | MD-D SAND/Silty SAND | 50                  | 36                        | 381.788            | 623.769              | 789.724                  | 0                   | 789.724                       | 902.892                    | 902.892                         |
| 18           | 1.29746    | 1217.8       | 17.4288                   | MD-D SAND/Silty SAND | 50                  | 36                        | 393.179            | 642.38               | 815.345                  | 0                   | 815.345                       | 938.776                    | 938.776                         |
| 19           | 1.29746    | 1260.62      | 18.3515                   | MD-D SAND/Silty SAND | 50                  | 36                        | 403.264            | 658.857              | 838.023                  | 0                   | 838.023                       | 971.792                    | 971.792                         |
| 20           | 1.29746    | 1299.67      | 19.2792                   | MD-D SAND/Silty SAND | 50                  | 36                        | 412.047            | 673.206              | 857.769                  | 0                   | 857.769                       | 1001.9                     | 1001.9                          |
| 21           | 1.29746    | 1334.88      | 20.2122                   | MD-D SAND/Silty SAND | 50                  | 36                        | 419.529            | 685.43               | 874.591                  | 0                   | 874.591                       | 1029.05                    | 1029.05                         |
| 22           | 1.29746    | 1366.19      | 21.1508                   | MD-D SAND/Silty SAND | 50                  | 36                        | 425.71             | 695.529              | 888.492                  | 0                   | 888.492                       | 1053.19                    | 1053.19                         |
| 23           | 1.29746    | 1393.52      | 22.0954                   | MD-D SAND/Silty SAND | 50                  | 36                        | 430.591            | 703.504              | 899.472                  | 0                   | 899.472                       | 1074.28                    | 1074.28                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.29746 | 1416.8  | 23.0464 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 434.17  | 709.352 | 907.522 | 0 | 907.522 | 1092.23 | 1092.23 |
| 25 | 1.29746 | 1435.93 | 24.0041 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 436.445 | 713.069 | 912.637 | 0 | 912.637 | 1106.99 | 1106.99 |
| 26 | 1.29746 | 1450.84 | 24.9691 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 437.413 | 714.649 | 914.809 | 0 | 914.809 | 1118.49 | 1118.49 |
| 27 | 1.29746 | 1461.41 | 25.9416 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 437.067 | 714.084 | 914.031 | 0 | 914.031 | 1126.65 | 1126.65 |
| 28 | 1.29746 | 1467.55 | 26.9223 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 435.403 | 711.366 | 910.294 | 0 | 910.294 | 1131.4  | 1131.4  |
| 29 | 1.29746 | 1469.14 | 27.9116 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 432.413 | 706.481 | 903.566 | 0 | 903.566 | 1132.63 | 1132.63 |
| 30 | 1.29746 | 1466.05 | 28.9099 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 428.09  | 699.417 | 893.848 | 0 | 893.848 | 1130.26 | 1130.26 |
| 31 | 1.29746 | 1458.15 | 29.918  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 422.422 | 690.158 | 881.103 | 0 | 881.103 | 1124.18 | 1124.18 |
| 32 | 1.29746 | 1445.3  | 30.9365 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 415.401 | 678.686 | 865.315 | 0 | 865.315 | 1114.29 | 1114.29 |
| 33 | 1.29746 | 1427.33 | 31.9659 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 407.013 | 664.982 | 846.449 | 0 | 846.449 | 1100.44 | 1100.44 |
| 34 | 1.29746 | 1404.08 | 33.0069 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 397.246 | 649.024 | 824.483 | 0 | 824.483 | 1082.53 | 1082.53 |
| 35 | 1.29746 | 1375.36 | 34.0604 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 386.083 | 630.787 | 799.383 | 0 | 799.383 | 1060.39 | 1060.39 |
| 36 | 1.29746 | 1340.96 | 35.1272 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 373.511 | 610.246 | 771.11  | 0 | 771.11  | 1033.88 | 1033.88 |
| 37 | 1.29746 | 1300.67 | 36.2082 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 359.51  | 587.371 | 739.626 | 0 | 739.626 | 1002.83 | 1002.83 |
| 38 | 1.29746 | 1254.23 | 37.3043 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 344.062 | 562.132 | 704.891 | 0 | 704.891 | 967.037 | 967.037 |
| 39 | 1.29746 | 1201.37 | 38.4166 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 327.146 | 534.494 | 666.85  | 0 | 666.85  | 926.297 | 926.297 |
| 40 | 1.29746 | 1141.81 | 39.5463 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.739 | 504.421 | 625.454 | 0 | 625.454 | 880.378 | 880.378 |
| 41 | 1.29746 | 1075.21 | 40.6948 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 288.819 | 471.875 | 580.661 | 0 | 580.661 | 829.039 | 829.039 |
| 42 | 1.29746 | 1001.2  | 41.8634 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 267.359 | 436.814 | 532.404 | 0 | 532.404 | 771.983 | 771.983 |
| 43 | 1.29746 | 919.368 | 43.0538 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 244.334 | 399.196 | 480.626 | 0 | 480.626 | 708.901 | 708.901 |
| 44 | 1.29746 | 829.264 | 44.2677 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 219.715 | 358.973 | 425.265 | 0 | 425.265 | 639.435 | 639.435 |
| 45 | 1.29746 | 730.364 | 45.5074 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 193.474 | 316.1   | 366.255 | 0 | 366.255 | 563.186 | 563.186 |
| 46 | 1.29746 | 622.08  | 46.7749 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 165.58  | 270.527 | 303.529 | 0 | 303.529 | 479.7   | 479.7   |
| 47 | 1.29746 | 503.738 | 48.0731 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 136.004 | 222.205 | 237.019 | 0 | 237.019 | 388.455 | 388.455 |
| 48 | 1.29746 | 370.803 | 49.4049 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 103.867 | 169.699 | 164.751 | 0 | 164.751 | 285.956 | 285.956 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 1.29746 | 197.893 | 50.7739 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 63.7495 | 104.154 | 74.5372  | 0 | 74.5372  | 152.629 | 152.629 |
| 50 | 0.66605 | 27.0748 | 51.8329 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 69.2028 | 113.064 | -47.2757 | 0 | -47.2757 | 40.7693 | 40.7693 |



## **Cross Section II-II' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.06403**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.47011    | 36.4837      | 7.40138                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 58.7285            | 62.4889              | 17.1896                  | 0                   | 17.1896                       | 24.8185                    | 24.8185                         |
| 2            | 1.47011    | 107.806      | 8.08652                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 88.4814            | 94.1469              | 60.7629                  | 0                   | 60.7629                       | 73.3345                    | 73.3345                         |
| 3            | 1.47011    | 175.83       | 8.77282                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 116.396            | 123.849              | 101.644                  | 0                   | 101.644                       | 119.607                    | 119.607                         |
| 4            | 1.47011    | 240.537      | 9.4604                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 142.503            | 151.627              | 139.877                  | 0                   | 139.877                       | 163.623                    | 163.623                         |
| 5            | 1.47011    | 301.909      | 10.1493                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 166.83             | 177.512              | 175.506                  | 0                   | 175.506                       | 205.371                    | 205.371                         |
| 6            | 1.47011    | 359.928      | 10.8398                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 189.407            | 201.535              | 208.57                   | 0                   | 208.57                        | 244.838                    | 244.838                         |
| 7            | 1.47011    | 432.086      | 11.5318                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 217.401            | 231.321              | 249.567                  | 0                   | 249.567                       | 293.923                    | 293.923                         |
| 8            | 1.47011    | 517.444      | 12.2256                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 250.303            | 266.33               | 297.753                  | 0                   | 297.753                       | 351.987                    | 351.987                         |
| 9            | 1.47011    | 599.373      | 12.9211                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 281.321            | 299.334              | 343.179                  | 0                   | 343.179                       | 407.719                    | 407.719                         |
| 10           | 1.47011    | 677.844      | 13.6187                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 310.478            | 330.358              | 385.879                  | 0                   | 385.879                       | 461.099                    | 461.099                         |
| 11           | 1.47011    | 752.828      | 14.3182                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 337.797            | 359.426              | 425.889                  | 0                   | 425.889                       | 512.107                    | 512.107                         |
| 12           | 1.47011    | 824.293      | 15.02                     | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 363.301            | 386.563              | 463.239                  | 0                   | 463.239                       | 560.721                    | 560.721                         |
| 13           | 1.47011    | 892.205      | 15.7241                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 387.009            | 411.789              | 497.959                  | 0                   | 497.959                       | 606.918                    | 606.918                         |
| 14           | 1.47011    | 956.527      | 16.4306                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 408.941            | 435.125              | 530.079                  | 0                   | 530.079                       | 650.674                    | 650.674                         |
| 15           | 1.47011    | 1017.22      | 17.1397                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 429.114            | 456.59               | 559.623                  | 0                   | 559.623                       | 691.962                    | 691.962                         |
| 16           | 1.47011    | 1074.25      | 17.8515                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 447.547            | 476.203              | 586.618                  | 0                   | 586.618                       | 730.754                    | 730.754                         |
| 17           | 1.47011    | 1127.56      | 18.5662                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 464.255            | 493.981              | 611.086                  | 0                   | 611.086                       | 767.021                    | 767.021                         |
| 18           | 1.47011    | 1177.12      | 19.2839                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 479.252            | 509.939              | 633.051                  | 0                   | 633.051                       | 800.732                    | 800.732                         |
| 19           | 1.47011    | 1222.86      | 20.0048                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 492.554            | 524.092              | 652.534                  | 0                   | 652.534                       | 831.855                    | 831.855                         |
| 20           | 1.47011    | 1264.75      | 20.7289                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 504.173            | 536.455              | 669.551                  | 0                   | 669.551                       | 860.353                    | 860.353                         |
| 21           | 1.47011    | 1302.73      | 21.4566                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 514.121            | 547.04               | 684.119                  | 0                   | 684.119                       | 886.187                    | 886.187                         |
| 22           | 1.47011    | 1336.74      | 22.1879                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 522.409            | 555.859              | 696.258                  | 0                   | 696.258                       | 909.32                     | 909.32                          |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.47011 | 1366.71 | 22.923  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 529.049 | 562.924 | 705.977 | 0 | 705.977 | 929.707 | 929.707 |
| 24 | 1.47011 | 1392.58 | 23.6621 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 534.048 | 568.243 | 713.301 | 0 | 713.301 | 947.31  | 947.31  |
| 25 | 1.47011 | 1414.29 | 24.4055 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 537.417 | 571.828 | 718.236 | 0 | 718.236 | 962.081 | 962.081 |
| 26 | 1.47011 | 1431.76 | 25.1532 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 539.162 | 573.685 | 720.793 | 0 | 720.793 | 973.966 | 973.966 |
| 27 | 1.47011 | 1444.91 | 25.9056 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 539.292 | 573.823 | 720.98  | 0 | 720.98  | 982.911 | 982.911 |
| 28 | 1.47011 | 1453.67 | 26.6628 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 537.813 | 572.249 | 718.812 | 0 | 718.812 | 988.866 | 988.866 |
| 29 | 1.47011 | 1457.94 | 27.425  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 534.729 | 568.968 | 714.297 | 0 | 714.297 | 991.77  | 991.77  |
| 30 | 1.47011 | 1457.62 | 28.1926 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 530.047 | 563.986 | 707.439 | 0 | 707.439 | 991.559 | 991.559 |
| 31 | 1.47011 | 1452.64 | 28.9657 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 523.771 | 557.308 | 698.247 | 0 | 698.247 | 988.168 | 988.168 |
| 32 | 1.47011 | 1442.87 | 29.7446 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 515.904 | 548.937 | 686.727 | 0 | 686.727 | 981.525 | 981.525 |
| 33 | 1.47011 | 1428.21 | 30.5296 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 506.449 | 538.877 | 672.884 | 0 | 672.884 | 971.558 | 971.558 |
| 34 | 1.47011 | 1408.54 | 31.321  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 495.409 | 527.13  | 656.716 | 0 | 656.716 | 958.179 | 958.179 |
| 35 | 1.47011 | 1383.73 | 32.1191 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 482.786 | 513.699 | 638.227 | 0 | 638.227 | 941.303 | 941.303 |
| 36 | 1.47011 | 1353.66 | 32.9243 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 468.581 | 498.584 | 617.42  | 0 | 617.42  | 920.841 | 920.841 |
| 37 | 1.47011 | 1318.17 | 33.7369 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 452.795 | 481.787 | 594.306 | 0 | 594.306 | 896.703 | 896.703 |
| 38 | 1.47011 | 1277.11 | 34.5572 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 435.429 | 463.309 | 568.871 | 0 | 568.871 | 868.773 | 868.773 |
| 39 | 1.47011 | 1230.32 | 35.3857 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 416.481 | 443.148 | 541.122 | 0 | 541.122 | 836.943 | 836.943 |
| 40 | 1.47011 | 1177.62 | 36.2228 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 395.952 | 421.305 | 511.058 | 0 | 511.058 | 801.093 | 801.093 |
| 41 | 1.47011 | 1118.81 | 37.069  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 373.843 | 397.78  | 478.678 | 0 | 478.678 | 761.095 | 761.095 |
| 42 | 1.47011 | 1053.71 | 37.9247 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 350.151 | 372.571 | 443.98  | 0 | 443.98  | 716.808 | 716.808 |
| 43 | 1.47011 | 982.081 | 38.7905 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 324.875 | 345.677 | 406.964 | 0 | 406.964 | 668.082 | 668.082 |
| 44 | 1.47011 | 903.688 | 39.667  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 298.015 | 317.097 | 367.627 | 0 | 367.627 | 614.754 | 614.754 |
| 45 | 1.47011 | 816.866 | 40.5547 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 269.158 | 286.392 | 325.366 | 0 | 325.366 | 555.693 | 555.693 |
| 46 | 1.47011 | 689.601 | 41.4544 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 229.123 | 243.794 | 266.734 | 0 | 266.734 | 469.12  | 469.12  |
| 47 | 1.47011 | 540.743 | 42.3667 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 183.742 | 195.507 | 200.273 | 0 | 200.273 | 367.857 | 367.857 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 1.47011 | 383.943 | 43.2925 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 137.126 | 145.906 | 132.004  | 0 | 132.004  | 261.19  | 261.19  |
| 49 | 1.21967 | 190.17  | 44.1513 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 149.156 | 158.707 | 11.1442  | 0 | 11.1442  | 155.946 | 155.946 |
| 50 | 1.21967 | 64.2653 | 44.9417 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 103.693 | 110.333 | -50.7721 | 0 | -50.7721 | 52.7099 | 52.7099 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.01933

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.37062    | 43.4385      | 1.72047                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 70.1383            | 71.4941              | 29.5841                  | 0                   | 29.5841                       | 31.6909                    | 31.6909                         |
| 2            | 1.37062    | 128.507      | 2.60159                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 112.241            | 114.411              | 88.6543                  | 0                   | 88.6543                       | 93.7543                    | 93.7543                         |
| 3            | 1.37062    | 209.956      | 3.48333                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 151.651            | 154.582              | 143.945                  | 0                   | 143.945                       | 153.176                    | 153.176                         |
| 4            | 1.37062    | 287.775      | 4.36589                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 188.44             | 192.083              | 195.561                  | 0                   | 195.561                       | 209.948                    | 209.948                         |
| 5            | 1.37062    | 361.953      | 5.2495                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 222.684            | 226.988              | 243.604                  | 0                   | 243.604                       | 264.063                    | 264.063                         |
| 6            | 1.37062    | 442.489      | 6.13435                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 259.282            | 264.294              | 294.95                   | 0                   | 294.95                        | 322.816                    | 322.816                         |
| 7            | 1.37062    | 538.532      | 7.02068                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 302.528            | 308.376              | 355.624                  | 0                   | 355.624                       | 392.881                    | 392.881                         |
| 8            | 1.37062    | 631.354      | 7.9087                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 343.351            | 349.988              | 412.899                  | 0                   | 412.899                       | 460.596                    | 460.596                         |
| 9            | 1.37062    | 720.463      | 8.79864                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.583            | 388.959              | 466.537                  | 0                   | 466.537                       | 525.6                      | 525.6                           |
| 10           | 1.37062    | 805.831      | 9.69072                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 417.279            | 425.345              | 516.618                  | 0                   | 516.618                       | 587.875                    | 587.875                         |
| 11           | 1.37062    | 887.432      | 10.5852                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 450.491            | 459.199              | 563.214                  | 0                   | 563.214                       | 647.4                      | 647.4                           |
| 12           | 1.37062    | 965.233      | 11.4823                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 481.267            | 490.57               | 606.393                  | 0                   | 606.393                       | 704.153                    | 704.153                         |
| 13           | 1.37062    | 1039.2       | 12.3822                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 509.653            | 519.505              | 646.218                  | 0                   | 646.218                       | 758.107                    | 758.107                         |
| 14           | 1.37062    | 1109.29      | 13.2853                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 535.691            | 546.046              | 682.748                  | 0                   | 682.748                       | 809.235                    | 809.235                         |
| 15           | 1.37062    | 1175.47      | 14.1917                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 559.418            | 570.232              | 716.036                  | 0                   | 716.036                       | 857.504                    | 857.504                         |
| 16           | 1.37062    | 1237.68      | 15.1018                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 580.872            | 592.1                | 746.134                  | 0                   | 746.134                       | 902.884                    | 902.884                         |
| 17           | 1.37062    | 1295.89      | 16.0158                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 600.084            | 611.684              | 773.094                  | 0                   | 773.094                       | 945.344                    | 945.344                         |
| 18           | 1.37062    | 1350.03      | 16.934                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 617.087            | 629.015              | 796.945                  | 0                   | 796.945                       | 984.83                     | 984.83                          |
| 19           | 1.37062    | 1400.05      | 17.8567                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 631.907            | 644.122              | 817.74                   | 0                   | 817.74                        | 1021.31                    | 1021.31                         |
| 20           | 1.37062    | 1445.88      | 18.7842                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 644.571            | 657.031              | 835.507                  | 0                   | 835.507                       | 1054.74                    | 1054.74                         |
| 21           | 1.37062    | 1487.46      | 19.7168                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 655.104            | 667.767              | 850.283                  | 0                   | 850.283                       | 1085.06                    | 1085.06                         |
| 22           | 1.37062    | 1524.71      | 20.655                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 663.526            | 676.352              | 862.097                  | 0                   | 862.097                       | 1112.23                    | 1112.23                         |
| 23           | 1.37062    | 1557.56      | 21.5989                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 669.857            | 682.805              | 870.98                   | 0                   | 870.98                        | 1136.18                    | 1136.18                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.37062 | 1585.92 | 22.5491 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 674.114 | 687.145 | 876.955 | 0 | 876.955 | 1156.86 | 1156.86 |
| 25 | 1.37062 | 1609.69 | 23.5058 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 676.315 | 689.388 | 880.045 | 0 | 880.045 | 1174.2  | 1174.2  |
| 26 | 1.37062 | 1628.78 | 24.4696 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 676.471 | 689.547 | 880.263 | 0 | 880.263 | 1188.11 | 1188.11 |
| 27 | 1.37062 | 1643.09 | 25.4408 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 674.596 | 687.636 | 877.629 | 0 | 877.629 | 1198.54 | 1198.54 |
| 28 | 1.37062 | 1652.49 | 26.4198 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 670.699 | 683.664 | 872.164 | 0 | 872.164 | 1205.39 | 1205.39 |
| 29 | 1.37062 | 1656.87 | 27.4073 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 664.791 | 677.641 | 863.874 | 0 | 863.874 | 1208.58 | 1208.58 |
| 30 | 1.37062 | 1656.09 | 28.4037 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 656.877 | 669.574 | 852.771 | 0 | 852.771 | 1208    | 1208    |
| 31 | 1.37062 | 1650    | 29.4095 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 646.963 | 659.469 | 838.862 | 0 | 838.862 | 1203.55 | 1203.55 |
| 32 | 1.37062 | 1638.45 | 30.4254 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 635.054 | 647.33  | 822.155 | 0 | 822.155 | 1195.12 | 1195.12 |
| 33 | 1.37062 | 1621.28 | 31.452  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 621.153 | 633.16  | 802.648 | 0 | 802.648 | 1182.58 | 1182.58 |
| 34 | 1.37062 | 1598.28 | 32.49   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 605.259 | 616.959 | 780.355 | 0 | 780.355 | 1165.8  | 1165.8  |
| 35 | 1.37062 | 1569.27 | 33.5401 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 587.375 | 598.729 | 755.263 | 0 | 755.263 | 1144.63 | 1144.63 |
| 36 | 1.37062 | 1534.02 | 34.6031 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 567.498 | 578.468 | 727.372 | 0 | 727.372 | 1118.91 | 1118.91 |
| 37 | 1.37062 | 1492.3  | 35.68   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 545.626 | 556.173 | 696.685 | 0 | 696.685 | 1088.47 | 1088.47 |
| 38 | 1.37062 | 1443.84 | 36.7715 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 521.754 | 531.84  | 663.196 | 0 | 663.196 | 1053.11 | 1053.11 |
| 39 | 1.37062 | 1388.35 | 37.8789 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 495.882 | 505.467 | 626.894 | 0 | 626.894 | 1012.63 | 1012.63 |
| 40 | 1.37062 | 1325.52 | 39.0031 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 468     | 477.046 | 587.779 | 0 | 587.779 | 966.8   | 966.8   |
| 41 | 1.37062 | 1254.99 | 40.1455 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 438.104 | 446.573 | 545.836 | 0 | 545.836 | 915.35  | 915.35  |
| 42 | 1.37062 | 1176.38 | 41.3075 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 406.19  | 414.042 | 501.061 | 0 | 501.061 | 858.003 | 858.003 |
| 43 | 1.37062 | 1089.24 | 42.4906 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 372.252 | 379.448 | 453.446 | 0 | 453.446 | 794.44  | 794.44  |
| 44 | 1.37062 | 993.092 | 43.6965 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 336.285 | 342.785 | 402.983 | 0 | 402.983 | 724.305 | 724.305 |
| 45 | 1.37062 | 887.38  | 44.9272 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 298.284 | 304.05  | 349.67  | 0 | 349.67  | 647.197 | 647.197 |
| 46 | 1.37062 | 771.485 | 46.1849 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.251 | 263.243 | 293.503 | 0 | 293.503 | 562.663 | 562.663 |
| 47 | 1.37062 | 643.535 | 47.4721 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 215.847 | 220.019 | 234.011 | 0 | 234.011 | 469.336 | 469.336 |
| 48 | 1.37062 | 475.206 | 48.7916 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 163.219 | 166.374 | 160.175 | 0 | 160.175 | 346.563 | 346.563 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.37062 | 281.875 | 50.1468 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 105.49  | 107.529 | 79.1818 | 0 | 79.1818 | 205.556 | 205.556 |
| 50 | 1.11026 | 73.681  | 51.4055 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 100.976 | 102.928 | -60.25  | 0 | -60.25  | 66.2651 | 66.2651 |

## **Cross Section JJ-JJ' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 2.04849**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.52768    | 5.58096      | 7.22713                   | D-VD SAND     | 0                   | 38                        | 1.32917            | 2.72279              | 3.48501                  | 0                   | 3.48501                       | 3.65357                    | 3.65357                         |
| 2            | 1.52768    | 15.458       | 7.74397                   | D-VD SAND     | 0                   | 38                        | 3.66926            | 7.51645              | 9.62064                  | 0                   | 9.62064                       | 10.1196                    | 10.1196                         |
| 3            | 1.52768    | 50.4807      | 8.26144                   | D-VD SAND     | 0                   | 38                        | 11.9428            | 24.4647              | 31.3134                  | 0                   | 31.3134                       | 33.0475                    | 33.0475                         |
| 4            | 1.52768    | 115.165      | 8.77959                   | D-VD SAND     | 0                   | 38                        | 27.1555            | 55.6277              | 71.1999                  | 0                   | 71.1999                       | 75.3939                    | 75.3939                         |
| 5            | 1.52768    | 177.3        | 9.29846                   | D-VD SAND     | 0                   | 38                        | 41.6675            | 85.3554              | 109.25                   | 0                   | 109.25                        | 116.072                    | 116.072                         |
| 6            | 1.52768    | 236.829      | 9.8181                    | D-VD SAND     | 0                   | 38                        | 55.4721            | 113.634              | 145.445                  | 0                   | 145.445                       | 155.044                    | 155.044                         |
| 7            | 1.52768    | 293.739      | 10.3386                   | D-VD SAND     | 0                   | 38                        | 68.5725            | 140.47               | 179.793                  | 0                   | 179.793                       | 192.303                    | 192.303                         |
| 8            | 1.52768    | 348.019      | 10.8599                   | D-VD SAND     | 0                   | 38                        | 80.9723            | 165.871              | 212.306                  | 0                   | 212.306                       | 227.84                     | 227.84                          |
| 9            | 1.52768    | 399.654      | 11.3821                   | D-VD SAND     | 0                   | 38                        | 92.6751            | 189.844              | 242.989                  | 0                   | 242.989                       | 261.646                    | 261.646                         |
| 10           | 1.52768    | 448.631      | 11.9053                   | D-VD SAND     | 0                   | 38                        | 103.683            | 212.394              | 271.852                  | 0                   | 271.852                       | 293.712                    | 293.712                         |
| 11           | 1.52768    | 494.934      | 12.4295                   | D-VD SAND     | 0                   | 38                        | 114                | 233.527              | 298.901                  | 0                   | 298.901                       | 324.027                    | 324.027                         |
| 12           | 1.52768    | 538.547      | 12.9548                   | D-VD SAND     | 0                   | 38                        | 123.627            | 253.249              | 324.144                  | 0                   | 324.144                       | 352.583                    | 352.583                         |
| 13           | 1.52768    | 579.454      | 13.4812                   | D-VD SAND     | 0                   | 38                        | 132.568            | 271.564              | 347.586                  | 0                   | 347.586                       | 379.367                    | 379.367                         |
| 14           | 1.52768    | 617.638      | 14.0087                   | D-VD SAND     | 0                   | 38                        | 140.824            | 288.477              | 369.234                  | 0                   | 369.234                       | 404.368                    | 404.368                         |
| 15           | 1.52768    | 653.079      | 14.5375                   | D-VD SAND     | 0                   | 38                        | 148.398            | 303.992              | 389.092                  | 0                   | 389.092                       | 427.574                    | 427.574                         |
| 16           | 1.52768    | 685.881      | 15.0675                   | D-VD SAND     | 0                   | 38                        | 155.319            | 318.17               | 407.239                  | 0                   | 407.239                       | 449.053                    | 449.053                         |
| 17           | 1.52768    | 719.468      | 15.5988                   | D-VD SAND     | 0                   | 38                        | 162.366            | 332.605              | 425.715                  | 0                   | 425.715                       | 471.045                    | 471.045                         |
| 18           | 1.52768    | 751.897      | 16.1315                   | D-VD SAND     | 0                   | 38                        | 169.1              | 346.399              | 443.371                  | 0                   | 443.371                       | 492.28                     | 492.28                          |
| 19           | 1.52768    | 781.499      | 16.6657                   | D-VD SAND     | 0                   | 38                        | 175.149            | 358.791              | 459.231                  | 0                   | 459.231                       | 511.664                    | 511.664                         |
| 20           | 1.52768    | 808.253      | 17.2014                   | D-VD SAND     | 0                   | 38                        | 180.515            | 369.783              | 473.3                    | 0                   | 473.3                         | 529.184                    | 529.184                         |
| 21           | 1.52768    | 832.133      | 17.7386                   | D-VD SAND     | 0                   | 38                        | 185.198            | 379.377              | 485.58                   | 0                   | 485.58                        | 544.822                    | 544.822                         |
| 22           | 1.52768    | 853.115      | 18.2774                   | D-VD SAND     | 0                   | 38                        | 189.2              | 387.575              | 496.073                  | 0                   | 496.073                       | 558.562                    | 558.562                         |
| 23           | 1.52768    | 871.17       | 18.8179                   | D-VD SAND     | 0                   | 38                        | 192.521            | 394.378              | 504.781                  | 0                   | 504.781                       | 570.388                    | 570.388                         |
| 24           | 1.52768    | 886.272      | 19.3602                   | D-VD SAND     | 0                   | 38                        | 195.162            | 399.787              | 511.704                  | 0                   | 511.704                       | 580.279                    | 580.279                         |
| 25           | 1.52768    | 898.391      | 19.9042                   | D-VD SAND     | 0                   | 38                        | 197.122            | 403.803              | 516.844                  | 0                   | 516.844                       | 588.217                    | 588.217                         |
| 26           | 1.52768    | 907.497      | 20.4502                   | D-VD SAND     | 0                   | 38                        | 198.402            | 406.425              | 520.2                    | 0                   | 520.2                         | 594.183                    | 594.183                         |
| 27           | 1.52768    | 913.557      | 20.998                    | D-VD SAND     | 0                   | 38                        | 199.002            | 407.654              | 521.773                  | 0                   | 521.773                       | 598.155                    | 598.155                         |
| 28           | 1.52768    | 916.54       | 21.5479                   | D-VD SAND     | 0                   | 38                        | 198.922            | 407.489              | 521.562                  | 0                   | 521.562                       | 600.111                    | 600.111                         |
| 29           | 1.52768    | 916.409      | 22.0999                   | D-VD SAND     | 0                   | 38                        | 198.16             | 405.929              | 519.565                  | 0                   | 519.565                       | 600.03                     | 600.03                          |
| 30           | 1.52768    | 913.129      | 22.6541                   | D-VD SAND     | 0                   | 38                        | 196.717            | 402.973              | 515.782                  | 0                   | 515.782                       | 597.885                    | 597.885                         |
| 31           | 1.52768    | 906.662      | 23.2105                   | D-VD SAND     | 0                   | 38                        | 194.592            | 398.62               | 510.21                   | 0                   | 510.21                        | 593.655                    | 593.655                         |
| 32           | 1.52768    | 896.968      | 23.7692                   | D-VD SAND     | 0                   | 38                        | 191.784            | 392.868              | 502.848                  | 0                   | 502.848                       | 587.312                    | 587.312                         |

|    |         |         |         |              |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 1.52768 | 882.449 | 24.3304 | D-VD<br>SAND | 0 | 38 | 187.96  | 385.034 | 492.822 | 0 | 492.822 | 577.809 | 577.809 |
| 34 | 1.52768 | 861.916 | 24.894  | D-VD<br>SAND | 0 | 38 | 182.88  | 374.627 | 479.501 | 0 | 479.501 | 564.368 | 564.368 |
| 35 | 1.52768 | 837.978 | 25.4602 | D-VD<br>SAND | 0 | 38 | 177.109 | 362.807 | 464.371 | 0 | 464.371 | 548.698 | 548.698 |
| 36 | 1.52768 | 810.637 | 26.0292 | D-VD<br>SAND | 0 | 38 | 170.657 | 349.59  | 447.455 | 0 | 447.455 | 530.798 | 530.798 |
| 37 | 1.52768 | 779.843 | 26.6008 | D-VD<br>SAND | 0 | 38 | 163.523 | 334.975 | 428.749 | 0 | 428.749 | 510.638 | 510.638 |
| 38 | 1.52768 | 745.545 | 27.1754 | D-VD<br>SAND | 0 | 38 | 155.703 | 318.957 | 408.246 | 0 | 408.246 | 488.183 | 488.183 |
| 39 | 1.52768 | 707.689 | 27.7529 | D-VD<br>SAND | 0 | 38 | 147.198 | 301.533 | 385.944 | 0 | 385.944 | 463.398 | 463.398 |
| 40 | 1.52768 | 666.219 | 28.3335 | D-VD<br>SAND | 0 | 38 | 138.003 | 282.697 | 361.835 | 0 | 361.835 | 436.246 | 436.246 |
| 41 | 1.52768 | 621.075 | 28.9173 | D-VD<br>SAND | 0 | 38 | 128.116 | 262.445 | 335.914 | 0 | 335.914 | 406.688 | 406.688 |
| 42 | 1.52768 | 572.196 | 29.5044 | D-VD<br>SAND | 0 | 38 | 117.536 | 240.771 | 308.173 | 0 | 308.173 | 374.684 | 374.684 |
| 43 | 1.52768 | 519.517 | 30.0949 | D-VD<br>SAND | 0 | 38 | 106.26  | 217.672 | 278.607 | 0 | 278.607 | 340.191 | 340.191 |
| 44 | 1.52768 | 462.97  | 30.689  | D-VD<br>SAND | 0 | 38 | 94.2841 | 193.14  | 247.208 | 0 | 247.208 | 303.165 | 303.165 |
| 45 | 1.52768 | 402.484 | 31.2867 | D-VD<br>SAND | 0 | 38 | 81.6065 | 167.17  | 213.968 | 0 | 213.968 | 263.559 | 263.559 |
| 46 | 1.52768 | 337.984 | 31.8883 | D-VD<br>SAND | 0 | 38 | 68.2234 | 139.755 | 178.878 | 0 | 178.878 | 221.324 | 221.324 |
| 47 | 1.52768 | 269.391 | 32.4938 | D-VD<br>SAND | 0 | 38 | 54.1321 | 110.889 | 141.931 | 0 | 141.931 | 176.409 | 176.409 |
| 48 | 1.52768 | 196.624 | 33.1034 | D-VD<br>SAND | 0 | 38 | 39.3284 | 80.5638 | 103.117 | 0 | 103.117 | 128.758 | 128.758 |
| 49 | 1.52768 | 119.594 | 33.7173 | D-VD<br>SAND | 0 | 38 | 23.8094 | 48.7734 | 62.4271 | 0 | 62.4271 | 78.3165 | 78.3165 |
| 50 | 1.52768 | 39.6987 | 34.3356 | D-VD<br>SAND | 0 | 38 | 7.86589 | 16.1132 | 20.624  | 0 | 20.624  | 25.9969 | 25.9969 |



Global Minimum Query (janbu simplified) - Safety Factor: 2.02152

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.4259     | 29.7664      | 7.79806                   | D-VD SAND     | 0                   | 38                        | 7.66255            | 15.49                | 19.8262                  | 0                   | 19.8262                       | 20.8756                    | 20.8756                         |
| 2            | 1.4259     | 88.1863      | 8.31044                   | D-VD SAND     | 0                   | 38                        | 22.6254            | 45.7377              | 58.5415                  | 0                   | 58.5415                       | 61.8464                    | 61.8464                         |
| 3            | 1.4259     | 144.376      | 8.8235                    | D-VD SAND     | 0                   | 38                        | 36.918             | 74.6305              | 95.5227                  | 0                   | 95.5227                       | 101.253                    | 101.253                         |
| 4            | 1.4259     | 198.327      | 9.33727                   | D-VD SAND     | 0                   | 38                        | 50.5441            | 102.176              | 130.779                  | 0                   | 130.779                       | 139.09                     | 139.09                          |
| 5            | 1.4259     | 250.03       | 9.8518                    | D-VD SAND     | 0                   | 38                        | 63.5077            | 128.382              | 164.321                  | 0                   | 164.321                       | 175.35                     | 175.35                          |
| 6            | 1.4259     | 299.473      | 10.3671                   | D-VD SAND     | 0                   | 38                        | 75.8113            | 153.254              | 196.156                  | 0                   | 196.156                       | 210.025                    | 210.025                         |
| 7            | 1.4259     | 346.647      | 10.8833                   | D-VD SAND     | 0                   | 38                        | 87.4589            | 176.8                | 226.294                  | 0                   | 226.294                       | 243.109                    | 243.109                         |
| 8            | 1.4259     | 391.539      | 11.4004                   | D-VD SAND     | 0                   | 38                        | 98.4531            | 199.025              | 254.74                   | 0                   | 254.74                        | 274.593                    | 274.593                         |
| 9            | 1.4259     | 434.137      | 11.9184                   | D-VD SAND     | 0                   | 38                        | 108.797            | 219.935              | 281.504                  | 0                   | 281.504                       | 304.467                    | 304.467                         |
| 10           | 1.4259     | 474.43       | 12.4374                   | D-VD SAND     | 0                   | 38                        | 118.493            | 239.536              | 306.592                  | 0                   | 306.592                       | 332.726                    | 332.726                         |
| 11           | 1.4259     | 512.402      | 12.9575                   | D-VD SAND     | 0                   | 38                        | 127.544            | 257.832              | 330.01                   | 0                   | 330.01                        | 359.356                    | 359.356                         |
| 12           | 1.4259     | 548.04       | 13.4786                   | D-VD SAND     | 0                   | 38                        | 135.951            | 274.828              | 351.764                  | 0                   | 351.764                       | 384.35                     | 384.35                          |
| 13           | 1.4259     | 581.667      | 14.0009                   | D-VD SAND     | 0                   | 38                        | 143.802            | 290.699              | 372.077                  | 0                   | 372.077                       | 407.934                    | 407.934                         |
| 14           | 1.4259     | 616.35       | 14.5243                   | D-VD SAND     | 0                   | 38                        | 151.856            | 306.98               | 392.916                  | 0                   | 392.916                       | 432.257                    | 432.257                         |
| 15           | 1.4259     | 649.539      | 15.0491                   | D-VD SAND     | 0                   | 38                        | 159.484            | 322.4                | 412.653                  | 0                   | 412.653                       | 455.533                    | 455.533                         |
| 16           | 1.4259     | 680.33       | 15.5751                   | D-VD SAND     | 0                   | 38                        | 166.469            | 336.521              | 430.726                  | 0                   | 430.726                       | 477.127                    | 477.127                         |
| 17           | 1.4259     | 708.703      | 16.1024                   | D-VD SAND     | 0                   | 38                        | 172.812            | 349.343              | 447.139                  | 0                   | 447.139                       | 497.026                    | 497.026                         |
| 18           | 1.4259     | 734.64       | 16.6312                   | D-VD SAND     | 0                   | 38                        | 178.515            | 360.871              | 461.893                  | 0                   | 461.893                       | 515.216                    | 515.216                         |
| 19           | 1.4259     | 758.121      | 17.1614                   | D-VD SAND     | 0                   | 38                        | 183.577            | 371.105              | 474.993                  | 0                   | 474.993                       | 531.685                    | 531.685                         |
| 20           | 1.4259     | 779.125      | 17.6931                   | D-VD SAND     | 0                   | 38                        | 188.002            | 380.049              | 486.441                  | 0                   | 486.441                       | 546.415                    | 546.415                         |
| 21           | 1.4259     | 797.631      | 18.2265                   | D-VD SAND     | 0                   | 38                        | 191.788            | 387.704              | 496.239                  | 0                   | 496.239                       | 559.394                    | 559.394                         |
| 22           | 1.4259     | 813.615      | 18.7614                   | D-VD SAND     | 0                   | 38                        | 194.938            | 394.071              | 504.388                  | 0                   | 504.388                       | 570.604                    | 570.604                         |
| 23           | 1.4259     | 827.055      | 19.2981                   | D-VD SAND     | 0                   | 38                        | 197.451            | 399.151              | 510.89                   | 0                   | 510.89                        | 580.029                    | 580.029                         |
| 24           | 1.4259     | 837.924      | 19.8365                   | D-VD SAND     | 0                   | 38                        | 199.328            | 402.946              | 515.747                  | 0                   | 515.747                       | 587.653                    | 587.653                         |
| 25           | 1.4259     | 846.198      | 20.3768                   | D-VD SAND     | 0                   | 38                        | 200.569            | 405.454              | 518.957                  | 0                   | 518.957                       | 593.456                    | 593.456                         |
| 26           | 1.4259     | 851.849      | 20.9189                   | D-VD SAND     | 0                   | 38                        | 201.173            | 406.676              | 520.522                  | 0                   | 520.522                       | 597.419                    | 597.419                         |
| 27           | 1.4259     | 854.849      | 21.463                    | D-VD SAND     | 0                   | 38                        | 201.142            | 406.613              | 520.441                  | 0                   | 520.441                       | 599.523                    | 599.523                         |
| 28           | 1.4259     | 855.169      | 22.0092                   | D-VD SAND     | 0                   | 38                        | 200.474            | 405.263              | 518.713                  | 0                   | 518.713                       | 599.748                    | 599.748                         |
| 29           | 1.4259     | 852.778      | 22.5575                   | D-VD SAND     | 0                   | 38                        | 199.17             | 402.626              | 515.337                  | 0                   | 515.337                       | 598.071                    | 598.071                         |
| 30           | 1.4259     | 847.643      | 23.108                    | D-VD SAND     | 0                   | 38                        | 197.228            | 398.7                | 510.312                  | 0                   | 510.312                       | 594.47                     | 594.47                          |
| 31           | 1.4259     | 838.379      | 23.6607                   | D-VD SAND     | 0                   | 38                        | 194.334            | 392.85               | 502.825                  | 0                   | 502.825                       | 587.973                    | 587.973                         |
| 32           | 1.4259     | 823.945      | 24.2158                   | D-VD SAND     | 0                   | 38                        | 190.259            | 384.612              | 492.281                  | 0                   | 492.281                       | 577.85                     | 577.85                          |
| 33           | 1.4259     | 806.62       | 24.7733                   | D-VD SAND     | 0                   | 38                        | 185.541            | 375.074              | 480.073                  | 0                   | 480.073                       | 565.7                      | 565.7                           |

|    |        |         |         |              |   |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 1.4259 | 786.409 | 25.3333 | D-VD<br>SAND | 0 | 38 | 180.188 | 364.253 | 466.223 | 0 | 466.223 | 551.525 | 551.525 |
| 35 | 1.4259 | 763.271 | 25.8959 | D-VD<br>SAND | 0 | 38 | 174.199 | 352.147 | 450.728 | 0 | 450.728 | 535.299 | 535.299 |
| 36 | 1.4259 | 737.166 | 26.4613 | D-VD<br>SAND | 0 | 38 | 167.573 | 338.752 | 433.583 | 0 | 433.583 | 516.991 | 516.991 |
| 37 | 1.4259 | 708.049 | 27.0294 | D-VD<br>SAND | 0 | 38 | 160.308 | 324.066 | 414.786 | 0 | 414.786 | 496.571 | 496.571 |
| 38 | 1.4259 | 675.876 | 27.6004 | D-VD<br>SAND | 0 | 38 | 152.403 | 308.085 | 394.332 | 0 | 394.332 | 474.007 | 474.007 |
| 39 | 1.4259 | 640.598 | 28.1744 | D-VD<br>SAND | 0 | 38 | 143.855 | 290.806 | 372.215 | 0 | 372.215 | 449.266 | 449.266 |
| 40 | 1.4259 | 602.165 | 28.7515 | D-VD<br>SAND | 0 | 38 | 134.663 | 272.223 | 348.429 | 0 | 348.429 | 422.312 | 422.312 |
| 41 | 1.4259 | 560.527 | 29.3318 | D-VD<br>SAND | 0 | 38 | 124.823 | 252.333 | 322.972 | 0 | 322.972 | 393.11  | 393.11  |
| 42 | 1.4259 | 515.627 | 29.9154 | D-VD<br>SAND | 0 | 38 | 114.336 | 231.132 | 295.835 | 0 | 295.835 | 361.622 | 361.622 |
| 43 | 1.4259 | 467.41  | 30.5024 | D-VD<br>SAND | 0 | 38 | 103.196 | 208.613 | 267.013 | 0 | 267.013 | 327.806 | 327.806 |
| 44 | 1.4259 | 415.814 | 31.0931 | D-VD<br>SAND | 0 | 38 | 91.4025 | 184.772 | 236.497 | 0 | 236.497 | 291.62  | 291.62  |
| 45 | 1.4259 | 360.777 | 31.6874 | D-VD<br>SAND | 0 | 38 | 78.9525 | 159.604 | 204.284 | 0 | 204.284 | 253.022 | 253.022 |
| 46 | 1.4259 | 302.234 | 32.2855 | D-VD<br>SAND | 0 | 38 | 65.8425 | 133.102 | 170.363 | 0 | 170.363 | 211.964 | 211.964 |
| 47 | 1.4259 | 240.114 | 32.8877 | D-VD<br>SAND | 0 | 38 | 52.0702 | 105.261 | 134.728 | 0 | 134.728 | 168.398 | 168.398 |
| 48 | 1.4259 | 174.345 | 33.4939 | D-VD<br>SAND | 0 | 38 | 37.6321 | 76.074  | 97.3701 | 0 | 97.3701 | 122.273 | 122.273 |
| 49 | 1.4259 | 105.561 | 34.1044 | D-VD<br>SAND | 0 | 38 | 22.6774 | 45.8428 | 58.676  | 0 | 58.676  | 74.0323 | 74.0323 |
| 50 | 1.4259 | 35.7354 | 34.7194 | D-VD<br>SAND | 0 | 38 | 7.64004 | 15.4445 | 19.7681 | 0 | 19.7681 | 25.0622 | 25.0622 |

## ◆ Cross Section JJ-JJ' - Seismic

**Global Minimum Query (bishop simplified) - Safety Factor: 1.17883**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.57495    | 6.60065      | 6.97353                   | D-VD SAND     | 0                   | 38                        | 2.56956            | 3.02908              | 3.87705                  | 0                   | 3.87705                       | 4.19135                    | 4.19135                         |
| 2            | 1.57495    | 18.4326      | 7.49235                   | D-VD SAND     | 0                   | 38                        | 7.13541            | 8.41143              | 10.7661                  | 0                   | 10.7661                       | 11.7045                    | 11.7045                         |
| 3            | 1.57495    | 27.5209      | 8.01179                   | D-VD SAND     | 0                   | 38                        | 10.594             | 12.4885              | 15.9846                  | 0                   | 15.9846                       | 17.4757                    | 17.4757                         |
| 4            | 1.57495    | 64.9231      | 8.53189                   | D-VD SAND     | 0                   | 38                        | 24.8522            | 29.2965              | 37.4978                  | 0                   | 37.4978                       | 41.2261                    | 41.2261                         |
| 5            | 1.57495    | 132.271      | 9.0527                    | D-VD SAND     | 0                   | 38                        | 50.3503            | 59.3544              | 75.97                    | 0                   | 75.97                         | 83.9922                    | 83.9922                         |
| 6            | 1.57495    | 196.847      | 9.57427                   | D-VD SAND     | 0                   | 38                        | 74.5148            | 87.8403              | 112.431                  | 0                   | 112.431                       | 125                        | 125                             |
| 7            | 1.57495    | 258.635      | 10.0966                   | D-VD SAND     | 0                   | 38                        | 97.3592            | 114.77               | 146.899                  | 0                   | 146.899                       | 164.236                    | 164.236                         |
| 8            | 1.57495    | 317.621      | 10.6199                   | D-VD SAND     | 0                   | 38                        | 118.899            | 140.162              | 179.399                  | 0                   | 179.399                       | 201.693                    | 201.693                         |
| 9            | 1.57495    | 373.79       | 11.144                    | D-VD SAND     | 0                   | 38                        | 139.148            | 164.032              | 209.952                  | 0                   | 209.952                       | 237.363                    | 237.363                         |
| 10           | 1.57495    | 427.129      | 11.669                    | D-VD SAND     | 0                   | 38                        | 158.121            | 186.398              | 238.579                  | 0                   | 238.579                       | 271.235                    | 271.235                         |
| 11           | 1.57495    | 477.62       | 12.1951                   | D-VD SAND     | 0                   | 38                        | 175.83             | 207.274              | 265.299                  | 0                   | 265.299                       | 303.299                    | 303.299                         |
| 12           | 1.57495    | 525.248      | 12.7222                   | D-VD SAND     | 0                   | 38                        | 192.29             | 226.677              | 290.133                  | 0                   | 290.133                       | 333.545                    | 333.545                         |
| 13           | 1.57495    | 569.995      | 13.2504                   | D-VD SAND     | 0                   | 38                        | 207.511            | 244.62               | 313.099                  | 0                   | 313.099                       | 361.963                    | 361.963                         |
| 14           | 1.57495    | 611.842      | 13.7797                   | D-VD SAND     | 0                   | 38                        | 221.505            | 261.117              | 334.215                  | 0                   | 334.215                       | 388.539                    | 388.539                         |
| 15           | 1.57495    | 650.771      | 14.3103                   | D-VD SAND     | 0                   | 38                        | 234.286            | 276.183              | 353.498                  | 0                   | 353.498                       | 413.262                    | 413.262                         |
| 16           | 1.57495    | 686.76       | 14.8421                   | D-VD SAND     | 0                   | 38                        | 245.862            | 289.83               | 370.966                  | 0                   | 370.966                       | 436.119                    | 436.119                         |
| 17           | 1.57495    | 720.999      | 15.3752                   | D-VD SAND     | 0                   | 38                        | 256.677            | 302.578              | 387.282                  | 0                   | 387.282                       | 457.863                    | 457.863                         |
| 18           | 1.57495    | 756.373      | 15.9097                   | D-VD SAND     | 0                   | 38                        | 267.761            | 315.645              | 404.007                  | 0                   | 404.007                       | 480.33                     | 480.33                          |
| 19           | 1.57495    | 789.083      | 16.4456                   | D-VD SAND     | 0                   | 38                        | 277.771            | 327.445              | 419.111                  | 0                   | 419.111                       | 501.104                    | 501.104                         |
| 20           | 1.57495    | 818.761      | 16.983                    | D-VD SAND     | 0                   | 38                        | 286.596            | 337.848              | 432.425                  | 0                   | 432.425                       | 519.953                    | 519.953                         |
| 21           | 1.57495    | 845.382      | 17.5219                   | D-VD SAND     | 0                   | 38                        | 294.243            | 346.862              | 443.964                  | 0                   | 443.964                       | 536.862                    | 536.862                         |
| 22           | 1.57495    | 868.92       | 18.0625                   | D-VD SAND     | 0                   | 38                        | 300.722            | 354.5                | 453.739                  | 0                   | 453.739                       | 551.812                    | 551.812                         |
| 23           | 1.57495    | 889.346      | 18.6047                   | D-VD SAND     | 0                   | 38                        | 306.041            | 360.77               | 461.765                  | 0                   | 461.765                       | 564.787                    | 564.787                         |
| 24           | 1.57495    | 906.63       | 19.1487                   | D-VD SAND     | 0                   | 38                        | 310.208            | 365.682              | 468.052                  | 0                   | 468.052                       | 575.766                    | 575.766                         |
| 25           | 1.57495    | 920.743      | 19.6944                   | D-VD SAND     | 0                   | 38                        | 313.231            | 369.246              | 472.613                  | 0                   | 472.613                       | 584.731                    | 584.731                         |
| 26           | 1.57495    | 931.652      | 20.242                    | D-VD SAND     | 0                   | 38                        | 315.117            | 371.469              | 475.459                  | 0                   | 475.459                       | 591.661                    | 591.661                         |
| 27           | 1.57495    | 939.323      | 20.7916                   | D-VD SAND     | 0                   | 38                        | 315.873            | 372.361              | 476.6                    | 0                   | 476.6                         | 596.536                    | 596.536                         |
| 28           | 1.57495    | 943.721      | 21.3431                   | D-VD SAND     | 0                   | 38                        | 315.507            | 371.929              | 476.047                  | 0                   | 476.047                       | 599.332                    | 599.332                         |
| 29           | 1.57495    | 944.81       | 21.8968                   | D-VD SAND     | 0                   | 38                        | 314.024            | 370.181              | 473.81                   | 0                   | 473.81                        | 600.026                    | 600.026                         |
| 30           | 1.57495    | 942.551      | 22.4526                   | D-VD SAND     | 0                   | 38                        | 311.431            | 367.124              | 469.898                  | 0                   | 469.898                       | 598.595                    | 598.595                         |
| 31           | 1.57495    | 936.905      | 23.0106                   | D-VD SAND     | 0                   | 38                        | 307.734            | 362.766              | 464.319                  | 0                   | 464.319                       | 595.012                    | 595.012                         |
| 32           | 1.57495    | 927.83       | 23.571                    | D-VD SAND     | 0                   | 38                        | 302.939            | 357.113              | 457.084                  | 0                   | 457.084                       | 589.251                    | 589.251                         |

|    |         |         |         |              |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 1.57495 | 913.89  | 24.1337 | D-VD<br>SAND | 0 | 38 | 296.597 | 349.638 | 447.516 | 0 | 447.516 | 580.4   | 580.4   |
| 34 | 1.57495 | 893.355 | 24.699  | D-VD<br>SAND | 0 | 38 | 288.182 | 339.718 | 434.819 | 0 | 434.819 | 567.362 | 567.362 |
| 35 | 1.57495 | 869.143 | 25.2668 | D-VD<br>SAND | 0 | 38 | 278.666 | 328.5   | 420.461 | 0 | 420.461 | 551.988 | 551.988 |
| 36 | 1.57495 | 841.315 | 25.8373 | D-VD<br>SAND | 0 | 38 | 268.09  | 316.032 | 404.502 | 0 | 404.502 | 534.317 | 534.317 |
| 37 | 1.57495 | 809.819 | 26.4105 | D-VD<br>SAND | 0 | 38 | 256.457 | 302.319 | 386.951 | 0 | 386.951 | 514.317 | 514.317 |
| 38 | 1.57495 | 774.601 | 26.9867 | D-VD<br>SAND | 0 | 38 | 243.774 | 287.368 | 367.814 | 0 | 367.814 | 491.952 | 491.952 |
| 39 | 1.57495 | 735.604 | 27.5657 | D-VD<br>SAND | 0 | 38 | 230.044 | 271.183 | 347.098 | 0 | 347.098 | 467.187 | 467.187 |
| 40 | 1.57495 | 692.769 | 28.1479 | D-VD<br>SAND | 0 | 38 | 215.271 | 253.768 | 324.808 | 0 | 324.808 | 439.984 | 439.984 |
| 41 | 1.57495 | 646.032 | 28.7332 | D-VD<br>SAND | 0 | 38 | 199.46  | 235.129 | 300.951 | 0 | 300.951 | 410.303 | 410.303 |
| 42 | 1.57495 | 595.329 | 29.3219 | D-VD<br>SAND | 0 | 38 | 182.613 | 215.27  | 275.533 | 0 | 275.533 | 378.103 | 378.103 |
| 43 | 1.57495 | 540.591 | 29.9139 | D-VD<br>SAND | 0 | 38 | 164.735 | 194.195 | 248.559 | 0 | 248.559 | 343.339 | 343.339 |
| 44 | 1.57495 | 481.746 | 30.5095 | D-VD<br>SAND | 0 | 38 | 145.83  | 171.909 | 220.034 | 0 | 220.034 | 305.967 | 305.967 |
| 45 | 1.57495 | 418.719 | 31.1088 | D-VD<br>SAND | 0 | 38 | 125.901 | 148.416 | 189.964 | 0 | 189.964 | 265.939 | 265.939 |
| 46 | 1.57495 | 351.432 | 31.7119 | D-VD<br>SAND | 0 | 38 | 104.952 | 123.72  | 158.355 | 0 | 158.355 | 223.204 | 223.204 |
| 47 | 1.57495 | 279.801 | 32.3189 | D-VD<br>SAND | 0 | 38 | 82.9852 | 97.8254 | 125.211 | 0 | 125.211 | 177.71  | 177.71  |
| 48 | 1.57495 | 203.738 | 32.93   | D-VD<br>SAND | 0 | 38 | 60.005  | 70.7357 | 90.5376 | 0 | 90.5376 | 129.401 | 129.401 |
| 49 | 1.57495 | 123.321 | 33.5454 | D-VD<br>SAND | 0 | 38 | 36.0641 | 42.5134 | 54.4146 | 0 | 54.4146 | 78.326  | 78.326  |
| 50 | 1.57495 | 41.4799 | 34.1652 | D-VD<br>SAND | 0 | 38 | 12.0435 | 14.1972 | 18.1716 | 0 | 18.1716 | 26.3456 | 26.3456 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.16126

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.4298     | 29.9401      | 7.79309                   | D-VD SAND     | 0                   | 38                        | 12.9006            | 14.981               | 19.1748                  | 0                   | 19.1748                       | 20.9404                    | 20.9404                         |
| 2            | 1.4298     | 88.7015      | 8.30551                   | D-VD SAND     | 0                   | 38                        | 38.0062            | 44.1351              | 56.4904                  | 0                   | 56.4904                       | 62.0386                    | 62.0386                         |
| 3            | 1.4298     | 145.22       | 8.8186                    | D-VD SAND     | 0                   | 38                        | 61.8761            | 71.8542              | 91.969                   | 0                   | 91.969                        | 101.568                    | 101.568                         |
| 4            | 1.4298     | 199.488      | 9.33241                   | D-VD SAND     | 0                   | 38                        | 84.5251            | 98.1556              | 125.634                  | 0                   | 125.634                       | 139.524                    | 139.524                         |
| 5            | 1.4298     | 251.495      | 9.84698                   | D-VD SAND     | 0                   | 38                        | 105.968            | 123.056              | 157.505                  | 0                   | 157.505                       | 175.898                    | 175.898                         |
| 6            | 1.4298     | 301.23       | 10.3623                   | D-VD SAND     | 0                   | 38                        | 126.218            | 146.572              | 187.604                  | 0                   | 187.604                       | 210.684                    | 210.684                         |
| 7            | 1.4298     | 348.683      | 10.8786                   | D-VD SAND     | 0                   | 38                        | 145.29             | 168.719              | 215.951                  | 0                   | 215.951                       | 243.873                    | 243.873                         |
| 8            | 1.4298     | 393.842      | 11.3957                   | D-VD SAND     | 0                   | 38                        | 163.195            | 189.512              | 242.565                  | 0                   | 242.565                       | 275.458                    | 275.458                         |
| 9            | 1.4298     | 436.694      | 11.9137                   | D-VD SAND     | 0                   | 38                        | 179.948            | 208.966              | 267.463                  | 0                   | 267.463                       | 305.429                    | 305.429                         |
| 10           | 1.4298     | 477.228      | 12.4328                   | D-VD SAND     | 0                   | 38                        | 195.557            | 227.093              | 290.666                  | 0                   | 290.666                       | 333.779                    | 333.779                         |
| 11           | 1.4298     | 515.429      | 12.9529                   | D-VD SAND     | 0                   | 38                        | 210.038            | 243.909              | 312.189                  | 0                   | 312.189                       | 360.498                    | 360.498                         |
| 12           | 1.4298     | 551.282      | 13.474                    | D-VD SAND     | 0                   | 38                        | 223.4              | 259.425              | 332.048                  | 0                   | 332.048                       | 385.575                    | 385.575                         |
| 13           | 1.4298     | 584.809      | 13.9964                   | D-VD SAND     | 0                   | 38                        | 235.666            | 273.67               | 350.281                  | 0                   | 350.281                       | 409.024                    | 409.024                         |
| 14           | 1.4298     | 618.795      | 14.5199                   | D-VD SAND     | 0                   | 38                        | 247.973            | 287.961              | 368.573                  | 0                   | 368.573                       | 432.795                    | 432.795                         |
| 15           | 1.4298     | 652.186      | 15.0446                   | D-VD SAND     | 0                   | 38                        | 259.895            | 301.806              | 386.293                  | 0                   | 386.293                       | 456.149                    | 456.149                         |
| 16           | 1.4298     | 683.165      | 15.5706                   | D-VD SAND     | 0                   | 38                        | 270.718            | 314.374              | 402.381                  | 0                   | 402.381                       | 477.817                    | 477.817                         |
| 17           | 1.4298     | 711.714      | 16.098                    | D-VD SAND     | 0                   | 38                        | 280.451            | 325.677              | 416.847                  | 0                   | 416.847                       | 497.785                    | 497.785                         |
| 18           | 1.4298     | 737.814      | 16.6268                   | D-VD SAND     | 0                   | 38                        | 289.103            | 335.724              | 429.706                  | 0                   | 429.706                       | 516.039                    | 516.039                         |
| 19           | 1.4298     | 761.443      | 17.1571                   | D-VD SAND     | 0                   | 38                        | 296.682            | 344.525              | 440.972                  | 0                   | 440.972                       | 532.567                    | 532.567                         |
| 20           | 1.4298     | 782.583      | 17.6888                   | D-VD SAND     | 0                   | 38                        | 303.197            | 352.09               | 450.655                  | 0                   | 450.655                       | 547.352                    | 547.352                         |
| 21           | 1.4298     | 801.21       | 18.2222                   | D-VD SAND     | 0                   | 38                        | 308.655            | 358.429              | 458.768                  | 0                   | 458.768                       | 560.381                    | 560.381                         |
| 22           | 1.4298     | 817.302      | 18.7572                   | D-VD SAND     | 0                   | 38                        | 313.064            | 363.549              | 465.322                  | 0                   | 465.322                       | 571.636                    | 571.636                         |
| 23           | 1.4298     | 830.835      | 19.2939                   | D-VD SAND     | 0                   | 38                        | 316.432            | 367.46               | 470.327                  | 0                   | 470.327                       | 581.102                    | 581.102                         |
| 24           | 1.4298     | 841.784      | 19.8324                   | D-VD SAND     | 0                   | 38                        | 318.765            | 370.169              | 473.795                  | 0                   | 473.795                       | 588.761                    | 588.761                         |
| 25           | 1.4298     | 850.123      | 20.3726                   | D-VD SAND     | 0                   | 38                        | 320.07             | 371.684              | 475.734                  | 0                   | 475.734                       | 594.593                    | 594.593                         |
| 26           | 1.4298     | 855.825      | 20.9148                   | D-VD SAND     | 0                   | 38                        | 320.354            | 372.014              | 476.156                  | 0                   | 476.156                       | 598.582                    | 598.582                         |
| 27           | 1.4298     | 858.862      | 21.459                    | D-VD SAND     | 0                   | 38                        | 319.622            | 371.164              | 475.068                  | 0                   | 475.068                       | 600.706                    | 600.706                         |
| 28           | 1.4298     | 859.203      | 22.0052                   | D-VD SAND     | 0                   | 38                        | 317.881            | 369.142              | 472.48                   | 0                   | 472.48                        | 600.946                    | 600.946                         |
| 29           | 1.4298     | 856.819      | 22.5535                   | D-VD SAND     | 0                   | 38                        | 315.135            | 365.954              | 468.4                    | 0                   | 468.4                         | 599.278                    | 599.278                         |
| 30           | 1.4298     | 851.676      | 23.104                    | D-VD SAND     | 0                   | 38                        | 311.392            | 361.607              | 462.836                  | 0                   | 462.836                       | 595.681                    | 595.681                         |
| 31           | 1.4298     | 842.975      | 23.6568                   | D-VD SAND     | 0                   | 38                        | 306.377            | 355.783              | 455.382                  | 0                   | 455.382                       | 589.596                    | 589.596                         |
| 32           | 1.4298     | 828.688      | 24.2119                   | D-VD SAND     | 0                   | 38                        | 299.38             | 347.658              | 444.982                  | 0                   | 444.982                       | 579.604                    | 579.604                         |
| 33           | 1.4298     | 811.288      | 24.7694                   | D-VD SAND     | 0                   | 38                        | 291.326            | 338.305              | 433.011                  | 0                   | 433.011                       | 567.434                    | 567.434                         |

|    |        |         |         |              |   |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 1.4298 | 790.986 | 25.3295 | D-VD<br>SAND | 0 | 38 | 282.31  | 327.835 | 419.61  | 0 | 419.61  | 553.235 | 553.235 |
| 35 | 1.4298 | 767.742 | 25.8921 | D-VD<br>SAND | 0 | 38 | 272.336 | 316.253 | 404.785 | 0 | 404.785 | 536.978 | 536.978 |
| 36 | 1.4298 | 741.514 | 26.4575 | D-VD<br>SAND | 0 | 38 | 261.408 | 303.563 | 388.543 | 0 | 388.543 | 518.634 | 518.634 |
| 37 | 1.4298 | 712.258 | 27.0256 | D-VD<br>SAND | 0 | 38 | 249.531 | 289.77  | 370.889 | 0 | 370.889 | 498.172 | 498.172 |
| 38 | 1.4298 | 679.929 | 27.5967 | D-VD<br>SAND | 0 | 38 | 236.708 | 274.879 | 351.83  | 0 | 351.83  | 475.56  | 475.56  |
| 39 | 1.4298 | 644.478 | 28.1707 | D-VD<br>SAND | 0 | 38 | 222.943 | 258.895 | 331.371 | 0 | 331.371 | 450.765 | 450.765 |
| 40 | 1.4298 | 605.856 | 28.7478 | D-VD<br>SAND | 0 | 38 | 208.241 | 241.822 | 309.517 | 0 | 309.517 | 423.752 | 423.752 |
| 41 | 1.4298 | 564.009 | 29.3282 | D-VD<br>SAND | 0 | 38 | 192.604 | 223.663 | 286.275 | 0 | 286.275 | 394.484 | 394.484 |
| 42 | 1.4298 | 518.885 | 29.9118 | D-VD<br>SAND | 0 | 38 | 176.036 | 204.423 | 261.649 | 0 | 261.649 | 362.922 | 362.922 |
| 43 | 1.4298 | 470.423 | 30.4989 | D-VD<br>SAND | 0 | 38 | 158.54  | 184.106 | 235.645 | 0 | 235.645 | 329.028 | 329.028 |
| 44 | 1.4298 | 418.566 | 31.0896 | D-VD<br>SAND | 0 | 38 | 140.119 | 162.715 | 208.266 | 0 | 208.266 | 292.757 | 292.757 |
| 45 | 1.4298 | 363.249 | 31.6839 | D-VD<br>SAND | 0 | 38 | 120.779 | 140.256 | 179.519 | 0 | 179.519 | 254.067 | 254.067 |
| 46 | 1.4298 | 304.405 | 32.2821 | D-VD<br>SAND | 0 | 38 | 100.52  | 116.73  | 149.408 | 0 | 149.408 | 212.91  | 212.91  |
| 47 | 1.4298 | 241.966 | 32.8842 | D-VD<br>SAND | 0 | 38 | 79.3473 | 92.1429 | 117.937 | 0 | 117.937 | 169.239 | 169.239 |
| 48 | 1.4298 | 175.859 | 33.4905 | D-VD<br>SAND | 0 | 38 | 57.2632 | 66.4975 | 85.1128 | 0 | 85.1128 | 123.001 | 123.001 |
| 49 | 1.4298 | 106.392 | 34.1011 | D-VD<br>SAND | 0 | 38 | 34.3963 | 39.9431 | 51.1248 | 0 | 51.1248 | 74.4138 | 74.4138 |
| 50 | 1.4298 | 35.9204 | 34.7161 | D-VD<br>SAND | 0 | 38 | 11.529  | 13.3882 | 17.136  | 0 | 17.136  | 25.1239 | 25.1239 |

## Discharge Sections

### Entity Information

#### ◆ Cross Section F-F'

##### Shared Entities

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 200            |
|                   | 640, 200          |
|                   | 640, 313          |
|                   | 640, 337          |
|                   | 640, 345          |
|                   | 281, 345          |
|                   | 240, 340          |
|                   | 221, 335          |
|                   | 210, 330          |
|                   | 198, 325          |
|                   | 188, 320          |
|                   | 180, 315          |
|                   | 171, 310          |
|                   | 163, 305          |
|                   | 155, 300          |
|                   | 145, 295          |
|                   | 131, 290          |
|                   | 114, 285          |
|                   | 95, 280           |
|                   | 81, 275           |
|                   | 69, 270           |
|                   | 50, 265           |
|                   | 48.3043, 264.674  |
|                   | 24, 260           |
|                   | 0, 260            |
| Material Boundary | 155, 300          |
|                   | 422, 320          |
|                   | 640, 337          |
| Material Boundary | 48.3043, 264.674  |
|                   | 422, 295          |
|                   | 640, 313          |

##### Scenario-based Entities

| Type        | Coordinates (x,y) | Master Scenario                                                                               | Seismic                                                                                         |
|-------------|-------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Water Table | 40, 264           | Assigned to:                                                                                  | Assigned to:                                                                                    |
|             | 422, 300          |  D-VD SAND |  D-VD SAND |
|             | 640, 337          |                                                                                               |                                                                                                 |

#### ◆ Cross Section AA-AA'

##### Shared Entities

| Type              | Coordinates (x,y)                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 200<br>320, 200<br>320, 350<br>242, 346<br>237, 345.286<br>200, 340<br>149, 330<br>111, 320<br>15, 272<br>9, 270<br>0, 268<br>0, 210.939 |
| Material Boundary | 170, 307<br>237, 345.286                                                                                                                    |
| Material Boundary | 0, 210.939<br>170, 307                                                                                                                      |

◆ **Cross Section BB-BB'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 200<br>300, 200<br>300, 368<br>260.665, 365.64<br>200, 362<br>182, 360<br>143, 354<br>20, 280<br>10, 276<br>0, 274<br>0, 253.066 |
| Material Boundary | 122, 306<br>216, 347<br>260.665, 365.64                                                                                             |
| Material Boundary | 0, 253.066<br>122, 306                                                                                                              |

◆ **Cross Section CC-CC'**

**Shared Entities**



| Type              | Coordinates (x,y)                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>240, 250<br>240, 367<br>240, 374<br>171, 374<br>161, 372<br>158, 370<br>149.9, 367<br>131, 360<br>18, 300<br>10, 296<br>5, 294<br>0, 292 |
| Material Boundary | 149.9, 367<br>240, 367                                                                                                                             |

◆ **Cross Section DD-DD'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 280<br>240, 280<br>240, 367<br>240, 386<br>187, 386<br>157, 380<br>146, 376<br>129.853, 367<br>24, 308<br>18, 306<br>10, 304<br>0, 302 |
| Material Boundary | 129.853, 367<br>240, 367                                                                                                                  |

◆ **Cross Section EE-EE'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>390, 250<br>390, 367<br>390, 400<br>252, 398<br>203, 396<br>185, 394<br>168, 390<br>124.76, 367<br>74, 340<br>54, 330<br>32, 320<br>0, 312 |
| Material Boundary | 124.76, 367<br>390, 367                                                                                                                              |

◆ **Cross Section FF-FF'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                 |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>272, 250<br>272, 367<br>272, 400<br>208, 394<br>190, 392<br>184, 390<br>150, 380<br>124, 367<br>70, 340<br>47, 330<br>18, 320<br>0, 316 |
| Material Boundary | 124, 367<br>272, 367                                                                                                                              |

 **Cross Section GG-GG'****Shared Entities**

| Type              | Coordinates (x,y)                                                                                                             |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>180, 250<br>180, 301<br>180, 350<br>135, 352<br>127, 350<br>108, 340<br>44.625, 301<br>43, 300<br>25, 290<br>0, 284 |
| Material Boundary | 44.625, 301<br>180, 301                                                                                                       |

 **Cross Section HH-HH'****Shared Entities**

| Type              | Coordinates (x,y)                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>180, 250<br>180, 301<br>180, 350<br>180, 360<br>132, 360<br>110, 350<br>17.069, 301<br>0, 292 |
| Material Boundary | 110, 350<br>180, 350                                                                                    |
| Material Boundary | 17.069, 301<br>180, 301                                                                                 |

 **Cross Section II-II'**

**Shared Entities**

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 260            |
|                   | 180, 260          |
|                   | 180, 370          |
|                   | 180, 380          |
|                   | 157, 380          |
|                   | 127, 370          |
|                   | 70, 340           |
|                   | 45, 330           |
|                   | 0, 322            |
| Material Boundary | 127, 370          |
|                   | 180, 370          |

 **Cross Section JJ-JJ'**
**Shared Entities**

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 300            |
|                   | 380, 300          |
|                   | 380, 371          |
|                   | 380, 380          |
|                   | 308, 384          |
|                   | 260, 386          |
|                   | 124, 386          |
|                   | 109, 380          |
|                   | 86.5, 371         |
|                   | 84, 370           |
|                   | 58, 360           |
|                   | 33, 350           |
|                   | 12, 342           |
|                   | 0, 340            |
| Material Boundary | 86.5, 371         |
|                   | 380, 371          |



Steep Slopes - No Landslide Hazard - Post Construction Conditions

Arlington 360

Terra Associates, Inc.

Date Created: April 7, 2025

Software Version: 9.038

# Table of Contents

|                                              |    |
|----------------------------------------------|----|
| Project Summary .....                        | 8  |
| Currently Open Scenarios .....               | 8  |
| General Settings .....                       | 11 |
| Analysis Options .....                       | 12 |
| All Open Scenarios .....                     | 12 |
| Groundwater Analysis .....                   | 13 |
| All Open Scenarios .....                     | 13 |
| Random Numbers .....                         | 14 |
| All Open Scenarios .....                     | 14 |
| Surface Options .....                        | 15 |
| Cross Section F-F' .....                     | 15 |
| Cross Section AA-AA' .....                   | 15 |
| Cross Section BB-BB' .....                   | 15 |
| Cross Section CC-CC' .....                   | 15 |
| Cross Section DD-DD' .....                   | 16 |
| Cross Section EE-EE' .....                   | 16 |
| Cross Section FF-FF' .....                   | 16 |
| Cross Section GG-GG' .....                   | 16 |
| Cross Section HH-HH' .....                   | 17 |
| Cross Section II-II' .....                   | 17 |
| Cross Section JJ-JJ' .....                   | 17 |
| Seismic Loading .....                        | 18 |
| Cross Section F-F' - Master Scenario .....   | 18 |
| Cross Section F-F' - Seismic .....           | 18 |
| Cross Section AA-AA' - Master Scenario ..... | 18 |
| Cross Section AA-AA' - Seismic .....         | 18 |
| Cross Section BB-BB' - Master Scenario ..... | 18 |
| Cross Section BB-BB' - Seismic .....         | 18 |
| Cross Section CC-CC' - Master Scenario ..... | 18 |
| Cross Section CC-CC' - Seismic .....         | 18 |
| Cross Section DD-DD' - Master Scenario ..... | 18 |
| Cross Section DD-DD' - Seismic .....         | 18 |
| Cross Section EE-EE' - Master Scenario ..... | 19 |
| Cross Section EE-EE' - Seismic .....         | 19 |
| Cross Section FF-FF' - Master Scenario ..... | 19 |
| Cross Section FF-FF' - Seismic .....         | 19 |
| Cross Section GG-GG' - Master Scenario ..... | 19 |
| Cross Section GG-GG' - Seismic .....         | 19 |
| Cross Section HH-HH' - Master Scenario ..... | 19 |
| Cross Section HH-HH' - Seismic .....         | 19 |
| Cross Section II-II' - Master Scenario ..... | 19 |
| Cross Section II-II' - Seismic .....         | 19 |

|                                              |    |
|----------------------------------------------|----|
| Cross Section JJ-JJ' - Master Scenario ..... | 19 |
| Cross Section JJ-JJ' - Seismic .....         | 19 |
| Loading .....                                | 21 |
| Cross Section F-F' .....                     | 21 |
| Cross Section AA-AA' .....                   | 21 |
| Cross Section BB-BB' .....                   | 21 |
| Cross Section CC-CC' .....                   | 21 |
| Cross Section DD-DD' .....                   | 21 |
| Cross Section EE-EE' .....                   | 21 |
| Cross Section FF-FF' .....                   | 21 |
| Cross Section GG-GG' .....                   | 21 |
| Cross Section HH-HH' .....                   | 22 |
| Cross Section II-II' .....                   | 22 |
| Cross Section JJ-JJ' .....                   | 22 |
| Materials .....                              | 23 |
| Materials In Use .....                       | 24 |
| Global Minimums .....                        | 25 |
| Cross Section F-F' - Master Scenario .....   | 25 |
| Method: bishop simplified .....              | 25 |
| Method: janbu simplified .....               | 25 |
| Cross Section F-F' - Seismic .....           | 25 |
| Method: bishop simplified .....              | 25 |
| Method: janbu simplified .....               | 25 |
| Cross Section AA-AA' - Master Scenario ..... | 26 |
| Method: bishop simplified .....              | 26 |
| Method: janbu simplified .....               | 26 |
| Cross Section AA-AA' - Seismic .....         | 26 |
| Method: bishop simplified .....              | 26 |
| Method: janbu simplified .....               | 26 |
| Cross Section BB-BB' - Master Scenario ..... | 27 |
| Method: bishop simplified .....              | 27 |
| Method: janbu simplified .....               | 27 |
| Cross Section BB-BB' - Seismic .....         | 27 |
| Method: bishop simplified .....              | 27 |
| Method: janbu simplified .....               | 27 |
| Cross Section CC-CC' - Master Scenario ..... | 28 |
| Method: bishop simplified .....              | 28 |
| Method: janbu simplified .....               | 28 |
| Cross Section CC-CC' - Seismic .....         | 28 |
| Method: bishop simplified .....              | 28 |
| Method: janbu simplified .....               | 28 |
| Cross Section DD-DD' - Master Scenario ..... | 29 |
| Method: bishop simplified .....              | 29 |

|                                              |    |
|----------------------------------------------|----|
| Method: janbu simplified .....               | 29 |
| Cross Section DD-DD' - Seismic .....         | 29 |
| Method: bishop simplified .....              | 29 |
| Method: janbu simplified .....               | 29 |
| Cross Section EE-EE' - Master Scenario ..... | 30 |
| Method: bishop simplified .....              | 30 |
| Method: janbu simplified .....               | 30 |
| Cross Section EE-EE' - Seismic .....         | 30 |
| Method: bishop simplified .....              | 30 |
| Method: janbu simplified .....               | 30 |
| Cross Section FF-FF' - Master Scenario ..... | 31 |
| Method: bishop simplified .....              | 31 |
| Method: janbu simplified .....               | 31 |
| Cross Section FF-FF' - Seismic .....         | 31 |
| Method: bishop simplified .....              | 31 |
| Method: janbu simplified .....               | 31 |
| Cross Section GG-GG' - Master Scenario ..... | 32 |
| Method: bishop simplified .....              | 32 |
| Method: janbu simplified .....               | 32 |
| Cross Section GG-GG' - Seismic .....         | 32 |
| Method: bishop simplified .....              | 32 |
| Method: janbu simplified .....               | 32 |
| Cross Section HH-HH' - Master Scenario ..... | 33 |
| Method: bishop simplified .....              | 33 |
| Method: janbu simplified .....               | 33 |
| Cross Section HH-HH' - Seismic .....         | 33 |
| Method: bishop simplified .....              | 33 |
| Method: janbu simplified .....               | 33 |
| Cross Section II-II' - Master Scenario ..... | 34 |
| Method: bishop simplified .....              | 34 |
| Method: janbu simplified .....               | 34 |
| Cross Section II-II' - Seismic .....         | 34 |
| Method: bishop simplified .....              | 34 |
| Method: janbu simplified .....               | 34 |
| Cross Section JJ-JJ' - Master Scenario ..... | 35 |
| Method: bishop simplified .....              | 35 |
| Method: janbu simplified .....               | 35 |
| Cross Section JJ-JJ' - Seismic .....         | 35 |
| Method: bishop simplified .....              | 35 |
| Method: janbu simplified .....               | 35 |
| Global Minimum Support Data .....            | 37 |
| All Open Scenarios .....                     | 37 |
| Slice Data .....                             | 38 |

|                                                                          |     |
|--------------------------------------------------------------------------|-----|
| Cross Section F-F' - Master Scenario .....                               | 38  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.49431 .....  | 38  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.45038 .....   | 40  |
| Cross Section F-F' - Seismic .....                                       | 42  |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.950407 ..... | 42  |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.919134 .....  | 44  |
| Cross Section AA-AA' - Master Scenario .....                             | 46  |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.04338 .....  | 46  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.95206 .....   | 50  |
| Cross Section AA-AA' - Seismic .....                                     | 54  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.26978 .....  | 54  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.20742 .....   | 58  |
| Cross Section BB-BB' - Master Scenario .....                             | 62  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.6446 .....   | 62  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.54759 .....   | 66  |
| Cross Section BB-BB' - Seismic .....                                     | 69  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.05918 .....  | 69  |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.987701 .....  | 73  |
| Cross Section CC-CC' - Master Scenario .....                             | 76  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.71747 .....  | 76  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.65165 .....   | 79  |
| Cross Section CC-CC' - Seismic .....                                     | 82  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.07533 .....  | 82  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.03142 .....   | 85  |
| Cross Section DD-DD' - Master Scenario .....                             | 88  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.63759 .....  | 88  |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.57371 .....   | 91  |
| Cross Section DD-DD' - Seismic .....                                     | 94  |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.03908 .....  | 94  |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.992887 .....  | 97  |
| Cross Section EE-EE' - Master Scenario .....                             | 100 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.7395 .....   | 100 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.66426 .....   | 103 |
| Cross Section EE-EE' - Seismic .....                                     | 106 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.09086 .....  | 106 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.03934 .....   | 109 |
| Cross Section FF-FF' - Master Scenario .....                             | 112 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.90643 .....  | 112 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.81846 .....   | 115 |
| Cross Section FF-FF' - Seismic .....                                     | 118 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.18105 .....  | 118 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.1227 .....    | 121 |
| Cross Section GG-GG' - Master Scenario .....                             | 124 |



|                                                                          |     |
|--------------------------------------------------------------------------|-----|
| Global Minimum Query (bishop simplified) - Safety Factor: 1.42113 .....  | 124 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.38083 .....   | 127 |
| Cross Section GG-GG' - Seismic .....                                     | 130 |
| Global Minimum Query (bishop simplified) - Safety Factor: 0.910885 ..... | 130 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.879895 .....  | 133 |
| Cross Section HH-HH' - Master Scenario .....                             | 136 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.60908 .....  | 136 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.56427 .....   | 139 |
| Cross Section HH-HH' - Seismic .....                                     | 142 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.00487 .....  | 142 |
| Global Minimum Query (janbu simplified) - Safety Factor: 0.973997 .....  | 145 |
| Cross Section II-II' - Master Scenario .....                             | 148 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.69753 .....  | 148 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.63381 .....   | 151 |
| Cross Section II-II' - Seismic .....                                     | 154 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.06403 .....  | 154 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.01933 .....   | 157 |
| Cross Section JJ-JJ' - Master Scenario .....                             | 160 |
| Global Minimum Query (bishop simplified) - Safety Factor: 2.04849 .....  | 160 |
| Global Minimum Query (janbu simplified) - Safety Factor: 2.02152 .....   | 162 |
| Cross Section JJ-JJ' - Seismic .....                                     | 164 |
| Global Minimum Query (bishop simplified) - Safety Factor: 1.17883 .....  | 164 |
| Global Minimum Query (janbu simplified) - Safety Factor: 1.16126 .....   | 166 |
| Entity Information .....                                                 | 168 |
| Cross Section F-F' .....                                                 | 168 |
| Shared Entities .....                                                    | 168 |
| Scenario-based Entities .....                                            | 168 |
| Cross Section AA-AA' .....                                               | 169 |
| Shared Entities .....                                                    | 169 |
| Scenario-based Entities .....                                            | 169 |
| Cross Section BB-BB' .....                                               | 169 |
| Shared Entities .....                                                    | 169 |
| Scenario-based Entities .....                                            | 170 |
| Cross Section CC-CC' .....                                               | 170 |
| Shared Entities .....                                                    | 170 |
| Scenario-based Entities .....                                            | 170 |
| Cross Section DD-DD' .....                                               | 171 |
| Shared Entities .....                                                    | 171 |
| Scenario-based Entities .....                                            | 171 |
| Cross Section EE-EE' .....                                               | 171 |
| Shared Entities .....                                                    | 171 |
| Scenario-based Entities .....                                            | 172 |
| Cross Section FF-FF' .....                                               | 172 |

Shared Entities ..... 172

Scenario-based Entities ..... 172

Cross Section GG-GG' ..... 173

Shared Entities ..... 173

Scenario-based Entities ..... 173

Cross Section HH-HH' ..... 173

Shared Entities ..... 173

Scenario-based Entities ..... 173

Cross Section II-II' ..... 174

Shared Entities ..... 174

Scenario-based Entities ..... 174

Cross Section JJ-JJ' ..... 174

Shared Entities ..... 174

Scenario-based Entities ..... 174

# Slide2 Analysis Information

## Steep Slopes - No Landslide Hazard - Post Construction Conditions

### Project Summary

|                         |                                                                        |
|-------------------------|------------------------------------------------------------------------|
| File Name:              | Steep Slopes - No Landslide Hazard - Post Construction Conditions.slmd |
| Slide2 Modeler Version: | 9.038                                                                  |
| Project Title:          | Arlington 360                                                          |
| Analysis:               | Steep Slopes without a Landslide Hazard - Post Construction Conditions |
| Author:                 | C. Decker                                                              |
| Company:                | Terra Associates, Inc.                                                 |
| Date Created:           | April 7, 2025                                                          |

### Currently Open Scenarios

| Group Name                                                                                               | Scenario Name   | Global Minimum                 | Compute Time    |
|----------------------------------------------------------------------------------------------------------|-----------------|--------------------------------|-----------------|
| Cross Section F-F'     | Master Scenario | Bishop Simplified:<br>1.494310 | 00h:00m:01.263s |
|                                                                                                          |                 | Janbu Simplified:<br>1.450380  |                 |
|                                                                                                          | Seismic         | Bishop Simplified:<br>0.950407 | 00h:00m:01.331s |
|                                                                                                          |                 | Janbu Simplified:<br>0.919134  |                 |
| Cross Section AA-AA'  | Master Scenario | Bishop Simplified:<br>2.043380 | 00h:00m:01.550s |
|                                                                                                          |                 | Janbu Simplified:<br>1.952060  |                 |
|                                                                                                          | Seismic         | Bishop Simplified:<br>1.269780 | 00h:00m:01.469s |
|                                                                                                          |                 | Janbu Simplified:<br>1.207420  |                 |
| Cross Section BB-BB'  | Master Scenario | Bishop Simplified:<br>1.644600 | 00h:00m:01.586s |
|                                                                                                          |                 | Janbu Simplified:<br>1.547590  |                 |
|                                                                                                          | Seismic         | Bishop Simplified:<br>1.059180 | 00h:00m:01.515s |
|                                                                                                          |                 | Janbu Simplified:<br>0.987701  |                 |

|                         |                                                                                     |                 |                                                                 |                 |
|-------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|-----------------|
| Cross Section<br>CC-CC' |    | Master Scenario | Bishop Simplified:<br>1.717470<br>Janbu Simplified:<br>1.651650 | 00h:00m:01.383s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>1.075330<br>Janbu Simplified:<br>1.031420 | 00h:00m:01.932s |
| Cross Section<br>DD-DD' |    | Master Scenario | Bishop Simplified:<br>1.637590<br>Janbu Simplified:<br>1.573710 | 00h:00m:01.510s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>1.039080<br>Janbu Simplified:<br>0.992887 | 00h:00m:01.555s |
| Cross Section<br>EE-EE' |    | Master Scenario | Bishop Simplified:<br>1.739500<br>Janbu Simplified:<br>1.664260 | 00h:00m:01.423s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>1.090860<br>Janbu Simplified:<br>1.039340 | 00h:00m:01.402s |
| Cross Section<br>FF-FF' |   | Master Scenario | Bishop Simplified:<br>1.906430<br>Janbu Simplified:<br>1.818460 | 00h:00m:01.542s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>1.181050<br>Janbu Simplified:<br>1.122700 | 00h:00m:01.485s |
| Cross Section<br>GG-GG' |  | Master Scenario | Bishop Simplified:<br>1.421130<br>Janbu Simplified:<br>1.380830 | 00h:00m:01.418s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>0.910885<br>Janbu Simplified:<br>0.879895 | 00h:00m:01.472s |
| Cross Section<br>HH-HH' |  | Master Scenario | Bishop Simplified:<br>1.609080<br>Janbu Simplified:<br>1.564270 | 00h:00m:01.355s |
|                         |                                                                                     | Seismic         | Bishop Simplified:<br>1.004870<br>Janbu Simplified:<br>0.973997 | 00h:00m:01.399s |

|                                                                                                           |                 |                                                                 |                 |
|-----------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|-----------------|
| Cross Section<br>II-II'  | Master Scenario | Bishop Simplified:<br>1.697530<br>Janbu Simplified:<br>1.633810 | 00h:00m:01.519s |
|                                                                                                           | Seismic         | Bishop Simplified:<br>1.064030<br>Janbu Simplified:<br>1.019330 | 00h:00m:01.484s |
| Cross Section<br>JJ-JJ'  | Master Scenario | Bishop Simplified:<br>2.048490<br>Janbu Simplified:<br>2.021520 | 00h:00m:01.133s |
|                                                                                                           | Seismic         | Bishop Simplified:<br>1.178830<br>Janbu Simplified:<br>1.161260 | 00h:00m:01.290s |

# General Settings

---

|                       |                |
|-----------------------|----------------|
| Units of Measurement: | Imperial Units |
| Time Units:           | days           |
| Permeability Units:   | feet/second    |
| Data Output:          | Standard       |
| Failure Direction:    | Right to Left  |

# Analysis Options

## All Open Scenarios

|                                                                             |                   |
|-----------------------------------------------------------------------------|-------------------|
| Slices Type:                                                                | Vertical          |
| Analysis Methods Used                                                       |                   |
|                                                                             | Bishop simplified |
|                                                                             | Janbu simplified  |
| Number of slices:                                                           | 50                |
| Tolerance:                                                                  | 0.005             |
| Maximum number of iterations:                                               | 75                |
| Check malpha < 0.2:                                                         | Yes               |
| Create Interslice boundaries at intersections with water tables and piezos: | Yes               |
| Initial trial value of FS:                                                  | 1                 |
| Steffensen Iteration:                                                       | Yes               |

## Groundwater Analysis

---

### **All Open Scenarios**

|                                   |                |
|-----------------------------------|----------------|
| Groundwater Method:               | Water Surfaces |
| Pore Fluid Unit Weight [lbs/ft3]: | 62.4           |
| Advanced Groundwater Method:      | None           |



# Random Numbers

---

## **All Open Scenarios**

|                                  |                     |
|----------------------------------|---------------------|
| Pseudo-random Seed:              | 10116               |
| Random Number Generation Method: | Park and Miller v.3 |

## Surface Options

---

### **Cross Section F-F'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section AA-AA'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section BB-BB'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### **Cross Section CC-CC'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

#### **Cross Section DD-DD'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

#### **Cross Section EE-EE'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

#### **Cross Section FF-FF'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

#### **Cross Section GG-GG'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section HH-HH'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section II-II'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth:                      | Not Defined        |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

### ◆ **Cross Section JJ-JJ'**

|                                     |                    |
|-------------------------------------|--------------------|
| Surface Type:                       | Circular           |
| Search Method:                      | Auto Refine Search |
| Divisions along slope:              | 20                 |
| Circles per division:               | 10                 |
| Number of iterations:               | 10                 |
| Divisions to use in next iteration: | 50%                |
| Composite Surfaces:                 | Disabled           |
| Minimum Elevation:                  | Not Defined        |
| Minimum Depth [ft]:                 | 5                  |
| Minimum Area:                       | Not Defined        |
| Minimum Weight:                     | Not Defined        |

## Seismic Loading

---

### ◆ **Cross Section F-F' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section F-F' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section AA-AA' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section AA-AA' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section BB-BB' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section BB-BB' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section CC-CC' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section CC-CC' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

### ◆ **Cross Section DD-DD' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ **Cross Section DD-DD' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section EE-EE' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section EE-EE' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section FF-FF' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section FF-FF' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section GG-GG' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section GG-GG' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section HH-HH' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section HH-HH' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section II-II' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section II-II' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

**◆ Cross Section JJ-JJ' - Master Scenario**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

**◆ Cross Section JJ-JJ' - Seismic**

|                                        |      |
|----------------------------------------|------|
| Advanced seismic analysis:             | No   |
| Staged pseudostatic analysis:          | No   |
| Seismic Load Coefficient (Horizontal): | 0.23 |

# Loading

---

## **Cross Section F-F'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section AA-AA'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section BB-BB'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section CC-CC'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section DD-DD'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section EE-EE'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section FF-FF'**

|                  |                    |
|------------------|--------------------|
|                  |                    |
| Distribution:    | Constant           |
| Magnitude [psf]: | 400                |
| Orientation:     | Normal to boundary |

## **Cross Section GG-GG'**





# Materials

## MD-VD Silty SAND/Silty SAND with gravel

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 130 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 150 psf                                                                           |
| Phi           | 38 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

## Hard SILT

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 110 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 250 psf                                                                           |
| Phi           | 32 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

## D-VD SAND

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 0 psf                                                                               |
| Phi           | 38 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## MD-D SAND/Silty SAND

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 125 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 50 psf                                                                              |
| Phi           | 36 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## D-VD Silty SAND

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 125 psf                                                                             |
| Phi           | 36 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

Materials In Use

| Material    | Cross Section F-F' | Seismic | Cross Section AA-AA' | Seismic | Cross Section BB-BB' | Seismic | Cross Section CC-CC' | Seismic | Cross Section DD-DD' | Seismic | Cross Section EE-EE' | Seismic | Cross Section FF-FF' | Seismic | Cross Section GG-GG' | Seismic | Cross Section HH-HH' | Seismic | Cross Section II-II' | Seismic | Cross Section JJ-JJ' | Seismic |
|-------------|--------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|
|             |                    |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |                      |         |
| MD-SAN grav | ✗                  | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       |
| Harc        | ✓                  | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✗                    | ✗       |
| D-VI        | ✓                  | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       |
| MD-SAN      | ✓                  | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       |
| D-VI SAN    | ✗                  | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✓                    | ✓       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       | ✗                    | ✗       |

## Global Minimums

### ◆ Cross Section F-F' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.494310                |
|------------------------------|-------------------------|
| Center:                      | 123.451, 396.536        |
| Radius:                      | 104.173                 |
| Left Slip Surface Endpoint:  | 142.576, 294.134        |
| Right Slip Surface Endpoint: | 199.928, 325.803        |
| Resisting Moment:            | 2.15637e+06 lb-ft       |
| Driving Moment:              | 1.44305e+06 lb-ft       |
| Total Slice Area:            | 228.481 ft <sup>2</sup> |
| Surface Horizontal Width:    | 57.3525 ft              |
| Surface Average Height:      | 3.9838 ft               |

**Method: janbu simplified**

| FS                           | 1.450380                |
|------------------------------|-------------------------|
| Center:                      | 137.317, 366.510        |
| Radius:                      | 72.200                  |
| Left Slip Surface Endpoint:  | 143.917, 294.613        |
| Right Slip Surface Endpoint: | 195.487, 323.743        |
| Resisting Horizontal Force:  | 18681.4 lb              |
| Driving Horizontal Force:    | 12880.4 lb              |
| Total Slice Area:            | 245.335 ft <sup>2</sup> |
| Surface Horizontal Width:    | 51.5699 ft              |
| Surface Average Height:      | 4.75733 ft              |

### ◆ Cross Section F-F' - Seismic

**Method: bishop simplified**

| FS                           | 0.950407                |
|------------------------------|-------------------------|
| Center:                      | 121.048, 402.106        |
| Radius:                      | 110.521                 |
| Left Slip Surface Endpoint:  | 140.041, 293.229        |
| Right Slip Surface Endpoint: | 201.703, 326.543        |
| Resisting Moment:            | 2.27184e+06 lb-ft       |
| Driving Moment:              | 2.39038e+06 lb-ft       |
| Total Slice Area:            | 256.901 ft <sup>2</sup> |
| Surface Horizontal Width:    | 61.6618 ft              |
| Surface Average Height:      | 4.16628 ft              |

**Method: janbu simplified**

| FS                           | 0.919134               |
|------------------------------|------------------------|
| Center:                      | 136.634, 371.030       |
| Radius:                      | 76.992                 |
| Left Slip Surface Endpoint:  | 143.059, 294.307       |
| Right Slip Surface Endpoint: | 198.509, 325.212       |
| Resisting Horizontal Force:  | 19364.6 lb             |
| Driving Horizontal Force:    | 21068.3 lb             |
| Total Slice Area:            | 286.06 ft <sup>2</sup> |
| Surface Horizontal Width:    | 55.45 ft               |
| Surface Average Height:      | 5.15889 ft             |

### ◆ Cross Section AA-AA' - Master Scenario

**Method: bishop simplified**

| FS                           | 2.043380                |
|------------------------------|-------------------------|
| Center:                      | 10.346, 409.801         |
| Radius:                      | 139.808                 |
| Left Slip Surface Endpoint:  | 9.000, 270.000          |
| Right Slip Surface Endpoint: | 119.292, 322.182        |
| Resisting Moment:            | 1.85163e+07 lb-ft       |
| Driving Moment:              | 9.06163e+06 lb-ft       |
| Total Slice Area:            | 1199.26 ft <sup>2</sup> |
| Surface Horizontal Width:    | 110.292 ft              |
| Surface Average Height:      | 10.8735 ft              |

**Method: janbu simplified**

| FS                           | 1.952060                |
|------------------------------|-------------------------|
| Center:                      | 22.303, 381.095         |
| Radius:                      | 111.724                 |
| Left Slip Surface Endpoint:  | 9.367, 270.122          |
| Right Slip Surface Endpoint: | 116.826, 321.533        |
| Resisting Horizontal Force:  | 134676 lb               |
| Driving Horizontal Force:    | 68991.8 lb              |
| Total Slice Area:            | 1410.22 ft <sup>2</sup> |
| Surface Horizontal Width:    | 107.459 ft              |
| Surface Average Height:      | 13.1232 ft              |

### ◆ Cross Section AA-AA' - Seismic

**Method: bishop simplified**

| FS                           | 1.269780               |
|------------------------------|------------------------|
| Center:                      | -6.720, 464.917        |
| Radius:                      | 195.311                |
| Left Slip Surface Endpoint:  | 9.955, 270.318         |
| Right Slip Surface Endpoint: | 129.384, 324.838       |
| Resisting Moment:            | 2.32593e+07 lb-ft      |
| Driving Moment:              | 1.83175e+07 lb-ft      |
| Total Slice Area:            | 1171.8 ft <sup>2</sup> |
| Surface Horizontal Width:    | 119.43 ft              |
| Surface Average Height:      | 9.81165 ft             |

**Method: janbu simplified**

| FS                           | 1.207420                |
|------------------------------|-------------------------|
| Center:                      | 11.897, 414.627         |
| Radius:                      | 144.649                 |
| Left Slip Surface Endpoint:  | 9.018, 270.006          |
| Right Slip Surface Endpoint: | 124.215, 323.478        |
| Resisting Horizontal Force:  | 120464 lb               |
| Driving Horizontal Force:    | 99769.8 lb              |
| Total Slice Area:            | 1361.05 ft <sup>2</sup> |
| Surface Horizontal Width:    | 115.197 ft              |
| Surface Average Height:      | 11.815 ft               |

### ◆ Cross Section BB-BB' - Master Scenario

#### Method: bishop simplified

| FS                           | 1.644600                |
|------------------------------|-------------------------|
| Center:                      | -29.450, 520.309        |
| Radius:                      | 245.371                 |
| Left Slip Surface Endpoint:  | 19.856, 279.942         |
| Right Slip Surface Endpoint: | 152.266, 355.425        |
| Resisting Moment:            | 3.85335e+07 lb-ft       |
| Driving Moment:              | 2.34303e+07 lb-ft       |
| Total Slice Area:            | 1492.19 ft <sup>2</sup> |
| Surface Horizontal Width:    | 132.41 ft               |
| Surface Average Height:      | 11.2695 ft              |

#### Method: janbu simplified

| FS                           | 1.547590                |
|------------------------------|-------------------------|
| Center:                      | 24.726, 414.272         |
| Radius:                      | 141.021                 |
| Left Slip Surface Endpoint:  | 3.950, 274.790          |
| Right Slip Surface Endpoint: | 152.929, 355.528        |
| Resisting Horizontal Force:  | 268381 lb               |
| Driving Horizontal Force:    | 173419 lb               |
| Total Slice Area:            | 3271.69 ft <sup>2</sup> |
| Surface Horizontal Width:    | 148.979 ft              |
| Surface Average Height:      | 21.9607 ft              |

### ◆ Cross Section BB-BB' - Seismic

#### Method: bishop simplified

| FS                           | 1.059180                |
|------------------------------|-------------------------|
| Center:                      | -28.376, 522.537        |
| Radius:                      | 247.343                 |
| Left Slip Surface Endpoint:  | 19.856, 279.942         |
| Right Slip Surface Endpoint: | 154.256, 355.732        |
| Resisting Moment:            | 3.67201e+07 lb-ft       |
| Driving Moment:              | 3.46685e+07 lb-ft       |
| Total Slice Area:            | 1583.62 ft <sup>2</sup> |
| Surface Horizontal Width:    | 134.401 ft              |
| Surface Average Height:      | 11.7828 ft              |

#### Method: janbu simplified

| FS                           | 0.987701                |
|------------------------------|-------------------------|
| Center:                      | 25.432, 414.927         |
| Radius:                      | 141.773                 |
| Left Slip Surface Endpoint:  | 3.950, 274.790          |
| Right Slip Surface Endpoint: | 154.256, 355.732        |
| Resisting Horizontal Force:  | 250205 lb               |
| Driving Horizontal Force:    | 253321 lb               |
| Total Slice Area:            | 3368.07 ft <sup>2</sup> |
| Surface Horizontal Width:    | 150.306 ft              |
| Surface Average Height:      | 22.4081 ft              |

### ◆ Cross Section CC-CC' - Master Scenario

#### Method: bishop simplified

| FS                           | 1.717470               |
|------------------------------|------------------------|
| Center:                      | -33.104, 549.411       |
| Radius:                      | 259.369                |
| Left Slip Surface Endpoint:  | 0.602, 292.241         |
| Right Slip Surface Endpoint: | 152.079, 367.807       |
| Resisting Moment:            | 4.11098e+07 lb-ft      |
| Driving Moment:              | 2.39363e+07 lb-ft      |
| Total Slice Area:            | 1728.5 ft <sup>2</sup> |
| Surface Horizontal Width:    | 151.477 ft             |
| Surface Average Height:      | 11.411 ft              |

#### Method: janbu simplified

| FS                           | 1.651650                |
|------------------------------|-------------------------|
| Center:                      | -4.945, 482.005         |
| Radius:                      | 190.062                 |
| Left Slip Surface Endpoint:  | 0.019, 292.008          |
| Right Slip Surface Endpoint: | 144.969, 365.174        |
| Resisting Horizontal Force:  | 160465 lb               |
| Driving Horizontal Force:    | 97154 lb                |
| Total Slice Area:            | 2034.36 ft <sup>2</sup> |
| Surface Horizontal Width:    | 144.95 ft               |
| Surface Average Height:      | 14.0349 ft              |

### ◆ Cross Section CC-CC' - Seismic

#### Method: bishop simplified

| FS                           | 1.075330                |
|------------------------------|-------------------------|
| Center:                      | -32.855, 572.111        |
| Radius:                      | 282.012                 |
| Left Slip Surface Endpoint:  | 0.067, 292.027          |
| Right Slip Surface Endpoint: | 167.073, 373.215        |
| Resisting Moment:            | 5.15953e+07 lb-ft       |
| Driving Moment:              | 4.7981e+07 lb-ft        |
| Total Slice Area:            | 2232.31 ft <sup>2</sup> |
| Surface Horizontal Width:    | 167.006 ft              |
| Surface Average Height:      | 13.3666 ft              |

#### Method: janbu simplified

| FS                           | 1.031420                |
|------------------------------|-------------------------|
| Center:                      | -2.637, 489.675         |
| Radius:                      | 197.231                 |
| Left Slip Surface Endpoint:  | 1.204, 292.481          |
| Right Slip Surface Endpoint: | 152.585, 367.995        |
| Resisting Horizontal Force:  | 163726 lb               |
| Driving Horizontal Force:    | 158738 lb               |
| Total Slice Area:            | 2297.39 ft <sup>2</sup> |
| Surface Horizontal Width:    | 151.382 ft              |
| Surface Average Height:      | 15.1761 ft              |

### ◆ Cross Section DD-DD' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.637590                |
|------------------------------|-------------------------|
| Center:                      | -15.298, 548.936        |
| Radius:                      | 244.121                 |
| Left Slip Surface Endpoint:  | 23.988, 307.996         |
| Right Slip Surface Endpoint: | 161.855, 380.971        |
| Resisting Moment:            | 3.54717e+07 lb-ft       |
| Driving Moment:              | 2.16608e+07 lb-ft       |
| Total Slice Area:            | 1577.15 ft <sup>2</sup> |
| Surface Horizontal Width:    | 137.867 ft              |
| Surface Average Height:      | 11.4397 ft              |

**Method: janbu simplified**

| FS                           | 1.573710                |
|------------------------------|-------------------------|
| Center:                      | 10.503, 493.141         |
| Radius:                      | 186.462                 |
| Left Slip Surface Endpoint:  | 20.908, 306.969         |
| Right Slip Surface Endpoint: | 159.025, 380.405        |
| Resisting Horizontal Force:  | 151509 lb               |
| Driving Horizontal Force:    | 96275.2 lb              |
| Total Slice Area:            | 1943.34 ft <sup>2</sup> |
| Surface Horizontal Width:    | 138.117 ft              |
| Surface Average Height:      | 14.0703 ft              |

### ◆ Cross Section DD-DD' - Seismic

**Method: bishop simplified**

| FS                           | 1.039080                |
|------------------------------|-------------------------|
| Center:                      | -14.039, 552.727        |
| Radius:                      | 247.668                 |
| Left Slip Surface Endpoint:  | 23.988, 307.996         |
| Right Slip Surface Endpoint: | 164.999, 381.600        |
| Resisting Moment:            | 3.49612e+07 lb-ft       |
| Driving Moment:              | 3.36464e+07 lb-ft       |
| Total Slice Area:            | 1709.37 ft <sup>2</sup> |
| Surface Horizontal Width:    | 141.011 ft              |
| Surface Average Height:      | 12.1222 ft              |

**Method: janbu simplified**



| FS                           | 0.992887                |
|------------------------------|-------------------------|
| Center:                      | 11.149, 496.226         |
| Radius:                      | 189.726                 |
| Left Slip Surface Endpoint:  | 20.138, 306.713         |
| Right Slip Surface Endpoint: | 161.855, 380.971        |
| Resisting Horizontal Force:  | 146962 lb               |
| Driving Horizontal Force:    | 148015 lb               |
| Total Slice Area:            | 2092.33 ft <sup>2</sup> |
| Surface Horizontal Width:    | 141.717 ft              |
| Surface Average Height:      | 14.7642 ft              |

### ◆ Cross Section EE-EE' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.739500                |
|------------------------------|-------------------------|
| Center:                      | 1.670, 570.918          |
| Radius:                      | 252.680                 |
| Left Slip Surface Endpoint:  | 32.196, 320.089         |
| Right Slip Surface Endpoint: | 181.196, 393.105        |
| Resisting Moment:            | 4.05416e+07 lb-ft       |
| Driving Moment:              | 2.33065e+07 lb-ft       |
| Total Slice Area:            | 1689.02 ft <sup>2</sup> |
| Surface Horizontal Width:    | 149.001 ft              |
| Surface Average Height:      | 11.3356 ft              |

**Method: janbu simplified**

| FS                           | 1.664260               |
|------------------------------|------------------------|
| Center:                      | 28.704, 508.755        |
| Radius:                      | 188.783                |
| Left Slip Surface Endpoint:  | 32.000, 320.000        |
| Right Slip Surface Endpoint: | 177.178, 392.159       |
| Resisting Horizontal Force:  | 165513 lb              |
| Driving Horizontal Force:    | 99451.2 lb             |
| Total Slice Area:            | 2050.1 ft <sup>2</sup> |
| Surface Horizontal Width:    | 145.178 ft             |
| Surface Average Height:      | 14.1214 ft             |

### ◆ Cross Section EE-EE' - Seismic

**Method: bishop simplified**

| FS                           | 1.090860               |
|------------------------------|------------------------|
| Center:                      | 3.053, 578.448         |
| Radius:                      | 260.149                |
| Left Slip Surface Endpoint:  | 31.383, 319.846        |
| Right Slip Surface Endpoint: | 186.701, 394.189       |
| Resisting Moment:            | 4.29198e+07 lb-ft      |
| Driving Moment:              | 3.9345e+07 lb-ft       |
| Total Slice Area:            | 1932.4 ft <sup>2</sup> |
| Surface Horizontal Width:    | 155.318 ft             |
| Surface Average Height:      | 12.4416 ft             |

**Method: janbu simplified**

| FS                           | 1.039340               |
|------------------------------|------------------------|
| Center:                      | 29.906, 511.865        |
| Radius:                      | 191.875                |
| Left Slip Surface Endpoint:  | 32.000, 320.000        |
| Right Slip Surface Endpoint: | 180.478, 392.936       |
| Resisting Horizontal Force:  | 161118 lb              |
| Driving Horizontal Force:    | 155020 lb              |
| Total Slice Area:            | 2204.2 ft <sup>2</sup> |
| Surface Horizontal Width:    | 148.478 ft             |
| Surface Average Height:      | 14.8453 ft             |

### ◆ Cross Section FF-FF' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.906430                |
|------------------------------|-------------------------|
| Center:                      | 48.343, 475.317         |
| Radius:                      | 145.866                 |
| Left Slip Surface Endpoint:  | 45.488, 329.479         |
| Right Slip Surface Endpoint: | 161.619, 383.417        |
| Resisting Moment:            | 1.84704e+07 lb-ft       |
| Driving Moment:              | 9.68849e+06 lb-ft       |
| Total Slice Area:            | 1320.33 ft <sup>2</sup> |
| Surface Horizontal Width:    | 116.131 ft              |
| Surface Average Height:      | 11.3693 ft              |

**Method: janbu simplified**

| FS                           | 1.818460                |
|------------------------------|-------------------------|
| Center:                      | 60.802, 443.912         |
| Radius:                      | 114.987                 |
| Left Slip Surface Endpoint:  | 46.480, 329.821         |
| Right Slip Surface Endpoint: | 157.904, 382.325        |
| Resisting Horizontal Force:  | 124488 lb               |
| Driving Horizontal Force:    | 68457.9 lb              |
| Total Slice Area:            | 1506.55 ft <sup>2</sup> |
| Surface Horizontal Width:    | 111.424 ft              |
| Surface Average Height:      | 13.5209 ft              |

### ◆ Cross Section FF-FF' - Seismic

**Method: bishop simplified**

| FS                           | 1.181050                |
|------------------------------|-------------------------|
| Center:                      | 20.615, 551.449         |
| Radius:                      | 225.926                 |
| Left Slip Surface Endpoint:  | 35.427, 326.009         |
| Right Slip Surface Endpoint: | 176.311, 387.739        |
| Resisting Moment:            | 3.02196e+07 lb-ft       |
| Driving Moment:              | 2.5587e+07 lb-ft        |
| Total Slice Area:            | 1514.64 ft <sup>2</sup> |
| Surface Horizontal Width:    | 140.884 ft              |
| Surface Average Height:      | 10.751 ft               |

**Method: janbu simplified**

| FS                           | 1.122700                |
|------------------------------|-------------------------|
| Center:                      | 45.165, 487.193         |
| Radius:                      | 159.974                 |
| Left Slip Surface Endpoint:  | 39.253, 327.329         |
| Right Slip Surface Endpoint: | 168.642, 385.483        |
| Resisting Horizontal Force:  | 126921 lb               |
| Driving Horizontal Force:    | 113050 lb               |
| Total Slice Area:            | 1655.86 ft <sup>2</sup> |
| Surface Horizontal Width:    | 129.388 ft              |
| Surface Average Height:      | 12.7976 ft              |

### ◆ Cross Section GG-GG' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.421130                |
|------------------------------|-------------------------|
| Center:                      | 11.210, 454.095         |
| Radius:                      | 156.324                 |
| Left Slip Surface Endpoint:  | 45.600, 301.600         |
| Right Slip Surface Endpoint: | 128.076, 350.269        |
| Resisting Moment:            | 7.61511e+06 lb-ft       |
| Driving Moment:              | 5.35847e+06 lb-ft       |
| Total Slice Area:            | 549.748 ft <sup>2</sup> |
| Surface Horizontal Width:    | 82.4759 ft              |
| Surface Average Height:      | 6.66555 ft              |

**Method: janbu simplified**

| FS                           | 1.380830                |
|------------------------------|-------------------------|
| Center:                      | 31.746, 411.540         |
| Radius:                      | 110.711                 |
| Left Slip Surface Endpoint:  | 45.803, 301.725         |
| Right Slip Surface Endpoint: | 121.939, 347.336        |
| Resisting Horizontal Force:  | 44180.8 lb              |
| Driving Horizontal Force:    | 31995.8 lb              |
| Total Slice Area:            | 592.391 ft <sup>2</sup> |
| Surface Horizontal Width:    | 76.1357 ft              |
| Surface Average Height:      | 7.78073 ft              |

### ◆ Cross Section GG-GG' - Seismic

**Method: bishop simplified**

| FS                           | 0.910885                |
|------------------------------|-------------------------|
| Center:                      | 11.619, 455.580         |
| Radius:                      | 157.685                 |
| Left Slip Surface Endpoint:  | 45.602, 301.601         |
| Right Slip Surface Endpoint: | 129.242, 350.561        |
| Resisting Moment:            | 7.1591e+06 lb-ft        |
| Driving Moment:              | 7.8595e+06 lb-ft        |
| Total Slice Area:            | 579.473 ft <sup>2</sup> |
| Surface Horizontal Width:    | 83.6401 ft              |
| Surface Average Height:      | 6.92818 ft              |

**Method: janbu simplified**

| FS                           | 0.879895                |
|------------------------------|-------------------------|
| Center:                      | 31.532, 418.813         |
| Radius:                      | 117.989                 |
| Left Slip Surface Endpoint:  | 45.733, 301.682         |
| Right Slip Surface Endpoint: | 127.458, 350.114        |
| Resisting Horizontal Force:  | 46003.6 lb              |
| Driving Horizontal Force:    | 52283.1 lb              |
| Total Slice Area:            | 696.625 ft <sup>2</sup> |
| Surface Horizontal Width:    | 81.7246 ft              |
| Surface Average Height:      | 8.52405 ft              |

### ◆ Cross Section HH-HH' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.609080                |
|------------------------------|-------------------------|
| Center:                      | -9.151, 469.669         |
| Radius:                      | 170.575                 |
| Left Slip Surface Endpoint:  | 17.397, 301.173         |
| Right Slip Surface Endpoint: | 114.292, 351.951        |
| Resisting Moment:            | 1.04435e+07 lb-ft       |
| Driving Moment:              | 6.49036e+06 lb-ft       |
| Total Slice Area:            | 674.627 ft <sup>2</sup> |
| Surface Horizontal Width:    | 96.8948 ft              |
| Surface Average Height:      | 6.96247 ft              |

**Method: janbu simplified**

| FS                           | 1.564270                |
|------------------------------|-------------------------|
| Center:                      | 11.225, 428.987         |
| Radius:                      | 127.944                 |
| Left Slip Surface Endpoint:  | 17.438, 301.195         |
| Right Slip Surface Endpoint: | 112.894, 351.316        |
| Resisting Horizontal Force:  | 68289.3 lb              |
| Driving Horizontal Force:    | 43655.8 lb              |
| Total Slice Area:            | 873.784 ft <sup>2</sup> |
| Surface Horizontal Width:    | 95.4564 ft              |
| Surface Average Height:      | 9.15375 ft              |

### ◆ Cross Section HH-HH' - Seismic

**Method: bishop simplified**

| FS                           | 1.004870                |
|------------------------------|-------------------------|
| Center:                      | -9.524, 474.203         |
| Radius:                      | 175.115                 |
| Left Slip Surface Endpoint:  | 17.388, 301.168         |
| Right Slip Surface Endpoint: | 117.076, 353.216        |
| Resisting Moment:            | 1.02939e+07 lb-ft       |
| Driving Moment:              | 1.0244e+07 lb-ft        |
| Total Slice Area:            | 722.502 ft <sup>2</sup> |
| Surface Horizontal Width:    | 99.6876 ft              |
| Surface Average Height:      | 7.24766 ft              |

**Method: janbu simplified**

| FS                           | 0.973997                |
|------------------------------|-------------------------|
| Center:                      | 11.353, 432.095         |
| Radius:                      | 131.034                 |
| Left Slip Surface Endpoint:  | 17.456, 301.204         |
| Right Slip Surface Endpoint: | 115.410, 352.459        |
| Resisting Horizontal Force:  | 65392.3 lb              |
| Driving Horizontal Force:    | 67138.1 lb              |
| Total Slice Area:            | 927.952 ft <sup>2</sup> |
| Surface Horizontal Width:    | 97.9541 ft              |
| Surface Average Height:      | 9.47334 ft              |

### ◆ Cross Section II-II' - Master Scenario

**Method: bishop simplified**

| FS                           | 1.697530                |
|------------------------------|-------------------------|
| Center:                      | 49.715, 451.782         |
| Radius:                      | 114.770                 |
| Left Slip Surface Endpoint:  | 65.127, 338.051         |
| Right Slip Surface Endpoint: | 131.847, 371.616        |
| Resisting Moment:            | 3.51009e+06 lb-ft       |
| Driving Moment:              | 2.06776e+06 lb-ft       |
| Total Slice Area:            | 322.457 ft <sup>2</sup> |
| Surface Horizontal Width:    | 66.7198 ft              |
| Surface Average Height:      | 4.83301 ft              |

**Method: janbu simplified**

| FS                           | 1.633810                |
|------------------------------|-------------------------|
| Center:                      | 62.650, 422.739         |
| Radius:                      | 84.660                  |
| Left Slip Surface Endpoint:  | 65.301, 338.120         |
| Right Slip Surface Endpoint: | 129.542, 370.847        |
| Resisting Horizontal Force:  | 31562.4 lb              |
| Driving Horizontal Force:    | 19318.3 lb              |
| Total Slice Area:            | 388.458 ft <sup>2</sup> |
| Surface Horizontal Width:    | 64.2415 ft              |
| Surface Average Height:      | 6.04684 ft              |

### ◆ Cross Section II-II' - Seismic

**Method: bishop simplified**

| FS                           | 1.064030                |
|------------------------------|-------------------------|
| Center:                      | 45.951, 459.614         |
| Radius:                      | 124.075                 |
| Left Slip Surface Endpoint:  | 61.199, 336.480         |
| Right Slip Surface Endpoint: | 134.204, 372.401        |
| Resisting Moment:            | 4.06189e+06 lb-ft       |
| Driving Moment:              | 3.81748e+06 lb-ft       |
| Total Slice Area:            | 384.047 ft <sup>2</sup> |
| Surface Horizontal Width:    | 73.0044 ft              |
| Surface Average Height:      | 5.26059 ft              |

**Method: janbu simplified**

| FS                           | 1.019330                |
|------------------------------|-------------------------|
| Center:                      | 60.910, 426.332         |
| Radius:                      | 89.193                  |
| Left Slip Surface Endpoint:  | 62.902, 337.161         |
| Right Slip Surface Endpoint: | 131.173, 371.391        |
| Resisting Horizontal Force:  | 32291.4 lb              |
| Driving Horizontal Force:    | 31678.9 lb              |
| Total Slice Area:            | 439.813 ft <sup>2</sup> |
| Surface Horizontal Width:    | 68.2708 ft              |
| Surface Average Height:      | 6.44219 ft              |

### ◆ Cross Section JJ-JJ' - Master Scenario

**Method: bishop simplified**

| FS                           | 2.048490                |
|------------------------------|-------------------------|
| Center:                      | -11.840, 511.034        |
| Radius:                      | 170.815                 |
| Left Slip Surface Endpoint:  | 8.885, 341.481          |
| Right Slip Surface Endpoint: | 85.269, 370.508         |
| Resisting Moment:            | 3.67027e+06 lb-ft       |
| Driving Moment:              | 1.7917e+06 lb-ft        |
| Total Slice Area:            | 243.893 ft <sup>2</sup> |
| Surface Horizontal Width:    | 76.3838 ft              |
| Surface Average Height:      | 3.19299 ft              |

**Method: janbu simplified**

| FS                           | 2.021520               |
|------------------------------|------------------------|
| Center:                      | -6.129, 502.790        |
| Radius:                      | 161.037                |
| Left Slip Surface Endpoint:  | 15.008, 343.146        |
| Right Slip Surface Endpoint: | 86.303, 370.921        |
| Resisting Horizontal Force:  | 19149.6 lb             |
| Driving Horizontal Force:    | 9472.88 lb             |
| Total Slice Area:            | 234.76 ft <sup>2</sup> |
| Surface Horizontal Width:    | 71.295 ft              |
| Surface Average Height:      | 3.29279 ft             |

### ◆ Cross Section JJ-JJ' - Seismic

**Method: bishop simplified**

| FS                           | 1.178830                |
|------------------------------|-------------------------|
| Center:                      | -13.244, 515.334        |
| Radius:                      | 175.327                 |
| Left Slip Surface Endpoint:  | 7.255, 341.209          |
| Right Slip Surface Endpoint: | 86.002, 370.801         |
| Resisting Moment:            | 3.48662e+06 lb-ft       |
| Driving Moment:              | 2.9577e+06 lb-ft        |
| Total Slice Area:            | 247.014 ft <sup>2</sup> |
| Surface Horizontal Width:    | 78.7474 ft              |
| Surface Average Height:      | 3.13679 ft              |

**Method: janbu simplified**

| FS                           |  | 1.161260                |
|------------------------------|--|-------------------------|
| Center:                      |  | -6.591, 503.054         |
| Radius:                      |  | 161.463                 |
| Left Slip Surface Endpoint:  |  | 14.587, 342.986         |
| Right Slip Surface Endpoint: |  | 86.077, 370.831         |
| Resisting Horizontal Force:  |  | 17589.4 lb              |
| Driving Horizontal Force:    |  | 15146.8 lb              |
| Total Slice Area:            |  | 236.006 ft <sup>2</sup> |
| Surface Horizontal Width:    |  | 71.4898 ft              |
| Surface Average Height:      |  | 3.30126 ft              |

# Global Minimum Support Data

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## All Open Scenarios

No Supports Present



# Slice Data

## ◆ Cross Section F-F' - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.49431

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.14185    | 12.8764      | 10.8987                   | D-VD SAND             | 0                   | 38                        | 5.35764            | 8.00597              | 10.2472                  | 0                   | 10.2472                       | 11.2788                    | 11.2788                         |
| 2            | 1.14185    | 37.7205      | 11.539                    | D-VD SAND             | 0                   | 38                        | 15.6089            | 23.3245              | 29.854                   | 0                   | 29.854                        | 33.0407                    | 33.0407                         |
| 3            | 1.14185    | 69.3363      | 12.1807                   | D-VD SAND             | 0                   | 38                        | 28.5343            | 42.6391              | 54.5756                  | 0                   | 54.5756                       | 60.7349                    | 60.7349                         |
| 4            | 1.14185    | 112.703      | 12.824                    | D-VD SAND             | 0                   | 38                        | 46.1262            | 68.9269              | 88.2223                  | 0                   | 88.2223                       | 98.7223                    | 98.7223                         |
| 5            | 1.14185    | 154.388      | 13.469                    | D-VD SAND             | 0                   | 38                        | 62.8391            | 93.9011              | 120.188                  | 0                   | 120.188                       | 135.238                    | 135.238                         |
| 6            | 1.14185    | 194.209      | 14.1157                   | D-VD SAND             | 0                   | 38                        | 78.6102            | 117.468              | 150.353                  | 0                   | 150.353                       | 170.121                    | 170.121                         |
| 7            | 1.14185    | 232.149      | 14.7642                   | D-VD SAND             | 0                   | 38                        | 93.4471            | 139.639              | 178.73                   | 0                   | 178.73                        | 203.357                    | 203.357                         |
| 8            | 1.14185    | 268.192      | 15.4147                   | D-VD SAND             | 0                   | 38                        | 107.357            | 160.424              | 205.333                  | 0                   | 205.333                       | 234.933                    | 234.933                         |
| 9            | 1.14185    | 302.321      | 16.0672                   | D-VD SAND             | 0                   | 38                        | 120.343            | 179.83               | 230.172                  | 0                   | 230.172                       | 264.832                    | 264.832                         |
| 10           | 1.14185    | 334.517      | 16.7218                   | D-VD SAND             | 0                   | 38                        | 132.414            | 197.867              | 253.258                  | 0                   | 253.258                       | 293.039                    | 293.039                         |
| 11           | 1.14185    | 364.925      | 17.3788                   | D-VD SAND             | 0                   | 38                        | 143.637            | 214.638              | 274.724                  | 0                   | 274.724                       | 319.679                    | 319.679                         |
| 12           | 1.14185    | 407.363      | 18.038                    | D-VD SAND             | 0                   | 38                        | 159.434            | 238.244              | 304.938                  | 0                   | 304.938                       | 356.859                    | 356.859                         |
| 13           | 1.14185    | 456.782      | 18.6998                   | D-VD SAND             | 0                   | 38                        | 177.759            | 265.627              | 339.987                  | 0                   | 339.987                       | 400.154                    | 400.154                         |
| 14           | 1.14185    | 504.182      | 19.3642                   | D-VD SAND             | 0                   | 38                        | 195.083            | 291.514              | 373.121                  | 0                   | 373.121                       | 441.683                    | 441.683                         |
| 15           | 1.14185    | 549.54       | 20.0312                   | D-VD SAND             | 0                   | 38                        | 211.409            | 315.91               | 404.345                  | 0                   | 404.345                       | 481.422                    | 481.422                         |
| 16           | 1.14185    | 592.829      | 20.7012                   | D-VD SAND             | 0                   | 38                        | 226.739            | 338.819              | 433.668                  | 0                   | 433.668                       | 519.351                    | 519.351                         |
| 17           | 1.14185    | 634.023      | 21.3741                   | D-VD SAND             | 0                   | 38                        | 241.078            | 360.245              | 461.093                  | 0                   | 461.093                       | 555.445                    | 555.445                         |
| 18           | 1.14185    | 673.093      | 22.0501                   | D-VD SAND             | 0                   | 38                        | 254.427            | 380.193              | 486.624                  | 0                   | 486.624                       | 589.678                    | 589.678                         |
| 19           | 1.14185    | 710.009      | 22.7293                   | D-VD SAND             | 0                   | 38                        | 266.787            | 398.663              | 510.265                  | 0                   | 510.265                       | 622.025                    | 622.025                         |
| 20           | 1.15024    | 749.14       | 23.4145                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 289.327            | 432.344              | 526.252                  | 0                   | 526.252                       | 651.541                    | 651.541                         |
| 21           | 1.15024    | 779.696      | 24.1057                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 298.277            | 445.719              | 544.66                   | 0                   | 544.66                        | 678.122                    | 678.122                         |
| 22           | 1.15024    | 807.85       | 24.8007                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 306.268            | 457.659              | 561.094                  | 0                   | 561.094                       | 702.615                    | 702.615                         |
| 23           | 1.15024    | 833.563      | 25.4997                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 313.297            | 468.163              | 575.552                  | 0                   | 575.552                       | 724.985                    | 724.985                         |
| 24           | 1.15024    | 856.791      | 26.2027                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 319.364            | 477.229              | 588.03                   | 0                   | 588.03                        | 745.195                    | 745.195                         |
| 25           | 1.15024    | 877.362      | 26.91                     | MD-D SAND/Silt y SAND | 50                  | 36                        | 324.423            | 484.788              | 598.434                  | 0                   | 598.434                       | 763.094                    | 763.094                         |
| 26           | 1.15024    | 888.151      | 27.6217                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 326.086            | 487.273              | 601.855                  | 0                   | 601.855                       | 772.486                    | 772.486                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 27 | 1.15024 | 892.165 | 28.3381 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 325.42  | 486.278 | 600.485 | 0 | 600.485 | 775.985 | 775.985 |
| 28 | 1.15024 | 893.5   | 29.0594 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 323.829 | 483.901 | 597.214 | 0 | 597.214 | 777.154 | 777.154 |
| 29 | 1.15024 | 892.1   | 29.7857 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 321.312 | 480.139 | 592.035 | 0 | 592.035 | 775.946 | 775.946 |
| 30 | 1.15024 | 887.907 | 30.5174 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 317.862 | 474.985 | 584.941 | 0 | 584.941 | 772.306 | 772.306 |
| 31 | 1.15024 | 880.856 | 31.2546 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 313.478 | 468.434 | 575.924 | 0 | 575.924 | 766.182 | 766.182 |
| 32 | 1.15024 | 870.882 | 31.9976 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.155 | 460.479 | 564.977 | 0 | 564.977 | 757.515 | 757.515 |
| 33 | 1.15024 | 858.521 | 32.7467 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.084 | 451.407 | 552.49  | 0 | 552.49  | 746.772 | 746.772 |
| 34 | 1.15024 | 851.353 | 33.5021 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 297.705 | 444.864 | 543.484 | 0 | 543.484 | 740.546 | 740.546 |
| 35 | 1.15024 | 843.649 | 34.2642 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 293.162 | 438.075 | 534.14  | 0 | 534.14  | 733.853 | 733.853 |
| 36 | 1.15024 | 832.708 | 35.0333 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 287.606 | 429.773 | 522.713 | 0 | 522.713 | 724.346 | 724.346 |
| 37 | 1.15024 | 818.439 | 35.8096 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 281.029 | 419.945 | 509.186 | 0 | 509.186 | 711.943 | 711.943 |
| 38 | 1.15024 | 800.746 | 36.5937 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 273.425 | 408.581 | 493.545 | 0 | 493.545 | 696.561 | 696.561 |
| 39 | 1.15024 | 779.523 | 37.3858 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 264.783 | 395.668 | 475.771 | 0 | 475.771 | 678.108 | 678.108 |
| 40 | 1.15024 | 753.24  | 38.1863 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 254.662 | 380.544 | 454.954 | 0 | 454.954 | 655.255 | 655.255 |
| 41 | 1.15024 | 708.039 | 38.9958 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 238.893 | 356.98  | 422.521 | 0 | 422.521 | 615.943 | 615.943 |
| 42 | 1.15024 | 654.847 | 39.8146 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 220.908 | 330.105 | 385.532 | 0 | 385.532 | 569.681 | 569.681 |
| 43 | 1.15024 | 597.625 | 40.6433 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 201.955 | 301.783 | 346.55  | 0 | 346.55  | 519.911 | 519.911 |
| 44 | 1.15024 | 536.22  | 41.4824 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 182.025 | 272.002 | 305.559 | 0 | 305.559 | 466.502 | 466.502 |
| 45 | 1.15024 | 470.469 | 42.3325 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 161.11  | 240.749 | 262.544 | 0 | 262.544 | 409.311 | 409.311 |
| 46 | 1.15024 | 400.195 | 43.1943 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 139.204 | 208.014 | 217.488 | 0 | 217.488 | 348.183 | 348.183 |
| 47 | 1.15024 | 325.206 | 44.0685 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 116.298 | 173.786 | 170.376 | 0 | 170.376 | 282.953 | 282.953 |
| 48 | 1.15024 | 245.29  | 44.9557 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 92.3848 | 138.052 | 121.193 | 0 | 121.193 | 213.435 | 213.435 |
| 49 | 1.15024 | 157.063 | 45.8569 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 66.5682 | 99.4736 | 68.0943 | 0 | 68.0943 | 136.684 | 136.684 |
| 50 | 1.15024 | 53.5185 | 46.7729 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 36.9879 | 55.2714 | 7.25544 | 0 | 7.25544 | 46.6063 | 46.6063 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.45038

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.02689    | 16.3319      | 5.6545                    | D-VD SAND             | 0                   | 38                        | 8.13373            | 11.797               | 15.0995                  | 0                   | 15.0995                       | 15.9049                    | 15.9049                         |
| 2            | 1.02689    | 56.1571      | 6.47402                   | D-VD SAND             | 0                   | 38                        | 27.7627            | 40.2664              | 51.5386                  | 0                   | 51.5386                       | 54.689                     | 54.689                          |
| 3            | 1.02689    | 104.121      | 7.29488                   | D-VD SAND             | 0                   | 38                        | 51.0979            | 74.1113              | 94.8581                  | 0                   | 94.8581                       | 101.399                    | 101.399                         |
| 4            | 1.02689    | 150.267      | 8.11725                   | D-VD SAND             | 0                   | 38                        | 73.2056            | 106.176              | 135.899                  | 0                   | 135.899                       | 146.34                     | 146.34                          |
| 5            | 1.02689    | 194.558      | 8.9413                    | D-VD SAND             | 0                   | 38                        | 94.0912            | 136.468              | 174.671                  | 0                   | 174.671                       | 189.474                    | 189.474                         |
| 6            | 1.02689    | 236.982      | 9.76723                   | D-VD SAND             | 0                   | 38                        | 113.772            | 165.012              | 211.206                  | 0                   | 211.206                       | 230.791                    | 230.791                         |
| 7            | 1.02689    | 277.525      | 10.5952                   | D-VD SAND             | 0                   | 38                        | 132.264            | 191.833              | 245.535                  | 0                   | 245.535                       | 270.277                    | 270.277                         |
| 8            | 1.02689    | 316.173      | 11.4254                   | D-VD SAND             | 0                   | 38                        | 149.583            | 216.952              | 277.685                  | 0                   | 277.685                       | 307.916                    | 307.916                         |
| 9            | 1.02689    | 352.909      | 12.2581                   | D-VD SAND             | 0                   | 38                        | 165.742            | 240.389              | 307.684                  | 0                   | 307.684                       | 343.695                    | 343.695                         |
| 10           | 1.02689    | 387.717      | 13.0934                   | D-VD SAND             | 0                   | 38                        | 180.755            | 262.164              | 335.554                  | 0                   | 335.554                       | 377.595                    | 377.595                         |
| 11           | 1.02689    | 420.978      | 13.9315                   | D-VD SAND             | 0                   | 38                        | 194.819            | 282.562              | 361.663                  | 0                   | 361.663                       | 409.99                     | 409.99                          |
| 12           | 1.02689    | 464.702      | 14.7727                   | D-VD SAND             | 0                   | 38                        | 213.468            | 309.61               | 396.283                  | 0                   | 396.283                       | 452.575                    | 452.575                         |
| 13           | 1.02689    | 512.32       | 15.6172                   | D-VD SAND             | 0                   | 38                        | 233.599            | 338.808              | 433.654                  | 0                   | 433.654                       | 498.952                    | 498.952                         |
| 14           | 1.02689    | 557.922      | 16.4652                   | D-VD SAND             | 0                   | 38                        | 252.499            | 366.22               | 468.74                   | 0                   | 468.74                        | 543.367                    | 543.367                         |
| 15           | 1.02689    | 601.483      | 17.3168                   | D-VD SAND             | 0                   | 38                        | 270.177            | 391.859              | 501.556                  | 0                   | 501.556                       | 585.794                    | 585.794                         |
| 16           | 1.02689    | 642.975      | 18.1725                   | D-VD SAND             | 0                   | 38                        | 286.639            | 415.735              | 532.117                  | 0                   | 532.117                       | 626.206                    | 626.206                         |
| 17           | 1.02689    | 682.369      | 19.0324                   | D-VD SAND             | 0                   | 38                        | 301.893            | 437.86               | 560.434                  | 0                   | 560.434                       | 664.575                    | 664.575                         |
| 18           | 1.02689    | 719.632      | 19.8967                   | D-VD SAND             | 0                   | 38                        | 315.945            | 458.24               | 586.52                   | 0                   | 586.52                        | 700.87                     | 700.87                          |
| 19           | 1.02689    | 754.729      | 20.7658                   | D-VD SAND             | 0                   | 38                        | 328.798            | 476.882              | 610.381                  | 0                   | 610.381                       | 735.055                    | 735.055                         |
| 20           | 1.02689    | 787.625      | 21.6399                   | D-VD SAND             | 0                   | 38                        | 340.458            | 493.793              | 632.026                  | 0                   | 632.026                       | 767.097                    | 767.097                         |
| 21           | 1.02689    | 818.279      | 22.5194                   | D-VD SAND             | 0                   | 38                        | 350.925            | 508.975              | 651.459                  | 0                   | 651.459                       | 796.956                    | 796.956                         |
| 22           | 1.02689    | 846.649      | 23.4045                   | D-VD SAND             | 0                   | 38                        | 360.204            | 522.432              | 668.683                  | 0                   | 668.683                       | 824.59                     | 824.59                          |
| 23           | 1.02689    | 872.69       | 24.2955                   | D-VD SAND             | 0                   | 38                        | 368.293            | 534.165              | 683.7                    | 0                   | 683.7                         | 849.956                    | 849.956                         |
| 24           | 1.03524    | 902.675      | 25.1965                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.426            | 553.212              | 692.612                  | 0                   | 692.612                       | 872.069                    | 872.069                         |
| 25           | 1.03524    | 922.063      | 26.1079                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 385.957            | 559.785              | 701.659                  | 0                   | 701.659                       | 890.804                    | 890.804                         |
| 26           | 1.03524    | 938.797      | 27.0265                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 389.323            | 564.667              | 708.377                  | 0                   | 708.377                       | 906.975                    | 906.975                         |
| 27           | 1.03524    | 950.828      | 27.9527                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 390.76             | 566.75               | 711.245                  | 0                   | 711.245                       | 918.602                    | 918.602                         |
| 28           | 1.03524    | 953.311      | 28.8869                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 388.47             | 563.429              | 706.675                  | 0                   | 706.675                       | 921.005                    | 921.005                         |
| 29           | 1.03524    | 952.373      | 29.8295                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 384.845            | 558.171              | 699.437                  | 0                   | 699.437                       | 920.103                    | 920.103                         |
| 30           | 1.03524    | 948.491      | 30.7812                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 380.091            | 551.276              | 689.948                  | 0                   | 689.948                       | 916.358                    | 916.358                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 31 | 1.03524 | 941.579 | 31.7423 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 374.201 | 542.734 | 678.191 | 0 | 678.191 | 909.684 | 909.684 |
| 32 | 1.03524 | 931.541 | 32.7136 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 367.169 | 532.534 | 664.151 | 0 | 664.151 | 899.992 | 899.992 |
| 33 | 1.03524 | 918.278 | 33.6955 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 358.983 | 520.662 | 647.811 | 0 | 647.811 | 887.182 | 887.182 |
| 34 | 1.03524 | 901.677 | 34.6888 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 349.635 | 507.104 | 629.15  | 0 | 629.15  | 871.148 | 871.148 |
| 35 | 1.03524 | 881.619 | 35.6942 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 339.115 | 491.845 | 608.148 | 0 | 608.148 | 851.774 | 851.774 |
| 36 | 1.03524 | 862.256 | 36.7124 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 328.918 | 477.056 | 587.793 | 0 | 587.793 | 833.071 | 833.071 |
| 37 | 1.03524 | 844.174 | 37.7443 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 319.241 | 463.021 | 568.474 | 0 | 568.474 | 815.606 | 815.606 |
| 38 | 1.03524 | 822.211 | 38.7908 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.286 | 447.132 | 546.605 | 0 | 546.605 | 794.392 | 794.392 |
| 39 | 1.03524 | 796.189 | 39.8529 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 296.033 | 429.361 | 522.146 | 0 | 522.146 | 769.255 | 769.255 |
| 40 | 1.03524 | 765.918 | 40.9317 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.465 | 409.682 | 495.06  | 0 | 495.06  | 740.012 | 740.012 |
| 41 | 1.03524 | 731.187 | 42.0284 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 267.562 | 388.066 | 465.308 | 0 | 465.308 | 706.462 | 706.462 |
| 42 | 1.03524 | 691.765 | 43.1444 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 251.302 | 364.483 | 432.848 | 0 | 432.848 | 668.378 | 668.378 |
| 43 | 1.03524 | 646.941 | 44.2812 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 233.517 | 338.688 | 397.345 | 0 | 397.345 | 625.075 | 625.075 |
| 44 | 1.03524 | 585.519 | 45.4404 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 210.691 | 305.582 | 351.779 | 0 | 351.779 | 565.734 | 565.734 |
| 45 | 1.03524 | 513.59  | 46.624  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 184.985 | 268.298 | 300.461 | 0 | 300.461 | 496.241 | 496.241 |
| 46 | 1.03524 | 435.721 | 47.834  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 157.986 | 229.14  | 246.565 | 0 | 246.565 | 421.008 | 421.008 |
| 47 | 1.03524 | 351.49  | 49.073  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 129.682 | 188.088 | 190.061 | 0 | 190.061 | 339.628 | 339.628 |
| 48 | 1.03524 | 260.412 | 50.3437 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 100.058 | 145.121 | 130.923 | 0 | 130.923 | 251.63  | 251.63  |
| 49 | 1.03524 | 161.927 | 51.6495 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 69.1043 | 100.227 | 69.1324 | 0 | 69.1324 | 156.475 | 156.475 |
| 50 | 1.03524 | 55.3785 | 52.994  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 36.8176 | 53.3995 | 4.67906 | 0 | 4.67906 | 53.527  | 53.527  |

## **Cross Section F-F' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.950407**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.25478    | 16.6974      | 10.2257                   | D-VD SAND             | 0                   | 38                        | 9.52658            | 9.05413              | 11.5887                  | 0                   | 11.5887                       | 13.3072                    | 13.3072                         |
| 2            | 1.25478    | 48.9631      | 10.8874                   | D-VD SAND             | 0                   | 38                        | 27.6987            | 26.325               | 33.6945                  | 0                   | 33.6945                       | 39.0221                    | 39.0221                         |
| 3            | 1.25478    | 78.9635      | 11.5506                   | D-VD SAND             | 0                   | 38                        | 44.2919            | 42.0953              | 53.8795                  | 0                   | 53.8795                       | 62.9316                    | 62.9316                         |
| 4            | 1.25478    | 106.714      | 12.2154                   | D-VD SAND             | 0                   | 38                        | 59.3515            | 56.4081              | 72.199                   | 0                   | 72.199                        | 85.048                     | 85.048                          |
| 5            | 1.25478    | 146.896      | 12.8818                   | D-VD SAND             | 0                   | 38                        | 81.0095            | 76.992               | 98.5453                  | 0                   | 98.5453                       | 117.072                    | 117.072                         |
| 6            | 1.25478    | 196.992      | 13.55                     | D-VD SAND             | 0                   | 38                        | 107.719            | 102.377              | 131.037                  | 0                   | 131.037                       | 156.997                    | 156.997                         |
| 7            | 1.25478    | 244.754      | 14.2201                   | D-VD SAND             | 0                   | 38                        | 132.706            | 126.125              | 161.433                  | 0                   | 161.433                       | 195.063                    | 195.063                         |
| 8            | 1.25478    | 290.161      | 14.8922                   | D-VD SAND             | 0                   | 38                        | 155.997            | 148.261              | 189.766                  | 0                   | 189.766                       | 231.251                    | 231.251                         |
| 9            | 1.25478    | 333.19       | 15.5664                   | D-VD SAND             | 0                   | 38                        | 177.618            | 168.809              | 216.066                  | 0                   | 216.066                       | 265.545                    | 265.545                         |
| 10           | 1.25478    | 373.82       | 16.2428                   | D-VD SAND             | 0                   | 38                        | 197.59             | 187.791              | 240.361                  | 0                   | 240.361                       | 297.926                    | 297.926                         |
| 11           | 1.25478    | 412.026      | 16.9215                   | D-VD SAND             | 0                   | 38                        | 215.937            | 205.228              | 262.68                   | 0                   | 262.68                        | 328.375                    | 328.375                         |
| 12           | 1.25478    | 447.868      | 17.6027                   | D-VD SAND             | 0                   | 38                        | 232.727            | 221.185              | 283.104                  | 0                   | 283.104                       | 356.941                    | 356.941                         |
| 13           | 1.25478    | 497.228      | 18.2865                   | D-VD SAND             | 0                   | 38                        | 256.173            | 243.469              | 311.626                  | 0                   | 311.626                       | 396.28                     | 396.28                          |
| 14           | 1.25478    | 555.948      | 18.973                    | D-VD SAND             | 0                   | 38                        | 283.977            | 269.894              | 345.448                  | 0                   | 345.448                       | 443.079                    | 443.079                         |
| 15           | 1.25478    | 612.131      | 19.6623                   | D-VD SAND             | 0                   | 38                        | 309.991            | 294.618              | 377.094                  | 0                   | 377.094                       | 487.856                    | 487.856                         |
| 16           | 1.25478    | 665.745      | 20.3546                   | D-VD SAND             | 0                   | 38                        | 334.237            | 317.661              | 406.587                  | 0                   | 406.587                       | 530.587                    | 530.587                         |
| 17           | 1.25478    | 716.756      | 21.05                     | D-VD SAND             | 0                   | 38                        | 356.729            | 339.038              | 433.949                  | 0                   | 433.949                       | 571.242                    | 571.242                         |
| 18           | 1.25478    | 765.128      | 21.7487                   | D-VD SAND             | 0                   | 38                        | 377.489            | 358.768              | 459.202                  | 0                   | 459.202                       | 609.795                    | 609.795                         |
| 19           | 1.25478    | 810.822      | 22.4508                   | D-VD SAND             | 0                   | 38                        | 396.529            | 376.864              | 482.364                  | 0                   | 482.364                       | 646.213                    | 646.213                         |
| 20           | 1.25478    | 853.799      | 23.1565                   | D-VD SAND             | 0                   | 38                        | 413.866            | 393.341              | 503.454                  | 0                   | 503.454                       | 680.465                    | 680.465                         |
| 21           | 1.21888    | 866.549      | 23.8557                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 445.509            | 423.415              | 513.962                  | 0                   | 513.962                       | 710.972                    | 710.972                         |
| 22           | 1.21888    | 899.145      | 24.5485                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 456.994            | 434.33               | 528.986                  | 0                   | 528.986                       | 737.716                    | 737.716                         |
| 23           | 1.21888    | 929.018      | 25.2451                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 466.972            | 443.813              | 542.038                  | 0                   | 542.038                       | 762.227                    | 762.227                         |
| 24           | 1.21888    | 956.123      | 25.9458                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 475.452            | 451.873              | 553.131                  | 0                   | 553.131                       | 784.467                    | 784.467                         |
| 25           | 1.21888    | 980.179      | 26.6506                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 482.335            | 458.415              | 562.136                  | 0                   | 562.136                       | 804.204                    | 804.204                         |
| 26           | 1.21888    | 992.936      | 27.3598                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 483.95             | 459.949              | 564.247                  | 0                   | 564.247                       | 814.672                    | 814.672                         |
| 27           | 1.21888    | 998.534      | 28.0737                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 482.266            | 458.349              | 562.044                  | 0                   | 562.044                       | 819.266                    | 819.266                         |
| 28           | 1.21888    | 1001.15      | 28.7922                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 479.212            | 455.446              | 558.049                  | 0                   | 558.049                       | 821.413                    | 821.413                         |

|    |         |         |         |                             |    |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|----------|---|----------|---------|---------|
| 29 | 1.21888 | 1000.72 | 29.5158 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 474.791 | 451.245 | 552.266  | 0 | 552.266  | 821.063 | 821.063 |
| 30 | 1.21888 | 997.187 | 30.2446 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 469.01  | 445.75  | 544.704  | 0 | 544.704  | 818.163 | 818.163 |
| 31 | 1.21888 | 990.473 | 30.9788 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 461.873 | 438.967 | 535.367  | 0 | 535.367  | 812.656 | 812.656 |
| 32 | 1.21888 | 980.509 | 31.7188 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 453.383 | 430.898 | 524.261  | 0 | 524.261  | 804.481 | 804.481 |
| 33 | 1.21888 | 971.403 | 32.4646 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 445.311 | 423.227 | 513.702  | 0 | 513.702  | 797.01  | 797.01  |
| 34 | 1.21888 | 967.352 | 33.2167 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 439.399 | 417.608 | 505.97   | 0 | 505.97   | 793.688 | 793.688 |
| 35 | 1.21888 | 960.046 | 33.9754 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 432.144 | 410.713 | 496.479  | 0 | 496.479  | 787.694 | 787.694 |
| 36 | 1.21888 | 949.148 | 34.7408 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 423.445 | 402.445 | 485.099  | 0 | 485.099  | 778.753 | 778.753 |
| 37 | 1.21888 | 934.557 | 35.5135 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 413.302 | 392.805 | 471.831  | 0 | 471.831  | 766.783 | 766.783 |
| 38 | 1.21888 | 916.168 | 36.2936 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 401.716 | 381.794 | 456.675  | 0 | 456.675  | 751.696 | 751.696 |
| 39 | 1.21888 | 893.184 | 37.0816 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 388.417 | 369.154 | 439.277  | 0 | 439.277  | 732.839 | 732.839 |
| 40 | 1.21888 | 850.296 | 37.8779 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 367.438 | 349.216 | 411.835  | 0 | 411.835  | 697.651 | 697.651 |
| 41 | 1.21888 | 796.578 | 38.6829 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 342.565 | 325.576 | 379.299  | 0 | 379.299  | 653.578 | 653.578 |
| 42 | 1.21888 | 738.552 | 39.4971 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 316.45  | 300.756 | 345.136  | 0 | 345.136  | 605.97  | 605.97  |
| 43 | 1.21888 | 676.067 | 40.3209 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 289.094 | 274.757 | 309.351  | 0 | 309.351  | 554.703 | 554.703 |
| 44 | 1.21888 | 608.959 | 41.1549 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 260.503 | 247.584 | 271.951  | 0 | 271.951  | 499.642 | 499.642 |
| 45 | 1.21888 | 537.049 | 41.9997 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 230.68  | 219.24  | 232.939  | 0 | 232.939  | 440.642 | 440.642 |
| 46 | 1.21888 | 460.146 | 42.8558 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 199.631 | 189.731 | 192.323  | 0 | 192.323  | 377.546 | 377.546 |
| 47 | 1.21888 | 378.03  | 43.724  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 167.358 | 159.058 | 150.106  | 0 | 150.106  | 310.171 | 310.171 |
| 48 | 1.21888 | 282.18  | 44.605  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 130.903 | 124.411 | 102.418  | 0 | 102.418  | 231.528 | 231.528 |
| 49 | 1.21888 | 173.489 | 45.4995 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 90.7974 | 86.2945 | 49.9551  | 0 | 49.9551  | 142.35  | 142.35  |
| 50 | 1.21888 | 58.8456 | 46.4084 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 49.6519 | 47.1895 | -3.86832 | 0 | -3.86832 | 48.2867 | 48.2867 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.919134

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.11403    | 19.8137      | 5.20283                   | D-VD SAND             | 0                   | 38                        | 14.0369            | 12.9018              | 16.5135                  | 0                   | 16.5135                       | 17.7917                    | 17.7917                         |
| 2            | 1.11403    | 59.0523      | 6.03589                   | D-VD SAND             | 0                   | 38                        | 41.3583            | 38.0138              | 48.6554                  | 0                   | 48.6554                       | 53.0285                    | 53.0285                         |
| 3            | 1.11403    | 110.803      | 6.87024                   | D-VD SAND             | 0                   | 38                        | 76.7241            | 70.5197              | 90.2614                  | 0                   | 90.2614                       | 99.5056                    | 99.5056                         |
| 4            | 1.11403    | 166.219      | 7.70606                   | D-VD SAND             | 0                   | 38                        | 113.801            | 104.598              | 133.879                  | 0                   | 133.879                       | 149.278                    | 149.278                         |
| 5            | 1.11403    | 219.42       | 8.54353                   | D-VD SAND             | 0                   | 38                        | 148.542            | 136.53               | 174.751                  | 0                   | 174.751                       | 197.066                    | 197.066                         |
| 6            | 1.11403    | 270.393      | 9.38285                   | D-VD SAND             | 0                   | 38                        | 181.01             | 166.372              | 212.946                  | 0                   | 212.946                       | 242.857                    | 242.857                         |
| 7            | 1.11403    | 319.121      | 10.2242                   | D-VD SAND             | 0                   | 38                        | 211.259            | 194.175              | 248.533                  | 0                   | 248.533                       | 286.636                    | 286.636                         |
| 8            | 1.11403    | 365.588      | 11.0678                   | D-VD SAND             | 0                   | 38                        | 239.342            | 219.987              | 281.571                  | 0                   | 281.571                       | 328.389                    | 328.389                         |
| 9            | 1.11403    | 409.776      | 11.9138                   | D-VD SAND             | 0                   | 38                        | 265.308            | 243.854              | 312.12                   | 0                   | 312.12                        | 368.096                    | 368.096                         |
| 10           | 1.11403    | 451.662      | 12.7625                   | D-VD SAND             | 0                   | 38                        | 289.206            | 265.819              | 340.233                  | 0                   | 340.233                       | 405.739                    | 405.739                         |
| 11           | 1.11403    | 492.094      | 13.614                    | D-VD SAND             | 0                   | 38                        | 311.626            | 286.426              | 366.609                  | 0                   | 366.609                       | 442.08                     | 442.08                          |
| 12           | 1.11403    | 545.643      | 14.4686                   | D-VD SAND             | 0                   | 38                        | 341.735            | 314.1                | 402.029                  | 0                   | 402.029                       | 490.208                    | 490.208                         |
| 13           | 1.11403    | 602.514      | 15.3265                   | D-VD SAND             | 0                   | 38                        | 373.197            | 343.018              | 439.043                  | 0                   | 439.043                       | 541.324                    | 541.324                         |
| 14           | 1.11403    | 656.983      | 16.188                    | D-VD SAND             | 0                   | 38                        | 402.448            | 369.904              | 473.456                  | 0                   | 473.456                       | 590.286                    | 590.286                         |
| 15           | 1.11403    | 709.017      | 17.0532                   | D-VD SAND             | 0                   | 38                        | 429.525            | 394.791              | 505.309                  | 0                   | 505.309                       | 637.064                    | 637.064                         |
| 16           | 1.11403    | 758.586      | 17.9224                   | D-VD SAND             | 0                   | 38                        | 454.463            | 417.712              | 534.647                  | 0                   | 534.647                       | 681.631                    | 681.631                         |
| 17           | 1.11403    | 805.652      | 18.796                    | D-VD SAND             | 0                   | 38                        | 477.293            | 438.696              | 561.505                  | 0                   | 561.505                       | 723.951                    | 723.951                         |
| 18           | 1.11403    | 850.177      | 19.674                    | D-VD SAND             | 0                   | 38                        | 498.047            | 457.772              | 585.921                  | 0                   | 585.921                       | 763.993                    | 763.993                         |
| 19           | 1.11403    | 892.121      | 20.557                    | D-VD SAND             | 0                   | 38                        | 516.752            | 474.964              | 607.926                  | 0                   | 607.926                       | 801.717                    | 801.717                         |
| 20           | 1.11403    | 931.439      | 21.445                    | D-VD SAND             | 0                   | 38                        | 533.434            | 490.297              | 627.551                  | 0                   | 627.551                       | 837.086                    | 837.086                         |
| 21           | 1.11403    | 968.084      | 22.3386                   | D-VD SAND             | 0                   | 38                        | 548.116            | 503.792              | 644.824                  | 0                   | 644.824                       | 870.054                    | 870.054                         |
| 22           | 1.11403    | 1002.01      | 23.2378                   | D-VD SAND             | 0                   | 38                        | 560.82             | 515.469              | 659.77                   | 0                   | 659.77                        | 900.577                    | 900.577                         |
| 23           | 1.11403    | 1033.15      | 24.1432                   | D-VD SAND             | 0                   | 38                        | 571.566            | 525.346              | 672.412                  | 0                   | 672.412                       | 928.604                    | 928.604                         |
| 24           | 1.10472    | 1051.28      | 25.0512                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 589.759            | 542.068              | 677.274                  | 0                   | 677.274                       | 952.925                    | 952.925                         |
| 25           | 1.10472    | 1073.84      | 25.9621                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 594.88             | 546.774              | 683.751                  | 0                   | 683.751                       | 973.406                    | 973.406                         |
| 26           | 1.10472    | 1089.08      | 26.8802                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 595.99             | 547.795              | 685.157                  | 0                   | 685.157                       | 987.261                    | 987.261                         |
| 27           | 1.10472    | 1094.99      | 27.8057                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 592.197            | 544.308              | 680.357                  | 0                   | 680.357                       | 992.662                    | 992.662                         |
| 28           | 1.10472    | 1097.69      | 28.7393                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 586.708            | 539.263              | 673.413                  | 0                   | 673.413                       | 995.149                    | 995.149                         |
| 29           | 1.10472    | 1097.14      | 29.6812                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 579.557            | 532.691              | 664.368                  | 0                   | 664.368                       | 994.69                     | 994.69                          |
| 30           | 1.10472    | 1093.25      | 30.6321                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 570.755            | 524.6                | 653.23                   | 0                   | 653.23                        | 991.205                    | 991.205                         |

|    |         |         |         |                             |    |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|----------|---|----------|---------|---------|
| 31 | 1.10472 | 1085.92 | 31.5924 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 560.301 | 514.992 | 640.006  | 0 | 640.006  | 984.603 | 984.603 |
| 32 | 1.10472 | 1075.05 | 32.5627 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 548.203 | 503.872 | 624.701  | 0 | 624.701  | 974.789 | 974.789 |
| 33 | 1.10472 | 1060.52 | 33.5436 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 534.463 | 491.243 | 607.319  | 0 | 607.319  | 961.657 | 961.657 |
| 34 | 1.10472 | 1045.22 | 34.5358 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 520.481 | 478.392 | 589.632  | 0 | 589.632  | 947.827 | 947.827 |
| 35 | 1.10472 | 1033.27 | 35.5399 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 508.151 | 467.059 | 574.032  | 0 | 574.032  | 937.027 | 937.027 |
| 36 | 1.10472 | 1017.56 | 36.5568 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 494.2   | 454.236 | 556.383  | 0 | 556.383  | 922.831 | 922.831 |
| 37 | 1.10472 | 997.638 | 37.5873 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 478.478 | 439.785 | 536.493  | 0 | 536.493  | 904.802 | 904.802 |
| 38 | 1.10472 | 973.309 | 38.6323 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 460.981 | 423.703 | 514.358  | 0 | 514.358  | 882.779 | 882.779 |
| 39 | 1.10472 | 944.385 | 39.6927 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 441.706 | 405.987 | 489.973  | 0 | 489.973  | 856.589 | 856.589 |
| 40 | 1.10472 | 910.652 | 40.7696 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 420.646 | 386.63  | 463.332  | 0 | 463.332  | 826.035 | 826.035 |
| 41 | 1.10472 | 869.371 | 41.8644 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 396.747 | 364.664 | 433.097  | 0 | 433.097  | 788.633 | 788.633 |
| 42 | 1.10472 | 808.486 | 42.9782 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 365.185 | 335.654 | 393.168  | 0 | 393.168  | 733.449 | 733.449 |
| 43 | 1.10472 | 739.74  | 44.1126 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 331.136 | 304.358 | 350.094  | 0 | 350.094  | 671.128 | 671.128 |
| 44 | 1.10472 | 665.072 | 45.2692 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 295.558 | 271.657 | 305.084  | 0 | 305.084  | 603.432 | 603.432 |
| 45 | 1.10472 | 584.115 | 46.4499 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.455 | 237.555 | 258.147  | 0 | 258.147  | 530.025 | 530.025 |
| 46 | 1.10472 | 496.456 | 47.6567 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 219.84  | 202.062 | 209.296  | 0 | 209.296  | 450.53  | 450.53  |
| 47 | 1.10472 | 401.621 | 48.8922 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 179.727 | 165.193 | 158.55   | 0 | 158.55   | 364.519 | 364.519 |
| 48 | 1.10472 | 299.069 | 50.1591 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 138.14  | 126.969 | 105.939  | 0 | 105.939  | 271.498 | 271.498 |
| 49 | 1.10472 | 188.174 | 51.4604 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 95.108  | 87.417  | 51.5001  | 0 | 51.5001  | 170.898 | 170.898 |
| 50 | 1.10472 | 66.8572 | 52.8001 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 50.2025 | 46.1428 | -5.30892 | 0 | -5.30892 | 60.8306 | 60.8306 |



## **Cross Section AA-AA' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 2.04338**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.20583    | 105.994      | -0.103461                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 91.8438            | 187.672              | 48.2176                  | 0                   | 48.2176                       | 48.0518                    | 48.0518                         |
| 2            | 2.20583    | 312.971      | 0.804392                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 126.975            | 259.459              | 140.101                  | 0                   | 140.101                       | 141.884                    | 141.884                         |
| 3            | 2.20583    | 514.074      | 1.70864                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 160.683            | 328.336              | 228.259                  | 0                   | 228.259                       | 233.052                    | 233.052                         |
| 4            | 2.20583    | 779.143      | 2.61331                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 204.886            | 418.659              | 343.868                  | 0                   | 343.868                       | 353.22                     | 353.22                          |
| 5            | 2.20583    | 1061.53      | 3.51863                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 251.497            | 513.903              | 465.775                  | 0                   | 465.775                       | 481.239                    | 481.239                         |
| 6            | 2.20583    | 1333.88      | 4.42483                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 295.863            | 604.561              | 581.81                   | 0                   | 581.81                        | 604.704                    | 604.704                         |
| 7            | 2.20583    | 1596.16      | 5.33214                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 338.017            | 690.697              | 692.059                  | 0                   | 692.059                       | 723.608                    | 723.608                         |
| 8            | 2.20583    | 1848.32      | 6.2408                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 377.985            | 772.366              | 796.591                  | 0                   | 796.591                       | 837.926                    | 837.926                         |
| 9            | 2.20583    | 2090.33      | 7.15104                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 415.791            | 849.619              | 895.47                   | 0                   | 895.47                        | 947.636                    | 947.636                         |
| 10           | 2.20583    | 2322.11      | 8.06309                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 451.46             | 922.505              | 988.759                  | 0                   | 988.759                       | 1052.71                    | 1052.71                         |
| 11           | 2.20583    | 2543.61      | 8.97721                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 485.012            | 991.064              | 1076.51                  | 0                   | 1076.51                       | 1153.13                    | 1153.13                         |
| 12           | 2.20583    | 2754.76      | 9.89364                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 516.465            | 1055.34              | 1158.78                  | 0                   | 1158.78                       | 1248.85                    | 1248.85                         |
| 13           | 2.20583    | 2955.46      | 10.8126                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 545.837            | 1115.35              | 1235.59                  | 0                   | 1235.59                       | 1339.84                    | 1339.84                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.20583 | 3145.63 | 11.7344 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 573.139 | 1171.14 | 1307    | 0 | 1307    | 1426.06 | 1426.06 |
| 15 | 2.20583 | 3325.17 | 12.6594 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 598.391 | 1222.74 | 1373.04 | 0 | 1373.04 | 1507.45 | 1507.45 |
| 16 | 2.20583 | 3493.96 | 13.5876 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 621.593 | 1270.15 | 1433.73 | 0 | 1433.73 | 1583.97 | 1583.97 |
| 17 | 2.20583 | 3651.88 | 14.5196 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 642.763 | 1313.41 | 1489.1  | 0 | 1489.1  | 1655.56 | 1655.56 |
| 18 | 2.20583 | 3798.8  | 15.4554 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 661.903 | 1352.52 | 1539.16 | 0 | 1539.16 | 1722.16 | 1722.16 |
| 19 | 2.20583 | 3934.57 | 16.3955 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 679.022 | 1387.5  | 1583.93 | 0 | 1583.93 | 1783.72 | 1783.72 |
| 20 | 2.20583 | 4059.03 | 17.3402 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 694.12  | 1418.35 | 1623.41 | 0 | 1623.41 | 1840.14 | 1840.14 |
| 21 | 2.20583 | 4172.01 | 18.2898 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 707.196 | 1445.07 | 1657.62 | 0 | 1657.62 | 1891.36 | 1891.36 |
| 22 | 2.20583 | 4273.34 | 19.2446 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 718.256 | 1467.67 | 1686.54 | 0 | 1686.54 | 1937.29 | 1937.29 |
| 23 | 2.20583 | 4362.8  | 20.205  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 727.295 | 1486.14 | 1710.18 | 0 | 1710.18 | 1977.85 | 1977.85 |
| 24 | 2.20583 | 4440.18 | 21.1713 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 734.313 | 1500.48 | 1728.53 | 0 | 1728.53 | 2012.93 | 2012.93 |
| 25 | 2.20583 | 4505.25 | 22.144  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 739.3   | 1510.67 | 1741.57 | 0 | 1741.57 | 2042.43 | 2042.43 |
| 26 | 2.20583 | 4557.76 | 23.1235 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 742.246 | 1516.69 | 1749.28 | 0 | 1749.28 | 2066.24 | 2066.24 |
| 27 | 2.20583 | 4597.44 | 24.1102 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 743.146 | 1518.53 | 1751.64 | 0 | 1751.64 | 2084.22 | 2084.22 |
| 28 | 2.20583 | 4623.98 | 25.1046 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 741.991 | 1516.17 | 1748.61 | 0 | 1748.61 | 2096.26 | 2096.26 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.20583 | 4637.08 | 26.1071 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 738.761 | 1509.57 | 1740.17 | 0 | 1740.17 | 2102.2  | 2102.2  |
| 30 | 2.20583 | 4636.39 | 27.1183 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 733.447 | 1498.71 | 1726.27 | 0 | 1726.27 | 2101.89 | 2101.89 |
| 31 | 2.20583 | 4621.55 | 28.1387 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 726.027 | 1483.55 | 1706.86 | 0 | 1706.86 | 2095.16 | 2095.16 |
| 32 | 2.20583 | 4592.14 | 29.1689 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 716.484 | 1464.05 | 1681.9  | 0 | 1681.9  | 2081.82 | 2081.82 |
| 33 | 2.20583 | 4547.73 | 30.2096 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 704.793 | 1440.16 | 1651.33 | 0 | 1651.33 | 2061.69 | 2061.69 |
| 34 | 2.20583 | 4487.85 | 31.2614 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 690.934 | 1411.84 | 1615.09 | 0 | 1615.09 | 2034.54 | 2034.54 |
| 35 | 2.20583 | 4411.99 | 32.325  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 674.882 | 1379.04 | 1573.1  | 0 | 1573.1  | 2000.15 | 2000.15 |
| 36 | 2.20583 | 4319.58 | 33.4014 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 656.598 | 1341.68 | 1525.29 | 0 | 1525.29 | 1958.26 | 1958.26 |
| 37 | 2.20583 | 4210    | 34.4912 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 636.064 | 1299.72 | 1471.57 | 0 | 1471.57 | 1908.58 | 1908.58 |
| 38 | 2.20583 | 4082.59 | 35.5955 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 613.234 | 1253.07 | 1411.86 | 0 | 1411.86 | 1850.82 | 1850.82 |
| 39 | 2.20583 | 3936.6  | 36.7152 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 588.075 | 1201.66 | 1346.06 | 0 | 1346.06 | 1784.64 | 1784.64 |
| 40 | 2.20583 | 3771.21 | 37.8515 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 560.541 | 1145.4  | 1274.05 | 0 | 1274.05 | 1709.66 | 1709.66 |
| 41 | 2.20583 | 3585.54 | 39.0056 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 530.596 | 1084.21 | 1195.73 | 0 | 1195.73 | 1625.49 | 1625.49 |
| 42 | 2.20583 | 3378.58 | 40.1789 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 498.189 | 1017.99 | 1110.98 | 0 | 1110.98 | 1531.66 | 1531.66 |
| 43 | 2.20583 | 3149.22 | 41.3728 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 463.27  | 946.636 | 1019.65 | 0 | 1019.65 | 1427.68 | 1427.68 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 44 | 2.20583 | 2896.22 | 42.5891 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 425.784 | 870.038 | 921.605 | 0 | 921.605 | 1312.98 | 1312.98 |
| 45 | 2.20583 | 2618.17 | 43.8296 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 385.674 | 788.078 | 816.703 | 0 | 816.703 | 1186.93 | 1186.93 |
| 46 | 2.20583 | 2313.5  | 45.0964 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 342.879 | 700.632 | 704.776 | 0 | 704.776 | 1048.81 | 1048.81 |
| 47 | 2.20583 | 1937.26 | 46.3921 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 291.999 | 596.665 | 571.705 | 0 | 571.705 | 878.249 | 878.249 |
| 48 | 2.20583 | 1428.24 | 47.7193 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 225.961 | 461.725 | 398.989 | 0 | 398.989 | 647.486 | 647.486 |
| 49 | 2.20583 | 882.016 | 49.0813 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 157.028 | 320.867 | 218.7   | 0 | 218.7   | 399.858 | 399.858 |
| 50 | 2.20583 | 300.187 | 50.4817 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 85.7118 | 175.142 | 32.1799 | 0 | 32.1799 | 136.089 | 136.089 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.95206

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.14919    | 132.135      | -6.09455                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 105.981            | 206.881              | 72.8041                  | 0                   | 72.8041                       | 61.4882                    | 61.4882                         |
| 2            | 2.14919    | 390.549      | -4.98714                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 154.989            | 302.547              | 195.252                  | 0                   | 195.252                       | 181.727                    | 181.727                         |
| 3            | 2.14919    | 644.461      | -3.88159                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 202.356            | 395.012              | 313.601                  | 0                   | 313.601                       | 299.871                    | 299.871                         |
| 4            | 2.14919    | 960.332      | -2.77749                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 260.748            | 508.995              | 459.493                  | 0                   | 459.493                       | 446.843                    | 446.843                         |
| 5            | 2.14919    | 1283.91      | -1.67442                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 319.683            | 624.04               | 606.742                  | 0                   | 606.742                       | 597.397                    | 597.397                         |
| 6            | 2.14919    | 1595.92      | -0.571965                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 375.546            | 733.089              | 746.319                  | 0                   | 746.319                       | 742.57                     | 742.57                          |
| 7            | 2.14919    | 1896.37      | 0.530273                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 428.41             | 836.282              | 878.402                  | 0                   | 878.402                       | 882.367                    | 882.367                         |
| 8            | 2.14919    | 2185.27      | 1.63271                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 478.338            | 933.745              | 1003.15                  | 0                   | 1003.15                       | 1016.78                    | 1016.78                         |
| 9            | 2.14919    | 2462.6       | 2.73575                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 525.391            | 1025.6               | 1120.71                  | 0                   | 1120.71                       | 1145.81                    | 1145.81                         |
| 10           | 2.14919    | 2728.34      | 3.8398                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 569.622            | 1111.94              | 1231.22                  | 0                   | 1231.22                       | 1269.45                    | 1269.45                         |
| 11           | 2.14919    | 2982.45      | 4.94529                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 611.078            | 1192.86              | 1334.8                   | 0                   | 1334.8                        | 1387.68                    | 1387.68                         |
| 12           | 2.14919    | 3224.87      | 6.05262                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 649.806            | 1268.46              | 1431.57                  | 0                   | 1431.57                       | 1500.47                    | 1500.47                         |
| 13           | 2.14919    | 3455.54      | 7.16223                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 685.845            | 1338.81              | 1521.6                   | 0                   | 1521.6                        | 1607.79                    | 1607.79                         |
| 14           | 2.14919    | 3674.39      | 8.27455                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 719.225            | 1403.97              | 1605                     | 0                   | 1605                          | 1709.6                     | 1709.6                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 2.14919 | 3881.31 | 9.39002 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 749.977 | 1464    | 1681.84 | 0 | 1681.84 | 1805.87 | 1805.87 |
| 16 | 2.14919 | 4076.2  | 10.5091 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 778.132 | 1518.96 | 1752.2  | 0 | 1752.2  | 1896.54 | 1896.54 |
| 17 | 2.14919 | 4258.93 | 11.6322 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 803.715 | 1568.9  | 1816.1  | 0 | 1816.1  | 1981.55 | 1981.55 |
| 18 | 2.14919 | 4429.37 | 12.7599 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 826.732 | 1613.83 | 1873.62 | 0 | 1873.62 | 2060.84 | 2060.84 |
| 19 | 2.14919 | 4587.36 | 13.8927 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 847.213 | 1653.81 | 1924.79 | 0 | 1924.79 | 2134.34 | 2134.34 |
| 20 | 2.14919 | 4732.71 | 15.031  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 865.163 | 1688.85 | 1969.64 | 0 | 1969.64 | 2201.96 | 2201.96 |
| 21 | 2.14919 | 4865.24 | 16.1754 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 880.588 | 1718.96 | 2008.18 | 0 | 2008.18 | 2263.61 | 2263.61 |
| 22 | 2.14919 | 4984.72 | 17.3265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 893.502 | 1744.17 | 2040.44 | 0 | 2040.44 | 2319.19 | 2319.19 |
| 23 | 2.14919 | 5090.92 | 18.4849 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 903.896 | 1764.46 | 2066.42 | 0 | 2066.42 | 2368.59 | 2368.59 |
| 24 | 2.14919 | 5183.57 | 19.6511 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 911.775 | 1779.84 | 2086.1  | 0 | 2086.1  | 2411.69 | 2411.69 |
| 25 | 2.14919 | 5262.39 | 20.8259 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 917.134 | 1790.3  | 2099.49 | 0 | 2099.49 | 2448.35 | 2448.35 |
| 26 | 2.14919 | 5327.06 | 22.01   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 919.961 | 1795.82 | 2106.55 | 0 | 2106.55 | 2478.43 | 2478.43 |
| 27 | 2.14919 | 5377.23 | 23.204  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 920.243 | 1796.37 | 2107.26 | 0 | 2107.26 | 2501.75 | 2501.75 |
| 28 | 2.14919 | 5412.51 | 24.4088 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 917.969 | 1791.93 | 2101.58 | 0 | 2101.58 | 2518.16 | 2518.16 |
| 29 | 2.14919 | 5432.49 | 25.6252 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 913.117 | 1782.46 | 2089.46 | 0 | 2089.46 | 2527.44 | 2527.44 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 2.14919 | 5436.69 | 26.8541 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 905.664 | 1767.91 | 2070.83 | 0 | 2070.83 | 2529.39 | 2529.39 |
| 31 | 2.14919 | 5424.63 | 28.0965 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 895.582 | 1748.23 | 2045.63 | 0 | 2045.63 | 2523.76 | 2523.76 |
| 32 | 2.14919 | 5395.72 | 29.3535 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 882.837 | 1723.35 | 2013.79 | 0 | 2013.79 | 2510.3  | 2510.3  |
| 33 | 2.14919 | 5349.36 | 30.6262 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 867.391 | 1693.2  | 1975.21 | 0 | 1975.21 | 2488.72 | 2488.72 |
| 34 | 2.14919 | 5284.85 | 31.9159 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 849.211 | 1657.71 | 1929.78 | 0 | 1929.78 | 2458.7  | 2458.7  |
| 35 | 2.14919 | 5201.45 | 33.2239 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 828.243 | 1616.78 | 1877.4  | 0 | 1877.4  | 2419.88 | 2419.88 |
| 36 | 2.14919 | 5098.29 | 34.5518 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 804.442 | 1570.32 | 1817.92 | 0 | 1817.92 | 2371.87 | 2371.87 |
| 37 | 2.14919 | 4974.43 | 35.9013 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 777.742 | 1518.2  | 1751.22 | 0 | 1751.22 | 2314.24 | 2314.24 |
| 38 | 2.14919 | 4828.82 | 37.2742 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 748.087 | 1460.31 | 1677.12 | 0 | 1677.12 | 2246.48 | 2246.48 |
| 39 | 2.14919 | 4660.25 | 38.6726 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 715.403 | 1396.51 | 1595.46 | 0 | 1595.46 | 2168.05 | 2168.05 |
| 40 | 2.14919 | 4467.38 | 40.099  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 679.615 | 1326.65 | 1506.04 | 0 | 1506.04 | 2078.31 | 2078.31 |
| 41 | 2.14919 | 4248.65 | 41.5559 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 640.631 | 1250.55 | 1408.64 | 0 | 1408.64 | 1976.54 | 1976.54 |
| 42 | 2.14919 | 4002.31 | 43.0464 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 598.363 | 1168.04 | 1303.03 | 0 | 1303.03 | 1861.92 | 1861.92 |
| 43 | 2.14919 | 3726.31 | 44.5742 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 552.706 | 1078.92 | 1188.96 | 0 | 1188.96 | 1733.51 | 1733.51 |
| 44 | 2.14919 | 3418.28 | 46.1432 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 503.55  | 982.96  | 1066.14 | 0 | 1066.14 | 1590.2  | 1590.2  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 2.14919 | 3075.42 | 47.7584 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 450.773 | 879.935 | 934.276 | 0 | 934.276 | 1430.68 | 1430.68 |
| 46 | 2.14919 | 2694.42 | 49.4255 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 394.245 | 769.59  | 793.04  | 0 | 793.04  | 1253.43 | 1253.43 |
| 47 | 2.14919 | 2271.28 | 51.1514 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 333.83  | 651.656 | 642.09  | 0 | 642.09  | 1056.57 | 1056.57 |
| 48 | 2.14919 | 1765.19 | 52.9445 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 265.013 | 517.321 | 470.149 | 0 | 470.149 | 821.125 | 821.125 |
| 49 | 2.14919 | 1105.67 | 54.8155 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 180.321 | 351.997 | 258.544 | 0 | 258.544 | 514.312 | 514.312 |
| 50 | 2.14919 | 379.411 | 56.7779 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 91.5308 | 178.674 | 36.7006 | 0 | 36.7006 | 176.456 | 176.456 |



## **Cross Section AA-AA' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.26978**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.38859    | 89.5429      | 5.24959                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 133.66             | 169.719              | 25.2386                  | 0                   | 25.2386                       | 37.5193                    | 37.5193                         |
| 2            | 2.38859    | 264.028      | 5.95368                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 174.946            | 222.143              | 92.3392                  | 0                   | 92.3392                       | 110.584                    | 110.584                         |
| 3            | 2.38859    | 478.009      | 6.65867                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 225.134            | 285.871              | 173.906                  | 0                   | 173.906                       | 200.189                    | 200.189                         |
| 4            | 2.38859    | 756.854      | 7.36468                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 290.083            | 368.342              | 279.465                  | 0                   | 279.465                       | 316.958                    | 316.958                         |
| 5            | 2.38859    | 1027.18      | 8.07181                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 352.084            | 447.069              | 380.23                   | 0                   | 380.23                        | 430.163                    | 430.163                         |
| 6            | 2.38859    | 1288.15      | 8.78018                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 410.996            | 521.874              | 475.978                  | 0                   | 475.978                       | 539.458                    | 539.458                         |
| 7            | 2.38859    | 1539.73      | 9.48991                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 466.864            | 592.815              | 566.779                  | 0                   | 566.779                       | 644.821                    | 644.821                         |
| 8            | 2.38859    | 1781.86      | 10.2011                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 519.733            | 659.946              | 652.702                  | 0                   | 652.702                       | 746.227                    | 746.227                         |
| 9            | 2.38859    | 2014.47      | 10.9139                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 569.64             | 723.317              | 733.814                  | 0                   | 733.814                       | 843.653                    | 843.653                         |
| 10           | 2.38859    | 2237.49      | 11.6284                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 616.623            | 782.976              | 810.171                  | 0                   | 810.171                       | 937.064                    | 937.064                         |
| 11           | 2.38859    | 2450.86      | 12.3448                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 660.72             | 838.969              | 881.839                  | 0                   | 881.839                       | 1026.44                    | 1026.44                         |
| 12           | 2.38859    | 2654.5       | 13.0631                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 701.962            | 891.337              | 948.868                  | 0                   | 948.868                       | 1111.74                    | 1111.74                         |
| 13           | 2.38859    | 2848.33      | 13.7835                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 740.381            | 940.121              | 1011.31                  | 0                   | 1011.31                       | 1192.94                    | 1192.94                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.38859 | 3032.25 | 14.5061 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 776.007 | 985.358 | 1069.21 | 0 | 1069.21 | 1269.99 | 1269.99 |
| 15 | 2.38859 | 3206.18 | 15.2311 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 808.868 | 1027.08 | 1122.62 | 0 | 1122.62 | 1342.85 | 1342.85 |
| 16 | 2.38859 | 3370    | 15.9586 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 838.988 | 1065.33 | 1171.57 | 0 | 1171.57 | 1411.49 | 1411.49 |
| 17 | 2.38859 | 3523.62 | 16.6888 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 866.393 | 1100.13 | 1216.11 | 0 | 1216.11 | 1475.85 | 1475.85 |
| 18 | 2.38859 | 3666.92 | 17.4218 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 891.104 | 1131.51 | 1256.27 | 0 | 1256.27 | 1535.9  | 1535.9  |
| 19 | 2.38859 | 3799.77 | 18.1577 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 913.142 | 1159.49 | 1292.09 | 0 | 1292.09 | 1591.57 | 1591.57 |
| 20 | 2.38859 | 3922.05 | 18.8967 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 932.524 | 1184.1  | 1323.59 | 0 | 1323.59 | 1642.81 | 1642.81 |
| 21 | 2.38859 | 4033.61 | 19.639  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 949.275 | 1205.37 | 1350.82 | 0 | 1350.82 | 1689.57 | 1689.57 |
| 22 | 2.38859 | 4134.32 | 20.3848 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 963.411 | 1223.32 | 1373.78 | 0 | 1373.78 | 1731.78 | 1731.78 |
| 23 | 2.38859 | 4224.01 | 21.1342 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 974.933 | 1237.95 | 1392.51 | 0 | 1392.51 | 1769.38 | 1769.38 |
| 24 | 2.38859 | 4302.52 | 21.8874 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 983.863 | 1249.29 | 1407.03 | 0 | 1407.03 | 1802.29 | 1802.29 |
| 25 | 2.38859 | 4369.68 | 22.6446 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 990.219 | 1257.36 | 1417.36 | 0 | 1417.36 | 1830.45 | 1830.45 |
| 26 | 2.38859 | 4425.29 | 23.406  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 994.007 | 1262.17 | 1423.51 | 0 | 1423.51 | 1853.78 | 1853.78 |
| 27 | 2.38859 | 4469.17 | 24.1718 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 995.235 | 1263.73 | 1425.5  | 0 | 1425.5  | 1872.19 | 1872.19 |
| 28 | 2.38859 | 4501.1  | 24.9422 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 993.904 | 1262.04 | 1423.35 | 0 | 1423.35 | 1885.6  | 1885.6  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.38859 | 4520.85 | 25.7174 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 990.038 | 1257.13 | 1417.06 | 0 | 1417.06 | 1893.91 | 1893.91 |
| 30 | 2.38859 | 4528.2  | 26.4978 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 983.627 | 1248.99 | 1406.65 | 0 | 1406.65 | 1897.02 | 1897.02 |
| 31 | 2.38859 | 4522.9  | 27.2835 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 974.689 | 1237.64 | 1392.11 | 0 | 1392.11 | 1894.83 | 1894.83 |
| 32 | 2.38859 | 4504.67 | 28.0748 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 963.214 | 1223.07 | 1373.47 | 0 | 1373.47 | 1887.23 | 1887.23 |
| 33 | 2.38859 | 4473.23 | 28.872  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 949.212 | 1205.29 | 1350.7  | 0 | 1350.7  | 1874.09 | 1874.09 |
| 34 | 2.38859 | 4428.28 | 29.6753 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 932.673 | 1184.29 | 1323.83 | 0 | 1323.83 | 1855.29 | 1855.29 |
| 35 | 2.38859 | 4369.49 | 30.4851 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 913.615 | 1160.09 | 1292.86 | 0 | 1292.86 | 1830.7  | 1830.7  |
| 36 | 2.38859 | 4296.53 | 31.3017 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 892.025 | 1132.67 | 1257.77 | 0 | 1257.77 | 1800.16 | 1800.16 |
| 37 | 2.38859 | 4209.02 | 32.1254 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 867.902 | 1102.05 | 1218.56 | 0 | 1218.56 | 1763.53 | 1763.53 |
| 38 | 2.38859 | 4106.58 | 32.9567 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 841.245 | 1068.2  | 1175.24 | 0 | 1175.24 | 1720.64 | 1720.64 |
| 39 | 2.38859 | 3988.77 | 33.7958 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 812.048 | 1031.12 | 1127.78 | 0 | 1127.78 | 1671.32 | 1671.32 |
| 40 | 2.38859 | 3855.15 | 34.6433 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 780.307 | 990.818 | 1076.2  | 0 | 1076.2  | 1615.37 | 1615.37 |
| 41 | 2.38859 | 3705.23 | 35.4995 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 746.016 | 947.276 | 1020.47 | 0 | 1020.47 | 1552.59 | 1552.59 |
| 42 | 2.38859 | 3538.5  | 36.3649 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 709.169 | 900.488 | 960.58  | 0 | 960.58  | 1482.75 | 1482.75 |
| 43 | 2.38859 | 3311.74 | 37.2401 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 662.267 | 840.934 | 884.355 | 0 | 884.355 | 1387.77 | 1387.77 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 44 | 2.38859 | 2942.05 | 38.1256 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 591.225 | 750.726 | 768.894  | 0 | 768.894  | 1232.9  | 1232.9  |
| 45 | 2.38859 | 2545.64 | 39.0219 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 516.827 | 656.256 | 647.979  | 0 | 647.979  | 1066.82 | 1066.82 |
| 46 | 2.38859 | 2129.88 | 39.9298 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 440.5   | 559.338 | 523.929  | 0 | 523.929  | 892.633 | 892.633 |
| 47 | 2.38859 | 1693.98 | 40.8498 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 362.254 | 459.983 | 396.759  | 0 | 396.759  | 709.999 | 709.999 |
| 48 | 2.38859 | 1237.12 | 41.7829 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 282.103 | 358.209 | 266.496  | 0 | 266.496  | 518.573 | 518.573 |
| 49 | 2.38859 | 758.355 | 42.7297 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 200.063 | 254.036 | 133.16   | 0 | 133.16   | 317.964 | 317.964 |
| 50 | 2.38859 | 256.69  | 43.6912 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 116.153 | 147.489 | -3.21412 | 0 | -3.21412 | 107.75  | 107.75  |

Global Minimum Query (janbu simplified) - Safety Factor: 1.20742

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.30395    | 119.131      | -0.684286                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 158.918            | 191.881              | 53.6055                  | 0                   | 53.6055                       | 51.7074                    | 51.7074                         |
| 2            | 2.30395    | 351.898      | 0.228355                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 222.489            | 268.638              | 151.85                   | 0                   | 151.85                        | 152.737                    | 152.737                         |
| 3            | 2.30395    | 583.033      | 1.14105                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 284.314            | 343.287              | 247.395                  | 0                   | 247.395                       | 253.058                    | 253.058                         |
| 4            | 2.30395    | 888.354      | 2.05404                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 365.252            | 441.013              | 372.48                   | 0                   | 372.48                        | 385.58                     | 385.58                          |
| 5            | 2.30395    | 1203.12      | 2.96756                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 447.134            | 539.879              | 499.025                  | 0                   | 499.025                       | 522.204                    | 522.204                         |
| 6            | 2.30395    | 1506.86      | 3.88182                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 524.413            | 633.187              | 618.449                  | 0                   | 618.449                       | 654.033                    | 654.033                         |
| 7            | 2.30395    | 1799.52      | 4.79708                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 597.204            | 721.076              | 730.946                  | 0                   | 730.946                       | 781.064                    | 781.064                         |
| 8            | 2.30395    | 2081.08      | 5.71357                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 665.617            | 803.679              | 836.671                  | 0                   | 836.671                       | 903.268                    | 903.268                         |
| 9            | 2.30395    | 2351.47      | 6.63153                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 729.753            | 881.118              | 935.789                  | 0                   | 935.789                       | 1020.63                    | 1020.63                         |
| 10           | 2.30395    | 2610.65      | 7.5512                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 789.705            | 953.506              | 1028.44                  | 0                   | 1028.44                       | 1133.13                    | 1133.13                         |
| 11           | 2.30395    | 2858.55      | 8.47283                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 845.561            | 1020.95              | 1114.76                  | 0                   | 1114.76                       | 1240.72                    | 1240.72                         |
| 12           | 2.30395    | 3095.08      | 9.39667                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 897.401            | 1083.54              | 1194.88                  | 0                   | 1194.88                       | 1343.39                    | 1343.39                         |
| 13           | 2.30395    | 3320.17      | 10.323                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 945.301            | 1141.38              | 1268.9                   | 0                   | 1268.9                        | 1441.08                    | 1441.08                         |
| 14           | 2.30395    | 3533.71      | 11.2521                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 989.324            | 1194.53              | 1336.95                  | 0                   | 1336.95                       | 1533.77                    | 1533.77                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 2.30395 | 3735.6  | 12.1841 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1029.55 | 1243.1  | 1399.1  | 0 | 1399.1  | 1621.4  | 1621.4  |
| 16 | 2.30395 | 3925.71 | 13.1195 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1066.02 | 1287.13 | 1455.47 | 0 | 1455.47 | 1703.92 | 1703.92 |
| 17 | 2.30395 | 4103.93 | 14.0584 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1098.8  | 1326.71 | 1506.12 | 0 | 1506.12 | 1781.27 | 1781.27 |
| 18 | 2.30395 | 4270.1  | 15.0012 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1127.93 | 1361.89 | 1551.14 | 0 | 1551.14 | 1853.4  | 1853.4  |
| 19 | 2.30395 | 4424.08 | 15.9482 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1153.47 | 1392.72 | 1590.61 | 0 | 1590.61 | 1920.23 | 1920.23 |
| 20 | 2.30395 | 4565.69 | 16.8996 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1175.45 | 1419.26 | 1624.57 | 0 | 1624.57 | 1981.69 | 1981.69 |
| 21 | 2.30395 | 4694.74 | 17.8559 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1193.91 | 1441.55 | 1653.1  | 0 | 1653.1  | 2037.71 | 2037.71 |
| 22 | 2.30395 | 4811.05 | 18.8174 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1208.88 | 1459.63 | 1676.25 | 0 | 1676.25 | 2088.2  | 2088.2  |
| 23 | 2.30395 | 4914.39 | 19.7844 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1220.4  | 1473.54 | 1694.05 | 0 | 1694.05 | 2133.05 | 2133.05 |
| 24 | 2.30395 | 5004.54 | 20.7573 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1228.5  | 1483.31 | 1706.56 | 0 | 1706.56 | 2172.18 | 2172.18 |
| 25 | 2.30395 | 5081.24 | 21.7365 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1233.19 | 1488.98 | 1713.81 | 0 | 1713.81 | 2205.47 | 2205.47 |
| 26 | 2.30395 | 5144.23 | 22.7224 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1234.5  | 1490.56 | 1715.84 | 0 | 1715.84 | 2232.81 | 2232.81 |
| 27 | 2.30395 | 5193.2  | 23.7155 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1232.45 | 1488.08 | 1712.66 | 0 | 1712.66 | 2254.07 | 2254.07 |
| 28 | 2.30395 | 5227.85 | 24.7162 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1227.04 | 1481.55 | 1704.31 | 0 | 1704.31 | 2269.1  | 2269.1  |
| 29 | 2.30395 | 5247.82 | 25.725  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1218.29 | 1470.99 | 1690.79 | 0 | 1690.79 | 2277.77 | 2277.77 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 30 | 2.30395 | 5252.76 | 26.7425 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1206.22 | 1456.41 | 1672.13 | 0 | 1672.13 | 2279.92 | 2279.92 |
| 31 | 2.30395 | 5242.26 | 27.7692 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1190.82 | 1437.82 | 1648.33 | 0 | 1648.33 | 2275.36 | 2275.36 |
| 32 | 2.30395 | 5215.89 | 28.8056 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1172.1  | 1415.22 | 1619.4  | 0 | 1619.4  | 2263.92 | 2263.92 |
| 33 | 2.30395 | 5173.18 | 29.8524 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1150.06 | 1388.6  | 1585.34 | 0 | 1585.34 | 2245.38 | 2245.38 |
| 34 | 2.30395 | 5113.6  | 30.9104 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1124.69 | 1357.97 | 1546.14 | 0 | 1546.14 | 2219.52 | 2219.52 |
| 35 | 2.30395 | 5036.62 | 31.9802 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1095.99 | 1323.32 | 1501.78 | 0 | 1501.78 | 2186.11 | 2186.11 |
| 36 | 2.30395 | 4941.62 | 33.0626 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1063.95 | 1284.64 | 1452.28 | 0 | 1452.28 | 2144.87 | 2144.87 |
| 37 | 2.30395 | 4827.93 | 34.1585 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1028.57 | 1241.92 | 1397.6  | 0 | 1397.6  | 2095.53 | 2095.53 |
| 38 | 2.30395 | 4694.83 | 35.2688 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 989.838 | 1195.15 | 1337.73 | 0 | 1337.73 | 2037.76 | 2037.76 |
| 39 | 2.30395 | 4541.51 | 36.3946 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 947.717 | 1144.29 | 1272.64 | 0 | 1272.64 | 1971.22 | 1971.22 |
| 40 | 2.30395 | 4367.11 | 37.5369 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 902.208 | 1089.34 | 1202.31 | 0 | 1202.31 | 1895.52 | 1895.52 |
| 41 | 2.30395 | 4170.65 | 38.697  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 853.288 | 1030.28 | 1126.7  | 0 | 1126.7  | 1810.24 | 1810.24 |
| 42 | 2.30395 | 3951.04 | 39.8763 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 800.938 | 967.068 | 1045.8  | 0 | 1045.8  | 1714.92 | 1714.92 |
| 43 | 2.30395 | 3707.08 | 41.0762 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 745.135 | 899.691 | 959.561 | 0 | 959.561 | 1609.04 | 1609.04 |
| 44 | 2.30395 | 3437.44 | 42.2984 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 685.859 | 828.12  | 867.953 | 0 | 867.953 | 1492    | 1492    |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 45 | 2.30395 | 3096.35 | 43.5449 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 615.392 | 743.037 | 759.053  | 0 | 759.053  | 1343.95 | 1343.95 |
| 46 | 2.30395 | 2612.87 | 44.8177 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 522.273 | 630.603 | 615.144  | 0 | 615.144  | 1134.1  | 1134.1  |
| 47 | 2.30395 | 2092.84 | 46.1192 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 425.633 | 513.918 | 465.794  | 0 | 465.794  | 908.389 | 908.389 |
| 48 | 2.30395 | 1539.75 | 47.4523 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 326.505 | 394.229 | 312.599  | 0 | 312.599  | 668.322 | 668.322 |
| 49 | 2.30395 | 951.03  | 48.8202 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 224.95  | 271.609 | 155.652  | 0 | 155.652  | 412.793 | 412.793 |
| 50 | 2.30395 | 323.711 | 50.2265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 121.05  | 146.158 | -4.91723 | 0 | -4.91723 | 140.508 | 140.508 |



## **Cross Section BB-BB' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.6446**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.6482     | 168.364      | 11.9081                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 110.355            | 181.49               | 40.3049                  | 0                   | 40.3049                       | 63.5767                    | 63.5767                         |
| 2            | 2.6482     | 519.056      | 12.5409                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 166.705            | 274.163              | 158.921                  | 0                   | 158.921                       | 196.004                    | 196.004                         |
| 3            | 2.6482     | 859.442      | 13.1751                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 220.826            | 363.17               | 272.846                  | 0                   | 272.846                       | 324.539                    | 324.539                         |
| 4            | 2.6482     | 1189.17      | 13.8111                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 272.688            | 448.462              | 382.014                  | 0                   | 382.014                       | 449.049                    | 449.049                         |
| 5            | 2.6482     | 1508.15      | 14.4488                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 322.303            | 530.06               | 486.453                  | 0                   | 486.453                       | 569.499                    | 569.499                         |
| 6            | 2.6482     | 1816.29      | 15.0883                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 369.685            | 607.984              | 586.192                  | 0                   | 586.192                       | 685.859                    | 685.859                         |
| 7            | 2.6482     | 2113.5       | 15.7297                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 414.844            | 682.252              | 681.252                  | 0                   | 681.252                       | 798.091                    | 798.091                         |
| 8            | 2.6482     | 2399.68      | 16.3732                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 457.79             | 752.882              | 771.654                  | 0                   | 771.654                       | 906.157                    | 906.157                         |
| 9            | 2.6482     | 2674.71      | 17.0188                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 498.533            | 819.888              | 857.418                  | 0                   | 857.418                       | 1010.01                    | 1010.01                         |
| 10           | 2.6482     | 2938.49      | 17.6666                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 537.081            | 883.284              | 938.561                  | 0                   | 938.561                       | 1109.62                    | 1109.62                         |
| 11           | 2.6482     | 3190.9       | 18.3168                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 573.442            | 943.082              | 1015.1                   | 0                   | 1015.1                        | 1204.93                    | 1204.93                         |
| 12           | 2.6482     | 3431.8       | 18.9694                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 607.62             | 999.292              | 1087.04                  | 0                   | 1087.04                       | 1295.9                     | 1295.9                          |
| 13           | 2.6482     | 3661.07      | 19.6246                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 639.622            | 1051.92              | 1154.41                  | 0                   | 1154.41                       | 1382.48                    | 1382.48                         |

|    |        |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.6482 | 3878.56 | 20.2825 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 669.452 | 1100.98 | 1217.2  | 0 | 1217.2  | 1464.61 | 1464.61 |
| 15 | 2.6482 | 4084.13 | 20.9432 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 697.113 | 1146.47 | 1275.43 | 0 | 1275.43 | 1542.23 | 1542.23 |
| 16 | 2.6482 | 4277.61 | 21.6068 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 722.607 | 1188.4  | 1329.09 | 0 | 1329.09 | 1615.29 | 1615.29 |
| 17 | 2.6482 | 4458.85 | 22.2735 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 745.938 | 1226.77 | 1378.2  | 0 | 1378.2  | 1683.73 | 1683.73 |
| 18 | 2.6482 | 4627.68 | 22.9434 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 767.104 | 1261.58 | 1422.76 | 0 | 1422.76 | 1747.48 | 1747.48 |
| 19 | 2.6482 | 4783.9  | 23.6166 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 786.106 | 1292.83 | 1462.76 | 0 | 1462.76 | 1806.48 | 1806.48 |
| 20 | 2.6482 | 4927.33 | 24.2932 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 802.949 | 1320.53 | 1498.21 | 0 | 1498.21 | 1860.64 | 1860.64 |
| 21 | 2.6482 | 5057.76 | 24.9735 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 817.615 | 1344.65 | 1529.09 | 0 | 1529.09 | 1909.89 | 1909.89 |
| 22 | 2.6482 | 5174.98 | 25.6576 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 830.117 | 1365.21 | 1555.4  | 0 | 1555.4  | 1954.15 | 1954.15 |
| 23 | 2.6482 | 5278.76 | 26.3457 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 840.441 | 1382.19 | 1577.14 | 0 | 1577.14 | 1993.34 | 1993.34 |
| 24 | 2.6482 | 5368.87 | 27.0378 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 848.589 | 1395.59 | 1594.28 | 0 | 1594.28 | 2027.37 | 2027.37 |
| 25 | 2.6482 | 5445.05 | 27.7343 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 854.554 | 1405.4  | 1606.83 | 0 | 1606.83 | 2056.14 | 2056.14 |
| 26 | 2.6482 | 5507.03 | 28.4352 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 858.324 | 1411.6  | 1614.77 | 0 | 1614.77 | 2079.54 | 2079.54 |
| 27 | 2.6482 | 5554.55 | 29.1408 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 859.893 | 1414.18 | 1618.07 | 0 | 1618.07 | 2097.49 | 2097.49 |
| 28 | 2.6482 | 5587.29 | 29.8513 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 859.255 | 1413.13 | 1616.73 | 0 | 1616.73 | 2109.85 | 2109.85 |

|    |        |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.6482 | 5604.95 | 30.5668 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 856.397 | 1408.43 | 1610.72 | 0 | 1610.72 | 2116.52 | 2116.52 |
| 30 | 2.6482 | 5607.19 | 31.2877 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 851.313 | 1400.07 | 1600.01 | 0 | 1600.01 | 2117.37 | 2117.37 |
| 31 | 2.6482 | 5593.67 | 32.0142 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 843.986 | 1388.02 | 1584.59 | 0 | 1584.59 | 2112.26 | 2112.26 |
| 32 | 2.6482 | 5563.99 | 32.7464 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 834.404 | 1372.26 | 1564.42 | 0 | 1564.42 | 2101.05 | 2101.05 |
| 33 | 2.6482 | 5517.78 | 33.4848 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 822.553 | 1352.77 | 1539.48 | 0 | 1539.48 | 2083.6  | 2083.6  |
| 34 | 2.6482 | 5454.6  | 34.2294 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 808.422 | 1329.53 | 1509.73 | 0 | 1509.73 | 2059.74 | 2059.74 |
| 35 | 2.6482 | 5374    | 34.9808 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 791.992 | 1302.51 | 1475.15 | 0 | 1475.15 | 2029.31 | 2029.31 |
| 36 | 2.6482 | 5275.51 | 35.739  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 773.246 | 1271.68 | 1435.69 | 0 | 1435.69 | 1992.12 | 1992.12 |
| 37 | 2.6482 | 5158.61 | 36.5046 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 752.165 | 1237.01 | 1391.31 | 0 | 1391.31 | 1947.98 | 1947.98 |
| 38 | 2.6482 | 5022.76 | 37.2778 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 728.73  | 1198.47 | 1341.98 | 0 | 1341.98 | 1896.68 | 1896.68 |
| 39 | 2.6482 | 4867.38 | 38.0591 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 702.919 | 1156.02 | 1287.65 | 0 | 1287.65 | 1838    | 1838    |
| 40 | 2.6482 | 4691.82 | 38.8488 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 674.715 | 1109.64 | 1228.28 | 0 | 1228.28 | 1771.71 | 1771.71 |
| 41 | 2.6482 | 4495.43 | 39.6473 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 644.09  | 1059.27 | 1163.81 | 0 | 1163.81 | 1697.55 | 1697.55 |
| 42 | 2.6482 | 4277.47 | 40.4552 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 611.022 | 1004.89 | 1094.21 | 0 | 1094.21 | 1615.24 | 1615.24 |
| 43 | 2.6482 | 4037.17 | 41.2729 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 575.487 | 946.446 | 1019.4  | 0 | 1019.4  | 1524.5  | 1524.5  |

|    |        |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 44 | 2.6482 | 3773.68 | 42.1011 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 537.458 | 883.903 | 939.353 | 0 | 939.353 | 1425    | 1425    |
| 45 | 2.6482 | 3486.08 | 42.9401 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 496.908 | 817.215 | 853.995 | 0 | 853.995 | 1316.4  | 1316.4  |
| 46 | 2.6482 | 3173.38 | 43.7908 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 453.809 | 746.335 | 763.275 | 0 | 763.275 | 1198.32 | 1198.32 |
| 47 | 2.6482 | 2783.73 | 44.6537 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 401.934 | 661.021 | 654.078 | 0 | 654.078 | 1051.18 | 1051.18 |
| 48 | 2.6482 | 2060.55 | 45.5297 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 310.561 | 510.749 | 461.739 | 0 | 461.739 | 778.097 | 778.097 |
| 49 | 2.6482 | 1257.44 | 46.4196 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 211.3   | 347.504 | 252.793 | 0 | 252.793 | 474.832 | 474.832 |
| 50 | 2.6482 | 424.282 | 47.3242 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 110.424 | 181.603 | 40.4498 | 0 | 40.4498 | 160.216 | 160.216 |

**Global Minimum Query (janbu simplified) - Safety Factor: 1.54759**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                            | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.08002    | 208.235      | -7.84041                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 140.821            | 217.932              | 86.9494                  | 0                   | 86.9494                       | 67.5582                    | 67.5582                         |
| 2            | 3.08002    | 611.068      | -6.57894                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 209.235            | 323.81               | 222.467                  | 0                   | 222.467                       | 198.335                    | 198.335                         |
| 3            | 3.08002    | 1118.24      | -5.32067                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 294.002            | 454.994              | 390.373                  | 0                   | 390.373                       | 362.993                    | 362.993                         |
| 4            | 3.08002    | 1712.79      | -4.06498                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 391.681            | 606.162              | 583.862                  | 0                   | 583.862                       | 556.026                    | 556.026                         |
| 5            | 3.08002    | 2280.19      | -2.81123                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 482.599            | 746.866              | 763.955                  | 0                   | 763.955                       | 740.257                    | 740.257                         |
| 6            | 3.08002    | 2897.95      | -1.55883                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 579.868            | 897.398              | 956.627                  | 0                   | 956.627                       | 940.847                    | 940.847                         |
| 7            | 3.08002    | 3654.45      | -0.307176                 | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 697.803            | 1079.91              | 1190.24                  | 0                   | 1190.24                       | 1186.49                    | 1186.49                         |
| 8            | 3.08002    | 4389.55      | 0.944331                  | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 809.685            | 1253.06              | 1411.86                  | 0                   | 1411.86                       | 1425.2                     | 1425.2                          |
| 9            | 3.08002    | 5097.69      | 2.19629                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 914.809            | 1415.75              | 1620.09                  | 0                   | 1620.09                       | 1655.18                    | 1655.18                         |
| 10           | 3.08002    | 5778.83      | 3.4493                    | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1013.36            | 1568.27              | 1815.31                  | 0                   | 1815.31                       | 1876.39                    | 1876.39                         |
| 11           | 3.08002    | 6432.88      | 4.70396                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1105.52            | 1710.89              | 1997.85                  | 0                   | 1997.85                       | 2088.82                    | 2088.82                         |
| 12           | 3.08002    | 7059.71      | 5.96089                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1191.43            | 1843.84              | 2168.02                  | 0                   | 2168.02                       | 2292.42                    | 2292.42                         |
| 13           | 3.08002    | 7659.15      | 7.22071                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1271.22            | 1967.33              | 2326.08                  | 0                   | 2326.08                       | 2487.14                    | 2487.14                         |
| 14           | 3.08002    | 8231         | 8.48405                   | MD-VD Silty SAND/Silt y SAND with gravel | 150                 | 38                        | 1345.03            | 2081.55              | 2472.27                  | 0                   | 2472.27                       | 2672.9                     | 2672.9                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 3.08002 | 8775    | 9.75156 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1412.95 | 2186.66 | 2606.81 | 0 | 2606.81 | 2849.63 | 2849.63 |
| 16 | 3.08002 | 9290.86 | 11.0239 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1475.07 | 2282.81 | 2729.87 | 0 | 2729.87 | 3017.23 | 3017.23 |
| 17 | 2.93798 | 9312.51 | 12.2722 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1379.83 | 2135.41 | 2870.32 | 0 | 2870.32 | 3170.47 | 3170.47 |
| 18 | 2.93798 | 9722.05 | 13.4968 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1425.6  | 2206.24 | 2967.8  | 0 | 2967.8  | 3309.98 | 3309.98 |
| 19 | 2.93798 | 10107.1 | 14.7277 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1466.8  | 2270.01 | 3055.59 | 0 | 3055.59 | 3441.15 | 3441.15 |
| 20 | 2.93798 | 10467.3 | 15.9657 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1503.49 | 2326.79 | 3133.73 | 0 | 3133.73 | 3563.88 | 3563.88 |
| 21 | 2.93798 | 10802.3 | 17.2113 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1535.68 | 2376.6  | 3202.29 | 0 | 3202.29 | 3677.99 | 3677.99 |
| 22 | 2.93798 | 11111.4 | 18.4654 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1563.37 | 2419.46 | 3261.26 | 0 | 3261.26 | 3783.31 | 3783.31 |
| 23 | 2.93798 | 11394.1 | 19.7287 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1586.58 | 2455.37 | 3310.73 | 0 | 3310.73 | 3879.7  | 3879.7  |
| 24 | 2.93798 | 11649.9 | 21.0021 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1605.3  | 2484.34 | 3350.6  | 0 | 3350.6  | 3966.88 | 3966.88 |
| 25 | 2.93798 | 11878.1 | 22.2864 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1619.52 | 2506.36 | 3380.89 | 0 | 3380.89 | 4044.66 | 4044.66 |
| 26 | 2.93798 | 12077.8 | 23.5827 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1629.23 | 2521.38 | 3401.56 | 0 | 3401.56 | 4112.76 | 4112.76 |
| 27 | 2.93798 | 12248.4 | 24.8919 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1634.39 | 2529.37 | 3412.56 | 0 | 3412.56 | 4170.94 | 4170.94 |
| 28 | 2.93798 | 12388.8 | 26.2152 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1634.97 | 2530.27 | 3413.8  | 0 | 3413.8  | 4218.85 | 4218.85 |
| 29 | 2.93798 | 12498.1 | 27.5537 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1630.94 | 2524.02 | 3405.2  | 0 | 3405.2  | 4256.15 | 4256.15 |
| 30 | 2.93798 | 12575   | 28.9087 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1622.22 | 2510.53 | 3386.64 | 0 | 3386.64 | 4282.47 | 4282.47 |
| 31 | 2.93798 | 12618.5 | 30.2817 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1608.77 | 2489.71 | 3357.96 | 0 | 3357.96 | 4297.36 | 4297.36 |
| 32 | 2.93798 | 12627   | 31.6742 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1590.49 | 2461.43 | 3319.05 | 0 | 3319.05 | 4300.37 | 4300.37 |
| 33 | 2.93798 | 12599   | 33.0879 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1567.32 | 2425.57 | 3269.69 | 0 | 3269.69 | 4290.94 | 4290.94 |
| 34 | 2.93798 | 12532.7 | 34.5247 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 1539.15 | 2381.97 | 3209.69 | 0 | 3209.69 | 4268.49 | 4268.49 |
| 35 | 2.92594 | 12369.3 | 35.9837 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1633.77 | 2528.41 | 3044.23 | 0 | 3044.23 | 4230.53 | 4230.53 |
| 36 | 2.92594 | 12208.4 | 37.4672 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1589.81 | 2460.37 | 2957.12 | 0 | 2957.12 | 4175.58 | 4175.58 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 37 | 2.92594 | 12001.1 | 38.9808 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1540.05 | 2383.37 | 2858.58 | 0 | 2858.58 | 4104.84 | 4104.84 |
| 38 | 2.92594 | 11744.7 | 40.5274 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1484.35 | 2297.17 | 2748.27 | 0 | 2748.27 | 4017.25 | 4017.25 |
| 39 | 2.92594 | 11435.5 | 42.1107 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1422.53 | 2201.49 | 2625.78 | 0 | 2625.78 | 3911.62 | 3911.62 |
| 40 | 2.92594 | 11069.7 | 43.7346 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1354.37 | 2096.01 | 2490.79 | 0 | 2490.79 | 3786.62 | 3786.62 |
| 41 | 2.92594 | 10642.4 | 45.4039 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1279.65 | 1980.38 | 2342.78 | 0 | 2342.78 | 3640.61 | 3640.61 |
| 42 | 2.92594 | 10148.3 | 47.1242 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1198.12 | 1854.2  | 2181.28 | 0 | 2181.28 | 3471.7  | 3471.7  |
| 43 | 2.92594 | 9580.59 | 48.9021 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1109.49 | 1717.03 | 2005.71 | 0 | 2005.71 | 3277.63 | 3277.63 |
| 44 | 2.92594 | 8931.23 | 50.7457 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1013.43 | 1568.37 | 1815.43 | 0 | 1815.43 | 3055.62 | 3055.62 |
| 45 | 2.92594 | 8190.27 | 52.6653 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 909.588 | 1407.67 | 1609.75 | 0 | 1609.75 | 2802.25 | 2802.25 |
| 46 | 2.92594 | 7345.12 | 54.6734 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 797.582 | 1234.33 | 1387.88 | 0 | 1387.88 | 2513.24 | 2513.24 |
| 47 | 2.92594 | 6341.01 | 56.7866 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 673.223 | 1041.87 | 1141.55 | 0 | 1141.55 | 2169.81 | 2169.81 |
| 48 | 2.92594 | 4826.84 | 59.0269 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 505.591 | 782.448 | 809.496 | 0 | 809.496 | 1651.84 | 1651.84 |
| 49 | 2.92594 | 3049.25 | 61.4247 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 323.74  | 501.017 | 449.281 | 0 | 449.281 | 1043.67 | 1043.67 |
| 50 | 2.92594 | 1056.58 | 64.0247 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 137.31  | 212.5   | 79.9967 | 0 | 79.9967 | 361.834 | 361.834 |

## **Cross Section BB-BB' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.05918**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.68801    | 176.565      | 11.5624                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 165.153            | 174.927              | 31.9046                  | 0                   | 31.9046                       | 65.6928                    | 65.6928                         |
| 2            | 2.68801    | 543.785      | 12.1987                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 250.849            | 265.694              | 148.081                  | 0                   | 148.081                       | 202.311                    | 202.311                         |
| 3            | 2.68801    | 900.346      | 12.8366                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 332.767            | 352.46               | 259.137                  | 0                   | 259.137                       | 334.964                    | 334.964                         |
| 4            | 2.68801    | 1245.89      | 13.476                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 410.894            | 435.211              | 365.053                  | 0                   | 365.053                       | 463.518                    | 463.518                         |
| 5            | 2.68801    | 1580.34      | 14.1172                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 485.279            | 513.998              | 465.898                  | 0                   | 465.898                       | 587.947                    | 587.947                         |
| 6            | 2.68801    | 1903.59      | 14.7602                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 555.967            | 588.869              | 561.728                  | 0                   | 561.728                       | 708.208                    | 708.208                         |
| 7            | 2.68801    | 2215.55      | 15.4051                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 623.003            | 659.872              | 652.606                  | 0                   | 652.606                       | 824.27                     | 824.27                          |
| 8            | 2.68801    | 2516.12      | 16.052                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 686.426            | 727.049              | 738.587                  | 0                   | 738.587                       | 936.091                    | 936.091                         |
| 9            | 2.68801    | 2805.19      | 16.701                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 746.277            | 790.442              | 819.728                  | 0                   | 819.728                       | 1043.64                    | 1043.64                         |
| 10           | 2.68801    | 3082.64      | 17.3522                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 802.594            | 850.091              | 896.075                  | 0                   | 896.075                       | 1146.86                    | 1146.86                         |
| 11           | 2.68801    | 3348.35      | 18.0058                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 855.411            | 906.034              | 967.677                  | 0                   | 967.677                       | 1245.71                    | 1245.71                         |
| 12           | 2.68801    | 3602.19      | 18.6618                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 904.76             | 958.304              | 1034.58                  | 0                   | 1034.58                       | 1340.15                    | 1340.15                         |
| 13           | 2.68801    | 3844.02      | 19.3203                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 950.674            | 1006.93              | 1096.83                  | 0                   | 1096.83                       | 1430.13                    | 1430.13                         |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 14 | 2.68801 | 4073.71 | 19.9815 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 993.182 | 1051.96 | 1154.46 | 0 | 1154.46 | 1515.58 | 1515.58 |
| 15 | 2.68801 | 4291.09 | 20.6455 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1032.31 | 1093.4  | 1207.5  | 0 | 1207.5  | 1596.46 | 1596.46 |
| 16 | 2.68801 | 4496.02 | 21.3123 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1068.09 | 1131.3  | 1256.01 | 0 | 1256.01 | 1672.7  | 1672.7  |
| 17 | 2.68801 | 4688.32 | 21.9823 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1100.54 | 1165.67 | 1300    | 0 | 1300    | 1744.25 | 1744.25 |
| 18 | 2.68801 | 4867.82 | 22.6554 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1129.69 | 1196.54 | 1339.51 | 0 | 1339.51 | 1811.03 | 1811.03 |
| 19 | 2.68801 | 5034.32 | 23.3318 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1155.54 | 1223.93 | 1374.56 | 0 | 1374.56 | 1872.98 | 1872.98 |
| 20 | 2.68801 | 5187.64 | 24.0117 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1178.14 | 1247.86 | 1405.2  | 0 | 1405.2  | 1930.02 | 1930.02 |
| 21 | 2.68801 | 5327.57 | 24.6952 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1197.48 | 1268.35 | 1431.42 | 0 | 1431.42 | 1982.08 | 1982.08 |
| 22 | 2.68801 | 5453.88 | 25.3825 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1213.6  | 1285.42 | 1453.27 | 0 | 1453.27 | 2029.08 | 2029.08 |
| 23 | 2.68801 | 5566.34 | 26.0737 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1226.51 | 1299.09 | 1470.76 | 0 | 1470.76 | 2070.92 | 2070.92 |
| 24 | 2.68801 | 5664.72 | 26.769  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1236.2  | 1309.36 | 1483.92 | 0 | 1483.92 | 2107.53 | 2107.53 |
| 25 | 2.68801 | 5748.75 | 27.4686 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1242.72 | 1316.26 | 1492.74 | 0 | 1492.74 | 2138.79 | 2138.79 |
| 26 | 2.68801 | 5818.17 | 28.1727 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1246.05 | 1319.79 | 1497.26 | 0 | 1497.26 | 2164.62 | 2164.62 |
| 27 | 2.68801 | 5872.68 | 28.8814 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1246.21 | 1319.96 | 1497.48 | 0 | 1497.48 | 2184.9  | 2184.9  |
| 28 | 2.68801 | 5911.98 | 29.595  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1243.22 | 1316.79 | 1493.43 | 0 | 1493.43 | 2199.53 | 2199.53 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 29 | 2.68801 | 5935.75 | 30.3137 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1237.07 | 1310.28 | 1485.09 | 0 | 1485.09 | 2208.37 | 2208.37 |
| 30 | 2.68801 | 5943.65 | 31.0377 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1227.78 | 1300.44 | 1472.49 | 0 | 1472.49 | 2211.32 | 2211.32 |
| 31 | 2.68801 | 5935.32 | 31.7672 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1215.35 | 1287.27 | 1455.64 | 0 | 1455.64 | 2208.22 | 2208.22 |
| 32 | 2.68801 | 5910.38 | 32.5026 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1199.78 | 1270.78 | 1434.53 | 0 | 1434.53 | 2198.94 | 2198.94 |
| 33 | 2.68801 | 5868.41 | 33.244  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1181.06 | 1250.96 | 1409.17 | 0 | 1409.17 | 2183.33 | 2183.33 |
| 34 | 2.68801 | 5808.98 | 33.9918 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1159.23 | 1227.83 | 1379.56 | 0 | 1379.56 | 2161.23 | 2161.23 |
| 35 | 2.68801 | 5731.65 | 34.7462 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1134.25 | 1201.38 | 1345.71 | 0 | 1345.71 | 2132.45 | 2132.45 |
| 36 | 2.68801 | 5635.9  | 35.5075 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1106.15 | 1171.61 | 1307.61 | 0 | 1307.61 | 2096.83 | 2096.83 |
| 37 | 2.68801 | 5521.23 | 36.2762 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1074.92 | 1138.53 | 1265.26 | 0 | 1265.26 | 2054.17 | 2054.17 |
| 38 | 2.68801 | 5387.06 | 37.0524 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1040.54 | 1102.12 | 1218.66 | 0 | 1218.66 | 2004.26 | 2004.26 |
| 39 | 2.68801 | 5232.8  | 37.8368 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1003.03 | 1062.39 | 1167.81 | 0 | 1167.81 | 1946.87 | 1946.87 |
| 40 | 2.68801 | 5057.82 | 38.6295 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 962.383 | 1019.34 | 1112.7  | 0 | 1112.7  | 1881.77 | 1881.77 |
| 41 | 2.68801 | 4861.41 | 39.4311 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 918.589 | 972.951 | 1053.33 | 0 | 1053.33 | 1808.7  | 1808.7  |
| 42 | 2.68801 | 4642.84 | 40.2421 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 871.646 | 923.23  | 989.689 | 0 | 989.689 | 1727.38 | 1727.38 |
| 43 | 2.68801 | 4401.3  | 41.0629 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 821.552 | 870.171 | 921.775 | 0 | 921.775 | 1637.52 | 1637.52 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 44 | 2.68801 | 4135.93 | 41.894  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 768.301 | 813.769 | 849.584 | 0 | 849.584 | 1538.8  | 1538.8  |
| 45 | 2.68801 | 3845.81 | 42.7361 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 711.89  | 754.02  | 773.111 | 0 | 773.111 | 1430.86 | 1430.86 |
| 46 | 2.68801 | 3522.5  | 43.5899 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 651.125 | 689.659 | 690.732 | 0 | 690.732 | 1310.57 | 1310.57 |
| 47 | 2.68801 | 2897.91 | 44.4559 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 543.541 | 575.708 | 544.88  | 0 | 544.88  | 1078.2  | 1078.2  |
| 48 | 2.68801 | 2106.43 | 45.335  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 412.137 | 436.527 | 366.738 | 0 | 366.738 | 783.722 | 783.722 |
| 49 | 2.68801 | 1285.54 | 46.2279 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 279.349 | 295.881 | 186.72  | 0 | 186.72  | 478.306 | 478.306 |
| 50 | 2.68801 | 433.782 | 47.1356 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 145.243 | 153.838 | 4.91302 | 0 | 4.91302 | 161.408 | 161.408 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.987701

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material                           | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.01255    | 201.94       | -8.10031                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 230.882            | 228.042              | 99.8897                  | 0                   | 99.8897                       | 67.0291                    | 67.0291                         |
| 2            | 3.01255    | 592.956      | -6.87226                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 339.969            | 335.788              | 237.798                  | 0                   | 237.798                       | 196.824                    | 196.824                         |
| 3            | 3.01255    | 1074.39      | -5.64739                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 470.795            | 465.005              | 403.189                  | 0                   | 403.189                       | 356.634                    | 356.634                         |
| 4            | 3.01255    | 1650.29      | -4.4251                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 623.341            | 615.675              | 596.038                  | 0                   | 596.038                       | 547.8                      | 547.8                           |
| 5            | 3.01255    | 2200.89      | -3.20482                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 763.579            | 754.188              | 773.326                  | 0                   | 773.326                       | 730.571                    | 730.571                         |
| 6            | 3.01255    | 2780.06      | -1.986                    | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 906.705            | 895.553              | 954.263                  | 0                   | 954.263                       | 922.822                    | 922.822                         |
| 7            | 3.01255    | 3505.45      | -0.768076                 | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1083.8             | 1070.47              | 1178.15                  | 0                   | 1178.15                       | 1163.62                    | 1163.62                         |
| 8            | 3.01255    | 4218.54      | 0.449499                  | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1251.78            | 1236.38              | 1390.5                   | 0                   | 1390.5                        | 1400.32                    | 1400.32                         |
| 9            | 3.01255    | 4906.54      | 1.66728                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1407.78            | 1390.47              | 1587.73                  | 0                   | 1587.73                       | 1628.71                    | 1628.71                         |
| 10           | 3.01255    | 5569.44      | 2.88581                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1552.36            | 1533.27              | 1770.5                   | 0                   | 1770.5                        | 1848.75                    | 1848.75                         |
| 11           | 3.01255    | 6207.16      | 4.10565                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1685.99            | 1665.25              | 1939.43                  | 0                   | 1939.43                       | 2060.45                    | 2060.45                         |
| 12           | 3.01255    | 6819.61      | 5.32736                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1809.09            | 1786.84              | 2095.06                  | 0                   | 2095.06                       | 2263.76                    | 2263.76                         |
| 13           | 3.01255    | 7406.66      | 6.55151                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 1922.07            | 1898.43              | 2237.89                  | 0                   | 2237.89                       | 2458.63                    | 2458.63                         |
| 14           | 3.01255    | 7968.13      | 7.77866                   | MD-VD Silty SAND/Silty SAND with gravel | 150                 | 38                        | 2025.27            | 2000.36              | 2368.35                  | 0                   | 2368.35                       | 2645.01                    | 2645.01                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 15 | 3.01255 | 8503.82 | 9.00942 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2119.01 | 2092.95 | 2486.86 | 0 | 2486.86 | 2822.84 | 2822.84 |
| 16 | 3.01255 | 9013.48 | 10.2444 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2203.58 | 2176.48 | 2593.78 | 0 | 2593.78 | 2992.03 | 2992.03 |
| 17 | 2.98466 | 9401.68 | 11.4784 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2060.06 | 2034.72 | 2731.73 | 0 | 2731.73 | 3150.05 | 3150.05 |
| 18 | 2.98466 | 9840.42 | 12.7121 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2123.53 | 2097.41 | 2818.03 | 0 | 2818.03 | 3297.05 | 3297.05 |
| 19 | 2.98466 | 10253.9 | 13.9518 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2179.52 | 2152.71 | 2894.13 | 0 | 2894.13 | 3435.6  | 3435.6  |
| 20 | 2.98466 | 10641.7 | 15.1983 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2228.14 | 2200.74 | 2960.24 | 0 | 2960.24 | 3565.55 | 3565.55 |
| 21 | 2.98466 | 11003.5 | 16.4521 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2269.55 | 2241.64 | 3016.54 | 0 | 3016.54 | 3686.75 | 3686.75 |
| 22 | 2.98466 | 11338.6 | 17.7141 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2303.86 | 2275.52 | 3063.17 | 0 | 3063.17 | 3799.05 | 3799.05 |
| 23 | 2.98466 | 11646.6 | 18.9851 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2331.14 | 2302.47 | 3100.26 | 0 | 3100.26 | 3902.25 | 3902.25 |
| 24 | 2.98466 | 11926.9 | 20.2658 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2351.49 | 2322.57 | 3127.92 | 0 | 3127.92 | 3996.17 | 3996.17 |
| 25 | 2.98466 | 12178.8 | 21.5572 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2364.97 | 2335.88 | 3146.24 | 0 | 3146.24 | 4080.55 | 4080.55 |
| 26 | 2.98466 | 12401.5 | 22.8602 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2371.64 | 2342.47 | 3155.32 | 0 | 3155.32 | 4155.19 | 4155.19 |
| 27 | 2.98466 | 12594.2 | 24.1758 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2371.53 | 2342.36 | 3155.18 | 0 | 3155.18 | 4219.78 | 4219.78 |
| 28 | 2.98466 | 12756   | 25.5052 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2364.67 | 2335.59 | 3145.84 | 0 | 3145.84 | 4274    | 4274    |
| 29 | 2.98466 | 12886   | 26.8494 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2351.09 | 2322.17 | 3127.38 | 0 | 3127.38 | 4317.54 | 4317.54 |
| 30 | 2.98466 | 12982.9 | 28.2098 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2330.77 | 2302.1  | 3099.75 | 0 | 3099.75 | 4350    | 4350    |
| 31 | 2.98466 | 13045.5 | 29.5878 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2303.7  | 2275.37 | 3062.97 | 0 | 3062.97 | 4371.01 | 4371.01 |
| 32 | 2.98466 | 13072.4 | 30.9848 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2269.88 | 2241.96 | 3016.96 | 0 | 3016.96 | 4380.02 | 4380.02 |
| 33 | 2.98466 | 13062.1 | 32.4027 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2229.23 | 2201.81 | 2961.73 | 0 | 2961.73 | 4376.59 | 4376.59 |
| 34 | 2.98466 | 13012.8 | 33.8432 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2181.73 | 2154.9  | 2897.15 | 0 | 2897.15 | 4360.08 | 4360.08 |
| 35 | 2.98466 | 12922.5 | 35.3084 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 2127.3  | 2101.14 | 2823.15 | 0 | 2823.15 | 4329.84 | 4329.84 |
| 36 | 3.02646 | 12959.7 | 36.8114 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2223.15 | 2195.81 | 2618.52 | 0 | 2618.52 | 4282.34 | 4282.34 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 37 | 3.02646 | 12759.4 | 38.3551 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2144.55 | 2118.17 | 2519.14 | 0 | 2519.14 | 4216.15 | 4216.15 |
| 38 | 3.02646 | 12506.3 | 39.9326 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 2058.02 | 2032.71 | 2409.76 | 0 | 2409.76 | 4132.52 | 4132.52 |
| 39 | 3.02646 | 12196.6 | 41.5473 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1963.45 | 1939.3  | 2290.21 | 0 | 2290.21 | 4030.21 | 4030.21 |
| 40 | 3.02646 | 11826.3 | 43.2035 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1860.7  | 1837.82 | 2160.31 | 0 | 2160.31 | 3907.84 | 3907.84 |
| 41 | 3.02646 | 11390.1 | 44.9059 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1749.6  | 1728.08 | 2019.85 | 0 | 2019.85 | 3763.71 | 3763.71 |
| 42 | 3.02646 | 10882.1 | 46.6605 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1629.95 | 1609.9  | 1868.59 | 0 | 1868.59 | 3595.86 | 3595.86 |
| 43 | 3.02646 | 10295.2 | 48.4741 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1501.57 | 1483.1  | 1706.29 | 0 | 1706.29 | 3401.95 | 3401.95 |
| 44 | 3.02646 | 9620.77 | 50.3552 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1364.22 | 1347.44 | 1532.65 | 0 | 1532.65 | 3179.08 | 3179.08 |
| 45 | 3.02646 | 8847.91 | 52.3141 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1217.69 | 1202.71 | 1347.41 | 0 | 1347.41 | 2923.71 | 2923.71 |
| 46 | 3.02646 | 7963.08 | 54.3642 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1061.74 | 1048.68 | 1150.26 | 0 | 1150.26 | 2631.33 | 2631.33 |
| 47 | 3.02646 | 6810.76 | 56.5226 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 879.777 | 868.957 | 920.223 | 0 | 920.223 | 2250.56 | 2250.56 |
| 48 | 3.02646 | 5131.14 | 58.8124 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 647.262 | 639.301 | 626.276 | 0 | 626.276 | 1695.56 | 1695.56 |
| 49 | 3.02646 | 3244.88 | 61.2657 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 409.389 | 404.354 | 325.557 | 0 | 325.557 | 1072.26 | 1072.26 |
| 50 | 3.02646 | 1125.28 | 63.9295 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 170.444 | 168.347 | 23.4835 | 0 | 23.4835 | 371.856 | 371.856 |

## ◆ Cross Section CC-CC' - Master Scenario

**Global Minimum Query (bishop simplified) - Safety Factor: 1.71747**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.07515    | 149.137      | 7.80961                   | D-VD<br>Silty SAND | 125                 | 36                        | 88.1917            | 151.467              | 36.4283                  | 0                   | 36.4283                       | 48.5241                    | 48.5241                         |
| 2            | 3.07515    | 440.475      | 8.49588                   | D-VD<br>Silty SAND | 125                 | 36                        | 125.464            | 215.481              | 124.536                  | 0                   | 124.536                       | 143.278                    | 143.278                         |
| 3            | 3.07515    | 717.904      | 9.18337                   | D-VD<br>Silty SAND | 125                 | 36                        | 160.582            | 275.794              | 207.55                   | 0                   | 207.55                        | 233.511                    | 233.511                         |
| 4            | 3.07515    | 1031.89      | 9.87221                   | D-VD<br>Silty SAND | 125                 | 36                        | 200.038            | 343.56               | 300.822                  | 0                   | 300.822                       | 335.634                    | 335.634                         |
| 5            | 3.07515    | 1394.56      | 10.5625                   | D-VD<br>Silty SAND | 125                 | 36                        | 245.315            | 421.321              | 407.851                  | 0                   | 407.851                       | 453.594                    | 453.594                         |
| 6            | 3.07515    | 1745.3       | 11.2543                   | D-VD<br>Silty SAND | 125                 | 36                        | 288.63             | 495.713              | 510.244                  | 0                   | 510.244                       | 567.679                    | 567.679                         |
| 7            | 3.07515    | 2107.27      | 11.9478                   | D-VD<br>Silty SAND | 125                 | 36                        | 332.93             | 571.798              | 614.964                  | 0                   | 614.964                       | 685.414                    | 685.414                         |
| 8            | 3.07515    | 2462.48      | 12.6431                   | D-VD<br>Silty SAND | 125                 | 36                        | 375.936            | 645.658              | 716.625                  | 0                   | 716.625                       | 800.953                    | 800.953                         |
| 9            | 3.07515    | 2803.19      | 13.3403                   | D-VD<br>Silty SAND | 125                 | 36                        | 416.693            | 715.657              | 812.97                   | 0                   | 812.97                        | 911.781                    | 911.781                         |
| 10           | 3.07515    | 3129.31      | 14.0395                   | D-VD<br>Silty SAND | 125                 | 36                        | 455.214            | 781.817              | 904.032                  | 0                   | 904.032                       | 1017.86                    | 1017.86                         |
| 11           | 3.07515    | 3440.68      | 14.7408                   | D-VD<br>Silty SAND | 125                 | 36                        | 491.511            | 844.155              | 989.831                  | 0                   | 989.831                       | 1119.15                    | 1119.15                         |
| 12           | 3.07515    | 3737.18      | 15.4444                   | D-VD<br>Silty SAND | 125                 | 36                        | 525.591            | 902.686              | 1070.39                  | 0                   | 1070.39                       | 1215.6                     | 1215.6                          |
| 13           | 3.07515    | 4018.65      | 16.1504                   | D-VD<br>Silty SAND | 125                 | 36                        | 557.462            | 957.425              | 1145.73                  | 0                   | 1145.73                       | 1307.17                    | 1307.17                         |
| 14           | 3.07515    | 4284.93      | 16.8589                   | D-VD<br>Silty SAND | 125                 | 36                        | 587.133            | 1008.38              | 1215.87                  | 0                   | 1215.87                       | 1393.8                     | 1393.8                          |
| 15           | 3.07515    | 4535.87      | 17.5701                   | D-VD<br>Silty SAND | 125                 | 36                        | 614.609            | 1055.57              | 1280.82                  | 0                   | 1280.82                       | 1475.44                    | 1475.44                         |
| 16           | 3.07515    | 4771.28      | 18.2841                   | D-VD<br>Silty SAND | 125                 | 36                        | 639.895            | 1099                 | 1340.6                   | 0                   | 1340.6                        | 1552.02                    | 1552.02                         |
| 17           | 3.07515    | 4990.96      | 19.0011                   | D-VD<br>Silty SAND | 125                 | 36                        | 662.993            | 1138.67              | 1395.2                   | 0                   | 1395.2                        | 1623.5                     | 1623.5                          |
| 18           | 3.07515    | 5194.73      | 19.7211                   | D-VD<br>Silty SAND | 125                 | 36                        | 683.907            | 1174.59              | 1444.64                  | 0                   | 1444.64                       | 1689.8                     | 1689.8                          |
| 19           | 3.07515    | 5382.37      | 20.4444                   | D-VD<br>Silty SAND | 125                 | 36                        | 702.644            | 1206.77              | 1488.92                  | 0                   | 1488.92                       | 1750.86                    | 1750.86                         |
| 20           | 3.07515    | 5553.65      | 21.1712                   | D-VD<br>Silty SAND | 125                 | 36                        | 719.192            | 1235.19              | 1528.05                  | 0                   | 1528.05                       | 1806.59                    | 1806.59                         |
| 21           | 3.07515    | 5708.33      | 21.9015                   | D-VD<br>Silty SAND | 125                 | 36                        | 733.562            | 1259.87              | 1562.01                  | 0                   | 1562.01                       | 1856.93                    | 1856.93                         |
| 22           | 3.07515    | 5846.17      | 22.6356                   | D-VD<br>Silty SAND | 125                 | 36                        | 745.748            | 1280.8               | 1590.82                  | 0                   | 1590.82                       | 1901.79                    | 1901.79                         |

|    |         |         |         |                    |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 3.07515 | 5966.89 | 23.3736 | D-VD<br>Silty SAND | 125 | 36 | 755.745 | 1297.97 | 1614.45 | 0 | 1614.45 | 1941.08 | 1941.08 |
| 24 | 3.07515 | 6070.21 | 24.1158 | D-VD<br>Silty SAND | 125 | 36 | 763.548 | 1311.37 | 1632.9  | 0 | 1632.9  | 1974.71 | 1974.71 |
| 25 | 3.07515 | 6155.84 | 24.8623 | D-VD<br>Silty SAND | 125 | 36 | 769.16  | 1321.01 | 1646.17 | 0 | 1646.17 | 2002.58 | 2002.58 |
| 26 | 3.07515 | 6223.45 | 25.6133 | D-VD<br>Silty SAND | 125 | 36 | 772.572 | 1326.87 | 1654.23 | 0 | 1654.23 | 2024.6  | 2024.6  |
| 27 | 3.07515 | 6272.7  | 26.3691 | D-VD<br>Silty SAND | 125 | 36 | 773.772 | 1328.93 | 1657.06 | 0 | 1657.06 | 2040.65 | 2040.65 |
| 28 | 3.07515 | 6303.25 | 27.1298 | D-VD<br>Silty SAND | 125 | 36 | 772.753 | 1327.18 | 1654.66 | 0 | 1654.66 | 2050.61 | 2050.61 |
| 29 | 3.07515 | 6314.7  | 27.8958 | D-VD<br>Silty SAND | 125 | 36 | 769.51  | 1321.61 | 1646.99 | 0 | 1646.99 | 2054.36 | 2054.36 |
| 30 | 3.07515 | 6306.66 | 28.6672 | D-VD<br>Silty SAND | 125 | 36 | 764.031 | 1312.2  | 1634.04 | 0 | 1634.04 | 2051.77 | 2051.77 |
| 31 | 3.07515 | 6278.69 | 29.4444 | D-VD<br>Silty SAND | 125 | 36 | 756.299 | 1298.92 | 1615.77 | 0 | 1615.77 | 2042.69 | 2042.69 |
| 32 | 3.07515 | 6230.35 | 30.2275 | D-VD<br>Silty SAND | 125 | 36 | 746.307 | 1281.76 | 1592.15 | 0 | 1592.15 | 2026.99 | 2026.99 |
| 33 | 3.07515 | 6161.14 | 31.017  | D-VD<br>Silty SAND | 125 | 36 | 734.039 | 1260.69 | 1563.15 | 0 | 1563.15 | 2004.5  | 2004.5  |
| 34 | 3.07515 | 6070.55 | 31.813  | D-VD<br>Silty SAND | 125 | 36 | 719.483 | 1235.69 | 1528.73 | 0 | 1528.73 | 1975.05 | 1975.05 |
| 35 | 3.07515 | 5958.03 | 32.616  | D-VD<br>Silty SAND | 125 | 36 | 702.609 | 1206.71 | 1488.85 | 0 | 1488.85 | 1938.47 | 1938.47 |
| 36 | 3.07515 | 5822.99 | 33.4262 | D-VD<br>Silty SAND | 125 | 36 | 683.418 | 1173.75 | 1443.48 | 0 | 1443.48 | 1894.56 | 1894.56 |
| 37 | 3.07515 | 5664.79 | 34.244  | D-VD<br>Silty SAND | 125 | 36 | 661.875 | 1136.75 | 1392.56 | 0 | 1392.56 | 1843.11 | 1843.11 |
| 38 | 3.07515 | 5482.77 | 35.0699 | D-VD<br>Silty SAND | 125 | 36 | 637.969 | 1095.69 | 1336.04 | 0 | 1336.04 | 1783.91 | 1783.91 |
| 39 | 3.07515 | 5276.2  | 35.9043 | D-VD<br>Silty SAND | 125 | 36 | 611.672 | 1050.53 | 1273.88 | 0 | 1273.88 | 1716.73 | 1716.73 |
| 40 | 3.07515 | 5044.3  | 36.7475 | D-VD<br>Silty SAND | 125 | 36 | 582.965 | 1001.23 | 1206.02 | 0 | 1206.02 | 1641.3  | 1641.3  |
| 41 | 3.07515 | 4786.23 | 37.6001 | D-VD<br>Silty SAND | 125 | 36 | 551.82  | 947.735 | 1132.4  | 0 | 1132.4  | 1557.36 | 1557.36 |
| 42 | 3.07515 | 4501.1  | 38.4626 | D-VD<br>Silty SAND | 125 | 36 | 518.213 | 890.016 | 1052.96 | 0 | 1052.96 | 1464.61 | 1464.61 |
| 43 | 3.07515 | 4155.55 | 39.3355 | D-VD<br>Silty SAND | 125 | 36 | 478.807 | 822.337 | 959.801 | 0 | 959.801 | 1352.2  | 1352.2  |
| 44 | 3.07515 | 3645.9  | 40.2195 | D-VD<br>Silty SAND | 125 | 36 | 423.249 | 726.917 | 828.469 | 0 | 828.469 | 1186.39 | 1186.39 |
| 45 | 3.07515 | 3091.14 | 41.1152 | D-VD<br>Silty SAND | 125 | 36 | 363.933 | 625.044 | 688.251 | 0 | 688.251 | 1005.9  | 1005.9  |
| 46 | 3.07515 | 2504.9  | 42.0233 | D-VD<br>Silty SAND | 125 | 36 | 302.358 | 519.291 | 542.694 | 0 | 542.694 | 815.161 | 815.161 |
| 47 | 3.07515 | 1885.82 | 42.9445 | D-VD<br>Silty SAND | 125 | 36 | 238.505 | 409.626 | 391.755 | 0 | 391.755 | 613.734 | 613.734 |



|    |          |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 3.07515  | 1232.41 | 43.8797 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 172.356 | 296.016 | 235.383 | 0 | 235.383 | 401.128 | 401.128 |
| 49 | 3.07515  | 546.586 | 44.8299 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 104.235 | 179.021 | 74.353  | 0 | 74.353  | 177.971 | 177.971 |
| 50 | 0.794834 | 26.4821 | 45.4339 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 70.1615 | 120.5   | -37.758 | 0 | -37.758 | 33.4744 | 33.4744 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.65165

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.89901    | 184.678      | 1.93364                   | D-VD Silty SAND | 125                 | 36                        | 102.189            | 168.781              | 60.259                   | 0                   | 60.259                        | 63.7091                    | 63.7091                         |
| 2            | 2.89901    | 546.322      | 2.80835                   | D-VD Silty SAND | 125                 | 36                        | 155.235            | 256.394              | 180.848                  | 0                   | 180.848                       | 188.463                    | 188.463                         |
| 3            | 2.89901    | 892.525      | 3.68372                   | D-VD Silty SAND | 125                 | 36                        | 205.306            | 339.094              | 294.674                  | 0                   | 294.674                       | 307.892                    | 307.892                         |
| 4            | 2.89901    | 1238.89      | 4.55995                   | D-VD Silty SAND | 125                 | 36                        | 254.745            | 420.75               | 407.064                  | 0                   | 407.064                       | 427.381                    | 427.381                         |
| 5            | 2.89901    | 1645.04      | 5.43725                   | D-VD Silty SAND | 125                 | 36                        | 312.243            | 515.716              | 537.775                  | 0                   | 537.775                       | 567.495                    | 567.495                         |
| 6            | 2.89901    | 2045.49      | 6.31583                   | D-VD Silty SAND | 125                 | 36                        | 368.162            | 608.074              | 664.896                  | 0                   | 664.896                       | 705.644                    | 705.644                         |
| 7            | 2.89901    | 2440.2       | 7.19591                   | D-VD Silty SAND | 125                 | 36                        | 422.521            | 697.857              | 788.471                  | 0                   | 788.471                       | 841.817                    | 841.817                         |
| 8            | 2.89901    | 2839.82      | 8.07769                   | D-VD Silty SAND | 125                 | 36                        | 476.863            | 787.611              | 912.007                  | 0                   | 912.007                       | 979.685                    | 979.685                         |
| 9            | 2.89901    | 3224.23      | 8.96141                   | D-VD Silty SAND | 125                 | 36                        | 528.325            | 872.608              | 1029                     | 0                   | 1029                          | 1112.31                    | 1112.31                         |
| 10           | 2.89901    | 3592.67      | 9.84728                   | D-VD Silty SAND | 125                 | 36                        | 576.847            | 952.749              | 1139.3                   | 0                   | 1139.3                        | 1239.43                    | 1239.43                         |
| 11           | 2.89901    | 3945.03      | 10.7355                   | D-VD Silty SAND | 125                 | 36                        | 622.457            | 1028.08              | 1242.99                  | 0                   | 1242.99                       | 1361                       | 1361                            |
| 12           | 2.89901    | 4281.17      | 11.6264                   | D-VD Silty SAND | 125                 | 36                        | 665.183            | 1098.65              | 1340.11                  | 0                   | 1340.11                       | 1476.98                    | 1476.98                         |
| 13           | 2.89901    | 4600.93      | 12.5201                   | D-VD Silty SAND | 125                 | 36                        | 705.046            | 1164.49              | 1430.74                  | 0                   | 1430.74                       | 1587.31                    | 1587.31                         |
| 14           | 2.89901    | 4904.16      | 13.417                    | D-VD Silty SAND | 125                 | 36                        | 742.076            | 1225.65              | 1514.92                  | 0                   | 1514.92                       | 1691.94                    | 1691.94                         |
| 15           | 2.89901    | 5190.67      | 14.3172                   | D-VD Silty SAND | 125                 | 36                        | 776.284            | 1282.15              | 1592.68                  | 0                   | 1592.68                       | 1790.8                     | 1790.8                          |
| 16           | 2.89901    | 5460.27      | 15.221                    | D-VD Silty SAND | 125                 | 36                        | 807.683            | 1334.01              | 1664.06                  | 0                   | 1664.06                       | 1883.83                    | 1883.83                         |
| 17           | 2.89901    | 5712.74      | 16.1288                   | D-VD Silty SAND | 125                 | 36                        | 836.297            | 1381.27              | 1729.11                  | 0                   | 1729.11                       | 1970.95                    | 1970.95                         |
| 18           | 2.89901    | 5947.85      | 17.0407                   | D-VD Silty SAND | 125                 | 36                        | 862.132            | 1423.94              | 1787.83                  | 0                   | 1787.83                       | 2052.08                    | 2052.08                         |
| 19           | 2.89901    | 6165.36      | 17.957                    | D-VD Silty SAND | 125                 | 36                        | 885.194            | 1462.03              | 1840.26                  | 0                   | 1840.26                       | 2127.15                    | 2127.15                         |
| 20           | 2.89901    | 6365         | 18.8782                   | D-VD Silty SAND | 125                 | 36                        | 905.495            | 1495.56              | 1886.41                  | 0                   | 1886.41                       | 2196.04                    | 2196.04                         |
| 21           | 2.89901    | 6546.47      | 19.8044                   | D-VD Silty SAND | 125                 | 36                        | 923.035            | 1524.53              | 1926.29                  | 0                   | 1926.29                       | 2258.68                    | 2258.68                         |
| 22           | 2.89901    | 6709.47      | 20.7361                   | D-VD Silty SAND | 125                 | 36                        | 937.814            | 1548.94              | 1959.89                  | 0                   | 1959.89                       | 2314.94                    | 2314.94                         |
| 23           | 2.89901    | 6853.66      | 21.6736                   | D-VD Silty SAND | 125                 | 36                        | 949.844            | 1568.81              | 1987.23                  | 0                   | 1987.23                       | 2364.71                    | 2364.71                         |

|    |         |         |         |                    |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.89901 | 6978.68 | 22.6171 | D-VD<br>Silty SAND | 125 | 36 | 959.108 | 1584.11 | 2008.29 | 0 | 2008.29 | 2407.87 | 2407.87 |
| 25 | 2.89901 | 7084.13 | 23.5673 | D-VD<br>Silty SAND | 125 | 36 | 965.604 | 1594.84 | 2023.07 | 0 | 2023.07 | 2444.27 | 2444.27 |
| 26 | 2.89901 | 7169.6  | 24.5243 | D-VD<br>Silty SAND | 125 | 36 | 969.334 | 1601    | 2031.54 | 0 | 2031.54 | 2473.79 | 2473.79 |
| 27 | 2.89901 | 7234.64 | 25.4887 | D-VD<br>Silty SAND | 125 | 36 | 970.278 | 1602.56 | 2033.69 | 0 | 2033.69 | 2496.25 | 2496.25 |
| 28 | 2.89901 | 7278.75 | 26.4609 | D-VD<br>Silty SAND | 125 | 36 | 968.432 | 1599.51 | 2029.48 | 0 | 2029.48 | 2511.5  | 2511.5  |
| 29 | 2.89901 | 7301.42 | 27.4413 | D-VD<br>Silty SAND | 125 | 36 | 963.77  | 1591.81 | 2018.89 | 0 | 2018.89 | 2519.35 | 2519.35 |
| 30 | 2.89901 | 7302.07 | 28.4306 | D-VD<br>Silty SAND | 125 | 36 | 956.286 | 1579.45 | 2001.88 | 0 | 2001.88 | 2519.6  | 2519.6  |
| 31 | 2.89901 | 7280.09 | 29.4292 | D-VD<br>Silty SAND | 125 | 36 | 945.951 | 1562.38 | 1978.39 | 0 | 1978.39 | 2512.04 | 2512.04 |
| 32 | 2.89901 | 7234.82 | 30.4377 | D-VD<br>Silty SAND | 125 | 36 | 932.752 | 1540.58 | 1948.38 | 0 | 1948.38 | 2496.45 | 2496.45 |
| 33 | 2.89901 | 7165.54 | 31.4568 | D-VD<br>Silty SAND | 125 | 36 | 916.659 | 1514    | 1911.79 | 0 | 1911.79 | 2472.57 | 2472.57 |
| 34 | 2.89901 | 7071.46 | 32.4871 | D-VD<br>Silty SAND | 125 | 36 | 897.636 | 1482.58 | 1868.56 | 0 | 1868.56 | 2440.13 | 2440.13 |
| 35 | 2.89901 | 6951.73 | 33.5293 | D-VD<br>Silty SAND | 125 | 36 | 875.67  | 1446.3  | 1818.61 | 0 | 1818.61 | 2398.84 | 2398.84 |
| 36 | 2.89901 | 6805.44 | 34.5843 | D-VD<br>Silty SAND | 125 | 36 | 850.707 | 1405.07 | 1761.87 | 0 | 1761.87 | 2348.39 | 2348.39 |
| 37 | 2.89901 | 6631.56 | 35.6528 | D-VD<br>Silty SAND | 125 | 36 | 822.723 | 1358.85 | 1698.25 | 0 | 1698.25 | 2288.41 | 2288.41 |
| 38 | 2.89901 | 6428.98 | 36.7358 | D-VD<br>Silty SAND | 125 | 36 | 791.675 | 1307.57 | 1627.67 | 0 | 1627.67 | 2218.54 | 2218.54 |
| 39 | 2.89901 | 6196.5  | 37.8344 | D-VD<br>Silty SAND | 125 | 36 | 757.521 | 1251.16 | 1550.02 | 0 | 1550.02 | 2138.34 | 2138.34 |
| 40 | 2.89901 | 5932.76 | 38.9495 | D-VD<br>Silty SAND | 125 | 36 | 720.207 | 1189.53 | 1465.2  | 0 | 1465.2  | 2047.36 | 2047.36 |
| 41 | 2.89901 | 5636.29 | 40.0825 | D-VD<br>Silty SAND | 125 | 36 | 679.685 | 1122.6  | 1373.08 | 0 | 1373.08 | 1945.08 | 1945.08 |
| 42 | 2.89901 | 5305.44 | 41.2347 | D-VD<br>Silty SAND | 125 | 36 | 635.905 | 1050.29 | 1273.56 | 0 | 1273.56 | 1830.93 | 1830.93 |
| 43 | 2.89901 | 4938.38 | 42.4076 | D-VD<br>Silty SAND | 125 | 36 | 588.806 | 972.502 | 1166.49 | 0 | 1166.49 | 1704.28 | 1704.28 |
| 44 | 2.89901 | 4533.06 | 43.6028 | D-VD<br>Silty SAND | 125 | 36 | 538.33  | 889.132 | 1051.74 | 0 | 1051.74 | 1564.43 | 1564.43 |
| 45 | 2.89901 | 4087.17 | 44.8223 | D-VD<br>Silty SAND | 125 | 36 | 484.41  | 800.076 | 929.163 | 0 | 929.163 | 1410.58 | 1410.58 |
| 46 | 2.89901 | 3543.84 | 46.0682 | D-VD<br>Silty SAND | 125 | 36 | 421.326 | 695.883 | 785.752 | 0 | 785.752 | 1223.09 | 1223.09 |
| 47 | 2.89901 | 2849.33 | 47.3429 | D-VD<br>Silty SAND | 125 | 36 | 344.032 | 568.22  | 610.04  | 0 | 610.04  | 983.425 | 983.425 |
| 48 | 2.89901 | 2102.61 | 48.6492 | D-VD<br>Silty SAND | 125 | 36 | 263.315 | 434.905 | 426.547 | 0 | 426.547 | 725.738 | 725.738 |

|    |         |         |         |                       |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 2.89901 | 1302.44 | 49.9903 | D-VD<br>Silty<br>SAND | 125 | 36 | 179.424 | 296.346 | 235.836 | 0 | 235.836 | 449.592 | 449.592 |
| 50 | 2.89901 | 444.229 | 51.3699 | D-VD<br>Silty<br>SAND | 125 | 36 | 92.3378 | 152.51  | 37.8638 | 0 | 37.8638 | 153.409 | 153.409 |

## ◆ Cross Section CC-CC' - Seismic

**Global Minimum Query (bishop simplified) - Safety Factor: 1.07533**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.34636    | 185.705      | 7.04644                   | D-VD<br>Silty SAND | 125                 | 36                        | 141.891            | 152.58               | 37.9601                  | 0                   | 37.9601                       | 55.4989                    | 55.4989                         |
| 2            | 3.34636    | 548.94       | 7.73202                   | D-VD<br>Silty SAND | 125                 | 36                        | 208.001            | 223.669              | 135.807                  | 0                   | 135.807                       | 164.048                    | 164.048                         |
| 3            | 3.34636    | 895.852      | 8.41872                   | D-VD<br>Silty SAND | 125                 | 36                        | 270.116            | 290.464              | 227.742                  | 0                   | 227.742                       | 267.719                    | 267.719                         |
| 4            | 3.34636    | 1297.6       | 9.10664                   | D-VD<br>Silty SAND | 125                 | 36                        | 341.282            | 366.991              | 333.073                  | 0                   | 333.073                       | 387.778                    | 387.778                         |
| 5            | 3.34636    | 1745.78      | 9.79589                   | D-VD<br>Silty SAND | 125                 | 36                        | 419.77             | 451.391              | 449.237                  | 0                   | 449.237                       | 521.712                    | 521.712                         |
| 6            | 3.34636    | 2185.85      | 10.4866                   | D-VD<br>Silty SAND | 125                 | 36                        | 495.612            | 532.946              | 561.489                  | 0                   | 561.489                       | 653.225                    | 653.225                         |
| 7            | 3.34636    | 2639.54      | 11.1788                   | D-VD<br>Silty SAND | 125                 | 36                        | 572.726            | 615.869              | 675.622                  | 0                   | 675.622                       | 788.804                    | 788.804                         |
| 8            | 3.34636    | 3079.01      | 11.8727                   | D-VD<br>Silty SAND | 125                 | 36                        | 646.15             | 694.825              | 784.299                  | 0                   | 784.299                       | 920.142                    | 920.142                         |
| 9            | 3.34636    | 3501.47      | 12.5683                   | D-VD<br>Silty SAND | 125                 | 36                        | 715.461            | 769.357              | 886.882                  | 0                   | 886.882                       | 1046.39                    | 1046.39                         |
| 10           | 3.34636    | 3906.78      | 13.2659                   | D-VD<br>Silty SAND | 125                 | 36                        | 780.711            | 839.522              | 983.455                  | 0                   | 983.455                       | 1167.52                    | 1167.52                         |
| 11           | 3.34636    | 4294.79      | 13.9654                   | D-VD<br>Silty SAND | 125                 | 36                        | 841.95             | 905.374              | 1074.09                  | 0                   | 1074.09                       | 1283.47                    | 1283.47                         |
| 12           | 3.34636    | 4665.36      | 14.6671                   | D-VD<br>Silty SAND | 125                 | 36                        | 899.224            | 966.963              | 1158.86                  | 0                   | 1158.86                       | 1394.22                    | 1394.22                         |
| 13           | 3.34636    | 5018.31      | 15.371                    | D-VD<br>Silty SAND | 125                 | 36                        | 952.579            | 1024.34              | 1237.83                  | 0                   | 1237.83                       | 1499.7                     | 1499.7                          |
| 14           | 3.34636    | 5353.47      | 16.0774                   | D-VD<br>Silty SAND | 125                 | 36                        | 1002.06            | 1077.54              | 1311.06                  | 0                   | 1311.06                       | 1599.86                    | 1599.86                         |
| 15           | 3.34636    | 5670.66      | 16.7862                   | D-VD<br>Silty SAND | 125                 | 36                        | 1047.7             | 1126.62              | 1378.61                  | 0                   | 1378.61                       | 1694.66                    | 1694.66                         |
| 16           | 3.34636    | 5969.68      | 17.4977                   | D-VD<br>Silty SAND | 125                 | 36                        | 1089.54            | 1171.61              | 1440.53                  | 0                   | 1440.53                       | 1784.02                    | 1784.02                         |
| 17           | 3.34636    | 6250.31      | 18.212                    | D-VD<br>Silty SAND | 125                 | 36                        | 1127.61            | 1212.55              | 1496.88                  | 0                   | 1496.88                       | 1867.88                    | 1867.88                         |
| 18           | 3.34636    | 6512.33      | 18.9292                   | D-VD<br>Silty SAND | 125                 | 36                        | 1161.95            | 1249.48              | 1547.71                  | 0                   | 1547.71                       | 1946.19                    | 1946.19                         |
| 19           | 3.34636    | 6755.52      | 19.6496                   | D-VD<br>Silty SAND | 125                 | 36                        | 1192.58            | 1282.42              | 1593.05                  | 0                   | 1593.05                       | 2018.87                    | 2018.87                         |
| 20           | 3.34636    | 6979.61      | 20.3732                   | D-VD<br>Silty SAND | 125                 | 36                        | 1219.54            | 1311.41              | 1632.95                  | 0                   | 1632.95                       | 2085.84                    | 2085.84                         |
| 21           | 3.34636    | 7184.34      | 21.1002                   | D-VD<br>Silty SAND | 125                 | 36                        | 1242.85            | 1336.47              | 1667.45                  | 0                   | 1667.45                       | 2147.03                    | 2147.03                         |
| 22           | 3.34636    | 7369.43      | 21.8307                   | D-VD<br>Silty SAND | 125                 | 36                        | 1262.53            | 1357.64              | 1696.58                  | 0                   | 1696.58                       | 2202.35                    | 2202.35                         |

|    |         |         |         |                    |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 3.34636 | 7534.59 | 22.565  | D-VD<br>Silty SAND | 125 | 36 | 1278.61 | 1374.93 | 1720.39 | 0 | 1720.39 | 2251.71 | 2251.71 |
| 24 | 3.34636 | 7679.49 | 23.3033 | D-VD<br>Silty SAND | 125 | 36 | 1291.12 | 1388.38 | 1738.89 | 0 | 1738.89 | 2295.02 | 2295.02 |
| 25 | 3.34636 | 7803.81 | 24.0457 | D-VD<br>Silty SAND | 125 | 36 | 1300.05 | 1397.98 | 1752.11 | 0 | 1752.11 | 2332.17 | 2332.17 |
| 26 | 3.34636 | 7907.19 | 24.7924 | D-VD<br>Silty SAND | 125 | 36 | 1305.44 | 1403.78 | 1760.08 | 0 | 1760.08 | 2363.07 | 2363.07 |
| 27 | 3.34636 | 7989.25 | 25.5436 | D-VD<br>Silty SAND | 125 | 36 | 1307.29 | 1405.77 | 1762.83 | 0 | 1762.83 | 2387.6  | 2387.6  |
| 28 | 3.34636 | 8049.59 | 26.2995 | D-VD<br>Silty SAND | 125 | 36 | 1305.63 | 1403.98 | 1760.37 | 0 | 1760.37 | 2405.64 | 2405.64 |
| 29 | 3.34636 | 8087.81 | 27.0604 | D-VD<br>Silty SAND | 125 | 36 | 1300.46 | 1398.42 | 1752.71 | 0 | 1752.71 | 2417.06 | 2417.06 |
| 30 | 3.34636 | 8103.43 | 27.8266 | D-VD<br>Silty SAND | 125 | 36 | 1291.79 | 1389.1  | 1739.89 | 0 | 1739.89 | 2421.73 | 2421.73 |
| 31 | 3.34636 | 8096    | 28.5981 | D-VD<br>Silty SAND | 125 | 36 | 1279.64 | 1376.03 | 1721.89 | 0 | 1721.89 | 2419.52 | 2419.52 |
| 32 | 3.34636 | 8065    | 29.3754 | D-VD<br>Silty SAND | 125 | 36 | 1263.99 | 1359.21 | 1698.75 | 0 | 1698.75 | 2410.26 | 2410.26 |
| 33 | 3.34636 | 8009.9  | 30.1587 | D-VD<br>Silty SAND | 125 | 36 | 1244.88 | 1338.66 | 1670.46 | 0 | 1670.46 | 2393.8  | 2393.8  |
| 34 | 3.34636 | 7930.13 | 30.9482 | D-VD<br>Silty SAND | 125 | 36 | 1222.29 | 1314.37 | 1637.03 | 0 | 1637.03 | 2369.96 | 2369.96 |
| 35 | 3.34636 | 7825.07 | 31.7443 | D-VD<br>Silty SAND | 125 | 36 | 1196.25 | 1286.36 | 1598.47 | 0 | 1598.47 | 2338.57 | 2338.57 |
| 36 | 3.34636 | 7694.08 | 32.5473 | D-VD<br>Silty SAND | 125 | 36 | 1166.72 | 1254.61 | 1554.78 | 0 | 1554.78 | 2299.42 | 2299.42 |
| 37 | 3.34636 | 7536.45 | 33.3576 | D-VD<br>Silty SAND | 125 | 36 | 1133.74 | 1219.14 | 1505.96 | 0 | 1505.96 | 2252.32 | 2252.32 |
| 38 | 3.34636 | 7351.45 | 34.1754 | D-VD<br>Silty SAND | 125 | 36 | 1097.28 | 1179.94 | 1452.01 | 0 | 1452.01 | 2197.03 | 2197.03 |
| 39 | 3.34636 | 7138.28 | 35.0013 | D-VD<br>Silty SAND | 125 | 36 | 1057.37 | 1137.02 | 1392.92 | 0 | 1392.92 | 2133.33 | 2133.33 |
| 40 | 3.34636 | 6813.86 | 35.8356 | D-VD<br>Silty SAND | 125 | 36 | 1002.81 | 1078.35 | 1312.18 | 0 | 1312.18 | 2036.38 | 2036.38 |
| 41 | 3.34636 | 6327.65 | 36.6788 | D-VD<br>Silty SAND | 125 | 36 | 927.302 | 997.156 | 1200.42 | 0 | 1200.42 | 1891.08 | 1891.08 |
| 42 | 3.34636 | 5808.78 | 37.5314 | D-VD<br>Silty SAND | 125 | 36 | 848.682 | 912.613 | 1084.06 | 0 | 1084.06 | 1736.01 | 1736.01 |
| 43 | 3.34636 | 5257.92 | 38.3937 | D-VD<br>Silty SAND | 125 | 36 | 767.195 | 824.988 | 963.452 | 0 | 963.452 | 1571.39 | 1571.39 |
| 44 | 3.34636 | 4673.93 | 39.2666 | D-VD<br>Silty SAND | 125 | 36 | 682.851 | 734.29  | 838.615 | 0 | 838.615 | 1396.86 | 1396.86 |
| 45 | 3.34636 | 4056.6  | 40.1504 | D-VD<br>Silty SAND | 125 | 36 | 595.794 | 640.675 | 709.766 | 0 | 709.766 | 1212.37 | 1212.37 |
| 46 | 3.34636 | 3431.51 | 41.0459 | D-VD<br>Silty SAND | 125 | 36 | 509.455 | 547.832 | 581.978 | 0 | 581.978 | 1025.56 | 1025.56 |
| 47 | 3.34636 | 2781.69 | 41.9537 | D-VD<br>Silty SAND | 125 | 36 | 421.772 | 453.544 | 452.204 | 0 | 452.204 | 831.352 | 831.352 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 3.34636 | 2232.65 | 42.8747 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 348.481 | 374.732 | 343.727 | 0 | 343.727 | 667.269 | 667.269 |
| 49 | 3.19048 | 1543.51 | 43.7875 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 289.453 | 311.258 | 206.401 | 0 | 206.401 | 483.856 | 483.856 |
| 50 | 3.19048 | 522.25  | 44.6923 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 150.366 | 161.693 | 14.9667 | 0 | 14.9667 | 163.727 | 163.727 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.03142

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.07341    | 211.243      | 1.56228                   | D-VD Silty SAND | 125                 | 36                        | 166.407            | 171.636              | 64.1883                  | 0                   | 64.1883                       | 68.7268                    | 68.7268                         |
| 2            | 3.07341    | 624.879      | 2.45569                   | D-VD Silty SAND | 125                 | 36                        | 256.649            | 264.713              | 192.298                  | 0                   | 192.298                       | 203.305                    | 203.305                         |
| 3            | 3.07341    | 1021.88      | 3.3497                    | D-VD Silty SAND | 125                 | 36                        | 341.313            | 352.037              | 312.489                  | 0                   | 312.489                       | 332.466                    | 332.466                         |
| 4            | 3.07341    | 1471.27      | 4.24453                   | D-VD Silty SAND | 125                 | 36                        | 435.599            | 449.286              | 446.341                  | 0                   | 446.341                       | 478.67                     | 478.67                          |
| 5            | 3.07341    | 1944.97      | 5.1404                    | D-VD Silty SAND | 125                 | 36                        | 533.146            | 549.897              | 584.821                  | 0                   | 584.821                       | 632.782                    | 632.782                         |
| 6            | 3.07341    | 2405.82      | 6.03753                   | D-VD Silty SAND | 125                 | 36                        | 625.906            | 645.572              | 716.504                  | 0                   | 716.504                       | 782.704                    | 782.704                         |
| 7            | 3.07341    | 2874.99      | 6.93615                   | D-VD Silty SAND | 125                 | 36                        | 718.481            | 741.056              | 847.928                  | 0                   | 847.928                       | 935.333                    | 935.333                         |
| 8            | 3.07341    | 3329.9       | 7.83649                   | D-VD Silty SAND | 125                 | 36                        | 806.139            | 831.468              | 972.37                   | 0                   | 972.37                        | 1083.32                    | 1083.32                         |
| 9            | 3.07341    | 3766.64      | 8.73878                   | D-VD Silty SAND | 125                 | 36                        | 888.198            | 916.105              | 1088.86                  | 0                   | 1088.86                       | 1225.39                    | 1225.39                         |
| 10           | 3.07341    | 4185.08      | 9.64326                   | D-VD Silty SAND | 125                 | 36                        | 964.778            | 995.091              | 1197.58                  | 0                   | 1197.58                       | 1361.51                    | 1361.51                         |
| 11           | 3.07341    | 4585.08      | 10.5502                   | D-VD Silty SAND | 125                 | 36                        | 1035.99            | 1068.54              | 1298.67                  | 0                   | 1298.67                       | 1491.62                    | 1491.62                         |
| 12           | 3.07341    | 4966.5       | 11.4598                   | D-VD Silty SAND | 125                 | 36                        | 1101.94            | 1136.56              | 1392.3                   | 0                   | 1392.3                        | 1615.68                    | 1615.68                         |
| 13           | 3.07341    | 5329.14      | 12.3723                   | D-VD Silty SAND | 125                 | 36                        | 1162.73            | 1199.26              | 1478.59                  | 0                   | 1478.59                       | 1733.64                    | 1733.64                         |
| 14           | 3.07341    | 5672.83      | 13.288                    | D-VD Silty SAND | 125                 | 36                        | 1218.43            | 1256.71              | 1557.67                  | 0                   | 1557.67                       | 1845.43                    | 1845.43                         |
| 15           | 3.07341    | 5997.35      | 14.2072                   | D-VD Silty SAND | 125                 | 36                        | 1269.14            | 1309.02              | 1629.66                  | 0                   | 1629.66                       | 1950.98                    | 1950.98                         |
| 16           | 3.07341    | 6302.48      | 15.1302                   | D-VD Silty SAND | 125                 | 36                        | 1314.93            | 1356.25              | 1694.68                  | 0                   | 1694.68                       | 2050.22                    | 2050.22                         |
| 17           | 3.07341    | 6587.98      | 16.0572                   | D-VD Silty SAND | 125                 | 36                        | 1355.89            | 1398.49              | 1752.81                  | 0                   | 1752.81                       | 2143.07                    | 2143.07                         |
| 18           | 3.07341    | 6853.56      | 16.9885                   | D-VD Silty SAND | 125                 | 36                        | 1392.05            | 1435.79              | 1804.15                  | 0                   | 1804.15                       | 2229.44                    | 2229.44                         |
| 19           | 3.07341    | 7098.95      | 17.9245                   | D-VD Silty SAND | 125                 | 36                        | 1423.49            | 1468.22              | 1848.79                  | 0                   | 1848.79                       | 2309.23                    | 2309.23                         |
| 20           | 3.07341    | 7323.82      | 18.8654                   | D-VD Silty SAND | 125                 | 36                        | 1450.27            | 1495.84              | 1886.8                   | 0                   | 1886.8                        | 2382.36                    | 2382.36                         |
| 21           | 3.07341    | 7527.85      | 19.8117                   | D-VD Silty SAND | 125                 | 36                        | 1472.43            | 1518.69              | 1918.25                  | 0                   | 1918.25                       | 2448.7                     | 2448.7                          |
| 22           | 3.07341    | 7710.66      | 20.7636                   | D-VD Silty SAND | 125                 | 36                        | 1490.01            | 1536.83              | 1943.22                  | 0                   | 1943.22                       | 2508.14                    | 2508.14                         |
| 23           | 3.07341    | 7871.85      | 21.7216                   | D-VD Silty SAND | 125                 | 36                        | 1503.06            | 1550.29              | 1961.75                  | 0                   | 1961.75                       | 2560.55                    | 2560.55                         |



|    |         |         |         |                       |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 3.07341 | 8011.01 | 22.686  | D-VD<br>Silty<br>SAND | 125 | 36 | 1511.62 | 1559.12 | 1973.89 | 0 | 1973.89 | 2605.79 | 2605.79 |
| 25 | 3.07341 | 8127.67 | 23.6572 | D-VD<br>Silty<br>SAND | 125 | 36 | 1515.72 | 1563.34 | 1979.7  | 0 | 1979.7  | 2643.71 | 2643.71 |
| 26 | 3.07341 | 8221.35 | 24.6357 | D-VD<br>Silty<br>SAND | 125 | 36 | 1515.37 | 1562.98 | 1979.21 | 0 | 1979.21 | 2674.15 | 2674.15 |
| 27 | 3.07341 | 8291.49 | 25.622  | D-VD<br>Silty<br>SAND | 125 | 36 | 1510.61 | 1558.07 | 1972.46 | 0 | 1972.46 | 2696.93 | 2696.93 |
| 28 | 3.07341 | 8337.53 | 26.6164 | D-VD<br>Silty<br>SAND | 125 | 36 | 1501.45 | 1548.63 | 1959.46 | 0 | 1959.46 | 2711.87 | 2711.87 |
| 29 | 3.07341 | 8358.84 | 27.6196 | D-VD<br>Silty<br>SAND | 125 | 36 | 1487.93 | 1534.68 | 1940.26 | 0 | 1940.26 | 2718.78 | 2718.78 |
| 30 | 3.07341 | 8354.75 | 28.632  | D-VD<br>Silty<br>SAND | 125 | 36 | 1470.04 | 1516.23 | 1914.86 | 0 | 1914.86 | 2717.42 | 2717.42 |
| 31 | 3.07341 | 8324.52 | 29.6544 | D-VD<br>Silty<br>SAND | 125 | 36 | 1447.79 | 1493.28 | 1883.28 | 0 | 1883.28 | 2707.56 | 2707.56 |
| 32 | 3.07341 | 8267.37 | 30.6872 | D-VD<br>Silty<br>SAND | 125 | 36 | 1421.2  | 1465.85 | 1845.52 | 0 | 1845.52 | 2688.94 | 2688.94 |
| 33 | 3.07341 | 8182.43 | 31.7312 | D-VD<br>Silty<br>SAND | 125 | 36 | 1390.26 | 1433.94 | 1801.6  | 0 | 1801.6  | 2661.28 | 2661.28 |
| 34 | 3.07341 | 8068.77 | 32.787  | D-VD<br>Silty<br>SAND | 125 | 36 | 1354.97 | 1397.54 | 1751.5  | 0 | 1751.5  | 2624.28 | 2624.28 |
| 35 | 3.07341 | 7925.36 | 33.8556 | D-VD<br>Silty<br>SAND | 125 | 36 | 1315.32 | 1356.65 | 1695.23 | 0 | 1695.23 | 2577.61 | 2577.61 |
| 36 | 3.07341 | 7751.09 | 34.9378 | D-VD<br>Silty<br>SAND | 125 | 36 | 1271.32 | 1311.27 | 1632.77 | 0 | 1632.77 | 2520.9  | 2520.9  |
| 37 | 3.07341 | 7544.73 | 36.0344 | D-VD<br>Silty<br>SAND | 125 | 36 | 1222.96 | 1261.39 | 1564.1  | 0 | 1564.1  | 2453.76 | 2453.76 |
| 38 | 3.07341 | 7304.95 | 37.1465 | D-VD<br>Silty<br>SAND | 125 | 36 | 1170.21 | 1206.98 | 1489.22 | 0 | 1489.22 | 2375.74 | 2375.74 |
| 39 | 3.07341 | 7030.26 | 38.2752 | D-VD<br>Silty<br>SAND | 125 | 36 | 1113.08 | 1148.05 | 1408.1  | 0 | 1408.1  | 2286.38 | 2286.38 |
| 40 | 3.07341 | 6719.03 | 39.4218 | D-VD<br>Silty<br>SAND | 125 | 36 | 1051.53 | 1084.56 | 1320.73 | 0 | 1320.73 | 2185.13 | 2185.13 |
| 41 | 3.07341 | 6369.45 | 40.5875 | D-VD<br>Silty<br>SAND | 125 | 36 | 985.547 | 1016.51 | 1227.06 | 0 | 1227.06 | 2071.41 | 2071.41 |
| 42 | 3.07341 | 5979.49 | 41.774  | D-VD<br>Silty<br>SAND | 125 | 36 | 915.125 | 943.878 | 1127.09 | 0 | 1127.09 | 1944.56 | 1944.56 |
| 43 | 3.07341 | 5493.22 | 42.9828 | D-VD<br>Silty<br>SAND | 125 | 36 | 832.817 | 858.984 | 1010.24 | 0 | 1010.24 | 1786.39 | 1786.39 |
| 44 | 3.07341 | 4838.31 | 44.2159 | D-VD<br>Silty<br>SAND | 125 | 36 | 729.504 | 752.425 | 863.575 | 0 | 863.575 | 1573.38 | 1573.38 |
| 45 | 3.07341 | 4130.44 | 45.4754 | D-VD<br>Silty<br>SAND | 125 | 36 | 621.913 | 641.453 | 710.837 | 0 | 710.837 | 1343.16 | 1343.16 |
| 46 | 3.07341 | 3371.26 | 46.7638 | D-VD<br>Silty<br>SAND | 125 | 36 | 510.757 | 526.805 | 553.038 | 0 | 553.038 | 1096.25 | 1096.25 |
| 47 | 3.07341 | 2557.02 | 48.0837 | D-VD<br>Silty<br>SAND | 125 | 36 | 396.087 | 408.532 | 390.249 | 0 | 390.249 | 831.443 | 831.443 |
| 48 | 3.07341 | 1683.4  | 49.4385 | D-VD<br>Silty<br>SAND | 125 | 36 | 277.975 | 286.709 | 222.573 | 0 | 222.573 | 547.334 | 547.334 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 3.07341 | 752.073 | 50.8319 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 157.345 | 162.289 | 51.3239  | 0 | 51.3239  | 244.467 | 244.467 |
| 50 | 0.78481 | 35.9069 | 51.7227 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 91.8298 | 94.7151 | -70.7615 | 0 | -70.7615 | 45.61   | 45.61   |

## **Cross Section DD-DD' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.63759**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.74413    | 174.644      | 9.58741                   | D-VD<br>Silty SAND | 125                 | 36                        | 97.293             | 159.326              | 47.2458                  | 0                   | 47.2458                       | 63.6797                    | 63.6797                         |
| 2            | 2.74413    | 520.357      | 10.2412                   | D-VD<br>Silty SAND | 125                 | 36                        | 148.579            | 243.312              | 162.842                  | 0                   | 162.842                       | 189.686                    | 189.686                         |
| 3            | 2.74413    | 855.412      | 10.8964                   | D-VD<br>Silty SAND | 125                 | 36                        | 197.779            | 323.881              | 273.737                  | 0                   | 273.737                       | 311.81                     | 311.81                          |
| 4            | 2.74413    | 1179.74      | 11.5531                   | D-VD<br>Silty SAND | 125                 | 36                        | 244.908            | 401.059              | 379.964                  | 0                   | 379.964                       | 430.027                    | 430.027                         |
| 5            | 2.74413    | 1493.26      | 12.2112                   | D-VD<br>Silty SAND | 125                 | 36                        | 289.98             | 474.869              | 481.552                  | 0                   | 481.552                       | 544.307                    | 544.307                         |
| 6            | 2.74413    | 1795.91      | 12.871                    | D-VD<br>Silty SAND | 125                 | 36                        | 333.008            | 545.33               | 578.535                  | 0                   | 578.535                       | 654.626                    | 654.626                         |
| 7            | 2.74413    | 2087.59      | 13.5326                   | D-VD<br>Silty SAND | 125                 | 36                        | 374.003            | 612.463              | 670.936                  | 0                   | 670.936                       | 760.951                    | 760.951                         |
| 8            | 2.74413    | 2368.21      | 14.196                    | D-VD<br>Silty SAND | 125                 | 36                        | 412.976            | 676.285              | 758.778                  | 0                   | 758.778                       | 863.246                    | 863.246                         |
| 9            | 2.74413    | 2637.69      | 14.8613                   | D-VD<br>Silty SAND | 125                 | 36                        | 449.937            | 736.813              | 842.088                  | 0                   | 842.088                       | 961.482                    | 961.482                         |
| 10           | 2.74413    | 2895.92      | 15.5287                   | D-VD<br>Silty SAND | 125                 | 36                        | 484.895            | 794.06               | 920.883                  | 0                   | 920.883                       | 1055.62                    | 1055.62                         |
| 11           | 2.74413    | 3142.79      | 16.1983                   | D-VD<br>Silty SAND | 125                 | 36                        | 517.859            | 848.041              | 995.179                  | 0                   | 995.179                       | 1145.61                    | 1145.61                         |
| 12           | 2.74413    | 3378.18      | 16.8701                   | D-VD<br>Silty SAND | 125                 | 36                        | 548.835            | 898.766              | 1065                     | 0                   | 1065                          | 1231.43                    | 1231.43                         |
| 13           | 2.74413    | 3601.99      | 17.5444                   | D-VD<br>Silty SAND | 125                 | 36                        | 577.828            | 946.246              | 1130.35                  | 0                   | 1130.35                       | 1313.03                    | 1313.03                         |
| 14           | 2.74413    | 3814.08      | 18.2212                   | D-VD<br>Silty SAND | 125                 | 36                        | 604.845            | 990.488              | 1191.24                  | 0                   | 1191.24                       | 1390.35                    | 1390.35                         |
| 15           | 2.74413    | 4014.31      | 18.9006                   | D-VD<br>Silty SAND | 125                 | 36                        | 629.89             | 1031.5               | 1247.69                  | 0                   | 1247.69                       | 1463.36                    | 1463.36                         |
| 16           | 2.74413    | 4202.54      | 19.5827                   | D-VD<br>Silty SAND | 125                 | 36                        | 652.965            | 1069.29              | 1299.7                   | 0                   | 1299.7                        | 1531.99                    | 1531.99                         |
| 17           | 2.74413    | 4378.63      | 20.2678                   | D-VD<br>Silty SAND | 125                 | 36                        | 674.073            | 1103.86              | 1347.28                  | 0                   | 1347.28                       | 1596.2                     | 1596.2                          |
| 18           | 2.74413    | 4542.42      | 20.9559                   | D-VD<br>Silty SAND | 125                 | 36                        | 693.22             | 1135.21              | 1390.43                  | 0                   | 1390.43                       | 1655.92                    | 1655.92                         |
| 19           | 2.74413    | 4693.72      | 21.6472                   | D-VD<br>Silty SAND | 125                 | 36                        | 710.398            | 1163.34              | 1429.15                  | 0                   | 1429.15                       | 1711.09                    | 1711.09                         |
| 20           | 2.74413    | 4832.38      | 22.3419                   | D-VD<br>Silty SAND | 125                 | 36                        | 725.615            | 1188.26              | 1463.45                  | 0                   | 1463.45                       | 1761.66                    | 1761.66                         |
| 21           | 2.74413    | 4958.2       | 23.04                     | D-VD<br>Silty SAND | 125                 | 36                        | 738.86             | 1209.95              | 1493.31                  | 0                   | 1493.31                       | 1807.55                    | 1807.55                         |
| 22           | 2.74413    | 5070.98      | 23.7417                   | D-VD<br>Silty SAND | 125                 | 36                        | 750.145            | 1228.43              | 1518.74                  | 0                   | 1518.74                       | 1848.68                    | 1848.68                         |

|    |         |         |         |                                                   |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.74413 | 5170.51 | 24.4473 | D-VD<br>Silty SAND                                | 125 | 36 | 759.457 | 1243.68 | 1539.73 | 0 | 1539.73 | 1884.99 | 1884.99 |
| 24 | 2.74413 | 5256.58 | 25.1568 | D-VD<br>Silty SAND                                | 125 | 36 | 766.791 | 1255.69 | 1556.26 | 0 | 1556.26 | 1916.38 | 1916.38 |
| 25 | 2.74413 | 5328.95 | 25.8705 | D-VD<br>Silty SAND                                | 125 | 36 | 772.153 | 1264.47 | 1568.34 | 0 | 1568.34 | 1942.79 | 1942.79 |
| 26 | 2.74413 | 5387.37 | 26.5885 | D-VD<br>Silty SAND                                | 125 | 36 | 775.53  | 1270    | 1575.95 | 0 | 1575.95 | 1964.11 | 1964.11 |
| 27 | 2.74413 | 5431.59 | 27.311  | D-VD<br>Silty SAND                                | 125 | 36 | 776.91  | 1272.26 | 1579.07 | 0 | 1579.07 | 1980.25 | 1980.25 |
| 28 | 2.74413 | 5461.32 | 28.0383 | D-VD<br>Silty SAND                                | 125 | 36 | 776.299 | 1271.26 | 1577.69 | 0 | 1577.69 | 1991.12 | 1991.12 |
| 29 | 2.74413 | 5476.28 | 28.7705 | D-VD<br>Silty SAND                                | 125 | 36 | 773.674 | 1266.96 | 1571.78 | 0 | 1571.78 | 1996.59 | 1996.59 |
| 30 | 2.74413 | 5476.15 | 29.5079 | D-VD<br>Silty SAND                                | 125 | 36 | 769.039 | 1259.37 | 1561.33 | 0 | 1561.33 | 1996.57 | 1996.57 |
| 31 | 2.74413 | 5460.6  | 30.2507 | D-VD<br>Silty SAND                                | 125 | 36 | 762.376 | 1248.46 | 1546.31 | 0 | 1546.31 | 1990.93 | 1990.93 |
| 32 | 2.74413 | 5429.3  | 30.9992 | D-VD<br>Silty SAND                                | 125 | 36 | 753.675 | 1234.21 | 1526.7  | 0 | 1526.7  | 1979.54 | 1979.54 |
| 33 | 2.74413 | 5381.86 | 31.7536 | D-VD<br>Silty SAND                                | 125 | 36 | 742.921 | 1216.6  | 1502.46 | 0 | 1502.46 | 1962.26 | 1962.26 |
| 34 | 2.74413 | 5317.9  | 32.5142 | D-VD<br>Silty SAND                                | 125 | 36 | 730.109 | 1195.62 | 1473.58 | 0 | 1473.58 | 1938.97 | 1938.97 |
| 35 | 2.74413 | 5236.99 | 33.2813 | D-VD<br>Silty SAND                                | 125 | 36 | 715.216 | 1171.23 | 1440.01 | 0 | 1440.01 | 1909.49 | 1909.49 |
| 36 | 2.74413 | 5138.69 | 34.0552 | D-VD<br>Silty SAND                                | 125 | 36 | 698.233 | 1143.42 | 1401.73 | 0 | 1401.73 | 1873.67 | 1873.67 |
| 37 | 2.74413 | 5022.52 | 34.8362 | D-VD<br>Silty SAND                                | 125 | 36 | 679.138 | 1112.15 | 1358.69 | 0 | 1358.69 | 1831.34 | 1831.34 |
| 38 | 2.74413 | 4887.98 | 35.6247 | D-VD<br>Silty SAND                                | 125 | 36 | 657.916 | 1077.4  | 1310.86 | 0 | 1310.86 | 1782.31 | 1782.31 |
| 39 | 2.74413 | 4738.24 | 36.4211 | D-VD<br>Silty SAND                                | 125 | 36 | 635.001 | 1039.87 | 1259.21 | 0 | 1259.21 | 1727.74 | 1727.74 |
| 40 | 2.74413 | 4600.22 | 37.2257 | D-VD<br>Silty SAND                                | 125 | 36 | 613.692 | 1004.98 | 1211.18 | 0 | 1211.18 | 1677.43 | 1677.43 |
| 41 | 2.74413 | 4449.09 | 38.039  | D-VD<br>Silty SAND                                | 125 | 36 | 590.977 | 967.778 | 1159.98 | 0 | 1159.98 | 1622.35 | 1622.35 |
| 42 | 2.74413 | 4277.17 | 38.8615 | D-VD<br>Silty SAND                                | 125 | 36 | 565.975 | 926.835 | 1103.63 | 0 | 1103.63 | 1559.69 | 1559.69 |
| 43 | 2.74413 | 4083.72 | 39.6936 | D-VD<br>Silty SAND                                | 125 | 36 | 538.662 | 882.107 | 1042.07 | 0 | 1042.07 | 1489.17 | 1489.17 |
| 44 | 2.74413 | 3867.96 | 40.5358 | D-VD<br>Silty SAND                                | 125 | 36 | 509.01  | 833.549 | 975.234 | 0 | 975.234 | 1410.52 | 1410.52 |
| 45 | 2.74413 | 3601.69 | 41.3887 | D-VD<br>Silty SAND                                | 125 | 36 | 473.809 | 775.905 | 895.895 | 0 | 895.895 | 1313.45 | 1313.45 |
| 46 | 2.87619 | 3272.24 | 42.2741 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 442.776 | 725.085 | 736.075 | 0 | 736.075 | 1138.6  | 1138.6  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 2.87619 | 2669.64 | 43.1933 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 369.36  | 604.861 | 582.196 | 0 | 582.196 | 928.967 | 928.967 |
| 48 | 2.87619 | 2034.32 | 44.1265 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 293.52  | 480.665 | 423.232 | 0 | 423.232 | 707.935 | 707.935 |
| 49 | 2.87619 | 1323.06 | 45.0746 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 210.568 | 344.824 | 249.363 | 0 | 249.363 | 460.48  | 460.48  |
| 50 | 2.87619 | 450.03  | 46.0388 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 111.306 | 182.274 | 41.3093 | 0 | 41.3093 | 156.727 | 156.727 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.57371

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.75901    | 123.318      | 3.62365                   | D-VD Silty SAND | 125                 | 36                        | 97.2264            | 153.006              | 38.5472                  | 0                   | 38.5472                       | 44.7044                    | 44.7044                         |
| 2            | 2.75901    | 442.266      | 4.47359                   | D-VD Silty SAND | 125                 | 36                        | 148.094            | 233.057              | 148.727                  | 0                   | 148.727                       | 160.314                    | 160.314                         |
| 3            | 2.75901    | 871.615      | 5.32451                   | D-VD Silty SAND | 125                 | 36                        | 215.999            | 339.919              | 295.811                  | 0                   | 295.811                       | 315.942                    | 315.942                         |
| 4            | 2.75901    | 1288.76      | 6.17661                   | D-VD Silty SAND | 125                 | 36                        | 281.058            | 442.304              | 436.731                  | 0                   | 436.731                       | 467.148                    | 467.148                         |
| 5            | 2.75901    | 1692.15      | 7.03009                   | D-VD Silty SAND | 125                 | 36                        | 343.076            | 539.902              | 571.066                  | 0                   | 571.066                       | 613.373                    | 613.373                         |
| 6            | 2.75901    | 2081.71      | 7.88513                   | D-VD Silty SAND | 125                 | 36                        | 402.093            | 632.778              | 698.894                  | 0                   | 698.894                       | 754.583                    | 754.583                         |
| 7            | 2.75901    | 2457.36      | 8.74195                   | D-VD Silty SAND | 125                 | 36                        | 458.146            | 720.989              | 820.309                  | 0                   | 820.309                       | 890.759                    | 890.759                         |
| 8            | 2.75901    | 2819.01      | 9.60075                   | D-VD Silty SAND | 125                 | 36                        | 511.27             | 804.591              | 935.377                  | 0                   | 935.377                       | 1021.86                    | 1021.86                         |
| 9            | 2.75901    | 3166.56      | 10.4617                   | D-VD Silty SAND | 125                 | 36                        | 561.497            | 883.634              | 1044.17                  | 0                   | 1044.17                       | 1147.85                    | 1147.85                         |
| 10           | 2.75901    | 3499.89      | 11.3251                   | D-VD Silty SAND | 125                 | 36                        | 608.856            | 958.163              | 1146.75                  | 0                   | 1146.75                       | 1268.69                    | 1268.69                         |
| 11           | 2.75901    | 3818.89      | 12.1911                   | D-VD Silty SAND | 125                 | 36                        | 653.373            | 1028.22              | 1243.17                  | 0                   | 1243.17                       | 1384.33                    | 1384.33                         |
| 12           | 2.75901    | 4123.41      | 13.0599                   | D-VD Silty SAND | 125                 | 36                        | 695.072            | 1093.84              | 1333.49                  | 0                   | 1333.49                       | 1494.73                    | 1494.73                         |
| 13           | 2.75901    | 4413.3       | 13.9318                   | D-VD Silty SAND | 125                 | 36                        | 733.973            | 1155.06              | 1417.76                  | 0                   | 1417.76                       | 1599.83                    | 1599.83                         |
| 14           | 2.75901    | 4688.41      | 14.807                    | D-VD Silty SAND | 125                 | 36                        | 770.097            | 1211.91              | 1496                     | 0                   | 1496                          | 1699.57                    | 1699.57                         |
| 15           | 2.75901    | 4948.56      | 15.6858                   | D-VD Silty SAND | 125                 | 36                        | 803.458            | 1264.41              | 1568.26                  | 0                   | 1568.26                       | 1793.89                    | 1793.89                         |
| 16           | 2.75901    | 5193.56      | 16.5683                   | D-VD Silty SAND | 125                 | 36                        | 834.074            | 1312.59              | 1634.57                  | 0                   | 1634.57                       | 1882.72                    | 1882.72                         |
| 17           | 2.75901    | 5423.2       | 17.4549                   | D-VD Silty SAND | 125                 | 36                        | 861.95             | 1356.46              | 1694.95                  | 0                   | 1694.95                       | 1965.98                    | 1965.98                         |
| 18           | 2.75901    | 5637.28      | 18.3459                   | D-VD Silty SAND | 125                 | 36                        | 887.101            | 1396.04              | 1749.43                  | 0                   | 1749.43                       | 2043.6                     | 2043.6                          |
| 19           | 2.75901    | 5835.54      | 19.2414                   | D-VD Silty SAND | 125                 | 36                        | 909.532            | 1431.34              | 1798.02                  | 0                   | 1798.02                       | 2115.49                    | 2115.49                         |
| 20           | 2.75901    | 6017.75      | 20.1419                   | D-VD Silty SAND | 125                 | 36                        | 929.25             | 1462.37              | 1840.73                  | 0                   | 1840.73                       | 2181.56                    | 2181.56                         |
| 21           | 2.75901    | 6183.61      | 21.0476                   | D-VD Silty SAND | 125                 | 36                        | 946.261            | 1489.14              | 1877.57                  | 0                   | 1877.57                       | 2241.71                    | 2241.71                         |
| 22           | 2.75901    | 6332.84      | 21.9589                   | D-VD Silty SAND | 125                 | 36                        | 960.558            | 1511.64              | 1908.54                  | 0                   | 1908.54                       | 2295.83                    | 2295.83                         |
| 23           | 2.75901    | 6465.13      | 22.876                    | D-VD Silty SAND | 125                 | 36                        | 972.142            | 1529.87              | 1933.63                  | 0                   | 1933.63                       | 2343.8                     | 2343.8                          |

|    |         |         |         |                                                   |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.75901 | 6580.13 | 23.7994 | D-VD<br>Silty SAND                                | 125 | 36 | 981.013 | 1543.83 | 1952.85 | 0 | 1952.85 | 2385.51 | 2385.51 |
| 25 | 2.75901 | 6677.48 | 24.7294 | D-VD<br>Silty SAND                                | 125 | 36 | 987.164 | 1553.51 | 1966.17 | 0 | 1966.17 | 2420.83 | 2420.83 |
| 26 | 2.75901 | 6756.78 | 25.6664 | D-VD<br>Silty SAND                                | 125 | 36 | 990.583 | 1558.89 | 1973.58 | 0 | 1973.58 | 2449.6  | 2449.6  |
| 27 | 2.75901 | 6817.62 | 26.6108 | D-VD<br>Silty SAND                                | 125 | 36 | 991.263 | 1559.96 | 1975.05 | 0 | 1975.05 | 2471.67 | 2471.67 |
| 28 | 2.75901 | 6859.55 | 27.5631 | D-VD<br>Silty SAND                                | 125 | 36 | 989.191 | 1556.7  | 1970.57 | 0 | 1970.57 | 2486.9  | 2486.9  |
| 29 | 2.75901 | 6882.06 | 28.5237 | D-VD<br>Silty SAND                                | 125 | 36 | 984.355 | 1549.09 | 1960.09 | 0 | 1960.09 | 2495.08 | 2495.08 |
| 30 | 2.75901 | 6884.64 | 29.4932 | D-VD<br>Silty SAND                                | 125 | 36 | 976.73  | 1537.09 | 1943.58 | 0 | 1943.58 | 2496.03 | 2496.03 |
| 31 | 2.75901 | 6866.72 | 30.472  | D-VD<br>Silty SAND                                | 125 | 36 | 966.309 | 1520.69 | 1921    | 0 | 1921    | 2489.56 | 2489.56 |
| 32 | 2.75901 | 6827.67 | 31.4608 | D-VD<br>Silty SAND                                | 125 | 36 | 953.054 | 1499.83 | 1892.29 | 0 | 1892.29 | 2475.43 | 2475.43 |
| 33 | 2.75901 | 6766.83 | 32.4601 | D-VD<br>Silty SAND                                | 125 | 36 | 936.952 | 1474.49 | 1857.41 | 0 | 1857.41 | 2453.39 | 2453.39 |
| 34 | 2.75901 | 6683.49 | 33.4707 | D-VD<br>Silty SAND                                | 125 | 36 | 917.965 | 1444.61 | 1816.29 | 0 | 1816.29 | 2423.2  | 2423.2  |
| 35 | 2.75901 | 6576.84 | 34.4931 | D-VD<br>Silty SAND                                | 125 | 36 | 896.067 | 1410.15 | 1768.86 | 0 | 1768.86 | 2384.55 | 2384.55 |
| 36 | 2.75901 | 6446.04 | 35.5283 | D-VD<br>Silty SAND                                | 125 | 36 | 871.228 | 1371.06 | 1715.06 | 0 | 1715.06 | 2337.15 | 2337.15 |
| 37 | 2.75901 | 6290.14 | 36.5771 | D-VD<br>Silty SAND                                | 125 | 36 | 843.415 | 1327.29 | 1654.81 | 0 | 1654.81 | 2280.66 | 2280.66 |
| 38 | 2.75901 | 6108.13 | 37.6402 | D-VD<br>Silty SAND                                | 125 | 36 | 812.577 | 1278.76 | 1588.01 | 0 | 1588.01 | 2214.69 | 2214.69 |
| 39 | 2.75901 | 5898.88 | 38.7188 | D-VD<br>Silty SAND                                | 125 | 36 | 778.676 | 1225.41 | 1514.58 | 0 | 1514.58 | 2138.84 | 2138.84 |
| 40 | 2.75901 | 5666.73 | 39.814  | D-VD<br>Silty SAND                                | 125 | 36 | 742.341 | 1168.23 | 1435.88 | 0 | 1435.88 | 2054.69 | 2054.69 |
| 41 | 2.75901 | 5436.54 | 40.9269 | D-VD<br>Silty SAND                                | 125 | 36 | 706.641 | 1112.05 | 1358.55 | 0 | 1358.55 | 1971.25 | 1971.25 |
| 42 | 2.75901 | 5180.01 | 42.0589 | D-VD<br>Silty SAND                                | 125 | 36 | 668.223 | 1051.59 | 1275.34 | 0 | 1275.34 | 1878.26 | 1878.26 |
| 43 | 2.75901 | 4890.42 | 43.2115 | D-VD<br>Silty SAND                                | 125 | 36 | 626.42  | 985.803 | 1184.79 | 0 | 1184.79 | 1773.28 | 1773.28 |
| 44 | 2.75901 | 4565.87 | 44.3862 | D-VD<br>Silty SAND                                | 125 | 36 | 581.167 | 914.588 | 1086.77 | 0 | 1086.77 | 1655.62 | 1655.62 |
| 45 | 2.75901 | 4204.24 | 45.5851 | D-VD<br>Silty SAND                                | 125 | 36 | 532.395 | 837.836 | 981.136 | 0 | 981.136 | 1524.52 | 1524.52 |
| 46 | 2.75901 | 3761.29 | 46.8102 | D-VD<br>Silty SAND                                | 125 | 36 | 475.342 | 748.05  | 857.554 | 0 | 857.554 | 1363.92 | 1363.92 |
| 47 | 2.80063 | 3135.72 | 48.0735 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 419.547 | 660.245 | 653.083 | 0 | 653.083 | 1120.24 | 1120.24 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.80063 | 2344.44 | 49.3784 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 323.76  | 509.504 | 460.144 | 0 | 460.144 | 837.593 | 837.593 |
| 49 | 2.80063 | 1497.54 | 50.719  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 224.619 | 353.485 | 260.449 | 0 | 260.449 | 535.065 | 535.065 |
| 50 | 2.80063 | 546.518 | 52.0991 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 117.415 | 184.777 | 44.5123 | 0 | 44.5123 | 195.333 | 195.333 |



 **Cross Section DD-DD' - Seismic**
**Global Minimum Query (bishop simplified) - Safety Factor: 1.03908**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.79592    | 184.91       | 9.15985                   | D-VD<br>Silty SAND | 125                 | 36                        | 149.669            | 155.518              | 42.0041                  | 0                   | 42.0041                       | 66.1376                    | 66.1376                         |
| 2            | 2.79592    | 550.985      | 9.81565                   | D-VD<br>Silty SAND | 125                 | 36                        | 230.241            | 239.239              | 157.236                  | 0                   | 157.236                       | 197.071                    | 197.071                         |
| 3            | 2.79592    | 905.991      | 10.4728                   | D-VD<br>Silty SAND | 125                 | 36                        | 307.175            | 319.179              | 267.265                  | 0                   | 267.265                       | 324.045                    | 324.045                         |
| 4            | 2.79592    | 1249.86      | 11.1312                   | D-VD<br>Silty SAND | 125                 | 36                        | 380.522            | 395.393              | 372.164                  | 0                   | 372.164                       | 447.035                    | 447.035                         |
| 5            | 2.79592    | 1582.52      | 11.7912                   | D-VD<br>Silty SAND | 125                 | 36                        | 450.335            | 467.934              | 472.007                  | 0                   | 472.007                       | 566.015                    | 566.015                         |
| 6            | 2.79592    | 1903.88      | 12.4528                   | D-VD<br>Silty SAND | 125                 | 36                        | 516.66             | 536.851              | 566.864                  | 0                   | 566.864                       | 680.958                    | 680.958                         |
| 7            | 2.79592    | 2213.87      | 13.1161                   | D-VD<br>Silty SAND | 125                 | 36                        | 579.543            | 602.192              | 656.797                  | 0                   | 656.797                       | 791.832                    | 791.832                         |
| 8            | 2.79592    | 2512.4       | 13.7811                   | D-VD<br>Silty SAND | 125                 | 36                        | 639.027            | 664                  | 741.871                  | 0                   | 741.871                       | 898.608                    | 898.608                         |
| 9            | 2.79592    | 2799.36      | 14.4481                   | D-VD<br>Silty SAND | 125                 | 36                        | 695.152            | 722.319              | 822.138                  | 0                   | 822.138                       | 1001.24                    | 1001.24                         |
| 10           | 2.79592    | 3074.67      | 15.1171                   | D-VD<br>Silty SAND | 125                 | 36                        | 747.958            | 777.188              | 897.661                  | 0                   | 897.661                       | 1099.71                    | 1099.71                         |
| 11           | 2.79592    | 3338.2       | 15.7882                   | D-VD<br>Silty SAND | 125                 | 36                        | 797.48             | 828.645              | 968.484                  | 0                   | 968.484                       | 1193.97                    | 1193.97                         |
| 12           | 2.79592    | 3589.84      | 16.4615                   | D-VD<br>Silty SAND | 125                 | 36                        | 843.753            | 876.727              | 1034.66                  | 0                   | 1034.66                       | 1283.98                    | 1283.98                         |
| 13           | 2.79592    | 3829.48      | 17.1371                   | D-VD<br>Silty SAND | 125                 | 36                        | 886.809            | 921.466              | 1096.24                  | 0                   | 1096.24                       | 1369.69                    | 1369.69                         |
| 14           | 2.79592    | 4056.98      | 17.8153                   | D-VD<br>Silty SAND | 125                 | 36                        | 926.679            | 962.894              | 1153.26                  | 0                   | 1153.26                       | 1451.06                    | 1451.06                         |
| 15           | 2.79592    | 4272.21      | 18.496                    | D-VD<br>Silty SAND | 125                 | 36                        | 963.393            | 1001.04              | 1205.77                  | 0                   | 1205.77                       | 1528.04                    | 1528.04                         |
| 16           | 2.79592    | 4475.02      | 19.1794                   | D-VD<br>Silty SAND | 125                 | 36                        | 996.975            | 1035.94              | 1253.8                   | 0                   | 1253.8                        | 1600.58                    | 1600.58                         |
| 17           | 2.79592    | 4665.26      | 19.8657                   | D-VD<br>Silty SAND | 125                 | 36                        | 1027.45            | 1067.61              | 1297.38                  | 0                   | 1297.38                       | 1668.62                    | 1668.62                         |
| 18           | 2.79592    | 4842.76      | 20.555                    | D-VD<br>Silty SAND | 125                 | 36                        | 1054.85            | 1096.07              | 1336.57                  | 0                   | 1336.57                       | 1732.11                    | 1732.11                         |
| 19           | 2.79592    | 5007.37      | 21.2474                   | D-VD<br>Silty SAND | 125                 | 36                        | 1079.19            | 1121.36              | 1371.37                  | 0                   | 1371.37                       | 1790.99                    | 1790.99                         |
| 20           | 2.79592    | 5158.89      | 21.943                    | D-VD<br>Silty SAND | 125                 | 36                        | 1100.48            | 1143.49              | 1401.83                  | 0                   | 1401.83                       | 1845.18                    | 1845.18                         |
| 21           | 2.79592    | 5297.15      | 22.6421                   | D-VD<br>Silty SAND | 125                 | 36                        | 1118.76            | 1162.48              | 1427.97                  | 0                   | 1427.97                       | 1894.63                    | 1894.63                         |
| 22           | 2.79592    | 5421.92      | 23.3448                   | D-VD<br>Silty SAND | 125                 | 36                        | 1134.04            | 1178.36              | 1449.82                  | 0                   | 1449.82                       | 1939.27                    | 1939.27                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.79592 | 5533.02 | 24.0512 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1146.33 | 1191.13 | 1467.39 | 0 | 1467.39 | 1979    | 1979    |
| 24 | 2.79592 | 5630.2  | 24.7615 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1155.65 | 1200.81 | 1480.72 | 0 | 1480.72 | 2013.76 | 2013.76 |
| 25 | 2.79592 | 5713.24 | 25.4759 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1162.01 | 1207.42 | 1489.82 | 0 | 1489.82 | 2043.47 | 2043.47 |
| 26 | 2.79592 | 5781.89 | 26.1945 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1165.42 | 1210.96 | 1494.7  | 0 | 1494.7  | 2068.01 | 2068.01 |
| 27 | 2.79592 | 5835.87 | 26.9177 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1165.9  | 1211.46 | 1495.38 | 0 | 1495.38 | 2087.33 | 2087.33 |
| 28 | 2.79592 | 5874.91 | 27.6455 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1163.44 | 1208.91 | 1491.88 | 0 | 1491.88 | 2101.29 | 2101.29 |
| 29 | 2.79592 | 5898.72 | 28.3781 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1158.08 | 1203.34 | 1484.21 | 0 | 1484.21 | 2109.81 | 2109.81 |
| 30 | 2.79592 | 5906.97 | 29.1159 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1149.81 | 1194.74 | 1472.37 | 0 | 1472.37 | 2112.76 | 2112.76 |
| 31 | 2.79592 | 5899.33 | 29.859  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1138.62 | 1183.12 | 1456.38 | 0 | 1456.38 | 2110.03 | 2110.03 |
| 32 | 2.79592 | 5875.46 | 30.6077 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1124.54 | 1168.49 | 1436.24 | 0 | 1436.24 | 2101.49 | 2101.49 |
| 33 | 2.79592 | 5834.97 | 31.3622 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1107.57 | 1150.85 | 1411.96 | 0 | 1411.96 | 2087.02 | 2087.02 |
| 34 | 2.79592 | 5777.47 | 32.1228 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1087.69 | 1130.2  | 1383.54 | 0 | 1383.54 | 2066.45 | 2066.45 |
| 35 | 2.79592 | 5702.53 | 32.8898 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1064.93 | 1106.55 | 1350.98 | 0 | 1350.98 | 2039.64 | 2039.64 |
| 36 | 2.79592 | 5609.7  | 33.6635 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1039.27 | 1079.89 | 1314.29 | 0 | 1314.29 | 2006.44 | 2006.44 |
| 37 | 2.79592 | 5498.5  | 34.4442 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1010.73 | 1050.22 | 1273.46 | 0 | 1273.46 | 1966.67 | 1966.67 |
| 38 | 2.79592 | 5368.81 | 35.2323 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 979.355 | 1017.63 | 1228.6  | 0 | 1228.6  | 1920.28 | 1920.28 |
| 39 | 2.79592 | 5246.59 | 36.0282 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 949.548 | 986.656 | 1185.97 | 0 | 1185.97 | 1876.57 | 1876.57 |
| 40 | 2.79592 | 5120.6  | 36.8321 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 919.424 | 955.355 | 1142.89 | 0 | 1142.89 | 1831.51 | 1831.51 |
| 41 | 2.79592 | 4973.95 | 37.6446 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 886.254 | 920.889 | 1095.45 | 0 | 1095.45 | 1779.06 | 1779.06 |
| 42 | 2.79592 | 4805.96 | 38.4661 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 850.033 | 883.252 | 1043.64 | 0 | 1043.64 | 1718.97 | 1718.97 |
| 43 | 2.79592 | 4615.9  | 39.2971 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 810.753 | 842.437 | 987.466 | 0 | 987.466 | 1650.99 | 1650.99 |
| 44 | 2.79592 | 4390.16 | 40.138  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 766.39  | 796.341 | 924.023 | 0 | 924.023 | 1570.25 | 1570.25 |
| 45 | 2.79592 | 3996.87 | 40.9895 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 696.622 | 723.846 | 824.241 | 0 | 824.241 | 1429.58 | 1429.58 |
| 46 | 3.03895 | 3781.99 | 41.8902 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 645.084 | 670.294 | 665.947 | 0 | 665.947 | 1244.55 | 1244.55 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 3.03895 | 3123.45 | 42.8418 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 540.389 | 561.507 | 526.706 | 0 | 526.706 | 1027.84 | 1027.84 |
| 48 | 3.03895 | 2388.25 | 43.8083 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 427.18  | 443.874 | 376.141 | 0 | 376.141 | 785.91  | 785.91  |
| 49 | 3.03895 | 1469.91 | 44.7907 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 290.914 | 302.283 | 194.914 | 0 | 194.914 | 483.71  | 483.71  |
| 50 | 3.03895 | 497.022 | 45.7902 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 150.79  | 156.683 | 8.55411 | 0 | 8.55411 | 163.562 | 163.562 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.992887

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.82442    | 133.265      | 3.14288                   | D-VD Silty SAND | 125                 | 36                        | 154.227            | 153.13               | 38.7174                  | 0                   | 38.7174                       | 47.1858                    | 47.1858                         |
| 2            | 2.82442    | 435.549      | 3.99753                   | D-VD Silty SAND | 125                 | 36                        | 227.126            | 225.51               | 138.341                  | 0                   | 138.341                       | 154.213                    | 154.213                         |
| 3            | 2.82442    | 880.556      | 4.85306                   | D-VD Silty SAND | 125                 | 36                        | 333.326            | 330.955              | 283.473                  | 0                   | 283.473                       | 311.774                    | 311.774                         |
| 4            | 2.82442    | 1325.63      | 5.70968                   | D-VD Silty SAND | 125                 | 36                        | 437.35             | 434.239              | 425.629                  | 0                   | 425.629                       | 469.357                    | 469.357                         |
| 5            | 2.82442    | 1756.23      | 6.56758                   | D-VD Silty SAND | 125                 | 36                        | 535.774            | 531.963              | 560.136                  | 0                   | 560.136                       | 621.82                     | 621.82                          |
| 6            | 2.82442    | 2172.3       | 7.42697                   | D-VD Silty SAND | 125                 | 36                        | 628.736            | 624.264              | 687.178                  | 0                   | 687.178                       | 769.138                    | 769.138                         |
| 7            | 2.82442    | 2573.75      | 8.28803                   | D-VD Silty SAND | 125                 | 36                        | 716.361            | 711.266              | 806.925                  | 0                   | 806.925                       | 911.278                    | 911.278                         |
| 8            | 2.82442    | 2960.49      | 9.15099                   | D-VD Silty SAND | 125                 | 36                        | 798.769            | 793.087              | 919.544                  | 0                   | 919.544                       | 1048.22                    | 1048.22                         |
| 9            | 2.82442    | 3332.42      | 10.016                    | D-VD Silty SAND | 125                 | 36                        | 876.066            | 869.835              | 1025.18                  | 0                   | 1025.18                       | 1179.9                     | 1179.9                          |
| 10           | 2.82442    | 3689.42      | 10.8834                   | D-VD Silty SAND | 125                 | 36                        | 948.359            | 941.613              | 1123.97                  | 0                   | 1123.97                       | 1306.31                    | 1306.31                         |
| 11           | 2.82442    | 4031.37      | 11.7533                   | D-VD Silty SAND | 125                 | 36                        | 1015.74            | 1008.51              | 1216.05                  | 0                   | 1216.05                       | 1427.39                    | 1427.39                         |
| 12           | 2.82442    | 4358.14      | 12.626                    | D-VD Silty SAND | 125                 | 36                        | 1078.3             | 1070.63              | 1301.55                  | 0                   | 1301.55                       | 1543.09                    | 1543.09                         |
| 13           | 2.82442    | 4669.56      | 13.5016                   | D-VD Silty SAND | 125                 | 36                        | 1136.12            | 1128.04              | 1380.57                  | 0                   | 1380.57                       | 1653.36                    | 1653.36                         |
| 14           | 2.82442    | 4965.48      | 14.3805                   | D-VD Silty SAND | 125                 | 36                        | 1189.28            | 1180.82              | 1453.22                  | 0                   | 1453.22                       | 1758.14                    | 1758.14                         |
| 15           | 2.82442    | 5245.72      | 15.2629                   | D-VD Silty SAND | 125                 | 36                        | 1237.85            | 1229.05              | 1519.6                   | 0                   | 1519.6                        | 1857.37                    | 1857.37                         |
| 16           | 2.82442    | 5510.08      | 16.1489                   | D-VD Silty SAND | 125                 | 36                        | 1281.91            | 1272.79              | 1579.79                  | 0                   | 1579.79                       | 1950.98                    | 1950.98                         |
| 17           | 2.82442    | 5758.36      | 17.039                    | D-VD Silty SAND | 125                 | 36                        | 1321.49            | 1312.09              | 1633.89                  | 0                   | 1633.89                       | 2038.9                     | 2038.9                          |
| 18           | 2.82442    | 5990.33      | 17.9333                   | D-VD Silty SAND | 125                 | 36                        | 1356.67            | 1347.02              | 1681.97                  | 0                   | 1681.97                       | 2121.04                    | 2121.04                         |
| 19           | 2.82442    | 6205.75      | 18.8322                   | D-VD Silty SAND | 125                 | 36                        | 1387.5             | 1377.63              | 1724.1                   | 0                   | 1724.1                        | 2197.31                    | 2197.31                         |
| 20           | 2.82442    | 6404.36      | 19.7359                   | D-VD Silty SAND | 125                 | 36                        | 1414.03            | 1403.97              | 1760.35                  | 0                   | 1760.35                       | 2267.65                    | 2267.65                         |
| 21           | 2.82442    | 6585.88      | 20.6447                   | D-VD Silty SAND | 125                 | 36                        | 1436.3             | 1426.08              | 1790.78                  | 0                   | 1790.78                       | 2331.93                    | 2331.93                         |
| 22           | 2.82442    | 6750         | 21.559                    | D-VD Silty SAND | 125                 | 36                        | 1454.33            | 1443.99              | 1815.43                  | 0                   | 1815.43                       | 2390.04                    | 2390.04                         |
| 23           | 2.82442    | 6896.4       | 22.4791                   | D-VD Silty SAND | 125                 | 36                        | 1468.19            | 1457.75              | 1834.37                  | 0                   | 1834.37                       | 2441.89                    | 2441.89                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.82442 | 7024.73 | 23.4054 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1477.89 | 1467.38 | 1847.63 | 0 | 1847.63 | 2487.33 | 2487.33 |
| 25 | 2.82442 | 7134.62 | 24.3382 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1483.46 | 1472.91 | 1855.25 | 0 | 1855.25 | 2526.25 | 2526.25 |
| 26 | 2.82442 | 7225.66 | 25.2779 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1484.94 | 1474.38 | 1857.26 | 0 | 1857.26 | 2558.49 | 2558.49 |
| 27 | 2.82442 | 7297.42 | 26.225  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1482.33 | 1471.79 | 1853.7  | 0 | 1853.7  | 2583.9  | 2583.9  |
| 28 | 2.82442 | 7349.43 | 27.1798 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1475.68 | 1465.18 | 1844.59 | 0 | 1844.59 | 2602.33 | 2602.33 |
| 29 | 2.82442 | 7381.19 | 28.1429 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1464.96 | 1454.54 | 1829.96 | 0 | 1829.96 | 2613.58 | 2613.58 |
| 30 | 2.82442 | 7392.16 | 29.1147 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1450.22 | 1439.9  | 1809.81 | 0 | 1809.81 | 2617.47 | 2617.47 |
| 31 | 2.82442 | 7381.75 | 30.0958 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1431.44 | 1421.26 | 1784.15 | 0 | 1784.15 | 2613.79 | 2613.79 |
| 32 | 2.82442 | 7349.32 | 31.0867 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1408.65 | 1398.63 | 1753.01 | 0 | 1753.01 | 2602.31 | 2602.31 |
| 33 | 2.82442 | 7294.19 | 32.0881 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1381.85 | 1372.02 | 1716.37 | 0 | 1716.37 | 2582.8  | 2582.8  |
| 34 | 2.82442 | 7215.62 | 33.1006 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1351.02 | 1341.41 | 1674.25 | 0 | 1674.25 | 2554.98 | 2554.98 |
| 35 | 2.82442 | 7112.79 | 34.1249 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1316.18 | 1306.82 | 1626.63 | 0 | 1626.63 | 2518.59 | 2518.59 |
| 36 | 2.82442 | 6984.82 | 35.1617 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1277.31 | 1268.22 | 1573.51 | 0 | 1573.51 | 2473.27 | 2473.27 |
| 37 | 2.82442 | 6830.76 | 36.212  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1234.41 | 1225.63 | 1514.89 | 0 | 1514.89 | 2418.73 | 2418.73 |
| 38 | 2.82442 | 6649.54 | 37.2765 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1187.47 | 1179.02 | 1450.73 | 0 | 1450.73 | 2354.57 | 2354.57 |
| 39 | 2.82442 | 6440.55 | 38.3564 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1136.55 | 1128.47 | 1381.16 | 0 | 1381.16 | 2280.57 | 2280.57 |
| 40 | 2.82442 | 6230.03 | 39.4526 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1086.11 | 1078.39 | 1312.23 | 0 | 1312.23 | 2206.04 | 2206.04 |
| 41 | 2.82442 | 6004.41 | 40.5663 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1033.98 | 1026.63 | 1240.98 | 0 | 1240.98 | 2126.15 | 2126.15 |
| 42 | 2.82442 | 5746.25 | 41.6989 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 977.527 | 970.574 | 1163.83 | 0 | 1163.83 | 2034.74 | 2034.74 |
| 43 | 2.82442 | 5453.81 | 42.8519 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 916.734 | 910.213 | 1080.75 | 0 | 1080.75 | 1931.2  | 1931.2  |
| 44 | 2.82442 | 5125.16 | 44.0268 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 851.574 | 845.517 | 991.707 | 0 | 991.707 | 1814.83 | 1814.83 |
| 45 | 2.82442 | 4738.85 | 45.2254 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 779.153 | 773.611 | 892.737 | 0 | 892.737 | 1678.05 | 1678.05 |
| 46 | 2.82442 | 4161.77 | 46.45   | D-VD<br>Silty<br>SAND                                | 125 | 36 | 680.478 | 675.638 | 757.889 | 0 | 757.889 | 1473.71 | 1473.71 |
| 47 | 2.94839 | 3599.5  | 47.7309 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 595.957 | 591.718 | 565.373 | 0 | 565.373 | 1221.03 | 1221.03 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.94839 | 2737.12 | 49.0723 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 462.223 | 458.935 | 395.418 | 0 | 395.418 | 928.502 | 928.502 |
| 49 | 2.94839 | 1773.47 | 50.4511 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 319.769 | 317.494 | 214.382 | 0 | 214.382 | 601.619 | 601.619 |
| 50 | 2.94839 | 606.879 | 51.8714 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 156.347 | 155.235 | 6.70083 | 0 | 6.70083 | 205.893 | 205.893 |

## **Cross Section EE-EE' - Master Scenario**

### Global Minimum Query (bishop simplified) - Safety Factor: 1.7395

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.96719    | 172.653      | 7.27776                   | D-VD<br>Silty SAND | 125                 | 36                        | 91.3044            | 158.824              | 46.5548                  | 0                   | 46.5548                       | 58.2152                    | 58.2152                         |
| 2            | 2.96719    | 511.588      | 7.95658                   | D-VD<br>Silty SAND | 125                 | 36                        | 135.955            | 236.494              | 153.458                  | 0                   | 153.458                       | 172.46                     | 172.46                          |
| 3            | 2.96719    | 837.75       | 8.63653                   | D-VD<br>Silty SAND | 125                 | 36                        | 178.488            | 310.48               | 255.292                  | 0                   | 255.292                       | 282.402                    | 282.402                         |
| 4            | 2.96719    | 1151.07      | 9.31771                   | D-VD<br>Silty SAND | 125                 | 36                        | 218.922            | 380.815              | 352.101                  | 0                   | 352.101                       | 388.02                     | 388.02                          |
| 5            | 2.96719    | 1451.48      | 10.0002                   | D-VD<br>Silty SAND | 125                 | 36                        | 257.273            | 447.527              | 443.921                  | 0                   | 443.921                       | 489.286                    | 489.286                         |
| 6            | 2.96719    | 1738.9       | 10.6842                   | D-VD<br>Silty SAND | 125                 | 36                        | 293.557            | 510.642              | 530.79                   | 0                   | 530.79                        | 586.174                    | 586.174                         |
| 7            | 2.96719    | 2013.25      | 11.3697                   | D-VD<br>Silty SAND | 125                 | 36                        | 327.787            | 570.186              | 612.747                  | 0                   | 612.747                       | 678.659                    | 678.659                         |
| 8            | 2.96719    | 2284.61      | 12.0568                   | D-VD<br>Silty SAND | 125                 | 36                        | 361.296            | 628.474              | 692.972                  | 0                   | 692.972                       | 770.142                    | 770.142                         |
| 9            | 2.96719    | 2577.63      | 12.7457                   | D-VD<br>Silty SAND | 125                 | 36                        | 397.255            | 691.025              | 779.067                  | 0                   | 779.067                       | 868.925                    | 868.925                         |
| 10           | 2.96719    | 2860.19      | 13.4365                   | D-VD<br>Silty SAND | 125                 | 36                        | 431.515            | 750.62               | 861.092                  | 0                   | 861.092                       | 964.184                    | 964.184                         |
| 11           | 2.96719    | 3129.27      | 14.1293                   | D-VD<br>Silty SAND | 125                 | 36                        | 463.709            | 806.622              | 938.173                  | 0                   | 938.173                       | 1054.9                     | 1054.9                          |
| 12           | 2.96719    | 3384.74      | 14.8242                   | D-VD<br>Silty SAND | 125                 | 36                        | 493.847            | 859.047              | 1010.33                  | 0                   | 1010.33                       | 1141.03                    | 1141.03                         |
| 13           | 2.96719    | 3626.47      | 15.5213                   | D-VD<br>Silty SAND | 125                 | 36                        | 521.936            | 907.908              | 1077.58                  | 0                   | 1077.58                       | 1222.53                    | 1222.53                         |
| 14           | 2.96719    | 3854.33      | 16.2208                   | D-VD<br>Silty SAND | 125                 | 36                        | 547.984            | 953.218              | 1139.94                  | 0                   | 1139.94                       | 1299.36                    | 1299.36                         |
| 15           | 2.96719    | 4082.18      | 16.9228                   | D-VD<br>Silty SAND | 125                 | 36                        | 573.745            | 998.029              | 1201.62                  | 0                   | 1201.62                       | 1376.19                    | 1376.19                         |
| 16           | 2.96719    | 4315.44      | 17.6274                   | D-VD<br>Silty SAND | 125                 | 36                        | 599.893            | 1043.51              | 1264.23                  | 0                   | 1264.23                       | 1454.84                    | 1454.84                         |
| 17           | 2.96719    | 4534.5       | 18.3348                   | D-VD<br>Silty SAND | 125                 | 36                        | 623.99             | 1085.43              | 1321.92                  | 0                   | 1321.92                       | 1528.71                    | 1528.71                         |
| 18           | 2.96719    | 4739.06      | 19.0451                   | D-VD<br>Silty SAND | 125                 | 36                        | 646.023            | 1123.76              | 1374.67                  | 0                   | 1374.67                       | 1597.68                    | 1597.68                         |
| 19           | 2.96719    | 4928.92      | 19.7585                   | D-VD<br>Silty SAND | 125                 | 36                        | 665.99             | 1158.49              | 1422.48                  | 0                   | 1422.48                       | 1661.71                    | 1661.71                         |
| 20           | 2.96719    | 5103.9       | 20.475                    | D-VD<br>Silty SAND | 125                 | 36                        | 683.903            | 1189.65              | 1465.36                  | 0                   | 1465.36                       | 1720.72                    | 1720.72                         |
| 21           | 2.96719    | 5263.79      | 21.1949                   | D-VD<br>Silty SAND | 125                 | 36                        | 699.747            | 1217.21              | 1503.3                   | 0                   | 1503.3                        | 1774.64                    | 1774.64                         |
| 22           | 2.96719    | 5408.36      | 21.9184                   | D-VD<br>Silty SAND | 125                 | 36                        | 713.533            | 1241.19              | 1536.3                   | 0                   | 1536.3                        | 1823.4                     | 1823.4                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.96719 | 5537.4  | 22.6455 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 725.249 | 1261.57 | 1564.36 | 0 | 1564.36 | 1866.93 | 1866.93 |
| 24 | 2.96719 | 5650.65 | 23.3765 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 734.901 | 1278.36 | 1587.47 | 0 | 1587.47 | 1905.13 | 1905.13 |
| 25 | 2.96719 | 5747.85 | 24.1116 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 742.483 | 1291.55 | 1605.62 | 0 | 1605.62 | 1937.93 | 1937.93 |
| 26 | 2.96719 | 5828.74 | 24.8509 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 747.985 | 1301.12 | 1618.79 | 0 | 1618.79 | 1965.22 | 1965.22 |
| 27 | 2.96719 | 5893.02 | 25.5946 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 751.411 | 1307.08 | 1626.99 | 0 | 1626.99 | 1986.92 | 1986.92 |
| 28 | 2.96719 | 5940.38 | 26.3431 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 752.739 | 1309.39 | 1630.18 | 0 | 1630.18 | 2002.91 | 2002.91 |
| 29 | 2.96719 | 5970.5  | 27.0963 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 751.975 | 1308.06 | 1628.34 | 0 | 1628.34 | 2013.09 | 2013.09 |
| 30 | 2.96719 | 5983.03 | 27.8547 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 749.1   | 1303.06 | 1621.47 | 0 | 1621.47 | 2017.34 | 2017.34 |
| 31 | 2.96719 | 5977.61 | 28.6185 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 744.11  | 1294.38 | 1609.52 | 0 | 1609.52 | 2015.53 | 2015.53 |
| 32 | 2.96719 | 5968.98 | 29.3878 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 738.718 | 1285    | 1596.61 | 0 | 1596.61 | 2012.65 | 2012.65 |
| 33 | 2.96719 | 5972.38 | 30.163  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 734.654 | 1277.93 | 1586.88 | 0 | 1586.88 | 2013.82 | 2013.82 |
| 34 | 2.96719 | 5957.48 | 30.9443 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 728.474 | 1267.18 | 1572.08 | 0 | 1572.08 | 2008.82 | 2008.82 |
| 35 | 2.96719 | 5922.91 | 31.7321 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 720.057 | 1252.54 | 1551.92 | 0 | 1551.92 | 1997.2  | 1997.2  |
| 36 | 2.96719 | 5868.17 | 32.5266 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 709.382 | 1233.97 | 1526.37 | 0 | 1526.37 | 1978.76 | 1978.76 |
| 37 | 2.96719 | 5792.72 | 33.3282 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 696.442 | 1211.46 | 1495.38 | 0 | 1495.38 | 1953.35 | 1953.35 |
| 38 | 2.96719 | 5696    | 34.1373 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 681.201 | 1184.95 | 1458.9  | 0 | 1458.9  | 1920.76 | 1920.76 |
| 39 | 2.96719 | 5577.39 | 34.9542 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 663.656 | 1154.43 | 1416.88 | 0 | 1416.88 | 1880.79 | 1880.79 |
| 40 | 2.96719 | 5436.23 | 35.7793 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 643.767 | 1119.83 | 1369.27 | 0 | 1369.27 | 1833.22 | 1833.22 |
| 41 | 3.03132 | 5349.53 | 36.6222 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 659.291 | 1146.84 | 1275.89 | 0 | 1275.89 | 1765.92 | 1765.92 |
| 42 | 3.03132 | 5082.96 | 37.4836 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 624.705 | 1086.67 | 1198.89 | 0 | 1198.89 | 1677.96 | 1677.96 |
| 43 | 3.03132 | 4787.7  | 38.3549 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 587.357 | 1021.71 | 1115.74 | 0 | 1115.74 | 1580.52 | 1580.52 |
| 44 | 3.03132 | 4462.7  | 39.2369 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 547.22  | 951.89  | 1026.37 | 0 | 1026.37 | 1473.26 | 1473.26 |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 3.03132 | 4106.84 | 40.1302 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 504.264 | 877.167 | 930.733 | 0 | 930.733 | 1355.82 | 1355.82 |
| 46 | 3.03132 | 3696.77 | 41.0353 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 456.1   | 793.386 | 823.498 | 0 | 823.498 | 1220.47 | 1220.47 |
| 47 | 3.03132 | 2995.16 | 41.9531 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 377.833 | 657.241 | 649.239 | 0 | 649.239 | 988.881 | 988.881 |
| 48 | 3.03132 | 2184.61 | 42.8842 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 289.462 | 503.519 | 452.483 | 0 | 452.483 | 721.319 | 721.319 |
| 49 | 3.03132 | 1337.6  | 43.8297 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 198.877 | 345.947 | 250.801 | 0 | 250.801 | 441.715 | 441.715 |
| 50 | 3.03132 | 452.387 | 44.7904 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 106.077 | 184.521 | 44.1848 | 0 | 44.1848 | 149.488 | 149.488 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.66426

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.89003    | 215.053      | 1.45584                   | D-VD<br>Silty SAND | 125                 | 36                        | 106.415            | 177.102              | 71.712                   | 0                   | 71.712                        | 74.4165                    | 74.4165                         |
| 2            | 2.89003    | 637.621      | 2.31686                   | D-VD<br>Silty SAND | 125                 | 36                        | 168.454            | 280.352              | 213.824                  | 0                   | 213.824                       | 220.639                    | 220.639                         |
| 3            | 2.89003    | 1044.95      | 3.19503                   | D-VD<br>Silty SAND | 125                 | 36                        | 227.421            | 378.488              | 348.896                  | 0                   | 348.896                       | 361.591                    | 361.591                         |
| 4            | 2.89003    | 1436.86      | 4.07396                   | D-VD<br>Silty SAND | 125                 | 36                        | 283.359            | 471.583              | 477.032                  | 0                   | 477.032                       | 497.214                    | 497.214                         |
| 5            | 2.89003    | 1813.31      | 4.95385                   | D-VD<br>Silty SAND | 125                 | 36                        | 336.315            | 559.716              | 598.335                  | 0                   | 598.335                       | 627.485                    | 627.485                         |
| 6            | 2.89003    | 2174.24      | 5.83491                   | D-VD<br>Silty SAND | 125                 | 36                        | 386.334            | 642.96               | 712.912                  | 0                   | 712.912                       | 752.392                    | 752.392                         |
| 7            | 2.89003    | 2519.59      | 6.71736                   | D-VD<br>Silty SAND | 125                 | 36                        | 433.456            | 721.384              | 820.853                  | 0                   | 820.853                       | 871.906                    | 871.906                         |
| 8            | 2.89003    | 2852.68      | 7.60141                   | D-VD<br>Silty SAND | 125                 | 36                        | 478.209            | 795.864              | 923.367                  | 0                   | 923.367                       | 987.186                    | 987.186                         |
| 9            | 2.89003    | 3203.62      | 8.48729                   | D-VD<br>Silty SAND | 125                 | 36                        | 524.897            | 873.565              | 1030.31                  | 0                   | 1030.31                       | 1108.64                    | 1108.64                         |
| 10           | 2.89003    | 3547.23      | 9.37522                   | D-VD<br>Silty SAND | 125                 | 36                        | 569.928            | 948.509              | 1133.46                  | 0                   | 1133.46                       | 1227.56                    | 1227.56                         |
| 11           | 2.89003    | 3874.87      | 10.2654                   | D-VD<br>Silty SAND | 125                 | 36                        | 612.115            | 1018.72              | 1230.1                   | 0                   | 1230.1                        | 1340.96                    | 1340.96                         |
| 12           | 2.89003    | 4186.4       | 11.1581                   | D-VD<br>Silty SAND | 125                 | 36                        | 651.484            | 1084.24              | 1320.28                  | 0                   | 1320.28                       | 1448.78                    | 1448.78                         |
| 13           | 2.89003    | 4481.68      | 12.0536                   | D-VD<br>Silty SAND | 125                 | 36                        | 688.06             | 1145.11              | 1404.06                  | 0                   | 1404.06                       | 1550.98                    | 1550.98                         |
| 14           | 2.89003    | 4760.55      | 12.9521                   | D-VD<br>Silty SAND | 125                 | 36                        | 721.864            | 1201.37              | 1481.49                  | 0                   | 1481.49                       | 1647.51                    | 1647.51                         |
| 15           | 2.89003    | 5026.34      | 13.8538                   | D-VD<br>Silty SAND | 125                 | 36                        | 753.392            | 1253.84              | 1553.71                  | 0                   | 1553.71                       | 1739.51                    | 1739.51                         |
| 16           | 2.89003    | 5299.31      | 14.7591                   | D-VD<br>Silty SAND | 125                 | 36                        | 785.418            | 1307.14              | 1627.08                  | 0                   | 1627.08                       | 1834                       | 1834                            |
| 17           | 2.89003    | 5559.85      | 15.6681                   | D-VD<br>Silty SAND | 125                 | 36                        | 815.293            | 1356.86              | 1695.51                  | 0                   | 1695.51                       | 1924.19                    | 1924.19                         |
| 18           | 2.89003    | 5803.2       | 16.5812                   | D-VD<br>Silty SAND | 125                 | 36                        | 842.398            | 1401.97              | 1757.6                   | 0                   | 1757.6                        | 2008.42                    | 2008.42                         |
| 19           | 2.89003    | 6029.11      | 17.4986                   | D-VD<br>Silty SAND | 125                 | 36                        | 866.746            | 1442.49              | 1813.37                  | 0                   | 1813.37                       | 2086.63                    | 2086.63                         |
| 20           | 2.89003    | 6237.33      | 18.4207                   | D-VD<br>Silty SAND | 125                 | 36                        | 888.347            | 1478.44              | 1862.85                  | 0                   | 1862.85                       | 2158.72                    | 2158.72                         |
| 21           | 2.89003    | 6427.59      | 19.3478                   | D-VD<br>Silty SAND | 125                 | 36                        | 907.202            | 1509.82              | 1906.04                  | 0                   | 1906.04                       | 2224.59                    | 2224.59                         |
| 22           | 2.89003    | 6599.57      | 20.2801                   | D-VD<br>Silty SAND | 125                 | 36                        | 923.317            | 1536.64              | 1942.96                  | 0                   | 1942.96                       | 2284.14                    | 2284.14                         |
| 23           | 2.89003    | 6752.95      | 21.2182                   | D-VD<br>Silty SAND | 125                 | 36                        | 936.693            | 1558.9               | 1973.59                  | 0                   | 1973.59                       | 2337.25                    | 2337.25                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.89003 | 6887.39 | 22.1622 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 947.322 | 1576.59 | 1997.94 | 0 | 1997.94 | 2383.8  | 2383.8  |
| 25 | 2.89003 | 7002.51 | 23.1126 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 955.205 | 1589.71 | 2016    | 0 | 2016    | 2423.67 | 2423.67 |
| 26 | 2.89003 | 7097.9  | 24.0697 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 960.331 | 1598.24 | 2027.74 | 0 | 2027.74 | 2456.71 | 2456.71 |
| 27 | 2.89003 | 7173.12 | 25.0341 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 962.698 | 1602.18 | 2033.17 | 0 | 2033.17 | 2482.78 | 2482.78 |
| 28 | 2.89003 | 7227.71 | 26.0061 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 962.29  | 1601.5  | 2032.23 | 0 | 2032.23 | 2501.7  | 2501.7  |
| 29 | 2.89003 | 7261.16 | 26.9863 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 959.093 | 1596.18 | 2024.91 | 0 | 2024.91 | 2513.3  | 2513.3  |
| 30 | 2.89003 | 7272.91 | 27.975  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 953.096 | 1586.2  | 2011.17 | 0 | 2011.17 | 2517.4  | 2517.4  |
| 31 | 2.89003 | 7262.38 | 28.9729 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 944.27  | 1571.51 | 1990.95 | 0 | 1990.95 | 2513.79 | 2513.79 |
| 32 | 2.89003 | 7228.93 | 29.9805 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 932.601 | 1552.09 | 1964.22 | 0 | 1964.22 | 2502.24 | 2502.24 |
| 33 | 2.89003 | 7189.98 | 30.9985 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 920.229 | 1531.5  | 1935.89 | 0 | 1935.89 | 2488.78 | 2488.78 |
| 34 | 2.89003 | 7152.75 | 32.0275 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 908.025 | 1511.19 | 1907.93 | 0 | 1907.93 | 2475.93 | 2475.93 |
| 35 | 2.89003 | 7090.54 | 33.0681 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 892.823 | 1485.89 | 1873.11 | 0 | 1873.11 | 2454.42 | 2454.42 |
| 36 | 2.89003 | 7002.23 | 34.1212 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 874.569 | 1455.51 | 1831.29 | 0 | 1831.29 | 2423.89 | 2423.89 |
| 37 | 2.89003 | 6886.87 | 35.1876 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 853.22  | 1419.98 | 1782.38 | 0 | 1782.38 | 2383.99 | 2383.99 |
| 38 | 2.89003 | 6743.37 | 36.2682 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 828.729 | 1379.22 | 1726.29 | 0 | 1726.29 | 2334.34 | 2334.34 |
| 39 | 2.89003 | 6570.58 | 37.3639 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 801.059 | 1333.17 | 1662.91 | 0 | 1662.91 | 2274.56 | 2274.56 |
| 40 | 2.89003 | 6367.21 | 38.4759 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 770.156 | 1281.74 | 1592.11 | 0 | 1592.11 | 2204.19 | 2204.19 |
| 41 | 2.89003 | 6131.82 | 39.6054 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 735.961 | 1224.83 | 1513.78 | 0 | 1513.78 | 2122.74 | 2122.74 |
| 42 | 2.89003 | 5862.86 | 40.7536 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 698.419 | 1162.35 | 1427.79 | 0 | 1427.79 | 2029.66 | 2029.66 |
| 43 | 2.97452 | 5676.17 | 41.9394 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 693.81  | 1154.68 | 1285.93 | 0 | 1285.93 | 1909.31 | 1909.31 |
| 44 | 2.97452 | 5231.86 | 43.1651 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 636.193 | 1058.79 | 1163.2  | 0 | 1163.2  | 1759.89 | 1759.89 |
| 45 | 2.97452 | 4740.77 | 44.4159 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 574.517 | 956.146 | 1031.82 | 0 | 1031.82 | 1594.74 | 1594.74 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 46 | 2.97452 | 4199.88 | 45.6941 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 508.71  | 846.626 | 891.641 | 0 | 891.641 | 1412.83 | 1412.83 |
| 47 | 2.97452 | 3604.47 | 47.0022 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 438.568 | 729.892 | 742.228 | 0 | 742.228 | 1212.57 | 1212.57 |
| 48 | 2.97452 | 2754.56 | 48.3433 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 343.765 | 572.114 | 540.283 | 0 | 540.283 | 926.703 | 926.703 |
| 49 | 2.97452 | 1700.1  | 49.7206 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 230.805 | 384.119 | 299.658 | 0 | 299.658 | 572.011 | 572.011 |
| 50 | 2.97452 | 578.391 | 51.1382 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 114.702 | 190.894 | 52.3419 | 0 | 52.3419 | 194.688 | 194.688 |

## **Cross Section EE-EE' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.09086**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 3.08052    | 150.995      | 6.59317                   | D-VD<br>Silty SAND | 125                 | 36                        | 136.714            | 149.136              | 33.2199                  | 0                   | 33.2199                       | 49.0218                    | 49.0218                         |
| 2            | 3.08052    | 525.42       | 7.27665                   | D-VD<br>Silty SAND | 125                 | 36                        | 210.308            | 229.417              | 143.718                  | 0                   | 143.718                       | 170.572                    | 170.572                         |
| 3            | 3.08052    | 890.705      | 7.96117                   | D-VD<br>Silty SAND | 125                 | 36                        | 281                | 306.532              | 249.857                  | 0                   | 249.857                       | 289.155                    | 289.155                         |
| 4            | 3.08052    | 1242.11      | 8.64684                   | D-VD<br>Silty SAND | 125                 | 36                        | 347.914            | 379.526              | 350.325                  | 0                   | 350.325                       | 403.233                    | 403.233                         |
| 5            | 3.08052    | 1579.55      | 9.33375                   | D-VD<br>Silty SAND | 125                 | 36                        | 411.11             | 448.463              | 445.21                   | 0                   | 445.21                        | 512.78                     | 512.78                          |
| 6            | 3.08052    | 1902.96      | 10.022                    | D-VD<br>Silty SAND | 125                 | 36                        | 470.644            | 513.407              | 534.598                  | 0                   | 534.598                       | 617.772                    | 617.772                         |
| 7            | 3.08052    | 2212.25      | 10.7118                   | D-VD<br>Silty SAND | 125                 | 36                        | 526.572            | 574.416              | 618.569                  | 0                   | 618.569                       | 718.178                    | 718.178                         |
| 8            | 3.08052    | 2518.52      | 11.4031                   | D-VD<br>Silty SAND | 125                 | 36                        | 581.079            | 633.876              | 700.408                  | 0                   | 700.408                       | 817.607                    | 817.607                         |
| 9            | 3.08052    | 2848.01      | 12.0961                   | D-VD<br>Silty SAND | 125                 | 36                        | 639.149            | 697.222              | 787.597                  | 0                   | 787.597                       | 924.573                    | 924.573                         |
| 10           | 3.08052    | 3166.1       | 12.7909                   | D-VD<br>Silty SAND | 125                 | 36                        | 694.191            | 757.265              | 870.24                   | 0                   | 870.24                        | 1027.84                    | 1027.84                         |
| 11           | 3.08052    | 3469.65      | 13.4876                   | D-VD<br>Silty SAND | 125                 | 36                        | 745.672            | 813.424              | 947.536                  | 0                   | 947.536                       | 1126.39                    | 1126.39                         |
| 12           | 3.08052    | 3758.53      | 14.1863                   | D-VD<br>Silty SAND | 125                 | 36                        | 793.636            | 865.746              | 1019.55                  | 0                   | 1019.55                       | 1220.17                    | 1220.17                         |
| 13           | 3.08052    | 4032.61      | 14.8873                   | D-VD<br>Silty SAND | 125                 | 36                        | 838.122            | 914.274              | 1086.34                  | 0                   | 1086.34                       | 1309.15                    | 1309.15                         |
| 14           | 3.08052    | 4292.25      | 15.5905                   | D-VD<br>Silty SAND | 125                 | 36                        | 879.259            | 959.148              | 1148.11                  | 0                   | 1148.11                       | 1393.44                    | 1393.44                         |
| 15           | 3.08052    | 4560         | 16.2961                   | D-VD<br>Silty SAND | 125                 | 36                        | 921.187            | 1004.89              | 1211.06                  | 0                   | 1211.06                       | 1480.36                    | 1480.36                         |
| 16           | 3.08052    | 4825.14      | 17.0043                   | D-VD<br>Silty SAND | 125                 | 36                        | 961.954            | 1049.36              | 1272.27                  | 0                   | 1272.27                       | 1566.45                    | 1566.45                         |
| 17           | 3.08052    | 5074.86      | 17.7151                   | D-VD<br>Silty SAND | 125                 | 36                        | 999.283            | 1090.08              | 1328.32                  | 0                   | 1328.32                       | 1647.52                    | 1647.52                         |
| 18           | 3.08052    | 5308.98      | 18.4288                   | D-VD<br>Silty SAND | 125                 | 36                        | 1033.2             | 1127.08              | 1379.25                  | 0                   | 1379.25                       | 1723.53                    | 1723.53                         |
| 19           | 3.08052    | 5527.3       | 19.1455                   | D-VD<br>Silty SAND | 125                 | 36                        | 1063.75            | 1160.4               | 1425.11                  | 0                   | 1425.11                       | 1794.41                    | 1794.41                         |
| 20           | 3.08052    | 5729.63      | 19.8653                   | D-VD<br>Silty SAND | 125                 | 36                        | 1090.94            | 1190.06              | 1465.93                  | 0                   | 1465.93                       | 1860.1                     | 1860.1                          |
| 21           | 3.08052    | 5915.75      | 20.5883                   | D-VD<br>Silty SAND | 125                 | 36                        | 1114.8             | 1216.09              | 1501.76                  | 0                   | 1501.76                       | 1920.53                    | 1920.53                         |
| 22           | 3.08052    | 6085.42      | 21.3149                   | D-VD<br>Silty SAND | 125                 | 36                        | 1135.35            | 1238.51              | 1532.62                  | 0                   | 1532.62                       | 1975.61                    | 1975.61                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 3.08052 | 6238.42 | 22.045  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1152.62 | 1257.35 | 1558.54 | 0 | 1558.54 | 2025.29 | 2025.29 |
| 24 | 3.08052 | 6374.48 | 22.7789 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1166.62 | 1272.62 | 1579.57 | 0 | 1579.57 | 2069.46 | 2069.46 |
| 25 | 3.08052 | 6493.33 | 23.5168 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1177.37 | 1284.35 | 1595.71 | 0 | 1595.71 | 2108.06 | 2108.06 |
| 26 | 3.08052 | 6594.69 | 24.2588 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1184.89 | 1292.55 | 1606.99 | 0 | 1606.99 | 2140.96 | 2140.96 |
| 27 | 3.08052 | 6678.25 | 25.0053 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1189.18 | 1297.23 | 1613.44 | 0 | 1613.44 | 2168.1  | 2168.1  |
| 28 | 3.08052 | 6743.69 | 25.7562 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1190.27 | 1298.42 | 1615.07 | 0 | 1615.07 | 2189.35 | 2189.35 |
| 29 | 3.08052 | 6790.67 | 26.512  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1188.15 | 1296.11 | 1611.9  | 0 | 1611.9  | 2204.6  | 2204.6  |
| 30 | 3.08052 | 6818.83 | 27.2727 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1182.86 | 1290.33 | 1603.95 | 0 | 1603.95 | 2213.75 | 2213.75 |
| 31 | 3.08052 | 6839.71 | 28.0387 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1176.28 | 1283.16 | 1594.07 | 0 | 1594.07 | 2220.54 | 2220.54 |
| 32 | 3.08052 | 6877.06 | 28.8102 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1172.21 | 1278.72 | 1587.97 | 0 | 1587.97 | 2232.67 | 2232.67 |
| 33 | 3.08052 | 6896.82 | 29.5875 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1165.24 | 1271.11 | 1577.48 | 0 | 1577.48 | 2239.09 | 2239.09 |
| 34 | 3.08052 | 6896.07 | 30.3708 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1154.95 | 1259.89 | 1562.04 | 0 | 1562.04 | 2238.85 | 2238.85 |
| 35 | 3.08052 | 6874.32 | 31.1604 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1141.37 | 1245.07 | 1541.64 | 0 | 1541.64 | 2231.8  | 2231.8  |
| 36 | 3.08052 | 6831.04 | 31.9567 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1124.47 | 1226.64 | 1516.28 | 0 | 1516.28 | 2217.75 | 2217.75 |
| 37 | 3.08052 | 6765.67 | 32.7599 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1104.28 | 1204.62 | 1485.97 | 0 | 1485.97 | 2196.54 | 2196.54 |
| 38 | 3.08052 | 6677.63 | 33.5704 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1080.79 | 1178.99 | 1450.69 | 0 | 1450.69 | 2167.96 | 2167.96 |
| 39 | 3.08052 | 6566.26 | 34.3886 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1053.98 | 1149.74 | 1410.44 | 0 | 1410.44 | 2131.8  | 2131.8  |
| 40 | 3.08052 | 6430.89 | 35.2149 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1023.86 | 1116.88 | 1365.21 | 0 | 1365.21 | 2087.86 | 2087.86 |
| 41 | 3.20971 | 6492.17 | 36.0674 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1042.53 | 1137.25 | 1263.63 | 0 | 1263.63 | 2022.94 | 2022.94 |
| 42 | 3.20971 | 6213.18 | 36.947  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 990.537 | 1080.54 | 1191.03 | 0 | 1191.03 | 1936.02 | 1936.02 |
| 43 | 3.20971 | 5901.81 | 37.8368 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 934.674 | 1019.6  | 1113.04 | 0 | 1113.04 | 1839    | 1839    |
| 44 | 3.20971 | 5556.87 | 38.7375 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 874.938 | 954.435 | 1029.63 | 0 | 1029.63 | 1731.53 | 1731.53 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 45 | 3.20971 | 5041.49 | 39.6497 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 792.34  | 864.332 | 914.302 | 0 | 914.302 | 1570.94 | 1570.94 |
| 46 | 3.20971 | 4234.23 | 40.5741 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 670.969 | 731.933 | 744.84  | 0 | 744.84  | 1319.4  | 1319.4  |
| 47 | 3.20971 | 3383.23 | 41.5115 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 546.276 | 595.911 | 570.739 | 0 | 570.739 | 1054.24 | 1054.24 |
| 48 | 3.20971 | 2492.86 | 42.4626 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 419.143 | 457.226 | 393.233 | 0 | 393.233 | 776.804 | 776.804 |
| 49 | 3.20971 | 1561.29 | 43.4284 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 289.616 | 315.93  | 212.381 | 0 | 212.381 | 486.529 | 486.529 |
| 50 | 3.20971 | 563.203 | 44.41   | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 154.688 | 168.743 | 23.9897 | 0 | 23.9897 | 175.524 | 175.524 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.03934

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.94582    | 226.837      | 1.08183                   | D-VD<br>Silty SAND | 125                 | 36                        | 171.825            | 178.585              | 73.7534                  | 0                   | 73.7534                       | 76.9981                    | 76.9981                         |
| 2            | 2.94582    | 672.658      | 1.94526                   | D-VD<br>Silty SAND | 125                 | 36                        | 273.39             | 284.145              | 219.044                  | 0                   | 219.044                       | 228.329                    | 228.329                         |
| 3            | 2.94582    | 1102.61      | 2.82571                   | D-VD<br>Silty SAND | 125                 | 36                        | 369.162            | 383.685              | 356.048                  | 0                   | 356.048                       | 374.269                    | 374.269                         |
| 4            | 2.94582    | 1516.52      | 3.70683                   | D-VD<br>Silty SAND | 125                 | 36                        | 459.306            | 477.375              | 485.004                  | 0                   | 485.004                       | 514.761                    | 514.761                         |
| 5            | 2.94582    | 1914.33      | 4.58882                   | D-VD<br>Silty SAND | 125                 | 36                        | 543.974            | 565.374              | 606.123                  | 0                   | 606.123                       | 649.783                    | 649.783                         |
| 6            | 2.94582    | 2296         | 5.47191                   | D-VD<br>Silty SAND | 125                 | 36                        | 623.309            | 647.83               | 719.615                  | 0                   | 719.615                       | 779.324                    | 779.324                         |
| 7            | 2.94582    | 2661.46      | 6.3563                    | D-VD<br>Silty SAND | 125                 | 36                        | 697.444            | 724.881              | 825.667                  | 0                   | 825.667                       | 903.359                    | 903.359                         |
| 8            | 2.94582    | 3017.33      | 7.24222                   | D-VD<br>Silty SAND | 125                 | 36                        | 767.959            | 798.171              | 926.54                   | 0                   | 926.54                        | 1024.13                    | 1024.13                         |
| 9            | 2.94582    | 3392.26      | 8.12988                   | D-VD<br>Silty SAND | 125                 | 36                        | 841.134            | 874.224              | 1031.22                  | 0                   | 1031.22                       | 1151.38                    | 1151.38                         |
| 10           | 2.94582    | 3755.91      | 9.01951                   | D-VD<br>Silty SAND | 125                 | 36                        | 910.38             | 946.194              | 1130.28                  | 0                   | 1130.28                       | 1274.79                    | 1274.79                         |
| 11           | 2.94582    | 4102.95      | 9.91134                   | D-VD<br>Silty SAND | 125                 | 36                        | 974.673            | 1013.02              | 1222.25                  | 0                   | 1222.25                       | 1392.56                    | 1392.56                         |
| 12           | 2.94582    | 4433.27      | 10.8056                   | D-VD<br>Silty SAND | 125                 | 36                        | 1034.11            | 1074.79              | 1307.28                  | 0                   | 1307.28                       | 1504.65                    | 1504.65                         |
| 13           | 2.94582    | 4746.72      | 11.7025                   | D-VD<br>Silty SAND | 125                 | 36                        | 1088.78            | 1131.61              | 1385.48                  | 0                   | 1385.48                       | 1611.01                    | 1611.01                         |
| 14           | 2.94582    | 5043.13      | 12.6024                   | D-VD<br>Silty SAND | 125                 | 36                        | 1138.77            | 1183.57              | 1456.99                  | 0                   | 1456.99                       | 1711.59                    | 1711.59                         |
| 15           | 2.94582    | 5331.5       | 13.5054                   | D-VD<br>Silty SAND | 125                 | 36                        | 1186.01            | 1232.67              | 1524.58                  | 0                   | 1524.58                       | 1809.44                    | 1809.44                         |
| 16           | 2.94582    | 5625.45      | 14.4119                   | D-VD<br>Silty SAND | 125                 | 36                        | 1233.31            | 1281.83              | 1592.24                  | 0                   | 1592.24                       | 1909.18                    | 1909.18                         |
| 17           | 2.94582    | 5902.9       | 15.322                    | D-VD<br>Silty SAND | 125                 | 36                        | 1276.23            | 1326.44              | 1653.65                  | 0                   | 1653.65                       | 2003.31                    | 2003.31                         |
| 18           | 2.94582    | 6162.53      | 16.2362                   | D-VD<br>Silty SAND | 125                 | 36                        | 1314.62            | 1366.34              | 1708.56                  | 0                   | 1708.56                       | 2091.4                     | 2091.4                          |
| 19           | 2.94582    | 6404.08      | 17.1546                   | D-VD<br>Silty SAND | 125                 | 36                        | 1348.54            | 1401.59              | 1757.08                  | 0                   | 1757.08                       | 2173.35                    | 2173.35                         |
| 20           | 2.94582    | 6627.31      | 18.0776                   | D-VD<br>Silty SAND | 125                 | 36                        | 1378.03            | 1432.24              | 1799.26                  | 0                   | 1799.26                       | 2249.08                    | 2249.08                         |
| 21           | 2.94582    | 6831.92      | 19.0054                   | D-VD<br>Silty SAND | 125                 | 36                        | 1403.15            | 1458.35              | 1835.2                   | 0                   | 1835.2                        | 2318.49                    | 2318.49                         |
| 22           | 2.94582    | 7017.62      | 19.9385                   | D-VD<br>Silty SAND | 125                 | 36                        | 1423.94            | 1479.96              | 1864.94                  | 0                   | 1864.94                       | 2381.48                    | 2381.48                         |
| 23           | 2.94582    | 7184.06      | 20.8771                   | D-VD<br>Silty SAND | 125                 | 36                        | 1440.43            | 1497.1               | 1888.54                  | 0                   | 1888.54                       | 2437.93                    | 2437.93                         |



|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.94582 | 7330.9  | 21.8216 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1452.68 | 1509.83 | 1906.06 | 0 | 1906.06 | 2487.73 | 2487.73 |
| 25 | 2.94582 | 7457.75 | 22.7724 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1460.72 | 1518.18 | 1917.54 | 0 | 1917.54 | 2530.74 | 2530.74 |
| 26 | 2.94582 | 7564.2  | 23.7299 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1464.54 | 1522.16 | 1923.03 | 0 | 1923.03 | 2566.83 | 2566.83 |
| 27 | 2.94582 | 7649.8  | 24.6944 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1464.22 | 1521.82 | 1922.56 | 0 | 1922.56 | 2595.85 | 2595.85 |
| 28 | 2.94582 | 7714.08 | 25.6665 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1459.74 | 1517.17 | 1916.15 | 0 | 1916.15 | 2617.63 | 2617.63 |
| 29 | 2.94582 | 7756.51 | 26.6466 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1451.13 | 1508.22 | 1903.84 | 0 | 1903.84 | 2631.99 | 2631.99 |
| 30 | 2.94582 | 7776.55 | 27.6351 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1438.42 | 1495.01 | 1885.65 | 0 | 1885.65 | 2638.76 | 2638.76 |
| 31 | 2.94582 | 7773.58 | 28.6327 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1421.59 | 1477.52 | 1861.59 | 0 | 1861.59 | 2637.72 | 2637.72 |
| 32 | 2.94582 | 7753    | 29.6399 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1401.71 | 1456.85 | 1833.13 | 0 | 1833.13 | 2630.7  | 2630.7  |
| 33 | 2.94582 | 7742.66 | 30.6572 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1383.5  | 1437.93 | 1807.09 | 0 | 1807.09 | 2627.16 | 2627.16 |
| 34 | 2.94582 | 7712.71 | 31.6854 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1361.96 | 1415.54 | 1776.28 | 0 | 1776.28 | 2616.96 | 2616.96 |
| 35 | 2.94582 | 7656.8  | 32.7251 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1336.15 | 1388.71 | 1739.34 | 0 | 1739.34 | 2597.96 | 2597.96 |
| 36 | 2.94582 | 7574.02 | 33.777  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1306.04 | 1357.42 | 1696.27 | 0 | 1696.27 | 2569.83 | 2569.83 |
| 37 | 2.94582 | 7463.38 | 34.8421 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1271.63 | 1321.66 | 1647.06 | 0 | 1647.06 | 2532.26 | 2532.26 |
| 38 | 2.94582 | 7323.81 | 35.9211 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1232.93 | 1281.43 | 1591.69 | 0 | 1591.69 | 2484.87 | 2484.87 |
| 39 | 2.94582 | 7154.11 | 37.015  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1189.89 | 1236.7  | 1530.12 | 0 | 1530.12 | 2427.26 | 2427.26 |
| 40 | 2.94582 | 6952.98 | 38.125  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1142.5  | 1187.45 | 1462.34 | 0 | 1462.34 | 2358.98 | 2358.98 |
| 41 | 2.94582 | 6718.98 | 39.2521 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1090.75 | 1133.66 | 1388.3  | 0 | 1388.3  | 2279.55 | 2279.55 |
| 42 | 2.94582 | 6450.52 | 40.3976 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1034.61 | 1075.31 | 1307.99 | 0 | 1307.99 | 2188.44 | 2188.44 |
| 43 | 3.09424 | 6403.88 | 41.5929 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 1019.11 | 1059.2  | 1163.72 | 0 | 1163.72 | 2068.3  | 2068.3  |
| 44 | 3.09424 | 5936.44 | 42.8407 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 934.289 | 971.044 | 1050.89 | 0 | 1050.89 | 1917.28 | 1917.28 |
| 45 | 3.09424 | 5418.01 | 44.1142 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 844.317 | 877.532 | 931.198 | 0 | 931.198 | 1749.8  | 1749.8  |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 46 | 3.09424 | 4845.05 | 45.4159 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 749.157 | 778.629 | 804.61  | 0 | 804.61  | 1564.72 | 1564.72 |
| 47 | 3.09424 | 4017.66 | 46.7483 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 622.356 | 646.839 | 635.925 | 0 | 635.925 | 1297.47 | 1297.47 |
| 48 | 3.09424 | 2955.06 | 48.1145 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 468.74  | 487.18  | 431.57  | 0 | 431.57  | 954.256 | 954.256 |
| 49 | 3.09424 | 1824.84 | 49.5181 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 312.249 | 324.533 | 223.391 | 0 | 223.391 | 589.222 | 589.222 |
| 50 | 3.09424 | 621.077 | 50.9633 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 153.082 | 159.104 | 11.6524 | 0 | 11.6524 | 200.445 | 200.445 |

## **Cross Section FF-FF' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.90643**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.33838    | 120.613      | -0.662236                 | D-VD<br>Silty SAND | 125                 | 36                        | 85.6009            | 163.192              | 52.5671                  | 0                   | 52.5671                       | 51.5776                    | 51.5776                         |
| 2            | 2.33838    | 395.894      | 0.256318                  | D-VD<br>Silty SAND | 125                 | 36                        | 129.868            | 247.584              | 168.723                  | 0                   | 168.723                       | 169.304                    | 169.304                         |
| 3            | 2.33838    | 672.986      | 1.17494                   | D-VD<br>Silty SAND | 125                 | 36                        | 173.893            | 331.514              | 284.242                  | 0                   | 284.242                       | 287.808                    | 287.808                         |
| 4            | 2.33838    | 939.55       | 2.09386                   | D-VD<br>Silty SAND | 125                 | 36                        | 215.694            | 411.205              | 393.927                  | 0                   | 393.927                       | 401.813                    | 401.813                         |
| 5            | 2.33838    | 1195.57      | 3.01332                   | D-VD<br>Silty SAND | 125                 | 36                        | 255.308            | 486.726              | 497.874                  | 0                   | 497.874                       | 511.313                    | 511.313                         |
| 6            | 2.33838    | 1441.03      | 3.93356                   | D-VD<br>Silty SAND | 125                 | 36                        | 292.767            | 558.14               | 596.164                  | 0                   | 596.164                       | 616.295                    | 616.295                         |
| 7            | 2.33838    | 1675.89      | 4.85481                   | D-VD<br>Silty SAND | 125                 | 36                        | 328.103            | 625.505              | 688.887                  | 0                   | 688.887                       | 716.755                    | 716.755                         |
| 8            | 2.33838    | 1900.12      | 5.77733                   | D-VD<br>Silty SAND | 125                 | 36                        | 361.341            | 688.872              | 776.103                  | 0                   | 776.103                       | 812.663                    | 812.663                         |
| 9            | 2.33838    | 2113.67      | 6.70135                   | D-VD<br>Silty SAND | 125                 | 36                        | 392.51             | 748.292              | 857.889                  | 0                   | 857.889                       | 904.007                    | 904.007                         |
| 10           | 2.33838    | 2316.47      | 7.62713                   | D-VD<br>Silty SAND | 125                 | 36                        | 421.63             | 803.808              | 934.3                    | 0                   | 934.3                         | 990.761                    | 990.761                         |
| 11           | 2.33838    | 2514.21      | 8.55491                   | D-VD<br>Silty SAND | 125                 | 36                        | 449.607            | 857.145              | 1007.71                  | 0                   | 1007.71                       | 1075.34                    | 1075.34                         |
| 12           | 2.33838    | 2733.15      | 9.48497                   | D-VD<br>Silty SAND | 125                 | 36                        | 480.482            | 916.006              | 1088.73                  | 0                   | 1088.73                       | 1169                       | 1169                            |
| 13           | 2.33838    | 2946.1       | 10.4175                   | D-VD<br>Silty SAND | 125                 | 36                        | 510.055            | 972.385              | 1166.32                  | 0                   | 1166.32                       | 1260.1                     | 1260.1                          |
| 14           | 2.33838    | 3147.99      | 11.3529                   | D-VD<br>Silty SAND | 125                 | 36                        | 537.575            | 1024.85              | 1238.54                  | 0                   | 1238.54                       | 1346.47                    | 1346.47                         |
| 15           | 2.33838    | 3338.71      | 12.2914                   | D-VD<br>Silty SAND | 125                 | 36                        | 563.053            | 1073.42              | 1305.39                  | 0                   | 1305.39                       | 1428.07                    | 1428.07                         |
| 16           | 2.33838    | 3518.16      | 13.2332                   | D-VD<br>Silty SAND | 125                 | 36                        | 586.503            | 1118.13              | 1366.92                  | 0                   | 1366.92                       | 1504.84                    | 1504.84                         |
| 17           | 2.33838    | 3686.2       | 14.1787                   | D-VD<br>Silty SAND | 125                 | 36                        | 607.932            | 1158.98              | 1423.15                  | 0                   | 1423.15                       | 1576.74                    | 1576.74                         |
| 18           | 2.33838    | 3842.7       | 15.1281                   | D-VD<br>Silty SAND | 125                 | 36                        | 627.351            | 1196                 | 1474.1                   | 0                   | 1474.1                        | 1643.7                     | 1643.7                          |
| 19           | 2.33838    | 3987.51      | 16.0818                   | D-VD<br>Silty SAND | 125                 | 36                        | 644.76             | 1229.19              | 1519.78                  | 0                   | 1519.78                       | 1705.66                    | 1705.66                         |
| 20           | 2.33838    | 4120.45      | 17.0401                   | D-VD<br>Silty SAND | 125                 | 36                        | 660.166            | 1258.56              | 1560.21                  | 0                   | 1560.21                       | 1762.55                    | 1762.55                         |
| 21           | 2.33838    | 4241.35      | 18.0034                   | D-VD<br>Silty SAND | 125                 | 36                        | 673.573            | 1284.12              | 1595.39                  | 0                   | 1595.39                       | 1814.3                     | 1814.3                          |
| 22           | 2.33838    | 4350.02      | 18.9719                   | D-VD<br>Silty SAND | 125                 | 36                        | 684.982            | 1305.87              | 1625.32                  | 0                   | 1625.32                       | 1860.81                    | 1860.81                         |

|    |         |         |         |                                                   |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|---------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.33838 | 4446.25 | 19.9461 | D-VD<br>Silty SAND                                | 125 | 36 | 694.387 | 1323.8  | 1650    | 0 | 1650    | 1902    | 1902    |
| 24 | 2.33838 | 4529.82 | 20.9264 | D-VD<br>Silty SAND                                | 125 | 36 | 701.783 | 1337.9  | 1669.41 | 0 | 1669.41 | 1937.77 | 1937.77 |
| 25 | 2.33838 | 4600.47 | 21.9131 | D-VD<br>Silty SAND                                | 125 | 36 | 707.17  | 1348.17 | 1683.55 | 0 | 1683.55 | 1968.02 | 1968.02 |
| 26 | 2.33838 | 4657.94 | 22.9067 | D-VD<br>Silty SAND                                | 125 | 36 | 710.537 | 1354.59 | 1692.39 | 0 | 1692.39 | 1992.63 | 1992.63 |
| 27 | 2.33838 | 4701.95 | 23.9077 | D-VD<br>Silty SAND                                | 125 | 36 | 711.88  | 1357.15 | 1695.91 | 0 | 1695.91 | 2011.49 | 2011.49 |
| 28 | 2.33838 | 4732.19 | 24.9164 | D-VD<br>Silty SAND                                | 125 | 36 | 711.183 | 1355.82 | 1694.08 | 0 | 1694.08 | 2024.45 | 2024.45 |
| 29 | 2.33838 | 4748.32 | 25.9335 | D-VD<br>Silty SAND                                | 125 | 36 | 708.439 | 1350.59 | 1686.88 | 0 | 1686.88 | 2031.39 | 2031.39 |
| 30 | 2.33838 | 4749.99 | 26.9594 | D-VD<br>Silty SAND                                | 125 | 36 | 703.624 | 1341.41 | 1674.24 | 0 | 1674.24 | 2032.13 | 2032.13 |
| 31 | 2.33838 | 4736.79 | 27.9948 | D-VD<br>Silty SAND                                | 125 | 36 | 696.721 | 1328.25 | 1656.14 | 0 | 1656.14 | 2026.51 | 2026.51 |
| 32 | 2.33838 | 4708.3  | 29.0402 | D-VD<br>Silty SAND                                | 125 | 36 | 687.72  | 1311.09 | 1632.51 | 0 | 1632.51 | 2014.35 | 2014.35 |
| 33 | 2.33838 | 4664.07 | 30.0964 | D-VD<br>Silty SAND                                | 125 | 36 | 676.594 | 1289.88 | 1603.31 | 0 | 1603.31 | 1995.47 | 1995.47 |
| 34 | 2.33838 | 4606.06 | 31.1639 | D-VD<br>Silty SAND                                | 125 | 36 | 663.638 | 1265.18 | 1569.33 | 0 | 1569.33 | 1970.67 | 1970.67 |
| 35 | 2.33838 | 4551.59 | 32.2436 | D-VD<br>Silty SAND                                | 125 | 36 | 651.18  | 1241.43 | 1536.64 | 0 | 1536.64 | 1947.4  | 1947.4  |
| 36 | 2.33838 | 4484.25 | 33.3363 | D-VD<br>Silty SAND                                | 125 | 36 | 637.06  | 1214.51 | 1499.58 | 0 | 1499.58 | 1918.63 | 1918.63 |
| 37 | 2.33838 | 4398.86 | 34.4429 | D-VD<br>Silty SAND                                | 125 | 36 | 620.636 | 1183.2  | 1456.48 | 0 | 1456.48 | 1882.13 | 1882.13 |
| 38 | 2.33838 | 4294.71 | 35.5644 | D-VD<br>Silty SAND                                | 125 | 36 | 601.874 | 1147.43 | 1407.26 | 0 | 1407.26 | 1837.59 | 1837.59 |
| 39 | 2.33838 | 4170.99 | 36.7018 | D-VD<br>Silty SAND                                | 125 | 36 | 580.738 | 1107.14 | 1351.79 | 0 | 1351.79 | 1784.69 | 1784.69 |
| 40 | 2.33838 | 4026.85 | 37.8563 | D-VD<br>Silty SAND                                | 125 | 36 | 557.181 | 1062.23 | 1289.98 | 0 | 1289.98 | 1723.05 | 1723.05 |
| 41 | 2.33838 | 3861.32 | 39.0291 | D-VD<br>Silty SAND                                | 125 | 36 | 531.154 | 1012.61 | 1221.69 | 0 | 1221.69 | 1652.25 | 1652.25 |
| 42 | 2.33838 | 3673.33 | 40.2218 | D-VD<br>Silty SAND                                | 125 | 36 | 502.608 | 958.187 | 1146.78 | 0 | 1146.78 | 1571.85 | 1571.85 |
| 43 | 2.33838 | 3461.67 | 41.4359 | D-VD<br>Silty SAND                                | 125 | 36 | 471.486 | 898.855 | 1065.12 | 0 | 1065.12 | 1481.32 | 1481.32 |
| 44 | 2.22579 | 3052.95 | 42.6428 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 465.505 | 887.453 | 943.899 | 0 | 943.899 | 1372.59 | 1372.59 |
| 45 | 2.22579 | 2765.92 | 43.8432 | MD-VD<br>Silty SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 422.162 | 804.823 | 838.137 | 0 | 838.137 | 1243.59 | 1243.59 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 46 | 2.22579 | 2363.59 | 45.0683 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 364.481 | 694.857 | 697.385 | 0 | 697.385 | 1062.74 | 1062.74 |
| 47 | 2.22579 | 1893.01 | 46.3202 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 299.14  | 570.289 | 537.945 | 0 | 537.945 | 851.198 | 851.198 |
| 48 | 2.22579 | 1392.54 | 47.6015 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 231.438 | 441.22  | 372.744 | 0 | 372.744 | 626.214 | 626.214 |
| 49 | 2.22579 | 859.959 | 48.915  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 161.35  | 307.603 | 201.723 | 0 | 201.723 | 386.78  | 386.78  |
| 50 | 2.22579 | 292.668 | 50.2641 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 88.8595 | 169.404 | 24.8365 | 0 | 24.8365 | 131.732 | 131.732 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.81846

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.21776    | 151.462      | -6.59842                  | D-VD Silty SAND | 125                 | 36                        | 100.681            | 183.085              | 79.9468                  | 0                   | 79.9468                       | 68.3004                    | 68.3004                         |
| 2            | 2.21776    | 469.105      | -5.48711                  | D-VD Silty SAND | 125                 | 36                        | 159.37             | 289.808              | 226.838                  | 0                   | 226.838                       | 211.529                    | 211.529                         |
| 3            | 2.21776    | 776.661      | -4.37786                  | D-VD Silty SAND | 125                 | 36                        | 215.245            | 391.414              | 366.687                  | 0                   | 366.687                       | 350.208                    | 350.208                         |
| 4            | 2.21776    | 1072.73      | -3.27026                  | D-VD Silty SAND | 125                 | 36                        | 268.12             | 487.565              | 499.028                  | 0                   | 499.028                       | 483.708                    | 483.708                         |
| 5            | 2.21776    | 1357.36      | -2.16388                  | D-VD Silty SAND | 125                 | 36                        | 318.076            | 578.409              | 624.063                  | 0                   | 624.063                       | 612.045                    | 612.045                         |
| 6            | 2.21776    | 1630.58      | -1.0583                   | D-VD Silty SAND | 125                 | 36                        | 365.19             | 664.084              | 741.987                  | 0                   | 741.987                       | 735.241                    | 735.241                         |
| 7            | 2.21776    | 1892.4       | 0.0468793                 | D-VD Silty SAND | 125                 | 36                        | 409.528            | 744.711              | 852.96                   | 0                   | 852.96                        | 853.295                    | 853.295                         |
| 8            | 2.21776    | 2142.84      | 1.15208                   | D-VD Silty SAND | 125                 | 36                        | 451.153            | 820.404              | 957.142                  | 0                   | 957.142                       | 966.215                    | 966.215                         |
| 9            | 2.21776    | 2381.89      | 2.2577                    | D-VD Silty SAND | 125                 | 36                        | 490.121            | 891.265              | 1054.67                  | 0                   | 1054.67                       | 1074                       | 1074                            |
| 10           | 2.21776    | 2609.52      | 3.36417                   | D-VD Silty SAND | 125                 | 36                        | 526.483            | 957.388              | 1145.69                  | 0                   | 1145.69                       | 1176.63                    | 1176.63                         |
| 11           | 2.21776    | 2828.71      | 4.4719                    | D-VD Silty SAND | 125                 | 36                        | 560.81             | 1019.81              | 1231.6                   | 0                   | 1231.6                        | 1275.46                    | 1275.46                         |
| 12           | 2.21776    | 3064.85      | 5.58131                   | D-VD Silty SAND | 125                 | 36                        | 597.542            | 1086.61              | 1323.54                  | 0                   | 1323.54                       | 1381.93                    | 1381.93                         |
| 13           | 2.21776    | 3296.49      | 6.69282                   | D-VD Silty SAND | 125                 | 36                        | 632.926            | 1150.95              | 1412.1                   | 0                   | 1412.1                        | 1486.37                    | 1486.37                         |
| 14           | 2.21776    | 3516.51      | 7.80686                   | D-VD Silty SAND | 125                 | 36                        | 665.767            | 1210.67              | 1494.29                  | 0                   | 1494.29                       | 1585.57                    | 1585.57                         |
| 15           | 2.21776    | 3724.81      | 8.92389                   | D-VD Silty SAND | 125                 | 36                        | 696.089            | 1265.81              | 1570.19                  | 0                   | 1570.19                       | 1679.49                    | 1679.49                         |
| 16           | 2.21776    | 3921.31      | 10.0443                   | D-VD Silty SAND | 125                 | 36                        | 723.926            | 1316.43              | 1639.86                  | 0                   | 1639.86                       | 1768.08                    | 1768.08                         |
| 17           | 2.21776    | 4105.88      | 11.1687                   | D-VD Silty SAND | 125                 | 36                        | 749.293            | 1362.56              | 1703.36                  | 0                   | 1703.36                       | 1851.3                     | 1851.3                          |
| 18           | 2.21776    | 4278.4       | 12.2974                   | D-VD Silty SAND | 125                 | 36                        | 772.219            | 1404.25              | 1760.74                  | 0                   | 1760.74                       | 1929.08                    | 1929.08                         |
| 19           | 2.21776    | 4438.7       | 13.431                    | D-VD Silty SAND | 125                 | 36                        | 792.715            | 1441.52              | 1812.04                  | 0                   | 1812.04                       | 2001.35                    | 2001.35                         |
| 20           | 2.21776    | 4586.63      | 14.57                     | D-VD Silty SAND | 125                 | 36                        | 810.796            | 1474.4               | 1857.3                   | 0                   | 1857.3                        | 2068.04                    | 2068.04                         |
| 21           | 2.21776    | 4722         | 15.7149                   | D-VD Silty SAND | 125                 | 36                        | 826.474            | 1502.91              | 1896.53                  | 0                   | 1896.53                       | 2129.07                    | 2129.07                         |
| 22           | 2.21776    | 4844.6       | 16.8663                   | D-VD Silty SAND | 125                 | 36                        | 839.744            | 1527.04              | 1929.75                  | 0                   | 1929.75                       | 2184.34                    | 2184.34                         |
| 23           | 2.21776    | 4954.21      | 18.0247                   | D-VD Silty SAND | 125                 | 36                        | 850.621            | 1546.82              | 1956.97                  | 0                   | 1956.97                       | 2233.76                    | 2233.76                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.21776 | 5050.57 | 19.1909 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 859.095 | 1562.23 | 1978.18 | 0 | 1978.18 | 2277.19 | 2277.19 |
| 25 | 2.21776 | 5133.42 | 20.3653 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 865.172 | 1573.28 | 1993.38 | 0 | 1993.38 | 2314.54 | 2314.54 |
| 26 | 2.21776 | 5202.45 | 21.5488 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 868.834 | 1579.94 | 2002.56 | 0 | 2002.56 | 2345.65 | 2345.65 |
| 27 | 2.21776 | 5257.32 | 22.7419 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 870.082 | 1582.21 | 2005.67 | 0 | 2005.67 | 2370.39 | 2370.39 |
| 28 | 2.21776 | 5297.67 | 23.9456 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 868.895 | 1580.05 | 2002.7  | 0 | 2002.7  | 2388.57 | 2388.57 |
| 29 | 2.21776 | 5323.1  | 25.1607 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 865.254 | 1573.43 | 1993.6  | 0 | 1993.6  | 2400.03 | 2400.03 |
| 30 | 2.21776 | 5333.18 | 26.388  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 859.145 | 1562.32 | 1978.3  | 0 | 1978.3  | 2404.56 | 2404.56 |
| 31 | 2.21776 | 5327.4  | 27.6284 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 850.538 | 1546.67 | 1956.76 | 0 | 1956.76 | 2401.95 | 2401.95 |
| 32 | 2.21776 | 5305.25 | 28.8831 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 839.408 | 1526.43 | 1928.9  | 0 | 1928.9  | 2391.95 | 2391.95 |
| 33 | 2.21776 | 5266.13 | 30.1532 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 825.715 | 1501.53 | 1894.63 | 0 | 1894.63 | 2374.31 | 2374.31 |
| 34 | 2.21776 | 5209.39 | 31.4398 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 809.427 | 1471.91 | 1853.86 | 0 | 1853.86 | 2348.71 | 2348.71 |
| 35 | 2.21776 | 5134.32 | 32.7444 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 790.504 | 1437.5  | 1806.5  | 0 | 1806.5  | 2314.86 | 2314.86 |
| 36 | 2.21776 | 5053.49 | 34.0684 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 770.79  | 1401.65 | 1757.16 | 0 | 1757.16 | 2278.41 | 2278.41 |
| 37 | 2.21776 | 4963.8  | 35.4134 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 749.865 | 1363.6  | 1704.79 | 0 | 1704.79 | 2237.96 | 2237.96 |
| 38 | 2.21776 | 4853.05 | 36.7813 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 726.065 | 1320.32 | 1645.22 | 0 | 1645.22 | 2188.02 | 2188.02 |
| 39 | 2.21776 | 4720.12 | 38.174  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 699.323 | 1271.69 | 1578.28 | 0 | 1578.28 | 2128.08 | 2128.08 |
| 40 | 2.21776 | 4563.73 | 39.5939 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 669.556 | 1217.56 | 1503.78 | 0 | 1503.78 | 2057.56 | 2057.56 |
| 41 | 2.21776 | 4382.42 | 41.0436 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 636.682 | 1157.78 | 1421.5  | 0 | 1421.5  | 1975.81 | 1975.81 |
| 42 | 2.21776 | 4174.53 | 42.526  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 600.608 | 1092.18 | 1331.21 | 0 | 1331.21 | 1882.07 | 1882.07 |
| 43 | 2.21776 | 3938.15 | 44.0444 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 561.234 | 1020.58 | 1232.66 | 0 | 1232.66 | 1775.48 | 1775.48 |
| 44 | 2.21776 | 3671.04 | 45.6029 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 518.447 | 942.776 | 1125.57 | 0 | 1125.57 | 1655.05 | 1655.05 |
| 45 | 2.21776 | 3370.6  | 47.2061 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 472.124 | 858.539 | 1009.63 | 0 | 1009.63 | 1519.59 | 1519.59 |
| 46 | 2.32498 | 3139.87 | 48.9006 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 443.957 | 807.318 | 841.329 | 0 | 841.329 | 1350.26 | 1350.26 |
| 47 | 2.32498 | 2647.66 | 50.6963 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 374.901 | 681.743 | 680.599 | 0 | 680.599 | 1138.58 | 1138.58 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 2.32498 | 1992.23 | 52.5637 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 288.599 | 524.805 | 479.728 | 0 | 479.728 | 856.705 | 856.705 |
| 49 | 2.32498 | 1247.1  | 54.5146 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 195.231 | 355.02  | 262.414 | 0 | 262.414 | 536.265 | 536.265 |
| 50 | 2.32498 | 428.793 | 56.5638 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 97.9566 | 178.13  | 36.0052 | 0 | 36.0052 | 184.36  | 184.36  |



## **Cross Section FF-FF' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.18105**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material      | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|--------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.82078    | 130.253      | 4.11784                   | D-VD<br>Silty SAND | 125                 | 36                        | 128.557            | 151.832              | 36.9314                  | 0                   | 36.9314                       | 46.1868                    | 46.1868                         |
| 2            | 2.82078    | 384.743      | 4.83541                   | D-VD<br>Silty SAND | 125                 | 36                        | 180.369            | 213.024              | 121.155                  | 0                   | 121.155                       | 136.414                    | 136.414                         |
| 3            | 2.82078    | 627.182      | 5.55374                   | D-VD<br>Silty SAND | 125                 | 36                        | 228.938            | 270.387              | 200.108                  | 0                   | 200.108                       | 222.369                    | 222.369                         |
| 4            | 2.82078    | 857.529      | 6.27295                   | D-VD<br>Silty SAND | 125                 | 36                        | 274.323            | 323.989              | 273.885                  | 0                   | 273.885                       | 304.039                    | 304.039                         |
| 5            | 2.82078    | 1110.32      | 6.99315                   | D-VD<br>Silty SAND | 125                 | 36                        | 323.592            | 382.178              | 353.975                  | 0                   | 353.975                       | 393.668                    | 393.668                         |
| 6            | 2.82078    | 1401.77      | 7.71446                   | D-VD<br>Silty SAND | 125                 | 36                        | 379.92             | 448.704              | 445.541                  | 0                   | 445.541                       | 497.006                    | 497.006                         |
| 7            | 2.82078    | 1681.43      | 8.43701                   | D-VD<br>Silty SAND | 125                 | 36                        | 433.061            | 511.467              | 531.926                  | 0                   | 531.926                       | 596.16                     | 596.16                          |
| 8            | 2.82078    | 1948.76      | 9.16091                   | D-VD<br>Silty SAND | 125                 | 36                        | 482.974            | 570.417              | 613.064                  | 0                   | 613.064                       | 690.951                    | 690.951                         |
| 9            | 2.82078    | 2203.71      | 9.88629                   | D-VD<br>Silty SAND | 125                 | 36                        | 529.707            | 625.61               | 689.031                  | 0                   | 689.031                       | 781.349                    | 781.349                         |
| 10           | 2.82078    | 2446.18      | 10.6133                   | D-VD<br>Silty SAND | 125                 | 36                        | 573.302            | 677.098              | 759.898                  | 0                   | 759.898                       | 867.325                    | 867.325                         |
| 11           | 2.82078    | 2676.1       | 11.342                    | D-VD<br>Silty SAND | 125                 | 36                        | 613.803            | 724.932              | 825.735                  | 0                   | 825.735                       | 948.853                    | 948.853                         |
| 12           | 2.82078    | 2893.37      | 12.0726                   | D-VD<br>Silty SAND | 125                 | 36                        | 651.248            | 769.157              | 886.606                  | 0                   | 886.606                       | 1025.9                     | 1025.9                          |
| 13           | 2.82078    | 3115.11      | 12.8051                   | D-VD<br>Silty SAND | 125                 | 36                        | 688.972            | 813.71               | 947.927                  | 0                   | 947.927                       | 1104.52                    | 1104.52                         |
| 14           | 2.82078    | 3366.99      | 13.5399                   | D-VD<br>Silty SAND | 125                 | 36                        | 731.835            | 864.334              | 1017.61                  | 0                   | 1017.61                       | 1193.84                    | 1193.84                         |
| 15           | 2.82078    | 3607.95      | 14.2769                   | D-VD<br>Silty SAND | 125                 | 36                        | 771.97             | 911.735              | 1082.85                  | 0                   | 1082.85                       | 1279.29                    | 1279.29                         |
| 16           | 2.82078    | 3835.8       | 15.0163                   | D-VD<br>Silty SAND | 125                 | 36                        | 809.016            | 955.488              | 1143.07                  | 0                   | 1143.07                       | 1360.09                    | 1360.09                         |
| 17           | 2.82078    | 4050.43      | 15.7582                   | D-VD<br>Silty SAND | 125                 | 36                        | 843.003            | 995.629              | 1198.32                  | 0                   | 1198.32                       | 1436.2                     | 1436.2                          |
| 18           | 2.82078    | 4251.68      | 16.5029                   | D-VD<br>Silty SAND | 125                 | 36                        | 873.961            | 1032.19              | 1248.64                  | 0                   | 1248.64                       | 1507.57                    | 1507.57                         |
| 19           | 2.82078    | 4439.4       | 17.2505                   | D-VD<br>Silty SAND | 125                 | 36                        | 901.915            | 1065.21              | 1294.08                  | 0                   | 1294.08                       | 1574.15                    | 1574.15                         |
| 20           | 2.82078    | 4613.43      | 18.0012                   | D-VD<br>Silty SAND | 125                 | 36                        | 926.889            | 1094.7               | 1334.68                  | 0                   | 1334.68                       | 1635.87                    | 1635.87                         |
| 21           | 2.82078    | 4773.61      | 18.755                    | D-VD<br>Silty SAND | 125                 | 36                        | 948.906            | 1120.71              | 1370.47                  | 0                   | 1370.47                       | 1692.67                    | 1692.67                         |
| 22           | 2.82078    | 4919.74      | 19.5122                   | D-VD<br>Silty SAND | 125                 | 36                        | 967.986            | 1143.24              | 1401.49                  | 0                   | 1401.49                       | 1744.5                     | 1744.5                          |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.82078 | 5051.63 | 20.273  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 984.15  | 1162.33 | 1427.76 | 0 | 1427.76 | 1791.28 | 1791.28 |
| 24 | 2.82078 | 5169.07 | 21.0375 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 997.409 | 1177.99 | 1449.32 | 0 | 1449.32 | 1832.94 | 1832.94 |
| 25 | 2.82078 | 5271.86 | 21.806  | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1007.79 | 1190.25 | 1466.19 | 0 | 1466.19 | 1869.4  | 1869.4  |
| 26 | 2.82078 | 5359.74 | 22.5786 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1015.3  | 1199.12 | 1478.4  | 0 | 1478.4  | 1900.58 | 1900.58 |
| 27 | 2.82078 | 5432.48 | 23.3556 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1019.95 | 1204.61 | 1485.96 | 0 | 1485.96 | 1926.39 | 1926.39 |
| 28 | 2.82078 | 5489.8  | 24.1372 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1021.75 | 1206.74 | 1488.89 | 0 | 1488.89 | 1946.73 | 1946.73 |
| 29 | 2.82078 | 5531.44 | 24.9235 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1020.72 | 1205.52 | 1487.2  | 0 | 1487.2  | 1961.51 | 1961.51 |
| 30 | 2.82078 | 5557.09 | 25.7149 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1016.85 | 1200.95 | 1480.92 | 0 | 1480.92 | 1970.62 | 1970.62 |
| 31 | 2.82078 | 5566.44 | 26.5117 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1010.16 | 1193.05 | 1470.05 | 0 | 1470.05 | 1973.95 | 1973.95 |
| 32 | 2.82078 | 5566.3  | 27.3139 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1001.84 | 1183.22 | 1456.52 | 0 | 1456.52 | 1973.92 | 1973.92 |
| 33 | 2.82078 | 5578.61 | 28.1221 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 995.521 | 1175.76 | 1446.25 | 0 | 1446.25 | 1978.3  | 1978.3  |
| 34 | 2.82078 | 5576.71 | 28.9363 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 986.808 | 1165.47 | 1432.08 | 0 | 1432.08 | 1977.64 | 1977.64 |
| 35 | 2.82078 | 5557.02 | 29.7571 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 975.166 | 1151.72 | 1413.16 | 0 | 1413.16 | 1970.68 | 1970.68 |
| 36 | 2.82078 | 5519.11 | 30.5846 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 960.611 | 1134.53 | 1389.49 | 0 | 1389.49 | 1957.25 | 1957.25 |
| 37 | 2.82078 | 5462.51 | 31.4192 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 943.124 | 1113.88 | 1361.07 | 0 | 1361.07 | 1937.19 | 1937.19 |
| 38 | 2.82078 | 5386.72 | 32.2613 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 922.71  | 1089.77 | 1327.89 | 0 | 1327.89 | 1910.33 | 1910.33 |
| 39 | 2.82078 | 5291.2  | 33.1113 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 899.362 | 1062.19 | 1289.93 | 0 | 1289.93 | 1876.47 | 1876.47 |
| 40 | 2.82078 | 5175.39 | 33.9697 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 873.072 | 1031.14 | 1247.2  | 0 | 1247.2  | 1835.42 | 1835.42 |
| 41 | 2.82078 | 5023.09 | 34.8367 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 841.452 | 993.797 | 1195.8  | 0 | 1195.8  | 1781.42 | 1781.42 |
| 42 | 2.80352 | 4636.67 | 35.7103 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 827.856 | 977.739 | 1059.46 | 0 | 1059.46 | 1654.56 | 1654.56 |
| 43 | 2.80352 | 4190.65 | 36.5909 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 748.599 | 884.133 | 939.647 | 0 | 939.647 | 1495.42 | 1495.42 |
| 44 | 2.80352 | 3720.13 | 37.4816 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 666.901 | 787.643 | 816.146 | 0 | 816.146 | 1327.54 | 1327.54 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 45 | 2.80352 | 3224.21 | 38.3831 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 582.772 | 688.283 | 688.972  | 0 | 688.972  | 1150.59 | 1150.59 |
| 46 | 2.80352 | 2701.96 | 39.296  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 496.227 | 586.069 | 558.144  | 0 | 558.144  | 964.244 | 964.244 |
| 47 | 2.80352 | 2152.34 | 40.221  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 407.283 | 481.021 | 423.687  | 0 | 423.687  | 768.123 | 768.123 |
| 48 | 2.80352 | 1574.21 | 41.1587 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 315.957 | 373.161 | 285.633  | 0 | 285.633  | 561.831 | 561.831 |
| 49 | 2.80352 | 966.353 | 42.1101 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 222.273 | 262.516 | 144.014  | 0 | 144.014  | 344.924 | 344.924 |
| 50 | 2.80352 | 327.415 | 43.076  | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 126.259 | 149.118 | -1.12853 | 0 | -1.12853 | 116.923 | 116.923 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.1227

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.5926     | 150.706      | -1.6531                   | D-VD Silty SAND | 125                 | 36                        | 151.801            | 170.427              | 62.5247                  | 0                   | 62.5247                       | 58.1437                    | 58.1437                         |
| 2            | 2.5926     | 445.578      | -0.724298                 | D-VD Silty SAND | 125                 | 36                        | 224.401            | 251.935              | 174.711                  | 0                   | 174.711                       | 171.874                    | 171.874                         |
| 3            | 2.5926     | 727.378      | 0.20431                   | D-VD Silty SAND | 125                 | 36                        | 292.223            | 328.079              | 279.514                  | 0                   | 279.514                       | 280.556                    | 280.556                         |
| 4            | 2.5926     | 1033.25      | 1.13297                   | D-VD Silty SAND | 125                 | 36                        | 364.566            | 409.298              | 391.303                  | 0                   | 391.303                       | 398.513                    | 398.513                         |
| 5            | 2.5926     | 1361.44      | 2.06193                   | D-VD Silty SAND | 125                 | 36                        | 440.862            | 494.956              | 509.201                  | 0                   | 509.201                       | 525.073                    | 525.073                         |
| 6            | 2.5926     | 1676.54      | 2.99144                   | D-VD Silty SAND | 125                 | 36                        | 512.433            | 575.308              | 619.797                  | 0                   | 619.797                       | 646.576                    | 646.576                         |
| 7            | 2.5926     | 1978.51      | 3.92173                   | D-VD Silty SAND | 125                 | 36                        | 579.404            | 650.497              | 723.285                  | 0                   | 723.285                       | 763.005                    | 763.005                         |
| 8            | 2.5926     | 2267.31      | 4.85306                   | D-VD Silty SAND | 125                 | 36                        | 641.895            | 720.656              | 819.849                  | 0                   | 819.849                       | 874.35                     | 874.35                          |
| 9            | 2.5926     | 2542.89      | 5.78567                   | D-VD Silty SAND | 125                 | 36                        | 700.019            | 785.911              | 909.664                  | 0                   | 909.664                       | 980.592                    | 980.592                         |
| 10           | 2.5926     | 2805.2       | 6.71983                   | D-VD Silty SAND | 125                 | 36                        | 753.875            | 846.375              | 992.889                  | 0                   | 992.889                       | 1081.71                    | 1081.71                         |
| 11           | 2.5926     | 3054.17      | 7.65579                   | D-VD Silty SAND | 125                 | 36                        | 803.558            | 902.155              | 1069.66                  | 0                   | 1069.66                       | 1177.68                    | 1177.68                         |
| 12           | 2.5926     | 3290.22      | 8.5938                    | D-VD Silty SAND | 125                 | 36                        | 849.278            | 953.484              | 1140.31                  | 0                   | 1140.31                       | 1268.66                    | 1268.66                         |
| 13           | 2.5926     | 3545.41      | 9.53415                   | D-VD Silty SAND | 125                 | 36                        | 898.344            | 1008.57              | 1216.13                  | 0                   | 1216.13                       | 1367.02                    | 1367.02                         |
| 14           | 2.5926     | 3806.39      | 10.4771                   | D-VD Silty SAND | 125                 | 36                        | 947.667            | 1063.95              | 1292.35                  | 0                   | 1292.35                       | 1467.6                     | 1467.6                          |
| 15           | 2.5926     | 4053.61      | 11.4229                   | D-VD Silty SAND | 125                 | 36                        | 992.906            | 1114.74              | 1362.25                  | 0                   | 1362.25                       | 1562.87                    | 1562.87                         |
| 16           | 2.5926     | 4286.96      | 12.3719                   | D-VD Silty SAND | 125                 | 36                        | 1034.13            | 1161.02              | 1425.95                  | 0                   | 1425.95                       | 1652.79                    | 1652.79                         |
| 17           | 2.5926     | 4506.28      | 13.3244                   | D-VD Silty SAND | 125                 | 36                        | 1071.4             | 1202.86              | 1483.55                  | 0                   | 1483.55                       | 1737.3                     | 1737.3                          |
| 18           | 2.5926     | 4711.4       | 14.2806                   | D-VD Silty SAND | 125                 | 36                        | 1104.77            | 1240.33              | 1535.12                  | 0                   | 1535.12                       | 1816.33                    | 1816.33                         |
| 19           | 2.5926     | 4902.16      | 15.2409                   | D-VD Silty SAND | 125                 | 36                        | 1134.31            | 1273.49              | 1580.76                  | 0                   | 1580.76                       | 1889.81                    | 1889.81                         |
| 20           | 2.5926     | 5078.37      | 16.2056                   | D-VD Silty SAND | 125                 | 36                        | 1160.05            | 1302.39              | 1620.54                  | 0                   | 1620.54                       | 1957.69                    | 1957.69                         |
| 21           | 2.5926     | 5239.8       | 17.175                    | D-VD Silty SAND | 125                 | 36                        | 1182.04            | 1327.08              | 1654.52                  | 0                   | 1654.52                       | 2019.86                    | 2019.86                         |
| 22           | 2.5926     | 5386.24      | 18.1496                   | D-VD Silty SAND | 125                 | 36                        | 1200.33            | 1347.61              | 1682.77                  | 0                   | 1682.77                       | 2076.25                    | 2076.25                         |
| 23           | 2.5926     | 5517.45      | 19.1296                   | D-VD Silty SAND | 125                 | 36                        | 1214.94            | 1364.01              | 1705.36                  | 0                   | 1705.36                       | 2126.77                    | 2126.77                         |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 2.5926  | 5633.15 | 20.1155 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1225.91 | 1376.33 | 1722.31 | 0 | 1722.31 | 2171.3  | 2171.3  |
| 25 | 2.5926  | 5733.06 | 21.1076 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1233.27 | 1384.59 | 1733.68 | 0 | 1733.68 | 2209.75 | 2209.75 |
| 26 | 2.5926  | 5816.86 | 22.1064 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1237.04 | 1388.83 | 1739.52 | 0 | 1739.52 | 2241.99 | 2241.99 |
| 27 | 2.5926  | 5884.22 | 23.1123 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1237.25 | 1389.06 | 1739.84 | 0 | 1739.84 | 2267.88 | 2267.88 |
| 28 | 2.5926  | 5934.77 | 24.1258 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1233.92 | 1385.32 | 1734.68 | 0 | 1734.68 | 2287.3  | 2287.3  |
| 29 | 2.5926  | 5968.12 | 25.1475 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1227.04 | 1377.6  | 1724.06 | 0 | 1724.06 | 2300.09 | 2300.09 |
| 30 | 2.5926  | 5983.84 | 26.1777 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1216.65 | 1365.93 | 1708    | 0 | 1708    | 2306.08 | 2306.08 |
| 31 | 2.5926  | 5981.46 | 27.2171 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1202.74 | 1350.32 | 1686.51 | 0 | 1686.51 | 2305.09 | 2305.09 |
| 32 | 2.5926  | 5960.49 | 28.2664 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1185.33 | 1330.77 | 1659.6  | 0 | 1659.6  | 2296.94 | 2296.94 |
| 33 | 2.5926  | 5922.02 | 29.3261 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1164.72 | 1307.63 | 1627.75 | 0 | 1627.75 | 2282.05 | 2282.05 |
| 34 | 2.5926  | 5887.83 | 30.3969 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1144.93 | 1285.41 | 1597.16 | 0 | 1597.16 | 2268.81 | 2268.81 |
| 35 | 2.5926  | 5841.21 | 31.4796 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1122.94 | 1260.72 | 1563.19 | 0 | 1563.19 | 2250.77 | 2250.77 |
| 36 | 2.5926  | 5773.5  | 32.5749 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1097.28 | 1231.92 | 1523.54 | 0 | 1523.54 | 2224.61 | 2224.61 |
| 37 | 2.5926  | 5683.94 | 33.6838 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1067.95 | 1198.99 | 1478.23 | 0 | 1478.23 | 2190.03 | 2190.03 |
| 38 | 2.5926  | 5571.66 | 34.8073 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 1034.93 | 1161.92 | 1427.2  | 0 | 1427.2  | 2146.69 | 2146.69 |
| 39 | 2.5926  | 5435.76 | 35.9462 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 998.211 | 1120.69 | 1370.45 | 0 | 1370.45 | 2094.26 | 2094.26 |
| 40 | 2.5926  | 5275.2  | 37.1019 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 957.756 | 1075.27 | 1307.94 | 0 | 1307.94 | 2032.33 | 2032.33 |
| 41 | 2.5926  | 5088.85 | 38.2754 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 913.549 | 1025.64 | 1239.63 | 0 | 1239.63 | 1960.47 | 1960.47 |
| 42 | 2.5926  | 4875.46 | 39.4682 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 865.562 | 971.767 | 1165.47 | 0 | 1165.47 | 1878.18 | 1878.18 |
| 43 | 2.5926  | 4626.38 | 40.6819 | D-VD<br>Silty<br>SAND                                | 125 | 36 | 812.611 | 912.318 | 1083.65 | 0 | 1083.65 | 1782.16 | 1782.16 |
| 44 | 2.55805 | 4138.36 | 41.9097 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 774.234 | 869.233 | 920.576 | 0 | 920.576 | 1615.49 | 1615.49 |
| 45 | 2.55805 | 3608.03 | 43.1532 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 673.979 | 756.676 | 776.509 | 0 | 776.509 | 1408.38 | 1408.38 |
| 46 | 2.55805 | 3042.62 | 44.4226 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 570.773 | 640.807 | 628.204 | 0 | 628.204 | 1187.59 | 1187.59 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 47 | 2.55805 | 2439.8  | 45.7202 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 464.658 | 521.672 | 475.719  | 0 | 475.719  | 952.207 | 952.207 |
| 48 | 2.55805 | 1796.94 | 47.0486 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 355.688 | 399.331 | 319.13   | 0 | 319.13   | 701.209 | 701.209 |
| 49 | 2.55805 | 1110.99 | 48.4111 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 243.938 | 273.869 | 158.546  | 0 | 158.546  | 433.407 | 433.407 |
| 50 | 2.55805 | 378.417 | 49.8111 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 129.51  | 145.401 | -5.88693 | 0 | -5.88693 | 147.428 | 147.428 |

## **Cross Section GG-GG' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.42113**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.64952    | 65.3316      | 13.0186                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 49.5806            | 70.4605              | 28.1614                  | 0                   | 28.1614                       | 39.6249                    | 39.6249                         |
| 2            | 1.64952    | 194.047      | 13.6399                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 84.8195            | 120.54               | 97.089                   | 0                   | 97.089                        | 117.672                    | 117.672                         |
| 3            | 1.64952    | 318.852      | 14.2629                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 118.615            | 168.568              | 163.196                  | 0                   | 163.196                       | 193.349                    | 193.349                         |
| 4            | 1.64952    | 439.714      | 14.8876                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 150.979            | 214.561              | 226.498                  | 0                   | 226.498                       | 266.636                    | 266.636                         |
| 5            | 1.64952    | 556.6        | 15.5141                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 181.917            | 258.528              | 287.015                  | 0                   | 287.015                       | 337.513                    | 337.513                         |
| 6            | 1.64952    | 669.473      | 16.1425                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 211.439            | 300.483              | 344.759                  | 0                   | 344.759                       | 405.958                    | 405.958                         |
| 7            | 1.64952    | 778.298      | 16.7729                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 239.552            | 340.434              | 399.748                  | 0                   | 399.748                       | 471.95                     | 471.95                          |
| 8            | 1.64952    | 883.033      | 17.4055                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 266.261            | 378.392              | 451.993                  | 0                   | 451.993                       | 535.462                    | 535.462                         |
| 9            | 1.64952    | 983.636      | 18.0402                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 291.574            | 414.365              | 501.506                  | 0                   | 501.506                       | 596.47                     | 596.47                          |
| 10           | 1.64952    | 1080.06      | 18.6772                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 315.497            | 448.362              | 548.298                  | 0                   | 548.298                       | 654.947                    | 654.947                         |
| 11           | 1.64952    | 1172.27      | 19.3166                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 338.032            | 480.388              | 592.379                  | 0                   | 592.379                       | 710.866                    | 710.866                         |
| 12           | 1.64952    | 1260.21      | 19.9585                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 359.187            | 510.451              | 633.756                  | 0                   | 633.756                       | 764.195                    | 764.195                         |
| 13           | 1.64952    | 1343.82      | 20.6031                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 378.963            | 538.555              | 672.438                  | 0                   | 672.438                       | 814.904                    | 814.904                         |
| 14           | 1.64952    | 1423.06      | 21.2504                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 397.363            | 564.705              | 708.429                  | 0                   | 708.429                       | 862.958                    | 862.958                         |
| 15           | 1.64952    | 1497.86      | 21.9005                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 414.393            | 588.906              | 741.74                   | 0                   | 741.74                        | 908.33                     | 908.33                          |
| 16           | 1.64952    | 1568.17      | 22.5537                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 430.051            | 611.158              | 772.367                  | 0                   | 772.367                       | 950.972                    | 950.972                         |
| 17           | 1.64952    | 1633.93      | 23.2099                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 444.341            | 631.466              | 800.318                  | 0                   | 800.318                       | 990.853                    | 990.853                         |
| 18           | 1.64952    | 1695.06      | 23.8694                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 457.262            | 649.829              | 825.592                  | 0                   | 825.592                       | 1027.93                    | 1027.93                         |
| 19           | 1.64952    | 1751.49      | 24.5322                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 468.816            | 666.249              | 848.197                  | 0                   | 848.197                       | 1062.17                    | 1062.17                         |
| 20           | 1.64952    | 1803.16      | 25.1986                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 479.003            | 680.725              | 868.119                  | 0                   | 868.119                       | 1093.51                    | 1093.51                         |
| 21           | 1.64952    | 1849.98      | 25.8686                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 487.821            | 693.257              | 885.369                  | 0                   | 885.369                       | 1121.91                    | 1121.91                         |
| 22           | 1.64952    | 1891.88      | 26.5425                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 495.269            | 703.841              | 899.935                  | 0                   | 899.935                       | 1147.33                    | 1147.33                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.64952 | 1928.76 | 27.2203 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 501.345 | 712.477 | 911.822 | 0 | 911.822 | 1169.7  | 1169.7  |
| 24 | 1.64952 | 1960.54 | 27.9023 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 506.048 | 719.16  | 921.02  | 0 | 921.02  | 1188.99 | 1188.99 |
| 25 | 1.64952 | 1987.12 | 28.5886 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 509.373 | 723.885 | 927.521 | 0 | 927.521 | 1205.11 | 1205.11 |
| 26 | 1.64952 | 2008.39 | 29.2795 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 511.317 | 726.648 | 931.327 | 0 | 931.327 | 1218.02 | 1218.02 |
| 27 | 1.64952 | 2024.26 | 29.975  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 511.877 | 727.444 | 932.423 | 0 | 932.423 | 1227.66 | 1227.66 |
| 28 | 1.64952 | 2034.6  | 30.6755 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 511.047 | 726.264 | 930.795 | 0 | 930.795 | 1233.94 | 1233.94 |
| 29 | 1.64952 | 2039.3  | 31.381  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 508.822 | 723.102 | 926.446 | 0 | 926.446 | 1236.8  | 1236.8  |
| 30 | 1.64952 | 2038.23 | 32.0919 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 505.197 | 717.95  | 919.354 | 0 | 919.354 | 1236.16 | 1236.16 |
| 31 | 1.64952 | 2031.26 | 32.8084 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 500.163 | 710.797 | 909.51  | 0 | 909.51  | 1231.95 | 1231.95 |
| 32 | 1.64952 | 2018.24 | 33.5307 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 493.716 | 701.635 | 896.896 | 0 | 896.896 | 1224.06 | 1224.06 |
| 33 | 1.64952 | 1999.03 | 34.2591 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 485.846 | 690.451 | 881.507 | 0 | 881.507 | 1212.42 | 1212.42 |
| 34 | 1.64952 | 1973.45 | 34.9938 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 476.547 | 677.235 | 863.316 | 0 | 863.316 | 1196.92 | 1196.92 |
| 35 | 1.64952 | 1941.35 | 35.7352 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 465.807 | 661.973 | 842.309 | 0 | 842.309 | 1177.46 | 1177.46 |
| 36 | 1.64952 | 1902.53 | 36.4836 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 453.619 | 644.652 | 818.47  | 0 | 818.47  | 1153.93 | 1153.93 |
| 37 | 1.64952 | 1856.81 | 37.2393 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 439.972 | 625.257 | 791.772 | 0 | 791.772 | 1126.2  | 1126.2  |
| 38 | 1.64952 | 1803.53 | 38.0026 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 424.758 | 603.636 | 762.015 | 0 | 762.015 | 1093.9  | 1093.9  |
| 39 | 1.64952 | 1723.48 | 38.774  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 403.791 | 573.84  | 721.002 | 0 | 721.002 | 1045.36 | 1045.36 |
| 40 | 1.64952 | 1625.43 | 39.5538 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 379.132 | 538.796 | 672.77  | 0 | 672.77  | 985.901 | 985.901 |
| 41 | 1.64952 | 1519.55 | 40.3425 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 353.078 | 501.77  | 621.809 | 0 | 621.809 | 921.691 | 921.691 |
| 42 | 1.64952 | 1405.56 | 41.1405 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 325.62  | 462.748 | 568.098 | 0 | 568.098 | 852.56  | 852.56  |
| 43 | 1.64952 | 1283.16 | 41.9483 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 296.747 | 421.716 | 511.622 | 0 | 511.622 | 778.33  | 778.33  |
| 44 | 1.64952 | 1152.04 | 42.7665 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 266.449 | 378.658 | 452.358 | 0 | 452.358 | 698.804 | 698.804 |
| 45 | 1.64952 | 1011.84 | 43.5957 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 234.715 | 333.561 | 390.289 | 0 | 390.289 | 613.772 | 613.772 |
| 46 | 1.64952 | 862.179 | 44.4365 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 201.538 | 286.411 | 325.392 | 0 | 325.392 | 523.003 | 523.003 |
| 47 | 1.64952 | 702.658 | 45.2895 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 166.905 | 237.193 | 257.649 | 0 | 257.649 | 426.249 | 426.249 |



|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 1.64952 | 532.822 | 46.1556 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 130.807 | 185.894 | 187.043 | 0 | 187.043 | 323.236 | 323.236 |
| 49 | 1.64952 | 352.179 | 47.0355 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 93.2378 | 132.503 | 113.556 | 0 | 113.556 | 213.666 | 213.666 |
| 50 | 1.64952 | 140.206 | 47.9302 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 50.2321 | 71.3863 | 29.4357 | 0 | 29.4357 | 85.0876 | 85.0876 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.38083

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.52271    | 69.6052      | 7.69244                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 56.2647            | 77.692               | 38.1147                  | 0                   | 38.1147                       | 45.7145                    | 45.7145                         |
| 2            | 1.52271    | 206.762      | 8.48843                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 99.82              | 137.834              | 120.893                  | 0                   | 120.893                       | 135.791                    | 135.791                         |
| 3            | 1.52271    | 339.797      | 9.28608                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 141.46             | 195.332              | 200.032                  | 0                   | 200.032                       | 223.162                    | 223.162                         |
| 4            | 1.52271    | 468.685      | 10.0855                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 181.209            | 250.219              | 275.578                  | 0                   | 275.578                       | 307.809                    | 307.809                         |
| 5            | 1.52271    | 593.395      | 10.887                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 219.091            | 302.528              | 347.574                  | 0                   | 347.574                       | 389.713                    | 389.713                         |
| 6            | 1.52271    | 713.895      | 11.6906                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 255.127            | 352.287              | 416.063                  | 0                   | 416.063                       | 468.853                    | 468.853                         |
| 7            | 1.52271    | 830.15       | 12.4966                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 289.336            | 399.524              | 481.078                  | 0                   | 481.078                       | 545.205                    | 545.205                         |
| 8            | 1.52271    | 942.12       | 13.3051                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 321.737            | 444.264              | 542.658                  | 0                   | 542.658                       | 618.743                    | 618.743                         |
| 9            | 1.52271    | 1049.76      | 14.1162                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 352.345            | 486.529              | 600.831                  | 0                   | 600.831                       | 689.441                    | 689.441                         |
| 10           | 1.52271    | 1153.04      | 14.9303                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.178            | 526.342              | 655.631                  | 0                   | 655.631                       | 757.27                     | 757.27                          |
| 11           | 1.52271    | 1251.89      | 15.7475                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 408.246            | 563.719              | 707.075                  | 0                   | 707.075                       | 822.193                    | 822.193                         |
| 12           | 1.52271    | 1346.27      | 16.568                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 433.565            | 598.68               | 755.19                   | 0                   | 755.19                        | 884.178                    | 884.178                         |
| 13           | 1.52271    | 1436.13      | 17.392                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 457.144            | 631.238              | 800.005                  | 0                   | 800.005                       | 943.195                    | 943.195                         |
| 14           | 1.52271    | 1521.39      | 18.2197                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 478.992            | 661.407              | 841.527                  | 0                   | 841.527                       | 999.194                    | 999.194                         |
| 15           | 1.52271    | 1602         | 19.0514                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 499.119            | 689.199              | 879.784                  | 0                   | 879.784                       | 1052.15                    | 1052.15                         |
| 16           | 1.52271    | 1677.9       | 19.8873                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 517.532            | 714.624              | 914.776                  | 0                   | 914.776                       | 1101.99                    | 1101.99                         |
| 17           | 1.52271    | 1748.99      | 20.7276                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 534.236            | 737.689              | 946.524                  | 0                   | 946.524                       | 1148.69                    | 1148.69                         |
| 18           | 1.52271    | 1815.22      | 21.5726                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 549.236            | 758.401              | 975.027                  | 0                   | 975.027                       | 1192.18                    | 1192.18                         |
| 19           | 1.52271    | 1876.48      | 22.4225                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 562.535            | 776.765              | 1000.31                  | 0                   | 1000.31                       | 1232.43                    | 1232.43                         |
| 20           | 1.52271    | 1932.7       | 23.2777                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 574.135            | 792.783              | 1022.35                  | 0                   | 1022.35                       | 1269.35                    | 1269.35                         |
| 21           | 1.52271    | 1983.77      | 24.1384                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 584.038            | 806.457              | 1041.17                  | 0                   | 1041.17                       | 1302.9                     | 1302.9                          |
| 22           | 1.52271    | 2029.6       | 25.005                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 592.243            | 817.787              | 1056.77                  | 0                   | 1056.77                       | 1333                       | 1333                            |
| 23           | 1.52271    | 2070.07      | 25.8777                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 598.749            | 826.771              | 1069.13                  | 0                   | 1069.13                       | 1359.58                    | 1359.58                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.52271 | 2105.06 | 26.7569 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 603.553 | 833.404 | 1078.26 | 0 | 1078.26 | 1382.57 | 1382.57 |
| 25 | 1.52271 | 2134.46 | 27.643  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 606.65  | 837.681 | 1084.15 | 0 | 1084.15 | 1401.88 | 1401.88 |
| 26 | 1.52271 | 2158.12 | 28.5363 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 608.037 | 839.596 | 1086.79 | 0 | 1086.79 | 1417.42 | 1417.42 |
| 27 | 1.52271 | 2175.89 | 29.4372 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 607.706 | 839.138 | 1086.16 | 0 | 1086.16 | 1429.1  | 1429.1  |
| 28 | 1.52271 | 2187.63 | 30.3463 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 605.649 | 836.298 | 1082.25 | 0 | 1082.25 | 1436.82 | 1436.82 |
| 29 | 1.52271 | 2193.17 | 31.2638 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 601.857 | 831.062 | 1075.04 | 0 | 1075.04 | 1440.45 | 1440.45 |
| 30 | 1.52271 | 2192.31 | 32.1904 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 596.32  | 823.416 | 1064.52 | 0 | 1064.52 | 1439.9  | 1439.9  |
| 31 | 1.52271 | 2184.88 | 33.1265 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 589.026 | 813.345 | 1050.65 | 0 | 1050.65 | 1435.02 | 1435.02 |
| 32 | 1.52271 | 2170.66 | 34.0726 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 579.961 | 800.828 | 1033.43 | 0 | 1033.43 | 1425.69 | 1425.69 |
| 33 | 1.52271 | 2149.42 | 35.0295 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 569.112 | 785.847 | 1012.81 | 0 | 1012.81 | 1411.74 | 1411.74 |
| 34 | 1.52271 | 2120.92 | 35.9977 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 556.462 | 768.38  | 988.766 | 0 | 988.766 | 1393.03 | 1393.03 |
| 35 | 1.52271 | 2084.88 | 36.978  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 541.994 | 748.401 | 961.265 | 0 | 961.265 | 1369.36 | 1369.36 |
| 36 | 1.52271 | 2041.02 | 37.9711 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 525.687 | 725.884 | 930.275 | 0 | 930.275 | 1340.56 | 1340.56 |
| 37 | 1.52271 | 1989.02 | 38.9777 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 507.522 | 700.801 | 895.749 | 0 | 895.749 | 1306.41 | 1306.41 |
| 38 | 1.52271 | 1928.53 | 39.999  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 487.476 | 673.121 | 857.651 | 0 | 857.651 | 1266.68 | 1266.68 |
| 39 | 1.52271 | 1859.16 | 41.0357 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 465.526 | 642.812 | 815.937 | 0 | 815.937 | 1221.12 | 1221.12 |
| 40 | 1.52271 | 1780.49 | 42.089  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 441.647 | 609.839 | 770.554 | 0 | 770.554 | 1169.46 | 1169.46 |
| 41 | 1.52271 | 1691.76 | 43.1601 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 415.741 | 574.067 | 721.318 | 0 | 721.318 | 1111.18 | 1111.18 |
| 42 | 1.52271 | 1576.47 | 44.2504 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 384.134 | 530.424 | 661.248 | 0 | 661.248 | 1035.46 | 1035.46 |
| 43 | 1.52271 | 1441.08 | 45.3613 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 348.532 | 481.264 | 593.586 | 0 | 593.586 | 946.541 | 946.541 |
| 44 | 1.52271 | 1294.19 | 46.4944 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 311.051 | 429.508 | 522.347 | 0 | 522.347 | 850.062 | 850.062 |
| 45 | 1.52271 | 1135.06 | 47.6517 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 271.666 | 375.124 | 447.496 | 0 | 447.496 | 745.548 | 745.548 |
| 46 | 1.52271 | 962.873 | 48.8353 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 230.358 | 318.085 | 368.988 | 0 | 368.988 | 632.451 | 632.451 |
| 47 | 1.52271 | 776.679 | 50.0475 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 187.109 | 258.366 | 286.792 | 0 | 286.792 | 510.156 | 510.156 |
| 48 | 1.52271 | 575.399 | 51.2912 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 141.906 | 195.948 | 200.88  | 0 | 200.88  | 377.952 | 377.952 |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.52271 | 357.78  | 52.5696 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 94.739  | 130.819 | 111.237 | 0 | 111.237 | 235.014 | 235.014 |
| 50 | 1.52271 | 122.359 | 53.8864 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 45.6105 | 62.9803 | 17.8658 | 0 | 17.8658 | 80.3822 | 80.3822 |

## **Cross Section GG-GG' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 0.910885**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.6728     | 68.0282      | 12.7573                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 73.9763            | 67.3839              | 23.9269                  | 0                   | 23.9269                       | 40.676                     | 40.676                          |
| 2            | 1.6728     | 202.077      | 13.3813                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 127.135            | 115.805              | 90.5737                  | 0                   | 90.5737                       | 120.818                    | 120.818                         |
| 3            | 1.6728     | 332.096      | 14.0069                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 177.869            | 162.018              | 154.179                  | 0                   | 154.179                       | 198.55                     | 198.55                          |
| 4            | 1.6728     | 458.051      | 14.6343                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 226.21             | 206.051              | 214.786                  | 0                   | 214.786                       | 273.854                    | 273.854                         |
| 5            | 1.6728     | 579.91       | 15.2634                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 272.19             | 247.934              | 272.433                  | 0                   | 272.433                       | 346.709                    | 346.709                         |
| 6            | 1.6728     | 697.636      | 15.8944                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 315.84             | 287.694              | 327.157                  | 0                   | 327.157                       | 417.093                    | 417.093                         |
| 7            | 1.6728     | 811.19       | 16.5274                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 357.187            | 325.356              | 378.995                  | 0                   | 378.995                       | 484.984                    | 484.984                         |
| 8            | 1.6728     | 920.532      | 17.1625                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 396.257            | 360.945              | 427.979                  | 0                   | 427.979                       | 550.357                    | 550.357                         |
| 9            | 1.6728     | 1025.62      | 17.7998                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 433.079            | 394.485              | 474.143                  | 0                   | 474.143                       | 613.188                    | 613.188                         |
| 10           | 1.6728     | 1126.41      | 18.4393                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 467.675            | 425.998              | 517.517                  | 0                   | 517.517                       | 673.448                    | 673.448                         |
| 11           | 1.6728     | 1222.85      | 19.0813                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 500.068            | 455.504              | 558.129                  | 0                   | 558.129                       | 731.11                     | 731.11                          |
| 12           | 1.6728     | 1314.89      | 19.7257                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 530.28             | 483.024              | 596.005                  | 0                   | 596.005                       | 786.141                    | 786.141                         |
| 13           | 1.6728     | 1402.49      | 20.3728                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 558.332            | 508.576              | 631.174                  | 0                   | 631.174                       | 838.513                    | 838.513                         |
| 14           | 1.6728     | 1485.58      | 21.0226                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 584.244            | 532.179              | 663.663                  | 0                   | 663.663                       | 888.197                    | 888.197                         |
| 15           | 1.6728     | 1564.11      | 21.6752                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 608.034            | 553.849              | 693.491                  | 0                   | 693.491                       | 935.152                    | 935.152                         |
| 16           | 1.6728     | 1638.01      | 22.3308                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 629.719            | 573.602              | 720.678                  | 0                   | 720.678                       | 979.34                     | 979.34                          |
| 17           | 1.6728     | 1707.22      | 22.9895                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 649.316            | 591.452              | 745.244                  | 0                   | 745.244                       | 1020.72                    | 1020.72                         |
| 18           | 1.6728     | 1771.68      | 23.6514                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 666.84             | 607.415              | 767.218                  | 0                   | 767.218                       | 1059.27                    | 1059.27                         |
| 19           | 1.6728     | 1831.31      | 24.3167                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 682.307            | 621.503              | 786.608                  | 0                   | 786.608                       | 1094.92                    | 1094.92                         |
| 20           | 1.6728     | 1886.03      | 24.9855                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 695.728            | 633.728              | 803.435                  | 0                   | 803.435                       | 1127.64                    | 1127.64                         |
| 21           | 1.6728     | 1935.77      | 25.6579                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 707.117            | 644.102              | 817.71                   | 0                   | 817.71                        | 1157.38                    | 1157.38                         |
| 22           | 1.6728     | 1980.45      | 26.3342                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 716.485            | 652.635              | 829.454                  | 0                   | 829.454                       | 1184.1                     | 1184.1                          |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.6728 | 2019.96 | 27.0144 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 723.843 | 659.338 | 838.683 | 0 | 838.683 | 1207.73 | 1207.73 |
| 24 | 1.6728 | 2054.23 | 27.6988 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 729.202 | 664.219 | 845.398 | 0 | 845.398 | 1228.22 | 1228.22 |
| 25 | 1.6728 | 2083.15 | 28.3875 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 732.571 | 667.288 | 849.622 | 0 | 849.622 | 1245.51 | 1245.51 |
| 26 | 1.6728 | 2106.63 | 29.0807 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 733.958 | 668.551 | 851.36  | 0 | 851.36  | 1259.55 | 1259.55 |
| 27 | 1.6728 | 2124.54 | 29.7786 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 733.37  | 668.016 | 850.625 | 0 | 850.625 | 1270.27 | 1270.27 |
| 28 | 1.6728 | 2136.77 | 30.4814 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 730.815 | 665.688 | 847.424 | 0 | 847.424 | 1277.59 | 1277.59 |
| 29 | 1.6728 | 2143.2  | 31.1893 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 726.299 | 661.575 | 841.76  | 0 | 841.76  | 1281.44 | 1281.44 |
| 30 | 1.6728 | 2143.71 | 31.9026 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 719.827 | 655.68  | 833.646 | 0 | 833.646 | 1281.74 | 1281.74 |
| 31 | 1.6728 | 2138.15 | 32.6214 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 711.405 | 648.008 | 823.087 | 0 | 823.087 | 1278.42 | 1278.42 |
| 32 | 1.6728 | 2126.38 | 33.3461 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 701.037 | 638.564 | 810.086 | 0 | 810.086 | 1271.39 | 1271.39 |
| 33 | 1.6728 | 2108.24 | 34.0768 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 688.726 | 627.35  | 794.656 | 0 | 794.656 | 1260.55 | 1260.55 |
| 34 | 1.6728 | 2083.57 | 34.8139 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 674.475 | 614.369 | 776.789 | 0 | 776.789 | 1245.8  | 1245.8  |
| 35 | 1.6728 | 2052.19 | 35.5576 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 658.287 | 599.624 | 756.494 | 0 | 756.494 | 1227.04 | 1227.04 |
| 36 | 1.6728 | 2013.91 | 36.3083 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 640.165 | 583.117 | 733.774 | 0 | 733.774 | 1204.17 | 1204.17 |
| 37 | 1.6728 | 1968.55 | 37.0663 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 620.111 | 564.85  | 708.627 | 0 | 708.627 | 1177.04 | 1177.04 |
| 38 | 1.6728 | 1908.27 | 37.832  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 595.886 | 542.784 | 678.257 | 0 | 678.257 | 1141.01 | 1141.01 |
| 39 | 1.6728 | 1818.33 | 38.6057 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 563.329 | 513.128 | 637.443 | 0 | 637.443 | 1087.23 | 1087.23 |
| 40 | 1.6728 | 1719.19 | 39.3878 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 528.623 | 481.515 | 593.927 | 0 | 593.927 | 1027.96 | 1027.96 |
| 41 | 1.6728 | 1612    | 40.1788 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 492.189 | 448.328 | 548.252 | 0 | 548.252 | 963.873 | 963.873 |
| 42 | 1.6728 | 1496.5  | 40.9792 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 454.034 | 413.573 | 500.414 | 0 | 500.414 | 894.811 | 894.811 |
| 43 | 1.6728 | 1372.36 | 41.7894 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 414.161 | 377.253 | 450.426 | 0 | 450.426 | 820.59  | 820.59  |
| 44 | 1.6728 | 1239.27 | 42.6099 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 372.578 | 339.376 | 398.291 | 0 | 398.291 | 741.013 | 741.013 |
| 45 | 1.6728 | 1096.86 | 43.4414 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 329.291 | 299.946 | 344.021 | 0 | 344.021 | 655.867 | 655.867 |
| 46 | 1.6728 | 944.752 | 44.2845 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 284.307 | 258.971 | 287.624 | 0 | 287.624 | 564.918 | 564.918 |
| 47 | 1.6728 | 782.523 | 45.1399 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 237.639 | 216.462 | 229.115 | 0 | 229.115 | 467.918 | 467.918 |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 1.6728 | 609.714 | 46.0083 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 189.298 | 172.429 | 168.509 | 0 | 168.509 | 364.59  | 364.59  |
| 49 | 1.6728 | 420.223 | 46.8906 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 137.858 | 125.573 | 104.017 | 0 | 104.017 | 251.286 | 251.286 |
| 50 | 1.6728 | 149.072 | 47.7877 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 67.0487 | 61.0737 | 15.2417 | 0 | 15.2417 | 89.1542 | 89.1542 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.879895

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.63449    | 81.3235      | 7.31326                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 88.5274            | 77.8948              | 38.3939                  | 0                   | 38.3939                       | 49.7553                    | 49.7553                         |
| 2            | 1.63449    | 241.593      | 8.11425                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 160.034            | 140.814              | 124.994                  | 0                   | 124.994                       | 147.811                    | 147.811                         |
| 3            | 1.63449    | 397.095      | 8.91684                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 227.906            | 200.533              | 207.192                  | 0                   | 207.192                       | 242.949                    | 242.949                         |
| 4            | 1.63449    | 547.797      | 9.7212                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 292.227            | 257.129              | 285.089                  | 0                   | 285.089                       | 335.151                    | 335.151                         |
| 5            | 1.63449    | 693.668      | 10.5275                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 353.078            | 310.672              | 358.783                  | 0                   | 358.783                       | 424.398                    | 424.398                         |
| 6            | 1.63449    | 834.67       | 11.3359                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 410.533            | 361.226              | 428.366                  | 0                   | 428.366                       | 510.666                    | 510.666                         |
| 7            | 1.63449    | 970.764      | 12.1466                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 464.662            | 408.854              | 493.92                   | 0                   | 493.92                        | 593.93                     | 593.93                          |
| 8            | 1.63449    | 1101.91      | 12.9598                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 515.532            | 453.614              | 555.527                  | 0                   | 555.527                       | 674.166                    | 674.166                         |
| 9            | 1.63449    | 1228.05      | 13.7757                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 563.202            | 495.559              | 613.263                  | 0                   | 613.263                       | 751.345                    | 751.345                         |
| 10           | 1.63449    | 1349.14      | 14.5944                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 607.734            | 534.742              | 667.192                  | 0                   | 667.192                       | 825.431                    | 825.431                         |
| 11           | 1.63449    | 1465.13      | 15.4161                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 649.179            | 571.209              | 717.383                  | 0                   | 717.383                       | 896.394                    | 896.394                         |
| 12           | 1.63449    | 1575.95      | 16.2412                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 687.587            | 605.004              | 763.896                  | 0                   | 763.896                       | 964.194                    | 964.194                         |
| 13           | 1.63449    | 1681.54      | 17.0697                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 723.007            | 636.17               | 806.796                  | 0                   | 806.796                       | 1028.8                     | 1028.8                          |
| 14           | 1.63449    | 1781.84      | 17.9019                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 755.482            | 664.745              | 846.125                  | 0                   | 846.125                       | 1090.17                    | 1090.17                         |
| 15           | 1.63449    | 1876.77      | 18.738                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 785.054            | 690.765              | 881.937                  | 0                   | 881.937                       | 1148.24                    | 1148.24                         |
| 16           | 1.63449    | 1966.25      | 19.5783                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 811.762            | 714.265              | 914.284                  | 0                   | 914.284                       | 1202.99                    | 1202.99                         |
| 17           | 1.63449    | 2050.19      | 20.423                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 835.638            | 735.274              | 943.201                  | 0                   | 943.201                       | 1254.35                    | 1254.35                         |
| 18           | 1.63449    | 2128.52      | 21.2723                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 856.719            | 753.823              | 968.73                   | 0                   | 968.73                        | 1302.27                    | 1302.27                         |
| 19           | 1.63449    | 2201.13      | 22.1266                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 875.033            | 769.937              | 990.911                  | 0                   | 990.911                       | 1346.7                     | 1346.7                          |
| 20           | 1.63449    | 2267.91      | 22.9861                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 890.609            | 783.642              | 1009.77                  | 0                   | 1009.77                       | 1387.56                    | 1387.56                         |
| 21           | 1.63449    | 2328.77      | 23.8512                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 903.471            | 794.96               | 1025.35                  | 0                   | 1025.35                       | 1424.79                    | 1424.79                         |
| 22           | 1.63449    | 2383.57      | 24.722                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 913.644            | 803.911              | 1037.67                  | 0                   | 1037.67                       | 1458.33                    | 1458.33                         |
| 23           | 1.63449    | 2432.21      | 25.5989                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 921.15             | 810.515              | 1046.76                  | 0                   | 1046.76                       | 1488.08                    | 1488.08                         |



|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.63449 | 2474.53 | 26.4824 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 926.006 | 814.788 | 1052.64 | 0 | 1052.64 | 1513.97 | 1513.97 |
| 25 | 1.63449 | 2510.4  | 27.3727 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 928.23  | 816.745 | 1055.33 | 0 | 1055.33 | 1535.92 | 1535.92 |
| 26 | 1.63449 | 2539.66 | 28.2702 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 927.838 | 816.4   | 1054.86 | 0 | 1054.86 | 1553.83 | 1553.83 |
| 27 | 1.63449 | 2562.15 | 29.1753 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 924.842 | 813.764 | 1051.23 | 0 | 1051.23 | 1567.58 | 1567.58 |
| 28 | 1.63449 | 2577.68 | 30.0885 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 919.254 | 808.847 | 1044.46 | 0 | 1044.46 | 1577.09 | 1577.09 |
| 29 | 1.63449 | 2586.08 | 31.0102 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 911.085 | 801.659 | 1034.57 | 0 | 1034.57 | 1582.22 | 1582.22 |
| 30 | 1.63449 | 2587.12 | 31.9409 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 900.34  | 792.205 | 1021.56 | 0 | 1021.56 | 1582.86 | 1582.86 |
| 31 | 1.63449 | 2580.58 | 32.8812 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 887.029 | 780.492 | 1005.44 | 0 | 1005.44 | 1578.87 | 1578.87 |
| 32 | 1.63449 | 2566.23 | 33.8315 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 871.153 | 766.523 | 986.207 | 0 | 986.207 | 1570.09 | 1570.09 |
| 33 | 1.63449 | 2543.81 | 34.7925 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 852.717 | 750.301 | 963.884 | 0 | 963.884 | 1556.37 | 1556.37 |
| 34 | 1.63449 | 2513.03 | 35.7649 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 831.722 | 731.828 | 938.455 | 0 | 938.455 | 1537.54 | 1537.54 |
| 35 | 1.63449 | 2473.58 | 36.7493 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 808.17  | 711.105 | 909.933 | 0 | 909.933 | 1513.41 | 1513.41 |
| 36 | 1.63449 | 2425.14 | 37.7465 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 782.059 | 688.13  | 878.309 | 0 | 878.309 | 1483.77 | 1483.77 |
| 37 | 1.63449 | 2367.33 | 38.7573 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 753.386 | 662.901 | 843.586 | 0 | 843.586 | 1448.4  | 1448.4  |
| 38 | 1.63449 | 2299.76 | 39.7826 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 722.151 | 635.417 | 805.756 | 0 | 805.756 | 1407.06 | 1407.06 |
| 39 | 1.63449 | 2209.82 | 40.8235 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 684.759 | 602.516 | 760.471 | 0 | 760.471 | 1352.03 | 1352.03 |
| 40 | 1.63449 | 2091.76 | 41.881  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 639.846 | 562.997 | 706.078 | 0 | 706.078 | 1279.8  | 1279.8  |
| 41 | 1.63449 | 1962.33 | 42.9563 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 592.595 | 521.421 | 648.857 | 0 | 648.857 | 1200.62 | 1200.62 |
| 42 | 1.63449 | 1821.1  | 44.0507 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 543.051 | 477.828 | 588.856 | 0 | 588.856 | 1114.2  | 1114.2  |
| 43 | 1.63449 | 1667.39 | 45.1658 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 491.221 | 432.223 | 526.085 | 0 | 526.085 | 1020.16 | 1020.16 |
| 44 | 1.63449 | 1500.46 | 46.3031 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 437.117 | 384.617 | 460.561 | 0 | 460.561 | 918.028 | 918.028 |
| 45 | 1.63449 | 1319.48 | 47.4646 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 380.751 | 335.021 | 392.298 | 0 | 392.298 | 807.3   | 807.3   |
| 46 | 1.63449 | 1123.51 | 48.6524 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 322.145 | 283.454 | 321.321 | 0 | 321.321 | 687.398 | 687.398 |
| 47 | 1.63449 | 911.455 | 49.8689 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 261.327 | 229.94  | 247.666 | 0 | 247.666 | 557.659 | 557.659 |
| 48 | 1.63449 | 682.092 | 51.1169 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 198.335 | 174.514 | 171.379 | 0 | 171.379 | 417.327 | 417.327 |

|    |         |         |         |                         |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.63449 | 433.981 | 52.3995 | MD-D<br>SAND/Silty SAND | 50 | 36 | 133.228 | 117.226 | 92.5293 | 0 | 92.5293 | 265.526 | 265.526 |
| 50 | 1.63449 | 161.828 | 53.7206 | MD-D<br>SAND/Silty SAND | 50 | 36 | 65.2176 | 57.3846 | 10.1641 | 0 | 10.1641 | 99.0141 | 99.0141 |

## **Cross Section HH-HH' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.60908**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.93887    | 85.4763      | 9.28385                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 47.4817            | 76.4019              | 36.3391                  | 0                   | 36.3391                       | 44.1008                    | 44.1008                         |
| 2            | 1.93887    | 253.642      | 9.9444                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 83.5417            | 134.425              | 116.202                  | 0                   | 116.202                       | 130.849                    | 130.849                         |
| 3            | 1.93887    | 416.219      | 10.6063                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 118.042            | 189.939              | 192.61                   | 0                   | 192.61                        | 214.714                    | 214.714                         |
| 4            | 1.93887    | 573.17       | 11.2696                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 150.995            | 242.963              | 265.591                  | 0                   | 265.591                       | 295.68                     | 295.68                          |
| 5            | 1.93887    | 724.458      | 11.9345                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 182.412            | 293.515              | 335.17                   | 0                   | 335.17                        | 373.725                    | 373.725                         |
| 6            | 1.93887    | 870.042      | 12.601                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 212.303            | 341.613              | 401.371                  | 0                   | 401.371                       | 448.83                     | 448.83                          |
| 7            | 1.93887    | 1009.88      | 13.2692                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 240.679            | 387.271              | 464.214                  | 0                   | 464.214                       | 520.971                    | 520.971                         |
| 8            | 1.93887    | 1143.92      | 13.9393                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 267.547            | 430.504              | 523.718                  | 0                   | 523.718                       | 590.124                    | 590.124                         |
| 9            | 1.93887    | 1272.12      | 14.6113                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 292.916            | 471.326              | 579.907                  | 0                   | 579.907                       | 656.268                    | 656.268                         |
| 10           | 1.93887    | 1394.43      | 15.2854                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 316.795            | 509.748              | 632.79                   | 0                   | 632.79                        | 719.369                    | 719.369                         |
| 11           | 1.93887    | 1510.78      | 15.9617                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 339.188            | 545.78               | 682.386                  | 0                   | 682.386                       | 779.401                    | 779.401                         |
| 12           | 1.93887    | 1621.13      | 16.6402                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 360.103            | 579.434              | 728.702                  | 0                   | 728.702                       | 836.328                    | 836.328                         |
| 13           | 1.93887    | 1725.4       | 17.3212                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 379.544            | 610.717              | 771.759                  | 0                   | 771.759                       | 890.128                    | 890.128                         |
| 14           | 1.93887    | 1823.53      | 18.0047                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 397.517            | 639.637              | 811.566                  | 0                   | 811.566                       | 940.764                    | 940.764                         |
| 15           | 1.93887    | 1915.45      | 18.6909                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 414.026            | 666.201              | 848.128                  | 0                   | 848.128                       | 988.195                    | 988.195                         |
| 16           | 1.93887    | 2001.08      | 19.3798                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 429.073            | 690.412              | 881.453                  | 0                   | 881.453                       | 1032.38                    | 1032.38                         |
| 17           | 1.93887    | 2080.35      | 20.0717                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 442.661            | 712.277              | 911.546                  | 0                   | 911.546                       | 1073.29                    | 1073.29                         |
| 18           | 1.93887    | 2153.18      | 20.7666                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 454.793            | 731.798              | 938.414                  | 0                   | 938.414                       | 1110.87                    | 1110.87                         |
| 19           | 1.93887    | 2219.47      | 21.4648                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 465.468            | 748.976              | 962.06                   | 0                   | 962.06                        | 1145.08                    | 1145.08                         |
| 20           | 1.93887    | 2279.13      | 22.1663                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 474.69             | 763.814              | 982.48                   | 0                   | 982.48                        | 1175.87                    | 1175.87                         |
| 21           | 1.93887    | 2332.07      | 22.8714                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 482.457            | 776.312              | 999.682                  | 0                   | 999.682                       | 1203.2                     | 1203.2                          |
| 22           | 1.93887    | 2378.18      | 23.5801                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 488.768            | 786.467              | 1013.66                  | 0                   | 1013.66                       | 1227                       | 1227                            |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.93887 | 2417.35 | 24.2926 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 493.623 | 794.279 | 1024.41 | 0 | 1024.41 | 1247.22 | 1247.22 |
| 24 | 1.93887 | 2449.46 | 25.0092 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 497.019 | 799.744 | 1031.94 | 0 | 1031.94 | 1263.8  | 1263.8  |
| 25 | 1.93887 | 2474.39 | 25.73   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 498.955 | 802.858 | 1036.22 | 0 | 1036.22 | 1276.67 | 1276.67 |
| 26 | 1.93887 | 2492.02 | 26.4552 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 499.426 | 803.616 | 1037.26 | 0 | 1037.26 | 1285.78 | 1285.78 |
| 27 | 1.93887 | 2502.2  | 27.185  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 498.428 | 802.011 | 1035.05 | 0 | 1035.05 | 1291.04 | 1291.04 |
| 28 | 1.93887 | 2504.8  | 27.9196 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 495.958 | 798.036 | 1029.58 | 0 | 1029.58 | 1292.4  | 1292.4  |
| 29 | 1.93887 | 2499.64 | 28.6592 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 492.01  | 791.683 | 1020.84 | 0 | 1020.84 | 1289.75 | 1289.75 |
| 30 | 1.93887 | 2486.59 | 29.4041 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 486.577 | 782.942 | 1008.81 | 0 | 1008.81 | 1283.03 | 1283.03 |
| 31 | 1.93887 | 2465.45 | 30.1545 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 479.655 | 771.803 | 993.476 | 0 | 993.476 | 1272.13 | 1272.13 |
| 32 | 1.93887 | 2436.04 | 30.9106 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 471.234 | 758.254 | 974.829 | 0 | 974.829 | 1256.98 | 1256.98 |
| 33 | 1.93887 | 2398.18 | 31.6728 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 461.308 | 742.282 | 952.845 | 0 | 952.845 | 1237.45 | 1237.45 |
| 34 | 1.93887 | 2351.65 | 32.4413 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 449.868 | 723.873 | 927.507 | 0 | 927.507 | 1213.46 | 1213.46 |
| 35 | 1.93887 | 2296.23 | 33.2163 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 436.903 | 703.012 | 898.792 | 0 | 898.792 | 1184.87 | 1184.87 |
| 36 | 1.93887 | 2231.69 | 33.9983 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 422.405 | 679.683 | 866.683 | 0 | 866.683 | 1151.58 | 1151.58 |
| 37 | 1.93887 | 2157.77 | 34.7876 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 406.361 | 653.868 | 831.152 | 0 | 831.152 | 1113.45 | 1113.45 |
| 38 | 1.93887 | 2074.2  | 35.5845 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 388.762 | 625.549 | 792.173 | 0 | 792.173 | 1070.34 | 1070.34 |
| 39 | 1.93887 | 1980.7  | 36.3894 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 369.594 | 594.707 | 749.726 | 0 | 749.726 | 1022.11 | 1022.11 |
| 40 | 1.93887 | 1876.96 | 37.2028 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 348.845 | 561.32  | 703.77  | 0 | 703.77  | 968.585 | 968.585 |
| 41 | 1.93887 | 1762.64 | 38.025  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 326.501 | 525.367 | 654.285 | 0 | 654.285 | 909.606 | 909.606 |
| 42 | 1.93887 | 1637.39 | 38.8565 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.549 | 486.825 | 601.237 | 0 | 601.237 | 844.985 | 844.985 |
| 43 | 1.93887 | 1500.83 | 39.6979 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 276.972 | 445.67  | 544.593 | 0 | 544.593 | 774.523 | 774.523 |
| 44 | 1.93887 | 1352.53 | 40.5497 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 249.756 | 401.877 | 484.318 | 0 | 484.318 | 698.005 | 698.005 |
| 45 | 1.93887 | 1192.05 | 41.4124 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 220.884 | 355.42  | 420.374 | 0 | 420.374 | 615.195 | 615.195 |
| 46 | 1.93887 | 1018.9  | 42.2868 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 190.341 | 306.274 | 352.731 | 0 | 352.731 | 525.848 | 525.848 |
| 47 | 1.93887 | 832.545 | 43.1735 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 158.11  | 254.412 | 281.348 | 0 | 281.348 | 429.686 | 429.686 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 1.93887 | 631.682 | 44.0733 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 124.055 | 199.615 | 205.928  | 0 | 205.928  | 326.033 | 326.033 |
| 49 | 1.93887 | 398.932 | 44.9869 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 85.4757 | 137.537 | 120.485  | 0 | 120.485  | 205.921 | 205.921 |
| 50 | 1.89031 | 134.133 | 45.9036 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 85.1087 | 136.947 | -16.7075 | 0 | -16.7075 | 71.1288 | 71.1288 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.56427

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.9273     | 109.366      | 3.21574                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 56.8379            | 88.9098              | 53.5548                  | 0                   | 53.5548                       | 56.7482                    | 56.7482                         |
| 2            | 1.9273     | 324.578      | 4.08061                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 106.653            | 166.834              | 160.808                  | 0                   | 160.808                       | 168.417                    | 168.417                         |
| 3            | 1.9273     | 532.742      | 4.94641                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 154.158            | 241.145              | 263.088                  | 0                   | 263.088                       | 276.43                     | 276.43                          |
| 4            | 1.9273     | 733.832      | 5.81334                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 199.389            | 311.899              | 360.473                  | 0                   | 360.473                       | 380.773                    | 380.773                         |
| 5            | 1.9273     | 927.818      | 6.68162                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 242.381            | 379.15               | 453.036                  | 0                   | 453.036                       | 481.431                    | 481.431                         |
| 6            | 1.9273     | 1114.66      | 7.55144                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 283.166            | 442.948              | 540.845                  | 0                   | 540.845                       | 578.383                    | 578.383                         |
| 7            | 1.9273     | 1294.33      | 8.42301                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 321.772            | 503.339              | 623.965                  | 0                   | 623.965                       | 671.612                    | 671.612                         |
| 8            | 1.9273     | 1466.77      | 9.29655                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 358.227            | 560.364              | 702.455                  | 0                   | 702.455                       | 761.095                    | 761.095                         |
| 9            | 1.9273     | 1631.93      | 10.1723                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 392.554            | 614.061              | 776.363                  | 0                   | 776.363                       | 846.799                    | 846.799                         |
| 10           | 1.9273     | 1789.75      | 11.0504                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 424.778            | 664.467              | 845.741                  | 0                   | 845.741                       | 928.698                    | 928.698                         |
| 11           | 1.9273     | 1940.18      | 11.9312                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 454.918            | 711.614              | 910.635                  | 0                   | 910.635                       | 1006.76                    | 1006.76                         |
| 12           | 1.9273     | 2083.13      | 12.8148                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 482.992            | 755.53               | 971.08                   | 0                   | 971.08                        | 1080.94                    | 1080.94                         |
| 13           | 1.9273     | 2218.54      | 13.7016                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 509.018            | 796.242              | 1027.11                  | 0                   | 1027.11                       | 1151.21                    | 1151.21                         |
| 14           | 1.9273     | 2346.33      | 14.5917                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 533.011            | 833.773              | 1078.77                  | 0                   | 1078.77                       | 1217.53                    | 1217.53                         |
| 15           | 1.9273     | 2466.39      | 15.4854                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 554.983            | 868.143              | 1126.08                  | 0                   | 1126.08                       | 1279.84                    | 1279.84                         |
| 16           | 1.9273     | 2578.64      | 16.383                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 574.946            | 899.37               | 1169.06                  | 0                   | 1169.06                       | 1338.09                    | 1338.09                         |
| 17           | 1.9273     | 2682.96      | 17.2848                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 592.909            | 927.469              | 1207.73                  | 0                   | 1207.73                       | 1392.23                    | 1392.23                         |
| 18           | 1.9273     | 2779.25      | 18.191                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 608.88             | 952.453              | 1242.12                  | 0                   | 1242.12                       | 1442.2                     | 1442.2                          |
| 19           | 1.9273     | 2867.38      | 19.102                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 622.866            | 974.331              | 1272.23                  | 0                   | 1272.23                       | 1487.94                    | 1487.94                         |
| 20           | 1.9273     | 2947.22      | 20.0179                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 634.872            | 993.111              | 1298.08                  | 0                   | 1298.08                       | 1529.38                    | 1529.38                         |
| 21           | 1.9273     | 3018.62      | 20.9393                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 644.9              | 1008.8               | 1319.67                  | 0                   | 1319.67                       | 1566.44                    | 1566.44                         |
| 22           | 1.9273     | 3081.44      | 21.8664                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 652.952            | 1021.39              | 1337.01                  | 0                   | 1337.01                       | 1599.04                    | 1599.04                         |
| 23           | 1.9273     | 3135.51      | 22.7995                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 659.027            | 1030.9               | 1350.09                  | 0                   | 1350.09                       | 1627.11                    | 1627.11                         |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.9273 | 3180.64 | 23.739  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 663.125 | 1037.31 | 1358.91 | 0 | 1358.91 | 1650.54 | 1650.54 |
| 25 | 1.9273 | 3216.65 | 24.6854 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 665.241 | 1040.62 | 1363.46 | 0 | 1363.46 | 1669.24 | 1669.24 |
| 26 | 1.9273 | 3243.34 | 25.639  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 665.37  | 1040.82 | 1363.74 | 0 | 1363.74 | 1683.09 | 1683.09 |
| 27 | 1.9273 | 3260.48 | 26.6004 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 663.506 | 1037.9  | 1359.73 | 0 | 1359.73 | 1691.99 | 1691.99 |
| 28 | 1.9273 | 3267.82 | 27.5698 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 659.641 | 1031.86 | 1351.41 | 0 | 1351.41 | 1695.82 | 1695.82 |
| 29 | 1.9273 | 3265.13 | 28.5479 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 653.764 | 1022.66 | 1338.76 | 0 | 1338.76 | 1694.43 | 1694.43 |
| 30 | 1.9273 | 3252.11 | 29.5352 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 645.864 | 1010.3  | 1321.75 | 0 | 1321.75 | 1687.68 | 1687.68 |
| 31 | 1.9273 | 3228.47 | 30.5322 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 635.926 | 994.76  | 1300.35 | 0 | 1300.35 | 1675.42 | 1675.42 |
| 32 | 1.9273 | 3193.87 | 31.5396 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 623.937 | 976.006 | 1274.54 | 0 | 1274.54 | 1657.48 | 1657.48 |
| 33 | 1.9273 | 3147.98 | 32.5579 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 609.878 | 954.014 | 1244.27 | 0 | 1244.27 | 1633.67 | 1633.67 |
| 34 | 1.9273 | 3090.39 | 33.588  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 593.731 | 928.755 | 1209.5  | 0 | 1209.5  | 1603.8  | 1603.8  |
| 35 | 1.9273 | 3020.7  | 34.6305 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 575.474 | 900.196 | 1170.19 | 0 | 1170.19 | 1567.64 | 1567.64 |
| 36 | 1.9273 | 2938.45 | 35.6863 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 555.084 | 868.301 | 1126.29 | 0 | 1126.29 | 1524.96 | 1524.96 |
| 37 | 1.9273 | 2843.13 | 36.7562 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 532.537 | 833.032 | 1077.75 | 0 | 1077.75 | 1475.5  | 1475.5  |
| 38 | 1.9273 | 2734.21 | 37.8413 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 507.806 | 794.346 | 1024.5  | 0 | 1024.5  | 1418.99 | 1418.99 |
| 39 | 1.9273 | 2611.07 | 38.9426 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 480.861 | 752.197 | 966.491 | 0 | 966.491 | 1355.09 | 1355.09 |
| 40 | 1.9273 | 2473.05 | 40.0613 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 451.673 | 706.538 | 903.647 | 0 | 903.647 | 1283.47 | 1283.47 |
| 41 | 1.9273 | 2319.42 | 41.1987 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 420.206 | 657.316 | 835.898 | 0 | 835.898 | 1203.74 | 1203.74 |
| 42 | 1.9273 | 2149.34 | 42.3563 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 386.428 | 604.478 | 763.172 | 0 | 763.172 | 1115.49 | 1115.49 |
| 43 | 1.9273 | 1961.92 | 43.5355 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 350.301 | 547.965 | 685.392 | 0 | 685.392 | 1018.23 | 1018.23 |
| 44 | 1.9273 | 1756.11 | 44.7383 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 311.788 | 487.72  | 602.469 | 0 | 602.469 | 911.422 | 911.422 |
| 45 | 1.9273 | 1530.76 | 45.9667 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 270.849 | 423.681 | 514.327 | 0 | 514.327 | 794.473 | 794.473 |
| 46 | 1.9273 | 1284.55 | 47.223  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 227.445 | 355.786 | 420.878 | 0 | 420.878 | 666.695 | 666.695 |
| 47 | 1.9273 | 1015.96 | 48.5099 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 181.54  | 283.977 | 322.041 | 0 | 322.041 | 527.306 | 527.306 |
| 48 | 1.9273 | 723.273 | 49.8303 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 133.095 | 208.196 | 217.738 | 0 | 217.738 | 375.403 | 375.403 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 1.9273  | 392.467 | 51.1879 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 80.2457 | 125.526 | 103.953  | 0 | 103.953  | 203.715 | 203.715 |
| 50 | 1.01867 | 56.4499 | 52.2489 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 75.1398 | 117.539 | -41.5483 | 0 | -41.5483 | 55.4925 | 55.4925 |



## **Cross Section HH-HH' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.00487**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 2.01112    | 92.4647      | 9.17367                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 74.2839            | 74.6457              | 33.9219                  | 0                   | 33.9219                       | 45.9183                    | 45.9183                         |
| 2            | 2.01112    | 274.368      | 9.84087                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 131.787            | 132.429              | 113.453                  | 0                   | 113.453                       | 136.314                    | 136.314                         |
| 3            | 2.01112    | 450.2        | 10.5094                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 186.477            | 187.385              | 189.094                  | 0                   | 189.094                       | 223.687                    | 223.687                         |
| 4            | 2.01112    | 619.923      | 11.1794                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 238.396            | 239.557              | 260.903                  | 0                   | 260.903                       | 308.018                    | 308.018                         |
| 5            | 2.01112    | 783.496      | 11.851                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 287.588            | 288.989              | 328.94                   | 0                   | 328.94                        | 389.287                    | 389.287                         |
| 6            | 2.01112    | 940.874      | 12.5242                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 334.093            | 335.72               | 393.26                   | 0                   | 393.26                        | 467.474                    | 467.474                         |
| 7            | 2.01112    | 1092.01      | 13.1991                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 377.946            | 379.787              | 453.913                  | 0                   | 453.913                       | 542.554                    | 542.554                         |
| 8            | 2.01112    | 1236.85      | 13.876                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 419.186            | 421.227              | 510.949                  | 0                   | 510.949                       | 614.501                    | 614.501                         |
| 9            | 2.01112    | 1375.35      | 14.5548                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 457.845            | 460.075              | 564.418                  | 0                   | 564.418                       | 683.292                    | 683.292                         |
| 10           | 2.01112    | 1507.44      | 15.2357                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 493.955            | 496.361              | 614.365                  | 0                   | 614.365                       | 748.9                      | 748.9                           |
| 11           | 2.01112    | 1633.07      | 15.9188                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 527.548            | 530.117              | 660.822                  | 0                   | 660.822                       | 811.285                    | 811.285                         |
| 12           | 2.01112    | 1752.17      | 16.6043                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 558.65             | 561.371              | 703.84                   | 0                   | 703.84                        | 870.426                    | 870.426                         |
| 13           | 2.01112    | 1864.67      | 17.2922                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 587.291            | 590.151              | 743.456                  | 0                   | 743.456                       | 926.289                    | 926.289                         |
| 14           | 2.01112    | 1970.5       | 17.9827                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 613.496            | 616.484              | 779.697                  | 0                   | 779.697                       | 978.829                    | 978.829                         |
| 15           | 2.01112    | 2069.58      | 18.6759                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 637.288            | 640.392              | 812.604                  | 0                   | 812.604                       | 1028.02                    | 1028.02                         |
| 16           | 2.01112    | 2161.82      | 19.372                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 658.692            | 661.9                | 842.208                  | 0                   | 842.208                       | 1073.81                    | 1073.81                         |
| 17           | 2.01112    | 2247.16      | 20.071                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 677.727            | 681.028              | 868.535                  | 0                   | 868.535                       | 1116.16                    | 1116.16                         |
| 18           | 2.01112    | 2325.48      | 20.7732                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 694.415            | 697.797              | 891.615                  | 0                   | 891.615                       | 1155.03                    | 1155.03                         |
| 19           | 2.01112    | 2396.7       | 21.4786                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 708.775            | 712.227              | 911.476                  | 0                   | 911.476                       | 1190.36                    | 1190.36                         |
| 20           | 2.01112    | 2460.71      | 22.1875                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 720.825            | 724.335              | 928.144                  | 0                   | 928.144                       | 1222.12                    | 1222.12                         |
| 21           | 2.01112    | 2517.41      | 22.9                      | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 730.579            | 734.137              | 941.637                  | 0                   | 941.637                       | 1250.25                    | 1250.25                         |
| 22           | 2.01112    | 2566.68      | 23.6162                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 738.056            | 741.65               | 951.976                  | 0                   | 951.976                       | 1274.67                    | 1274.67                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 2.01112 | 2608.4  | 24.3364 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 743.268 | 746.888 | 959.183 | 0 | 959.183 | 1295.35 | 1295.35 |
| 24 | 2.01112 | 2642.44 | 25.0607 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 746.23  | 749.864 | 963.279 | 0 | 963.279 | 1312.21 | 1312.21 |
| 25 | 2.01112 | 2668.67 | 25.7893 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 746.953 | 750.591 | 964.279 | 0 | 964.279 | 1325.2  | 1325.2  |
| 26 | 2.01112 | 2686.94 | 26.5224 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 745.449 | 749.079 | 962.198 | 0 | 962.198 | 1334.23 | 1334.23 |
| 27 | 2.01112 | 2697.11 | 27.2603 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 741.728 | 745.34  | 957.053 | 0 | 957.053 | 1339.24 | 1339.24 |
| 28 | 2.01112 | 2699.01 | 28.003  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 735.8   | 739.383 | 948.854 | 0 | 948.854 | 1340.14 | 1340.14 |
| 29 | 2.01112 | 2692.47 | 28.7509 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 727.673 | 731.217 | 937.614 | 0 | 937.614 | 1336.84 | 1336.84 |
| 30 | 2.01112 | 2677.31 | 29.5042 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 717.356 | 720.85  | 923.344 | 0 | 923.344 | 1329.27 | 1329.27 |
| 31 | 2.01112 | 2653.34 | 30.2632 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 704.855 | 708.288 | 906.056 | 0 | 906.056 | 1317.33 | 1317.33 |
| 32 | 2.01112 | 2620.36 | 31.0281 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 690.176 | 693.537 | 885.752 | 0 | 885.752 | 1300.91 | 1300.91 |
| 33 | 2.01112 | 2578.15 | 31.7991 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 673.326 | 676.605 | 862.447 | 0 | 862.447 | 1279.91 | 1279.91 |
| 34 | 2.01112 | 2526.47 | 32.5767 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 654.308 | 657.494 | 836.143 | 0 | 836.143 | 1254.21 | 1254.21 |
| 35 | 2.01112 | 2465.09 | 33.361  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 633.127 | 636.21  | 806.848 | 0 | 806.848 | 1223.7  | 1223.7  |
| 36 | 2.01112 | 2393.75 | 34.1525 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 609.786 | 612.756 | 774.567 | 0 | 774.567 | 1188.24 | 1188.24 |
| 37 | 2.01112 | 2312.15 | 34.9515 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 584.291 | 587.136 | 739.304 | 0 | 739.304 | 1147.69 | 1147.69 |
| 38 | 2.01112 | 2220    | 35.7584 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 556.641 | 559.352 | 701.062 | 0 | 701.062 | 1101.91 | 1101.91 |
| 39 | 2.01112 | 2116.99 | 36.5735 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 526.841 | 529.407 | 659.846 | 0 | 659.846 | 1050.74 | 1050.74 |
| 40 | 2.01112 | 2002.75 | 37.3973 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 494.893 | 497.303 | 615.658 | 0 | 615.658 | 993.996 | 993.996 |
| 41 | 2.01112 | 1876.94 | 38.2303 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 460.798 | 463.042 | 568.504 | 0 | 568.504 | 931.511 | 931.511 |
| 42 | 2.01112 | 1739.14 | 39.0729 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 424.559 | 426.627 | 518.382 | 0 | 518.382 | 863.079 | 863.079 |
| 43 | 2.01112 | 1588.92 | 39.9258 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 386.18  | 388.061 | 465.299 | 0 | 465.299 | 788.491 | 788.491 |
| 44 | 2.01112 | 1425.82 | 40.7893 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 345.662 | 347.345 | 409.259 | 0 | 409.259 | 707.514 | 707.514 |
| 45 | 2.01112 | 1249.33 | 41.6643 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 303.008 | 304.484 | 350.267 | 0 | 350.267 | 619.9   | 619.9   |
| 46 | 2.01112 | 1058.91 | 42.5513 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.225 | 259.483 | 288.328 | 0 | 288.328 | 525.374 | 525.374 |
| 47 | 2.01112 | 841.509 | 43.4512 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 208.667 | 209.683 | 219.785 | 0 | 219.785 | 417.465 | 417.465 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 2.01112 | 593.822 | 44.3646 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 153.89  | 154.639 | 144.023  | 0 | 144.023  | 294.536 | 294.536 |
| 49 | 1.57689 | 276.205 | 45.1909 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 159.786 | 160.564 | 13.5209  | 0 | 13.5209  | 174.375 | 174.375 |
| 50 | 1.57689 | 93.4818 | 45.9278 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 108.115 | 108.642 | -52.9362 | 0 | -52.9362 | 58.7384 | 58.7384 |

Global Minimum Query (janbu simplified) - Safety Factor: 0.973997

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.9597     | 113.566      | 3.09859                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 90.8969            | 88.5333              | 53.0367                  | 0                   | 53.0367                       | 57.9572                    | 57.9572                         |
| 2            | 1.9597     | 337.086      | 3.95715                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 170.839            | 166.397              | 160.207                  | 0                   | 160.207                       | 172.025                    | 172.025                         |
| 3            | 1.9597     | 553.375      | 4.8166                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 246.498            | 240.088              | 261.634                  | 0                   | 261.634                       | 282.405                    | 282.405                         |
| 4            | 1.9597     | 762.407      | 5.67713                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 317.989            | 309.72               | 357.473                  | 0                   | 357.473                       | 389.084                    | 389.084                         |
| 5            | 1.9597     | 964.151      | 6.53895                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 385.418            | 375.396              | 447.869                  | 0                   | 447.869                       | 492.048                    | 492.048                         |
| 6            | 1.9597     | 1158.57      | 7.40227                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 448.889            | 437.217              | 532.956                  | 0                   | 532.956                       | 591.275                    | 591.275                         |
| 7            | 1.9597     | 1345.63      | 8.26727                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 508.494            | 495.272              | 612.864                  | 0                   | 612.864                       | 686.749                    | 686.749                         |
| 8            | 1.9597     | 1525.28      | 9.13418                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 564.323            | 549.649              | 687.709                  | 0                   | 687.709                       | 778.444                    | 778.444                         |
| 9            | 1.9597     | 1697.47      | 10.0032                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 616.458            | 600.428              | 757.598                  | 0                   | 757.598                       | 866.331                    | 866.331                         |
| 10           | 1.9597     | 1862.14      | 10.8746                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 664.972            | 647.681              | 822.638                  | 0                   | 822.638                       | 950.385                    | 950.385                         |
| 11           | 1.9597     | 2019.23      | 11.7485                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 709.942            | 691.481              | 882.921                  | 0                   | 882.921                       | 1030.57                    | 1030.57                         |
| 12           | 1.9597     | 2168.66      | 12.6252                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 751.43             | 731.891              | 938.541                  | 0                   | 938.541                       | 1106.85                    | 1106.85                         |
| 13           | 1.9597     | 2310.37      | 13.5049                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 789.5              | 768.971              | 989.579                  | 0                   | 989.579                       | 1179.19                    | 1179.19                         |
| 14           | 1.9597     | 2444.27      | 14.3878                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 824.211            | 802.779              | 1036.11                  | 0                   | 1036.11                       | 1247.55                    | 1247.55                         |
| 15           | 1.9597     | 2570.27      | 15.2743                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 855.616            | 833.367              | 1078.21                  | 0                   | 1078.21                       | 1311.87                    | 1311.87                         |
| 16           | 1.9597     | 2688.26      | 16.1645                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 883.764            | 860.783              | 1115.95                  | 0                   | 1115.95                       | 1372.11                    | 1372.11                         |
| 17           | 1.9597     | 2798.16      | 17.0588                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 908.702            | 885.073              | 1149.38                  | 0                   | 1149.38                       | 1428.22                    | 1428.22                         |
| 18           | 1.9597     | 2899.83      | 17.9573                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 930.473            | 906.278              | 1178.56                  | 0                   | 1178.56                       | 1480.13                    | 1480.13                         |
| 19           | 1.9597     | 2993.16      | 18.8605                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 949.118            | 924.438              | 1203.56                  | 0                   | 1203.56                       | 1527.79                    | 1527.79                         |
| 20           | 1.9597     | 3078.02      | 19.7686                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 964.671            | 939.587              | 1224.41                  | 0                   | 1224.41                       | 1571.12                    | 1571.12                         |
| 21           | 1.9597     | 3154.26      | 20.6818                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 977.167            | 951.758              | 1241.16                  | 0                   | 1241.16                       | 1610.05                    | 1610.05                         |
| 22           | 1.9597     | 3221.73      | 21.6006                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 986.638            | 960.982              | 1253.86                  | 0                   | 1253.86                       | 1644.51                    | 1644.51                         |
| 23           | 1.9597     | 3280.27      | 22.5252                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 993.109            | 967.285              | 1262.54                  | 0                   | 1262.54                       | 1674.41                    | 1674.41                         |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.9597 | 3329.69 | 23.4561 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 996.607 | 970.692 | 1267.22 | 0 | 1267.22 | 1699.65 | 1699.65 |
| 25 | 1.9597 | 3369.82 | 24.3936 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 997.154 | 971.225 | 1267.96 | 0 | 1267.96 | 1720.15 | 1720.15 |
| 26 | 1.9597 | 3400.43 | 25.3381 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 994.771 | 968.904 | 1264.76 | 0 | 1264.76 | 1735.8  | 1735.8  |
| 27 | 1.9597 | 3421.32 | 26.2901 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 989.476 | 963.747 | 1257.67 | 0 | 1257.67 | 1746.48 | 1746.48 |
| 28 | 1.9597 | 3432.24 | 27.2499 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 981.284 | 955.768 | 1246.68 | 0 | 1246.68 | 1752.07 | 1752.07 |
| 29 | 1.9597 | 3432.94 | 28.2181 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 970.209 | 944.981 | 1231.84 | 0 | 1231.84 | 1752.45 | 1752.45 |
| 30 | 1.9597 | 3423.14 | 29.1951 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 956.263 | 931.397 | 1213.14 | 0 | 1213.14 | 1747.47 | 1747.47 |
| 31 | 1.9597 | 3402.54 | 30.1816 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 939.454 | 915.025 | 1190.61 | 0 | 1190.61 | 1736.98 | 1736.98 |
| 32 | 1.9597 | 3370.83 | 31.178  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 919.789 | 895.872 | 1164.24 | 0 | 1164.24 | 1720.81 | 1720.81 |
| 33 | 1.9597 | 3327.64 | 32.185  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 897.276 | 873.944 | 1134.06 | 0 | 1134.06 | 1698.78 | 1698.78 |
| 34 | 1.9597 | 3272.6  | 33.2034 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 871.915 | 849.243 | 1100.06 | 0 | 1100.06 | 1670.7  | 1670.7  |
| 35 | 1.9597 | 3205.31 | 34.2337 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 843.713 | 821.774 | 1062.26 | 0 | 1062.26 | 1636.37 | 1636.37 |
| 36 | 1.9597 | 3125.3  | 35.2767 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 812.667 | 791.535 | 1020.64 | 0 | 1020.64 | 1595.54 | 1595.54 |
| 37 | 1.9597 | 3032.08 | 36.3334 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 778.777 | 758.526 | 975.202 | 0 | 975.202 | 1547.97 | 1547.97 |
| 38 | 1.9597 | 2925.12 | 37.4046 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 742.041 | 722.746 | 925.956 | 0 | 925.956 | 1493.38 | 1493.38 |
| 39 | 1.9597 | 2803.83 | 38.4914 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 702.458 | 684.192 | 872.891 | 0 | 872.891 | 1431.48 | 1431.48 |
| 40 | 1.9597 | 2667.55 | 39.5948 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 660.024 | 642.861 | 816.003 | 0 | 816.003 | 1361.92 | 1361.92 |
| 41 | 1.9597 | 2515.57 | 40.7161 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 614.734 | 598.749 | 755.287 | 0 | 755.287 | 1284.34 | 1284.34 |
| 42 | 1.9597 | 2347.08 | 41.8567 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 566.587 | 551.854 | 690.742 | 0 | 690.742 | 1198.34 | 1198.34 |
| 43 | 1.9597 | 2161.19 | 43.0179 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 515.58  | 502.173 | 622.364 | 0 | 622.364 | 1103.45 | 1103.45 |
| 44 | 1.9597 | 1956.91 | 44.2016 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 461.712 | 449.706 | 550.149 | 0 | 550.149 | 999.169 | 999.169 |
| 45 | 1.9597 | 1733.12 | 45.4096 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 404.987 | 394.456 | 474.104 | 0 | 474.104 | 884.923 | 884.923 |
| 46 | 1.9597 | 1488.55 | 46.644  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 345.411 | 336.429 | 394.238 | 0 | 394.238 | 760.061 | 760.061 |
| 47 | 1.9597 | 1221.75 | 47.9072 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.999 | 275.64  | 310.567 | 0 | 310.567 | 623.847 | 623.847 |
| 48 | 1.9597 | 923.17  | 49.2021 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 216.16  | 210.539 | 220.963 | 0 | 220.963 | 471.406 | 471.406 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.9597  | 581.159 | 50.5319 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 143.089 | 139.368 | 123.005 | 0 | 123.005 | 296.784 | 296.784 |
| 50 | 1.92896 | 198.399 | 51.8893 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 117.009 | 113.966 | -46.121 | 0 | -46.121 | 103.049 | 103.049 |

## **Cross Section II-II' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.69753**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.3288     | 28.5303      | 8.05234                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 36.4423            | 61.8619              | 16.3264                  | 0                   | 16.3264                       | 21.482                     | 21.482                          |
| 2            | 1.3288     | 84.2713      | 8.72289                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 53.1174            | 90.1684              | 55.2871                  | 0                   | 55.2871                       | 63.4369                    | 63.4369                         |
| 3            | 1.3288     | 137.366      | 9.39465                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 68.8355            | 116.85               | 92.0114                  | 0                   | 92.0114                       | 103.4                      | 103.4                           |
| 4            | 1.3288     | 189.342      | 10.0677                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 84.0665            | 142.705              | 127.598                  | 0                   | 127.598                       | 142.524                    | 142.524                         |
| 5            | 1.3288     | 258.77       | 10.7422                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 104.349            | 177.135              | 174.987                  | 0                   | 174.987                       | 194.783                    | 194.783                         |
| 6            | 1.3288     | 331.711      | 11.4182                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 125.475            | 212.997              | 224.346                  | 0                   | 224.346                       | 249.687                    | 249.687                         |
| 7            | 1.3288     | 401.938      | 12.0958                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 145.592            | 247.147              | 271.349                  | 0                   | 271.349                       | 302.55                     | 302.55                          |
| 8            | 1.3288     | 469.431      | 12.7751                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 164.707            | 279.595              | 316.011                  | 0                   | 316.011                       | 353.356                    | 353.356                         |
| 9            | 1.3288     | 534.169      | 13.4562                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 182.826            | 310.352              | 358.344                  | 0                   | 358.344                       | 402.089                    | 402.089                         |
| 10           | 1.3288     | 596.129      | 14.1393                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 199.953            | 339.426              | 398.361                  | 0                   | 398.361                       | 448.732                    | 448.732                         |
| 11           | 1.3288     | 655.286      | 14.8245                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 216.093            | 366.825              | 436.073                  | 0                   | 436.073                       | 493.266                    | 493.266                         |
| 12           | 1.3288     | 711.614      | 15.5118                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 231.251            | 392.556              | 471.488                  | 0                   | 471.488                       | 535.671                    | 535.671                         |
| 13           | 1.3288     | 765.085      | 16.2014                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 245.43             | 416.625              | 504.616                  | 0                   | 504.616                       | 575.927                    | 575.927                         |
| 14           | 1.3288     | 815.67       | 16.8935                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 258.633            | 439.038              | 535.465                  | 0                   | 535.465                       | 614.012                    | 614.012                         |
| 15           | 1.3288     | 863.338      | 17.5881                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 270.864            | 459.799              | 564.04                   | 0                   | 564.04                        | 649.901                    | 649.901                         |
| 16           | 1.3288     | 908.056      | 18.2854                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 282.122            | 478.911              | 590.346                  | 0                   | 590.346                       | 683.569                    | 683.569                         |
| 17           | 1.3288     | 949.788      | 18.9854                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 292.413            | 496.379              | 614.388                  | 0                   | 614.388                       | 714.99                     | 714.99                          |
| 18           | 1.3288     | 988.497      | 19.6885                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 301.735            | 512.204              | 636.169                  | 0                   | 636.169                       | 744.138                    | 744.138                         |
| 19           | 1.3288     | 1024.14      | 20.3946                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 310.091            | 526.388              | 655.692                  | 0                   | 655.692                       | 770.98                     | 770.98                          |
| 20           | 1.3288     | 1056.69      | 21.104                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 317.48             | 538.931              | 672.956                  | 0                   | 672.956                       | 795.487                    | 795.487                         |
| 21           | 1.3288     | 1086.08      | 21.8168                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 323.902            | 549.834              | 687.962                  | 0                   | 687.962                       | 817.625                    | 817.625                         |
| 22           | 1.3288     | 1112.28      | 22.5332                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 329.359            | 559.096              | 700.709                  | 0                   | 700.709                       | 837.357                    | 837.357                         |

|    |        |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.3288 | 1135.24 | 23.2533 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 333.846 | 566.714 | 711.194 | 0 | 711.194 | 854.649 | 854.649 |
| 24 | 1.3288 | 1154.91 | 23.9773 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 337.365 | 572.687 | 719.419 | 0 | 719.419 | 869.464 | 869.464 |
| 25 | 1.3288 | 1171.22 | 24.7055 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 339.913 | 577.012 | 725.373 | 0 | 725.373 | 881.754 | 881.754 |
| 26 | 1.3288 | 1184.12 | 25.4379 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 341.487 | 579.685 | 729.047 | 0 | 729.047 | 891.473 | 891.473 |
| 27 | 1.3288 | 1193.55 | 26.1747 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 342.086 | 580.701 | 730.45  | 0 | 730.45  | 898.59  | 898.59  |
| 28 | 1.3288 | 1199.45 | 26.9163 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 341.705 | 580.054 | 729.56  | 0 | 729.56  | 903.039 | 903.039 |
| 29 | 1.3288 | 1201.74 | 27.6628 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 340.341 | 577.739 | 726.372 | 0 | 726.372 | 904.773 | 904.773 |
| 30 | 1.3288 | 1200.35 | 28.4144 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 337.99  | 573.748 | 720.878 | 0 | 720.878 | 903.739 | 903.739 |
| 31 | 1.3288 | 1195.21 | 29.1714 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 334.647 | 568.073 | 713.067 | 0 | 713.067 | 899.876 | 899.876 |
| 32 | 1.3288 | 1186.23 | 29.934  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 330.306 | 560.705 | 702.926 | 0 | 702.926 | 893.121 | 893.121 |
| 33 | 1.3288 | 1173.31 | 30.7025 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 324.963 | 551.635 | 690.439 | 0 | 690.439 | 883.407 | 883.407 |
| 34 | 1.3288 | 1156.38 | 31.4771 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 318.612 | 540.853 | 675.603 | 0 | 675.603 | 870.674 | 870.674 |
| 35 | 1.3288 | 1135.33 | 32.2583 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 311.244 | 528.346 | 658.389 | 0 | 658.389 | 854.832 | 854.832 |
| 36 | 1.3288 | 1110.05 | 33.0462 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 302.854 | 514.104 | 638.785 | 0 | 638.785 | 835.808 | 835.808 |
| 37 | 1.3288 | 1080.43 | 33.8412 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 293.433 | 498.112 | 616.772 | 0 | 616.772 | 813.515 | 813.515 |
| 38 | 1.3288 | 1046.35 | 34.6437 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 282.973 | 480.356 | 592.334 | 0 | 592.334 | 787.864 | 787.864 |
| 39 | 1.3288 | 1007.67 | 35.4541 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 271.466 | 460.822 | 565.448 | 0 | 565.448 | 758.755 | 758.755 |
| 40 | 1.3288 | 964.27  | 36.2727 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.902 | 439.494 | 536.092 | 0 | 536.092 | 726.085 | 726.085 |
| 41 | 1.3288 | 915.988 | 37.1    | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 245.271 | 416.355 | 504.244 | 0 | 504.244 | 689.74  | 689.74  |
| 42 | 1.3288 | 862.668 | 37.9364 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 230.563 | 391.387 | 469.879 | 0 | 469.879 | 649.602 | 649.602 |
| 43 | 1.3288 | 804.137 | 38.7824 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 214.766 | 364.571 | 432.97  | 0 | 432.97  | 605.537 | 605.537 |
| 44 | 1.3288 | 740.208 | 39.6386 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 197.869 | 335.889 | 393.492 | 0 | 393.492 | 557.408 | 557.408 |
| 45 | 1.3288 | 670.68  | 40.5056 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 179.861 | 305.319 | 351.416 | 0 | 351.416 | 505.062 | 505.062 |
| 46 | 1.3288 | 595.335 | 41.3839 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 160.728 | 272.841 | 306.714 | 0 | 306.714 | 448.334 | 448.334 |
| 47 | 1.3288 | 510.152 | 42.2742 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 139.58  | 236.942 | 257.303 | 0 | 257.303 | 384.197 | 384.197 |



|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 1.3288  | 389.077 | 43.1773 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 110.496 | 187.57  | 189.349  | 0 | 189.349  | 293.029 | 293.029 |
| 49 | 1.3288  | 255.12  | 44.094  | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 78.9574 | 134.033 | 115.661  | 0 | 115.661  | 192.16  | 192.16  |
| 50 | 1.60852 | 112.853 | 45.1249 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 82.5695 | 140.164 | -12.5892 | 0 | -12.5892 | 70.3411 | 70.3411 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.63381

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.29746    | 37.9808      | 2.23387                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 42.8781            | 70.0547              | 27.6029                  | 0                   | 27.6029                       | 29.2755                    | 29.2755                         |
| 2            | 1.29746    | 112.325      | 3.11294                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 67.472             | 110.237              | 82.9083                  | 0                   | 82.9083                       | 86.5777                    | 86.5777                         |
| 3            | 1.29746    | 183.429      | 3.99275                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 90.6616            | 148.124              | 135.056                  | 0                   | 135.056                       | 141.384                    | 141.384                         |
| 4            | 1.29746    | 253.184      | 4.87351                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 113.097            | 184.779              | 185.508                  | 0                   | 185.508                       | 195.151                    | 195.151                         |
| 5            | 1.29746    | 339.218      | 5.75542                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 140.575            | 229.673              | 247.298                  | 0                   | 247.298                       | 261.467                    | 261.467                         |
| 6            | 1.29746    | 427.118      | 6.6387                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 168.296            | 274.963              | 309.635                  | 0                   | 309.635                       | 329.222                    | 329.222                         |
| 7            | 1.29746    | 511.726      | 7.52357                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 194.581            | 317.908              | 368.744                  | 0                   | 368.744                       | 394.442                    | 394.442                         |
| 8            | 1.29746    | 593.025      | 8.41025                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 219.448            | 358.537              | 424.665                  | 0                   | 424.665                       | 457.111                    | 457.111                         |
| 9            | 1.29746    | 670.992      | 9.29896                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 242.916            | 396.879              | 477.438                  | 0                   | 477.438                       | 517.213                    | 517.213                         |
| 10           | 1.29746    | 745.603      | 10.1899                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 264.999            | 432.958              | 527.097                  | 0                   | 527.097                       | 574.729                    | 574.729                         |
| 11           | 1.29746    | 816.831      | 11.0834                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 285.71             | 466.796              | 573.67                   | 0                   | 573.67                        | 629.638                    | 629.638                         |
| 12           | 1.29746    | 884.647      | 11.9796                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 305.062            | 498.414              | 617.189                  | 0                   | 617.189                       | 681.918                    | 681.918                         |
| 13           | 1.29746    | 949.016      | 12.8788                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 323.067            | 527.83               | 657.676                  | 0                   | 657.676                       | 731.543                    | 731.543                         |
| 14           | 1.29746    | 1009.9       | 13.7813                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 339.734            | 555.06               | 695.155                  | 0                   | 695.155                       | 778.484                    | 778.484                         |
| 15           | 1.29746    | 1067.27      | 14.6872                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 355.071            | 580.119              | 729.645                  | 0                   | 729.645                       | 822.712                    | 822.712                         |
| 16           | 1.29746    | 1121.07      | 15.5969                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 369.087            | 603.018              | 761.161                  | 0                   | 761.161                       | 864.19                     | 864.19                          |
| 17           | 1.29746    | 1171.27      | 16.5107                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.788            | 623.769              | 789.724                  | 0                   | 789.724                       | 902.892                    | 902.892                         |
| 18           | 1.29746    | 1217.8       | 17.4288                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 393.179            | 642.38               | 815.345                  | 0                   | 815.345                       | 938.776                    | 938.776                         |
| 19           | 1.29746    | 1260.62      | 18.3515                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 403.264            | 658.857              | 838.023                  | 0                   | 838.023                       | 971.792                    | 971.792                         |
| 20           | 1.29746    | 1299.67      | 19.2792                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 412.047            | 673.206              | 857.769                  | 0                   | 857.769                       | 1001.9                     | 1001.9                          |
| 21           | 1.29746    | 1334.88      | 20.2122                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 419.529            | 685.43               | 874.591                  | 0                   | 874.591                       | 1029.05                    | 1029.05                         |
| 22           | 1.29746    | 1366.19      | 21.1508                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 425.71             | 695.529              | 888.492                  | 0                   | 888.492                       | 1053.19                    | 1053.19                         |
| 23           | 1.29746    | 1393.52      | 22.0954                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 430.591            | 703.504              | 899.472                  | 0                   | 899.472                       | 1074.28                    | 1074.28                         |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.29746 | 1416.8  | 23.0464 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 434.17  | 709.352 | 907.522 | 0 | 907.522 | 1092.23 | 1092.23 |
| 25 | 1.29746 | 1435.93 | 24.0041 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 436.445 | 713.069 | 912.637 | 0 | 912.637 | 1106.99 | 1106.99 |
| 26 | 1.29746 | 1450.84 | 24.9691 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 437.413 | 714.649 | 914.809 | 0 | 914.809 | 1118.49 | 1118.49 |
| 27 | 1.29746 | 1461.41 | 25.9416 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 437.067 | 714.084 | 914.031 | 0 | 914.031 | 1126.65 | 1126.65 |
| 28 | 1.29746 | 1467.55 | 26.9223 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 435.403 | 711.366 | 910.294 | 0 | 910.294 | 1131.4  | 1131.4  |
| 29 | 1.29746 | 1469.14 | 27.9116 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 432.413 | 706.481 | 903.566 | 0 | 903.566 | 1132.63 | 1132.63 |
| 30 | 1.29746 | 1466.05 | 28.9099 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 428.09  | 699.417 | 893.848 | 0 | 893.848 | 1130.26 | 1130.26 |
| 31 | 1.29746 | 1458.15 | 29.918  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 422.422 | 690.158 | 881.103 | 0 | 881.103 | 1124.18 | 1124.18 |
| 32 | 1.29746 | 1445.3  | 30.9365 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 415.401 | 678.686 | 865.315 | 0 | 865.315 | 1114.29 | 1114.29 |
| 33 | 1.29746 | 1427.33 | 31.9659 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 407.013 | 664.982 | 846.449 | 0 | 846.449 | 1100.44 | 1100.44 |
| 34 | 1.29746 | 1404.08 | 33.0069 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 397.246 | 649.024 | 824.483 | 0 | 824.483 | 1082.53 | 1082.53 |
| 35 | 1.29746 | 1375.36 | 34.0604 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 386.083 | 630.787 | 799.383 | 0 | 799.383 | 1060.39 | 1060.39 |
| 36 | 1.29746 | 1340.96 | 35.1272 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 373.511 | 610.246 | 771.11  | 0 | 771.11  | 1033.88 | 1033.88 |
| 37 | 1.29746 | 1300.67 | 36.2082 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 359.51  | 587.371 | 739.626 | 0 | 739.626 | 1002.83 | 1002.83 |
| 38 | 1.29746 | 1254.23 | 37.3043 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 344.062 | 562.132 | 704.891 | 0 | 704.891 | 967.037 | 967.037 |
| 39 | 1.29746 | 1201.37 | 38.4166 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 327.146 | 534.494 | 666.85  | 0 | 666.85  | 926.297 | 926.297 |
| 40 | 1.29746 | 1141.81 | 39.5463 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 308.739 | 504.421 | 625.454 | 0 | 625.454 | 880.378 | 880.378 |
| 41 | 1.29746 | 1075.21 | 40.6948 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 288.819 | 471.875 | 580.661 | 0 | 580.661 | 829.039 | 829.039 |
| 42 | 1.29746 | 1001.2  | 41.8634 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 267.359 | 436.814 | 532.404 | 0 | 532.404 | 771.983 | 771.983 |
| 43 | 1.29746 | 919.368 | 43.0538 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 244.334 | 399.196 | 480.626 | 0 | 480.626 | 708.901 | 708.901 |
| 44 | 1.29746 | 829.264 | 44.2677 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 219.715 | 358.973 | 425.265 | 0 | 425.265 | 639.435 | 639.435 |
| 45 | 1.29746 | 730.364 | 45.5074 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 193.474 | 316.1   | 366.255 | 0 | 366.255 | 563.186 | 563.186 |
| 46 | 1.29746 | 622.08  | 46.7749 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 165.58  | 270.527 | 303.529 | 0 | 303.529 | 479.7   | 479.7   |
| 47 | 1.29746 | 503.738 | 48.0731 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 136.004 | 222.205 | 237.019 | 0 | 237.019 | 388.455 | 388.455 |
| 48 | 1.29746 | 370.803 | 49.4049 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 103.867 | 169.699 | 164.751 | 0 | 164.751 | 285.956 | 285.956 |

|    |         |         |         |                                                      |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 49 | 1.29746 | 197.893 | 50.7739 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 63.7495 | 104.154 | 74.5372  | 0 | 74.5372  | 152.629 | 152.629 |
| 50 | 0.66605 | 27.0748 | 51.8329 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 69.2028 | 113.064 | -47.2757 | 0 | -47.2757 | 40.7693 | 40.7693 |

## **Cross Section II-II' - Seismic**

**Global Minimum Query (bishop simplified) - Safety Factor: 1.06403**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material               | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.47011    | 36.4837      | 7.40138                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 58.7285            | 62.4889              | 17.1896                  | 0                   | 17.1896                       | 24.8185                    | 24.8185                         |
| 2            | 1.47011    | 107.806      | 8.08652                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 88.4814            | 94.1469              | 60.7629                  | 0                   | 60.7629                       | 73.3345                    | 73.3345                         |
| 3            | 1.47011    | 175.83       | 8.77282                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 116.396            | 123.849              | 101.644                  | 0                   | 101.644                       | 119.607                    | 119.607                         |
| 4            | 1.47011    | 240.537      | 9.4604                    | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 142.503            | 151.627              | 139.877                  | 0                   | 139.877                       | 163.623                    | 163.623                         |
| 5            | 1.47011    | 301.909      | 10.1493                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 166.83             | 177.512              | 175.506                  | 0                   | 175.506                       | 205.371                    | 205.371                         |
| 6            | 1.47011    | 359.928      | 10.8398                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 189.407            | 201.535              | 208.57                   | 0                   | 208.57                        | 244.838                    | 244.838                         |
| 7            | 1.47011    | 432.086      | 11.5318                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 217.401            | 231.321              | 249.567                  | 0                   | 249.567                       | 293.923                    | 293.923                         |
| 8            | 1.47011    | 517.444      | 12.2256                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 250.303            | 266.33               | 297.753                  | 0                   | 297.753                       | 351.987                    | 351.987                         |
| 9            | 1.47011    | 599.373      | 12.9211                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 281.321            | 299.334              | 343.179                  | 0                   | 343.179                       | 407.719                    | 407.719                         |
| 10           | 1.47011    | 677.844      | 13.6187                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 310.478            | 330.358              | 385.879                  | 0                   | 385.879                       | 461.099                    | 461.099                         |
| 11           | 1.47011    | 752.828      | 14.3182                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 337.797            | 359.426              | 425.889                  | 0                   | 425.889                       | 512.107                    | 512.107                         |
| 12           | 1.47011    | 824.293      | 15.02                     | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 363.301            | 386.563              | 463.239                  | 0                   | 463.239                       | 560.721                    | 560.721                         |
| 13           | 1.47011    | 892.205      | 15.7241                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 387.009            | 411.789              | 497.959                  | 0                   | 497.959                       | 606.918                    | 606.918                         |
| 14           | 1.47011    | 956.527      | 16.4306                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 408.941            | 435.125              | 530.079                  | 0                   | 530.079                       | 650.674                    | 650.674                         |
| 15           | 1.47011    | 1017.22      | 17.1397                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 429.114            | 456.59               | 559.623                  | 0                   | 559.623                       | 691.962                    | 691.962                         |
| 16           | 1.47011    | 1074.25      | 17.8515                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 447.547            | 476.203              | 586.618                  | 0                   | 586.618                       | 730.754                    | 730.754                         |
| 17           | 1.47011    | 1127.56      | 18.5662                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 464.255            | 493.981              | 611.086                  | 0                   | 611.086                       | 767.021                    | 767.021                         |
| 18           | 1.47011    | 1177.12      | 19.2839                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 479.252            | 509.939              | 633.051                  | 0                   | 633.051                       | 800.732                    | 800.732                         |
| 19           | 1.47011    | 1222.86      | 20.0048                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 492.554            | 524.092              | 652.534                  | 0                   | 652.534                       | 831.855                    | 831.855                         |
| 20           | 1.47011    | 1264.75      | 20.7289                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 504.173            | 536.455              | 669.551                  | 0                   | 669.551                       | 860.353                    | 860.353                         |
| 21           | 1.47011    | 1302.73      | 21.4566                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 514.121            | 547.04               | 684.119                  | 0                   | 684.119                       | 886.187                    | 886.187                         |
| 22           | 1.47011    | 1336.74      | 22.1879                   | MD-D<br>SAND/Silt<br>y SAND | 50                  | 36                        | 522.409            | 555.859              | 696.258                  | 0                   | 696.258                       | 909.32                     | 909.32                          |

|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 1.47011 | 1366.71 | 22.923  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 529.049 | 562.924 | 705.977 | 0 | 705.977 | 929.707 | 929.707 |
| 24 | 1.47011 | 1392.58 | 23.6621 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 534.048 | 568.243 | 713.301 | 0 | 713.301 | 947.31  | 947.31  |
| 25 | 1.47011 | 1414.29 | 24.4055 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 537.417 | 571.828 | 718.236 | 0 | 718.236 | 962.081 | 962.081 |
| 26 | 1.47011 | 1431.76 | 25.1532 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 539.162 | 573.685 | 720.793 | 0 | 720.793 | 973.966 | 973.966 |
| 27 | 1.47011 | 1444.91 | 25.9056 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 539.292 | 573.823 | 720.98  | 0 | 720.98  | 982.911 | 982.911 |
| 28 | 1.47011 | 1453.67 | 26.6628 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 537.813 | 572.249 | 718.812 | 0 | 718.812 | 988.866 | 988.866 |
| 29 | 1.47011 | 1457.94 | 27.425  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 534.729 | 568.968 | 714.297 | 0 | 714.297 | 991.77  | 991.77  |
| 30 | 1.47011 | 1457.62 | 28.1926 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 530.047 | 563.986 | 707.439 | 0 | 707.439 | 991.559 | 991.559 |
| 31 | 1.47011 | 1452.64 | 28.9657 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 523.771 | 557.308 | 698.247 | 0 | 698.247 | 988.168 | 988.168 |
| 32 | 1.47011 | 1442.87 | 29.7446 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 515.904 | 548.937 | 686.727 | 0 | 686.727 | 981.525 | 981.525 |
| 33 | 1.47011 | 1428.21 | 30.5296 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 506.449 | 538.877 | 672.884 | 0 | 672.884 | 971.558 | 971.558 |
| 34 | 1.47011 | 1408.54 | 31.321  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 495.409 | 527.13  | 656.716 | 0 | 656.716 | 958.179 | 958.179 |
| 35 | 1.47011 | 1383.73 | 32.1191 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 482.786 | 513.699 | 638.227 | 0 | 638.227 | 941.303 | 941.303 |
| 36 | 1.47011 | 1353.66 | 32.9243 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 468.581 | 498.584 | 617.42  | 0 | 617.42  | 920.841 | 920.841 |
| 37 | 1.47011 | 1318.17 | 33.7369 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 452.795 | 481.787 | 594.306 | 0 | 594.306 | 896.703 | 896.703 |
| 38 | 1.47011 | 1277.11 | 34.5572 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 435.429 | 463.309 | 568.871 | 0 | 568.871 | 868.773 | 868.773 |
| 39 | 1.47011 | 1230.32 | 35.3857 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 416.481 | 443.148 | 541.122 | 0 | 541.122 | 836.943 | 836.943 |
| 40 | 1.47011 | 1177.62 | 36.2228 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 395.952 | 421.305 | 511.058 | 0 | 511.058 | 801.093 | 801.093 |
| 41 | 1.47011 | 1118.81 | 37.069  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 373.843 | 397.78  | 478.678 | 0 | 478.678 | 761.095 | 761.095 |
| 42 | 1.47011 | 1053.71 | 37.9247 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 350.151 | 372.571 | 443.98  | 0 | 443.98  | 716.808 | 716.808 |
| 43 | 1.47011 | 982.081 | 38.7905 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 324.875 | 345.677 | 406.964 | 0 | 406.964 | 668.082 | 668.082 |
| 44 | 1.47011 | 903.688 | 39.667  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 298.015 | 317.097 | 367.627 | 0 | 367.627 | 614.754 | 614.754 |
| 45 | 1.47011 | 816.866 | 40.5547 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 269.158 | 286.392 | 325.366 | 0 | 325.366 | 555.693 | 555.693 |
| 46 | 1.47011 | 689.601 | 41.4544 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 229.123 | 243.794 | 266.734 | 0 | 266.734 | 469.12  | 469.12  |
| 47 | 1.47011 | 540.743 | 42.3667 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 183.742 | 195.507 | 200.273 | 0 | 200.273 | 367.857 | 367.857 |

|    |         |         |         |                                            |     |    |         |         |          |   |          |         |         |
|----|---------|---------|---------|--------------------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 48 | 1.47011 | 383.943 | 43.2925 | MD-D<br>SAND/Silty SAND                    | 50  | 36 | 137.126 | 145.906 | 132.004  | 0 | 132.004  | 261.19  | 261.19  |
| 49 | 1.21967 | 190.17  | 44.1513 | MD-VD<br>Silty SAND/Silty SAND with gravel | 150 | 38 | 149.156 | 158.707 | 11.1442  | 0 | 11.1442  | 155.946 | 155.946 |
| 50 | 1.21967 | 64.2653 | 44.9417 | MD-VD<br>Silty SAND/Silty SAND with gravel | 150 | 38 | 103.693 | 110.333 | -50.7721 | 0 | -50.7721 | 52.7099 | 52.7099 |

Global Minimum Query (janbu simplified) - Safety Factor: 1.01933

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material         | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.37062    | 43.4385      | 1.72047                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 70.1383            | 71.4941              | 29.5841                  | 0                   | 29.5841                       | 31.6909                    | 31.6909                         |
| 2            | 1.37062    | 128.507      | 2.60159                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 112.241            | 114.411              | 88.6543                  | 0                   | 88.6543                       | 93.7543                    | 93.7543                         |
| 3            | 1.37062    | 209.956      | 3.48333                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 151.651            | 154.582              | 143.945                  | 0                   | 143.945                       | 153.176                    | 153.176                         |
| 4            | 1.37062    | 287.775      | 4.36589                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 188.44             | 192.083              | 195.561                  | 0                   | 195.561                       | 209.948                    | 209.948                         |
| 5            | 1.37062    | 361.953      | 5.2495                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 222.684            | 226.988              | 243.604                  | 0                   | 243.604                       | 264.063                    | 264.063                         |
| 6            | 1.37062    | 442.489      | 6.13435                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 259.282            | 264.294              | 294.95                   | 0                   | 294.95                        | 322.816                    | 322.816                         |
| 7            | 1.37062    | 538.532      | 7.02068                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 302.528            | 308.376              | 355.624                  | 0                   | 355.624                       | 392.881                    | 392.881                         |
| 8            | 1.37062    | 631.354      | 7.9087                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 343.351            | 349.988              | 412.899                  | 0                   | 412.899                       | 460.596                    | 460.596                         |
| 9            | 1.37062    | 720.463      | 8.79864                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 381.583            | 388.959              | 466.537                  | 0                   | 466.537                       | 525.6                      | 525.6                           |
| 10           | 1.37062    | 805.831      | 9.69072                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 417.279            | 425.345              | 516.618                  | 0                   | 516.618                       | 587.875                    | 587.875                         |
| 11           | 1.37062    | 887.432      | 10.5852                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 450.491            | 459.199              | 563.214                  | 0                   | 563.214                       | 647.4                      | 647.4                           |
| 12           | 1.37062    | 965.233      | 11.4823                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 481.267            | 490.57               | 606.393                  | 0                   | 606.393                       | 704.153                    | 704.153                         |
| 13           | 1.37062    | 1039.2       | 12.3822                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 509.653            | 519.505              | 646.218                  | 0                   | 646.218                       | 758.107                    | 758.107                         |
| 14           | 1.37062    | 1109.29      | 13.2853                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 535.691            | 546.046              | 682.748                  | 0                   | 682.748                       | 809.235                    | 809.235                         |
| 15           | 1.37062    | 1175.47      | 14.1917                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 559.418            | 570.232              | 716.036                  | 0                   | 716.036                       | 857.504                    | 857.504                         |
| 16           | 1.37062    | 1237.68      | 15.1018                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 580.872            | 592.1                | 746.134                  | 0                   | 746.134                       | 902.884                    | 902.884                         |
| 17           | 1.37062    | 1295.89      | 16.0158                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 600.084            | 611.684              | 773.094                  | 0                   | 773.094                       | 945.344                    | 945.344                         |
| 18           | 1.37062    | 1350.03      | 16.934                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 617.087            | 629.015              | 796.945                  | 0                   | 796.945                       | 984.83                     | 984.83                          |
| 19           | 1.37062    | 1400.05      | 17.8567                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 631.907            | 644.122              | 817.74                   | 0                   | 817.74                        | 1021.31                    | 1021.31                         |
| 20           | 1.37062    | 1445.88      | 18.7842                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 644.571            | 657.031              | 835.507                  | 0                   | 835.507                       | 1054.74                    | 1054.74                         |
| 21           | 1.37062    | 1487.46      | 19.7168                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 655.104            | 667.767              | 850.283                  | 0                   | 850.283                       | 1085.06                    | 1085.06                         |
| 22           | 1.37062    | 1524.71      | 20.655                    | MD-D SAND/Silt y SAND | 50                  | 36                        | 663.526            | 676.352              | 862.097                  | 0                   | 862.097                       | 1112.23                    | 1112.23                         |
| 23           | 1.37062    | 1557.56      | 21.5989                   | MD-D SAND/Silt y SAND | 50                  | 36                        | 669.857            | 682.805              | 870.98                   | 0                   | 870.98                        | 1136.18                    | 1136.18                         |



|    |         |         |         |                             |    |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|-----------------------------|----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.37062 | 1585.92 | 22.5491 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 674.114 | 687.145 | 876.955 | 0 | 876.955 | 1156.86 | 1156.86 |
| 25 | 1.37062 | 1609.69 | 23.5058 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 676.315 | 689.388 | 880.045 | 0 | 880.045 | 1174.2  | 1174.2  |
| 26 | 1.37062 | 1628.78 | 24.4696 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 676.471 | 689.547 | 880.263 | 0 | 880.263 | 1188.11 | 1188.11 |
| 27 | 1.37062 | 1643.09 | 25.4408 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 674.596 | 687.636 | 877.629 | 0 | 877.629 | 1198.54 | 1198.54 |
| 28 | 1.37062 | 1652.49 | 26.4198 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 670.699 | 683.664 | 872.164 | 0 | 872.164 | 1205.39 | 1205.39 |
| 29 | 1.37062 | 1656.87 | 27.4073 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 664.791 | 677.641 | 863.874 | 0 | 863.874 | 1208.58 | 1208.58 |
| 30 | 1.37062 | 1656.09 | 28.4037 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 656.877 | 669.574 | 852.771 | 0 | 852.771 | 1208    | 1208    |
| 31 | 1.37062 | 1650    | 29.4095 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 646.963 | 659.469 | 838.862 | 0 | 838.862 | 1203.55 | 1203.55 |
| 32 | 1.37062 | 1638.45 | 30.4254 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 635.054 | 647.33  | 822.155 | 0 | 822.155 | 1195.12 | 1195.12 |
| 33 | 1.37062 | 1621.28 | 31.452  | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 621.153 | 633.16  | 802.648 | 0 | 802.648 | 1182.58 | 1182.58 |
| 34 | 1.37062 | 1598.28 | 32.49   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 605.259 | 616.959 | 780.355 | 0 | 780.355 | 1165.8  | 1165.8  |
| 35 | 1.37062 | 1569.27 | 33.5401 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 587.375 | 598.729 | 755.263 | 0 | 755.263 | 1144.63 | 1144.63 |
| 36 | 1.37062 | 1534.02 | 34.6031 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 567.498 | 578.468 | 727.372 | 0 | 727.372 | 1118.91 | 1118.91 |
| 37 | 1.37062 | 1492.3  | 35.68   | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 545.626 | 556.173 | 696.685 | 0 | 696.685 | 1088.47 | 1088.47 |
| 38 | 1.37062 | 1443.84 | 36.7715 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 521.754 | 531.84  | 663.196 | 0 | 663.196 | 1053.11 | 1053.11 |
| 39 | 1.37062 | 1388.35 | 37.8789 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 495.882 | 505.467 | 626.894 | 0 | 626.894 | 1012.63 | 1012.63 |
| 40 | 1.37062 | 1325.52 | 39.0031 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 468     | 477.046 | 587.779 | 0 | 587.779 | 966.8   | 966.8   |
| 41 | 1.37062 | 1254.99 | 40.1455 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 438.104 | 446.573 | 545.836 | 0 | 545.836 | 915.35  | 915.35  |
| 42 | 1.37062 | 1176.38 | 41.3075 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 406.19  | 414.042 | 501.061 | 0 | 501.061 | 858.003 | 858.003 |
| 43 | 1.37062 | 1089.24 | 42.4906 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 372.252 | 379.448 | 453.446 | 0 | 453.446 | 794.44  | 794.44  |
| 44 | 1.37062 | 993.092 | 43.6965 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 336.285 | 342.785 | 402.983 | 0 | 402.983 | 724.305 | 724.305 |
| 45 | 1.37062 | 887.38  | 44.9272 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 298.284 | 304.05  | 349.67  | 0 | 349.67  | 647.197 | 647.197 |
| 46 | 1.37062 | 771.485 | 46.1849 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 258.251 | 263.243 | 293.503 | 0 | 293.503 | 562.663 | 562.663 |
| 47 | 1.37062 | 643.535 | 47.4721 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 215.847 | 220.019 | 234.011 | 0 | 234.011 | 469.336 | 469.336 |
| 48 | 1.37062 | 475.206 | 48.7916 | MD-D<br>SAND/Silt<br>y SAND | 50 | 36 | 163.219 | 166.374 | 160.175 | 0 | 160.175 | 346.563 | 346.563 |

|    |         |         |         |                                                      |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.37062 | 281.875 | 50.1468 | MD-D<br>SAND/Silt<br>y SAND                          | 50  | 36 | 105.49  | 107.529 | 79.1818 | 0 | 79.1818 | 205.556 | 205.556 |
| 50 | 1.11026 | 73.681  | 51.4055 | MD-VD<br>Silty<br>SAND/Silt<br>y SAND<br>with gravel | 150 | 38 | 100.976 | 102.928 | -60.25  | 0 | -60.25  | 66.2651 | 66.2651 |

## **Cross Section JJ-JJ' - Master Scenario**

**Global Minimum Query (bishop simplified) - Safety Factor: 2.04849**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.52768    | 5.58096      | 7.22713                   | D-VD SAND     | 0                   | 38                        | 1.32917            | 2.72279              | 3.48501                  | 0                   | 3.48501                       | 3.65357                    | 3.65357                         |
| 2            | 1.52768    | 15.458       | 7.74397                   | D-VD SAND     | 0                   | 38                        | 3.66926            | 7.51645              | 9.62064                  | 0                   | 9.62064                       | 10.1196                    | 10.1196                         |
| 3            | 1.52768    | 50.4807      | 8.26144                   | D-VD SAND     | 0                   | 38                        | 11.9428            | 24.4647              | 31.3134                  | 0                   | 31.3134                       | 33.0475                    | 33.0475                         |
| 4            | 1.52768    | 115.165      | 8.77959                   | D-VD SAND     | 0                   | 38                        | 27.1555            | 55.6277              | 71.1999                  | 0                   | 71.1999                       | 75.3939                    | 75.3939                         |
| 5            | 1.52768    | 177.3        | 9.29846                   | D-VD SAND     | 0                   | 38                        | 41.6675            | 85.3554              | 109.25                   | 0                   | 109.25                        | 116.072                    | 116.072                         |
| 6            | 1.52768    | 236.829      | 9.8181                    | D-VD SAND     | 0                   | 38                        | 55.4721            | 113.634              | 145.445                  | 0                   | 145.445                       | 155.044                    | 155.044                         |
| 7            | 1.52768    | 293.739      | 10.3386                   | D-VD SAND     | 0                   | 38                        | 68.5725            | 140.47               | 179.793                  | 0                   | 179.793                       | 192.303                    | 192.303                         |
| 8            | 1.52768    | 348.019      | 10.8599                   | D-VD SAND     | 0                   | 38                        | 80.9723            | 165.871              | 212.306                  | 0                   | 212.306                       | 227.84                     | 227.84                          |
| 9            | 1.52768    | 399.654      | 11.3821                   | D-VD SAND     | 0                   | 38                        | 92.6751            | 189.844              | 242.989                  | 0                   | 242.989                       | 261.646                    | 261.646                         |
| 10           | 1.52768    | 448.631      | 11.9053                   | D-VD SAND     | 0                   | 38                        | 103.683            | 212.394              | 271.852                  | 0                   | 271.852                       | 293.712                    | 293.712                         |
| 11           | 1.52768    | 494.934      | 12.4295                   | D-VD SAND     | 0                   | 38                        | 114                | 233.527              | 298.901                  | 0                   | 298.901                       | 324.027                    | 324.027                         |
| 12           | 1.52768    | 538.547      | 12.9548                   | D-VD SAND     | 0                   | 38                        | 123.627            | 253.249              | 324.144                  | 0                   | 324.144                       | 352.583                    | 352.583                         |
| 13           | 1.52768    | 579.454      | 13.4812                   | D-VD SAND     | 0                   | 38                        | 132.568            | 271.564              | 347.586                  | 0                   | 347.586                       | 379.367                    | 379.367                         |
| 14           | 1.52768    | 617.638      | 14.0087                   | D-VD SAND     | 0                   | 38                        | 140.824            | 288.477              | 369.234                  | 0                   | 369.234                       | 404.368                    | 404.368                         |
| 15           | 1.52768    | 653.079      | 14.5375                   | D-VD SAND     | 0                   | 38                        | 148.398            | 303.992              | 389.092                  | 0                   | 389.092                       | 427.574                    | 427.574                         |
| 16           | 1.52768    | 685.881      | 15.0675                   | D-VD SAND     | 0                   | 38                        | 155.319            | 318.17               | 407.239                  | 0                   | 407.239                       | 449.053                    | 449.053                         |
| 17           | 1.52768    | 719.468      | 15.5988                   | D-VD SAND     | 0                   | 38                        | 162.366            | 332.605              | 425.715                  | 0                   | 425.715                       | 471.045                    | 471.045                         |
| 18           | 1.52768    | 751.897      | 16.1315                   | D-VD SAND     | 0                   | 38                        | 169.1              | 346.399              | 443.371                  | 0                   | 443.371                       | 492.28                     | 492.28                          |
| 19           | 1.52768    | 781.499      | 16.6657                   | D-VD SAND     | 0                   | 38                        | 175.149            | 358.791              | 459.231                  | 0                   | 459.231                       | 511.664                    | 511.664                         |
| 20           | 1.52768    | 808.253      | 17.2014                   | D-VD SAND     | 0                   | 38                        | 180.515            | 369.783              | 473.3                    | 0                   | 473.3                         | 529.184                    | 529.184                         |
| 21           | 1.52768    | 832.133      | 17.7386                   | D-VD SAND     | 0                   | 38                        | 185.198            | 379.377              | 485.58                   | 0                   | 485.58                        | 544.822                    | 544.822                         |
| 22           | 1.52768    | 853.115      | 18.2774                   | D-VD SAND     | 0                   | 38                        | 189.2              | 387.575              | 496.073                  | 0                   | 496.073                       | 558.562                    | 558.562                         |
| 23           | 1.52768    | 871.17       | 18.8179                   | D-VD SAND     | 0                   | 38                        | 192.521            | 394.378              | 504.781                  | 0                   | 504.781                       | 570.388                    | 570.388                         |
| 24           | 1.52768    | 886.272      | 19.3602                   | D-VD SAND     | 0                   | 38                        | 195.162            | 399.787              | 511.704                  | 0                   | 511.704                       | 580.279                    | 580.279                         |
| 25           | 1.52768    | 898.391      | 19.9042                   | D-VD SAND     | 0                   | 38                        | 197.122            | 403.803              | 516.844                  | 0                   | 516.844                       | 588.217                    | 588.217                         |
| 26           | 1.52768    | 907.497      | 20.4502                   | D-VD SAND     | 0                   | 38                        | 198.402            | 406.425              | 520.2                    | 0                   | 520.2                         | 594.183                    | 594.183                         |
| 27           | 1.52768    | 913.557      | 20.998                    | D-VD SAND     | 0                   | 38                        | 199.002            | 407.654              | 521.773                  | 0                   | 521.773                       | 598.155                    | 598.155                         |
| 28           | 1.52768    | 916.54       | 21.5479                   | D-VD SAND     | 0                   | 38                        | 198.922            | 407.489              | 521.562                  | 0                   | 521.562                       | 600.111                    | 600.111                         |
| 29           | 1.52768    | 916.409      | 22.0999                   | D-VD SAND     | 0                   | 38                        | 198.16             | 405.929              | 519.565                  | 0                   | 519.565                       | 600.03                     | 600.03                          |
| 30           | 1.52768    | 913.129      | 22.6541                   | D-VD SAND     | 0                   | 38                        | 196.717            | 402.973              | 515.782                  | 0                   | 515.782                       | 597.885                    | 597.885                         |
| 31           | 1.52768    | 906.662      | 23.2105                   | D-VD SAND     | 0                   | 38                        | 194.592            | 398.62               | 510.21                   | 0                   | 510.21                        | 593.655                    | 593.655                         |
| 32           | 1.52768    | 896.968      | 23.7692                   | D-VD SAND     | 0                   | 38                        | 191.784            | 392.868              | 502.848                  | 0                   | 502.848                       | 587.312                    | 587.312                         |

|    |         |         |         |              |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 1.52768 | 882.449 | 24.3304 | D-VD<br>SAND | 0 | 38 | 187.96  | 385.034 | 492.822 | 0 | 492.822 | 577.809 | 577.809 |
| 34 | 1.52768 | 861.916 | 24.894  | D-VD<br>SAND | 0 | 38 | 182.88  | 374.627 | 479.501 | 0 | 479.501 | 564.368 | 564.368 |
| 35 | 1.52768 | 837.978 | 25.4602 | D-VD<br>SAND | 0 | 38 | 177.109 | 362.807 | 464.371 | 0 | 464.371 | 548.698 | 548.698 |
| 36 | 1.52768 | 810.637 | 26.0292 | D-VD<br>SAND | 0 | 38 | 170.657 | 349.59  | 447.455 | 0 | 447.455 | 530.798 | 530.798 |
| 37 | 1.52768 | 779.843 | 26.6008 | D-VD<br>SAND | 0 | 38 | 163.523 | 334.975 | 428.749 | 0 | 428.749 | 510.638 | 510.638 |
| 38 | 1.52768 | 745.545 | 27.1754 | D-VD<br>SAND | 0 | 38 | 155.703 | 318.957 | 408.246 | 0 | 408.246 | 488.183 | 488.183 |
| 39 | 1.52768 | 707.689 | 27.7529 | D-VD<br>SAND | 0 | 38 | 147.198 | 301.533 | 385.944 | 0 | 385.944 | 463.398 | 463.398 |
| 40 | 1.52768 | 666.219 | 28.3335 | D-VD<br>SAND | 0 | 38 | 138.003 | 282.697 | 361.835 | 0 | 361.835 | 436.246 | 436.246 |
| 41 | 1.52768 | 621.075 | 28.9173 | D-VD<br>SAND | 0 | 38 | 128.116 | 262.445 | 335.914 | 0 | 335.914 | 406.688 | 406.688 |
| 42 | 1.52768 | 572.196 | 29.5044 | D-VD<br>SAND | 0 | 38 | 117.536 | 240.771 | 308.173 | 0 | 308.173 | 374.684 | 374.684 |
| 43 | 1.52768 | 519.517 | 30.0949 | D-VD<br>SAND | 0 | 38 | 106.26  | 217.672 | 278.607 | 0 | 278.607 | 340.191 | 340.191 |
| 44 | 1.52768 | 462.97  | 30.689  | D-VD<br>SAND | 0 | 38 | 94.2841 | 193.14  | 247.208 | 0 | 247.208 | 303.165 | 303.165 |
| 45 | 1.52768 | 402.484 | 31.2867 | D-VD<br>SAND | 0 | 38 | 81.6065 | 167.17  | 213.968 | 0 | 213.968 | 263.559 | 263.559 |
| 46 | 1.52768 | 337.984 | 31.8883 | D-VD<br>SAND | 0 | 38 | 68.2234 | 139.755 | 178.878 | 0 | 178.878 | 221.324 | 221.324 |
| 47 | 1.52768 | 269.391 | 32.4938 | D-VD<br>SAND | 0 | 38 | 54.1321 | 110.889 | 141.931 | 0 | 141.931 | 176.409 | 176.409 |
| 48 | 1.52768 | 196.624 | 33.1034 | D-VD<br>SAND | 0 | 38 | 39.3284 | 80.5638 | 103.117 | 0 | 103.117 | 128.758 | 128.758 |
| 49 | 1.52768 | 119.594 | 33.7173 | D-VD<br>SAND | 0 | 38 | 23.8094 | 48.7734 | 62.4271 | 0 | 62.4271 | 78.3165 | 78.3165 |
| 50 | 1.52768 | 39.6987 | 34.3356 | D-VD<br>SAND | 0 | 38 | 7.86589 | 16.1132 | 20.624  | 0 | 20.624  | 25.9969 | 25.9969 |

Global Minimum Query (janbu simplified) - Safety Factor: 2.02152

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.4259     | 29.7664      | 7.79806                   | D-VD SAND     | 0                   | 38                        | 7.66255            | 15.49                | 19.8262                  | 0                   | 19.8262                       | 20.8756                    | 20.8756                         |
| 2            | 1.4259     | 88.1863      | 8.31044                   | D-VD SAND     | 0                   | 38                        | 22.6254            | 45.7377              | 58.5415                  | 0                   | 58.5415                       | 61.8464                    | 61.8464                         |
| 3            | 1.4259     | 144.376      | 8.8235                    | D-VD SAND     | 0                   | 38                        | 36.918             | 74.6305              | 95.5227                  | 0                   | 95.5227                       | 101.253                    | 101.253                         |
| 4            | 1.4259     | 198.327      | 9.33727                   | D-VD SAND     | 0                   | 38                        | 50.5441            | 102.176              | 130.779                  | 0                   | 130.779                       | 139.09                     | 139.09                          |
| 5            | 1.4259     | 250.03       | 9.8518                    | D-VD SAND     | 0                   | 38                        | 63.5077            | 128.382              | 164.321                  | 0                   | 164.321                       | 175.35                     | 175.35                          |
| 6            | 1.4259     | 299.473      | 10.3671                   | D-VD SAND     | 0                   | 38                        | 75.8113            | 153.254              | 196.156                  | 0                   | 196.156                       | 210.025                    | 210.025                         |
| 7            | 1.4259     | 346.647      | 10.8833                   | D-VD SAND     | 0                   | 38                        | 87.4589            | 176.8                | 226.294                  | 0                   | 226.294                       | 243.109                    | 243.109                         |
| 8            | 1.4259     | 391.539      | 11.4004                   | D-VD SAND     | 0                   | 38                        | 98.4531            | 199.025              | 254.74                   | 0                   | 254.74                        | 274.593                    | 274.593                         |
| 9            | 1.4259     | 434.137      | 11.9184                   | D-VD SAND     | 0                   | 38                        | 108.797            | 219.935              | 281.504                  | 0                   | 281.504                       | 304.467                    | 304.467                         |
| 10           | 1.4259     | 474.43       | 12.4374                   | D-VD SAND     | 0                   | 38                        | 118.493            | 239.536              | 306.592                  | 0                   | 306.592                       | 332.726                    | 332.726                         |
| 11           | 1.4259     | 512.402      | 12.9575                   | D-VD SAND     | 0                   | 38                        | 127.544            | 257.832              | 330.01                   | 0                   | 330.01                        | 359.356                    | 359.356                         |
| 12           | 1.4259     | 548.04       | 13.4786                   | D-VD SAND     | 0                   | 38                        | 135.951            | 274.828              | 351.764                  | 0                   | 351.764                       | 384.35                     | 384.35                          |
| 13           | 1.4259     | 581.667      | 14.0009                   | D-VD SAND     | 0                   | 38                        | 143.802            | 290.699              | 372.077                  | 0                   | 372.077                       | 407.934                    | 407.934                         |
| 14           | 1.4259     | 616.35       | 14.5243                   | D-VD SAND     | 0                   | 38                        | 151.856            | 306.98               | 392.916                  | 0                   | 392.916                       | 432.257                    | 432.257                         |
| 15           | 1.4259     | 649.539      | 15.0491                   | D-VD SAND     | 0                   | 38                        | 159.484            | 322.4                | 412.653                  | 0                   | 412.653                       | 455.533                    | 455.533                         |
| 16           | 1.4259     | 680.33       | 15.5751                   | D-VD SAND     | 0                   | 38                        | 166.469            | 336.521              | 430.726                  | 0                   | 430.726                       | 477.127                    | 477.127                         |
| 17           | 1.4259     | 708.703      | 16.1024                   | D-VD SAND     | 0                   | 38                        | 172.812            | 349.343              | 447.139                  | 0                   | 447.139                       | 497.026                    | 497.026                         |
| 18           | 1.4259     | 734.64       | 16.6312                   | D-VD SAND     | 0                   | 38                        | 178.515            | 360.871              | 461.893                  | 0                   | 461.893                       | 515.216                    | 515.216                         |
| 19           | 1.4259     | 758.121      | 17.1614                   | D-VD SAND     | 0                   | 38                        | 183.577            | 371.105              | 474.993                  | 0                   | 474.993                       | 531.685                    | 531.685                         |
| 20           | 1.4259     | 779.125      | 17.6931                   | D-VD SAND     | 0                   | 38                        | 188.002            | 380.049              | 486.441                  | 0                   | 486.441                       | 546.415                    | 546.415                         |
| 21           | 1.4259     | 797.631      | 18.2265                   | D-VD SAND     | 0                   | 38                        | 191.788            | 387.704              | 496.239                  | 0                   | 496.239                       | 559.394                    | 559.394                         |
| 22           | 1.4259     | 813.615      | 18.7614                   | D-VD SAND     | 0                   | 38                        | 194.938            | 394.071              | 504.388                  | 0                   | 504.388                       | 570.604                    | 570.604                         |
| 23           | 1.4259     | 827.055      | 19.2981                   | D-VD SAND     | 0                   | 38                        | 197.451            | 399.151              | 510.89                   | 0                   | 510.89                        | 580.029                    | 580.029                         |
| 24           | 1.4259     | 837.924      | 19.8365                   | D-VD SAND     | 0                   | 38                        | 199.328            | 402.946              | 515.747                  | 0                   | 515.747                       | 587.653                    | 587.653                         |
| 25           | 1.4259     | 846.198      | 20.3768                   | D-VD SAND     | 0                   | 38                        | 200.569            | 405.454              | 518.957                  | 0                   | 518.957                       | 593.456                    | 593.456                         |
| 26           | 1.4259     | 851.849      | 20.9189                   | D-VD SAND     | 0                   | 38                        | 201.173            | 406.676              | 520.522                  | 0                   | 520.522                       | 597.419                    | 597.419                         |
| 27           | 1.4259     | 854.849      | 21.463                    | D-VD SAND     | 0                   | 38                        | 201.142            | 406.613              | 520.441                  | 0                   | 520.441                       | 599.523                    | 599.523                         |
| 28           | 1.4259     | 855.169      | 22.0092                   | D-VD SAND     | 0                   | 38                        | 200.474            | 405.263              | 518.713                  | 0                   | 518.713                       | 599.748                    | 599.748                         |
| 29           | 1.4259     | 852.778      | 22.5575                   | D-VD SAND     | 0                   | 38                        | 199.17             | 402.626              | 515.337                  | 0                   | 515.337                       | 598.071                    | 598.071                         |
| 30           | 1.4259     | 847.643      | 23.108                    | D-VD SAND     | 0                   | 38                        | 197.228            | 398.7                | 510.312                  | 0                   | 510.312                       | 594.47                     | 594.47                          |
| 31           | 1.4259     | 838.379      | 23.6607                   | D-VD SAND     | 0                   | 38                        | 194.334            | 392.85               | 502.825                  | 0                   | 502.825                       | 587.973                    | 587.973                         |
| 32           | 1.4259     | 823.945      | 24.2158                   | D-VD SAND     | 0                   | 38                        | 190.259            | 384.612              | 492.281                  | 0                   | 492.281                       | 577.85                     | 577.85                          |
| 33           | 1.4259     | 806.62       | 24.7733                   | D-VD SAND     | 0                   | 38                        | 185.541            | 375.074              | 480.073                  | 0                   | 480.073                       | 565.7                      | 565.7                           |

|    |        |         |         |              |   |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 1.4259 | 786.409 | 25.3333 | D-VD<br>SAND | 0 | 38 | 180.188 | 364.253 | 466.223 | 0 | 466.223 | 551.525 | 551.525 |
| 35 | 1.4259 | 763.271 | 25.8959 | D-VD<br>SAND | 0 | 38 | 174.199 | 352.147 | 450.728 | 0 | 450.728 | 535.299 | 535.299 |
| 36 | 1.4259 | 737.166 | 26.4613 | D-VD<br>SAND | 0 | 38 | 167.573 | 338.752 | 433.583 | 0 | 433.583 | 516.991 | 516.991 |
| 37 | 1.4259 | 708.049 | 27.0294 | D-VD<br>SAND | 0 | 38 | 160.308 | 324.066 | 414.786 | 0 | 414.786 | 496.571 | 496.571 |
| 38 | 1.4259 | 675.876 | 27.6004 | D-VD<br>SAND | 0 | 38 | 152.403 | 308.085 | 394.332 | 0 | 394.332 | 474.007 | 474.007 |
| 39 | 1.4259 | 640.598 | 28.1744 | D-VD<br>SAND | 0 | 38 | 143.855 | 290.806 | 372.215 | 0 | 372.215 | 449.266 | 449.266 |
| 40 | 1.4259 | 602.165 | 28.7515 | D-VD<br>SAND | 0 | 38 | 134.663 | 272.223 | 348.429 | 0 | 348.429 | 422.312 | 422.312 |
| 41 | 1.4259 | 560.527 | 29.3318 | D-VD<br>SAND | 0 | 38 | 124.823 | 252.333 | 322.972 | 0 | 322.972 | 393.11  | 393.11  |
| 42 | 1.4259 | 515.627 | 29.9154 | D-VD<br>SAND | 0 | 38 | 114.336 | 231.132 | 295.835 | 0 | 295.835 | 361.622 | 361.622 |
| 43 | 1.4259 | 467.41  | 30.5024 | D-VD<br>SAND | 0 | 38 | 103.196 | 208.613 | 267.013 | 0 | 267.013 | 327.806 | 327.806 |
| 44 | 1.4259 | 415.814 | 31.0931 | D-VD<br>SAND | 0 | 38 | 91.4025 | 184.772 | 236.497 | 0 | 236.497 | 291.62  | 291.62  |
| 45 | 1.4259 | 360.777 | 31.6874 | D-VD<br>SAND | 0 | 38 | 78.9525 | 159.604 | 204.284 | 0 | 204.284 | 253.022 | 253.022 |
| 46 | 1.4259 | 302.234 | 32.2855 | D-VD<br>SAND | 0 | 38 | 65.8425 | 133.102 | 170.363 | 0 | 170.363 | 211.964 | 211.964 |
| 47 | 1.4259 | 240.114 | 32.8877 | D-VD<br>SAND | 0 | 38 | 52.0702 | 105.261 | 134.728 | 0 | 134.728 | 168.398 | 168.398 |
| 48 | 1.4259 | 174.345 | 33.4939 | D-VD<br>SAND | 0 | 38 | 37.6321 | 76.074  | 97.3701 | 0 | 97.3701 | 122.273 | 122.273 |
| 49 | 1.4259 | 105.561 | 34.1044 | D-VD<br>SAND | 0 | 38 | 22.6774 | 45.8428 | 58.676  | 0 | 58.676  | 74.0323 | 74.0323 |
| 50 | 1.4259 | 35.7354 | 34.7194 | D-VD<br>SAND | 0 | 38 | 7.64004 | 15.4445 | 19.7681 | 0 | 19.7681 | 25.0622 | 25.0622 |

## ◆ Cross Section JJ-JJ' - Seismic

**Global Minimum Query (bishop simplified) - Safety Factor: 1.17883**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.57495    | 6.60065      | 6.97353                   | D-VD SAND     | 0                   | 38                        | 2.56956            | 3.02908              | 3.87705                  | 0                   | 3.87705                       | 4.19135                    | 4.19135                         |
| 2            | 1.57495    | 18.4326      | 7.49235                   | D-VD SAND     | 0                   | 38                        | 7.13541            | 8.41143              | 10.7661                  | 0                   | 10.7661                       | 11.7045                    | 11.7045                         |
| 3            | 1.57495    | 27.5209      | 8.01179                   | D-VD SAND     | 0                   | 38                        | 10.594             | 12.4885              | 15.9846                  | 0                   | 15.9846                       | 17.4757                    | 17.4757                         |
| 4            | 1.57495    | 64.9231      | 8.53189                   | D-VD SAND     | 0                   | 38                        | 24.8522            | 29.2965              | 37.4978                  | 0                   | 37.4978                       | 41.2261                    | 41.2261                         |
| 5            | 1.57495    | 132.271      | 9.0527                    | D-VD SAND     | 0                   | 38                        | 50.3503            | 59.3544              | 75.97                    | 0                   | 75.97                         | 83.9922                    | 83.9922                         |
| 6            | 1.57495    | 196.847      | 9.57427                   | D-VD SAND     | 0                   | 38                        | 74.5148            | 87.8403              | 112.431                  | 0                   | 112.431                       | 125                        | 125                             |
| 7            | 1.57495    | 258.635      | 10.0966                   | D-VD SAND     | 0                   | 38                        | 97.3592            | 114.77               | 146.899                  | 0                   | 146.899                       | 164.236                    | 164.236                         |
| 8            | 1.57495    | 317.621      | 10.6199                   | D-VD SAND     | 0                   | 38                        | 118.899            | 140.162              | 179.399                  | 0                   | 179.399                       | 201.693                    | 201.693                         |
| 9            | 1.57495    | 373.79       | 11.144                    | D-VD SAND     | 0                   | 38                        | 139.148            | 164.032              | 209.952                  | 0                   | 209.952                       | 237.363                    | 237.363                         |
| 10           | 1.57495    | 427.129      | 11.669                    | D-VD SAND     | 0                   | 38                        | 158.121            | 186.398              | 238.579                  | 0                   | 238.579                       | 271.235                    | 271.235                         |
| 11           | 1.57495    | 477.62       | 12.1951                   | D-VD SAND     | 0                   | 38                        | 175.83             | 207.274              | 265.299                  | 0                   | 265.299                       | 303.299                    | 303.299                         |
| 12           | 1.57495    | 525.248      | 12.7222                   | D-VD SAND     | 0                   | 38                        | 192.29             | 226.677              | 290.133                  | 0                   | 290.133                       | 333.545                    | 333.545                         |
| 13           | 1.57495    | 569.995      | 13.2504                   | D-VD SAND     | 0                   | 38                        | 207.511            | 244.62               | 313.099                  | 0                   | 313.099                       | 361.963                    | 361.963                         |
| 14           | 1.57495    | 611.842      | 13.7797                   | D-VD SAND     | 0                   | 38                        | 221.505            | 261.117              | 334.215                  | 0                   | 334.215                       | 388.539                    | 388.539                         |
| 15           | 1.57495    | 650.771      | 14.3103                   | D-VD SAND     | 0                   | 38                        | 234.286            | 276.183              | 353.498                  | 0                   | 353.498                       | 413.262                    | 413.262                         |
| 16           | 1.57495    | 686.76       | 14.8421                   | D-VD SAND     | 0                   | 38                        | 245.862            | 289.83               | 370.966                  | 0                   | 370.966                       | 436.119                    | 436.119                         |
| 17           | 1.57495    | 720.999      | 15.3752                   | D-VD SAND     | 0                   | 38                        | 256.677            | 302.578              | 387.282                  | 0                   | 387.282                       | 457.863                    | 457.863                         |
| 18           | 1.57495    | 756.373      | 15.9097                   | D-VD SAND     | 0                   | 38                        | 267.761            | 315.645              | 404.007                  | 0                   | 404.007                       | 480.33                     | 480.33                          |
| 19           | 1.57495    | 789.083      | 16.4456                   | D-VD SAND     | 0                   | 38                        | 277.771            | 327.445              | 419.111                  | 0                   | 419.111                       | 501.104                    | 501.104                         |
| 20           | 1.57495    | 818.761      | 16.983                    | D-VD SAND     | 0                   | 38                        | 286.596            | 337.848              | 432.425                  | 0                   | 432.425                       | 519.953                    | 519.953                         |
| 21           | 1.57495    | 845.382      | 17.5219                   | D-VD SAND     | 0                   | 38                        | 294.243            | 346.862              | 443.964                  | 0                   | 443.964                       | 536.862                    | 536.862                         |
| 22           | 1.57495    | 868.92       | 18.0625                   | D-VD SAND     | 0                   | 38                        | 300.722            | 354.5                | 453.739                  | 0                   | 453.739                       | 551.812                    | 551.812                         |
| 23           | 1.57495    | 889.346      | 18.6047                   | D-VD SAND     | 0                   | 38                        | 306.041            | 360.77               | 461.765                  | 0                   | 461.765                       | 564.787                    | 564.787                         |
| 24           | 1.57495    | 906.63       | 19.1487                   | D-VD SAND     | 0                   | 38                        | 310.208            | 365.682              | 468.052                  | 0                   | 468.052                       | 575.766                    | 575.766                         |
| 25           | 1.57495    | 920.743      | 19.6944                   | D-VD SAND     | 0                   | 38                        | 313.231            | 369.246              | 472.613                  | 0                   | 472.613                       | 584.731                    | 584.731                         |
| 26           | 1.57495    | 931.652      | 20.242                    | D-VD SAND     | 0                   | 38                        | 315.117            | 371.469              | 475.459                  | 0                   | 475.459                       | 591.661                    | 591.661                         |
| 27           | 1.57495    | 939.323      | 20.7916                   | D-VD SAND     | 0                   | 38                        | 315.873            | 372.361              | 476.6                    | 0                   | 476.6                         | 596.536                    | 596.536                         |
| 28           | 1.57495    | 943.721      | 21.3431                   | D-VD SAND     | 0                   | 38                        | 315.507            | 371.929              | 476.047                  | 0                   | 476.047                       | 599.332                    | 599.332                         |
| 29           | 1.57495    | 944.81       | 21.8968                   | D-VD SAND     | 0                   | 38                        | 314.024            | 370.181              | 473.81                   | 0                   | 473.81                        | 600.026                    | 600.026                         |
| 30           | 1.57495    | 942.551      | 22.4526                   | D-VD SAND     | 0                   | 38                        | 311.431            | 367.124              | 469.898                  | 0                   | 469.898                       | 598.595                    | 598.595                         |
| 31           | 1.57495    | 936.905      | 23.0106                   | D-VD SAND     | 0                   | 38                        | 307.734            | 362.766              | 464.319                  | 0                   | 464.319                       | 595.012                    | 595.012                         |
| 32           | 1.57495    | 927.83       | 23.571                    | D-VD SAND     | 0                   | 38                        | 302.939            | 357.113              | 457.084                  | 0                   | 457.084                       | 589.251                    | 589.251                         |

|    |         |         |         |              |   |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 33 | 1.57495 | 913.89  | 24.1337 | D-VD<br>SAND | 0 | 38 | 296.597 | 349.638 | 447.516 | 0 | 447.516 | 580.4   | 580.4   |
| 34 | 1.57495 | 893.355 | 24.699  | D-VD<br>SAND | 0 | 38 | 288.182 | 339.718 | 434.819 | 0 | 434.819 | 567.362 | 567.362 |
| 35 | 1.57495 | 869.143 | 25.2668 | D-VD<br>SAND | 0 | 38 | 278.666 | 328.5   | 420.461 | 0 | 420.461 | 551.988 | 551.988 |
| 36 | 1.57495 | 841.315 | 25.8373 | D-VD<br>SAND | 0 | 38 | 268.09  | 316.032 | 404.502 | 0 | 404.502 | 534.317 | 534.317 |
| 37 | 1.57495 | 809.819 | 26.4105 | D-VD<br>SAND | 0 | 38 | 256.457 | 302.319 | 386.951 | 0 | 386.951 | 514.317 | 514.317 |
| 38 | 1.57495 | 774.601 | 26.9867 | D-VD<br>SAND | 0 | 38 | 243.774 | 287.368 | 367.814 | 0 | 367.814 | 491.952 | 491.952 |
| 39 | 1.57495 | 735.604 | 27.5657 | D-VD<br>SAND | 0 | 38 | 230.044 | 271.183 | 347.098 | 0 | 347.098 | 467.187 | 467.187 |
| 40 | 1.57495 | 692.769 | 28.1479 | D-VD<br>SAND | 0 | 38 | 215.271 | 253.768 | 324.808 | 0 | 324.808 | 439.984 | 439.984 |
| 41 | 1.57495 | 646.032 | 28.7332 | D-VD<br>SAND | 0 | 38 | 199.46  | 235.129 | 300.951 | 0 | 300.951 | 410.303 | 410.303 |
| 42 | 1.57495 | 595.329 | 29.3219 | D-VD<br>SAND | 0 | 38 | 182.613 | 215.27  | 275.533 | 0 | 275.533 | 378.103 | 378.103 |
| 43 | 1.57495 | 540.591 | 29.9139 | D-VD<br>SAND | 0 | 38 | 164.735 | 194.195 | 248.559 | 0 | 248.559 | 343.339 | 343.339 |
| 44 | 1.57495 | 481.746 | 30.5095 | D-VD<br>SAND | 0 | 38 | 145.83  | 171.909 | 220.034 | 0 | 220.034 | 305.967 | 305.967 |
| 45 | 1.57495 | 418.719 | 31.1088 | D-VD<br>SAND | 0 | 38 | 125.901 | 148.416 | 189.964 | 0 | 189.964 | 265.939 | 265.939 |
| 46 | 1.57495 | 351.432 | 31.7119 | D-VD<br>SAND | 0 | 38 | 104.952 | 123.72  | 158.355 | 0 | 158.355 | 223.204 | 223.204 |
| 47 | 1.57495 | 279.801 | 32.3189 | D-VD<br>SAND | 0 | 38 | 82.9852 | 97.8254 | 125.211 | 0 | 125.211 | 177.71  | 177.71  |
| 48 | 1.57495 | 203.738 | 32.93   | D-VD<br>SAND | 0 | 38 | 60.005  | 70.7357 | 90.5376 | 0 | 90.5376 | 129.401 | 129.401 |
| 49 | 1.57495 | 123.321 | 33.5454 | D-VD<br>SAND | 0 | 38 | 36.0641 | 42.5134 | 54.4146 | 0 | 54.4146 | 78.326  | 78.326  |
| 50 | 1.57495 | 41.4799 | 34.1652 | D-VD<br>SAND | 0 | 38 | 12.0435 | 14.1972 | 18.1716 | 0 | 18.1716 | 26.3456 | 26.3456 |



Global Minimum Query (janbu simplified) - Safety Factor: 1.16126

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|---------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.4298     | 29.9401      | 7.79309                   | D-VD SAND     | 0                   | 38                        | 12.9006            | 14.981               | 19.1748                  | 0                   | 19.1748                       | 20.9404                    | 20.9404                         |
| 2            | 1.4298     | 88.7015      | 8.30551                   | D-VD SAND     | 0                   | 38                        | 38.0062            | 44.1351              | 56.4904                  | 0                   | 56.4904                       | 62.0386                    | 62.0386                         |
| 3            | 1.4298     | 145.22       | 8.8186                    | D-VD SAND     | 0                   | 38                        | 61.8761            | 71.8542              | 91.969                   | 0                   | 91.969                        | 101.568                    | 101.568                         |
| 4            | 1.4298     | 199.488      | 9.33241                   | D-VD SAND     | 0                   | 38                        | 84.5251            | 98.1556              | 125.634                  | 0                   | 125.634                       | 139.524                    | 139.524                         |
| 5            | 1.4298     | 251.495      | 9.84698                   | D-VD SAND     | 0                   | 38                        | 105.968            | 123.056              | 157.505                  | 0                   | 157.505                       | 175.898                    | 175.898                         |
| 6            | 1.4298     | 301.23       | 10.3623                   | D-VD SAND     | 0                   | 38                        | 126.218            | 146.572              | 187.604                  | 0                   | 187.604                       | 210.684                    | 210.684                         |
| 7            | 1.4298     | 348.683      | 10.8786                   | D-VD SAND     | 0                   | 38                        | 145.29             | 168.719              | 215.951                  | 0                   | 215.951                       | 243.873                    | 243.873                         |
| 8            | 1.4298     | 393.842      | 11.3957                   | D-VD SAND     | 0                   | 38                        | 163.195            | 189.512              | 242.565                  | 0                   | 242.565                       | 275.458                    | 275.458                         |
| 9            | 1.4298     | 436.694      | 11.9137                   | D-VD SAND     | 0                   | 38                        | 179.948            | 208.966              | 267.463                  | 0                   | 267.463                       | 305.429                    | 305.429                         |
| 10           | 1.4298     | 477.228      | 12.4328                   | D-VD SAND     | 0                   | 38                        | 195.557            | 227.093              | 290.666                  | 0                   | 290.666                       | 333.779                    | 333.779                         |
| 11           | 1.4298     | 515.429      | 12.9529                   | D-VD SAND     | 0                   | 38                        | 210.038            | 243.909              | 312.189                  | 0                   | 312.189                       | 360.498                    | 360.498                         |
| 12           | 1.4298     | 551.282      | 13.474                    | D-VD SAND     | 0                   | 38                        | 223.4              | 259.425              | 332.048                  | 0                   | 332.048                       | 385.575                    | 385.575                         |
| 13           | 1.4298     | 584.809      | 13.9964                   | D-VD SAND     | 0                   | 38                        | 235.666            | 273.67               | 350.281                  | 0                   | 350.281                       | 409.024                    | 409.024                         |
| 14           | 1.4298     | 618.795      | 14.5199                   | D-VD SAND     | 0                   | 38                        | 247.973            | 287.961              | 368.573                  | 0                   | 368.573                       | 432.795                    | 432.795                         |
| 15           | 1.4298     | 652.186      | 15.0446                   | D-VD SAND     | 0                   | 38                        | 259.895            | 301.806              | 386.293                  | 0                   | 386.293                       | 456.149                    | 456.149                         |
| 16           | 1.4298     | 683.165      | 15.5706                   | D-VD SAND     | 0                   | 38                        | 270.718            | 314.374              | 402.381                  | 0                   | 402.381                       | 477.817                    | 477.817                         |
| 17           | 1.4298     | 711.714      | 16.098                    | D-VD SAND     | 0                   | 38                        | 280.451            | 325.677              | 416.847                  | 0                   | 416.847                       | 497.785                    | 497.785                         |
| 18           | 1.4298     | 737.814      | 16.6268                   | D-VD SAND     | 0                   | 38                        | 289.103            | 335.724              | 429.706                  | 0                   | 429.706                       | 516.039                    | 516.039                         |
| 19           | 1.4298     | 761.443      | 17.1571                   | D-VD SAND     | 0                   | 38                        | 296.682            | 344.525              | 440.972                  | 0                   | 440.972                       | 532.567                    | 532.567                         |
| 20           | 1.4298     | 782.583      | 17.6888                   | D-VD SAND     | 0                   | 38                        | 303.197            | 352.09               | 450.655                  | 0                   | 450.655                       | 547.352                    | 547.352                         |
| 21           | 1.4298     | 801.21       | 18.2222                   | D-VD SAND     | 0                   | 38                        | 308.655            | 358.429              | 458.768                  | 0                   | 458.768                       | 560.381                    | 560.381                         |
| 22           | 1.4298     | 817.302      | 18.7572                   | D-VD SAND     | 0                   | 38                        | 313.064            | 363.549              | 465.322                  | 0                   | 465.322                       | 571.636                    | 571.636                         |
| 23           | 1.4298     | 830.835      | 19.2939                   | D-VD SAND     | 0                   | 38                        | 316.432            | 367.46               | 470.327                  | 0                   | 470.327                       | 581.102                    | 581.102                         |
| 24           | 1.4298     | 841.784      | 19.8324                   | D-VD SAND     | 0                   | 38                        | 318.765            | 370.169              | 473.795                  | 0                   | 473.795                       | 588.761                    | 588.761                         |
| 25           | 1.4298     | 850.123      | 20.3726                   | D-VD SAND     | 0                   | 38                        | 320.07             | 371.684              | 475.734                  | 0                   | 475.734                       | 594.593                    | 594.593                         |
| 26           | 1.4298     | 855.825      | 20.9148                   | D-VD SAND     | 0                   | 38                        | 320.354            | 372.014              | 476.156                  | 0                   | 476.156                       | 598.582                    | 598.582                         |
| 27           | 1.4298     | 858.862      | 21.459                    | D-VD SAND     | 0                   | 38                        | 319.622            | 371.164              | 475.068                  | 0                   | 475.068                       | 600.706                    | 600.706                         |
| 28           | 1.4298     | 859.203      | 22.0052                   | D-VD SAND     | 0                   | 38                        | 317.881            | 369.142              | 472.48                   | 0                   | 472.48                        | 600.946                    | 600.946                         |
| 29           | 1.4298     | 856.819      | 22.5535                   | D-VD SAND     | 0                   | 38                        | 315.135            | 365.954              | 468.4                    | 0                   | 468.4                         | 599.278                    | 599.278                         |
| 30           | 1.4298     | 851.676      | 23.104                    | D-VD SAND     | 0                   | 38                        | 311.392            | 361.607              | 462.836                  | 0                   | 462.836                       | 595.681                    | 595.681                         |
| 31           | 1.4298     | 842.975      | 23.6568                   | D-VD SAND     | 0                   | 38                        | 306.377            | 355.783              | 455.382                  | 0                   | 455.382                       | 589.596                    | 589.596                         |
| 32           | 1.4298     | 828.688      | 24.2119                   | D-VD SAND     | 0                   | 38                        | 299.38             | 347.658              | 444.982                  | 0                   | 444.982                       | 579.604                    | 579.604                         |
| 33           | 1.4298     | 811.288      | 24.7694                   | D-VD SAND     | 0                   | 38                        | 291.326            | 338.305              | 433.011                  | 0                   | 433.011                       | 567.434                    | 567.434                         |

|    |        |         |         |              |   |    |         |         |         |   |         |         |         |
|----|--------|---------|---------|--------------|---|----|---------|---------|---------|---|---------|---------|---------|
| 34 | 1.4298 | 790.986 | 25.3295 | D-VD<br>SAND | 0 | 38 | 282.31  | 327.835 | 419.61  | 0 | 419.61  | 553.235 | 553.235 |
| 35 | 1.4298 | 767.742 | 25.8921 | D-VD<br>SAND | 0 | 38 | 272.336 | 316.253 | 404.785 | 0 | 404.785 | 536.978 | 536.978 |
| 36 | 1.4298 | 741.514 | 26.4575 | D-VD<br>SAND | 0 | 38 | 261.408 | 303.563 | 388.543 | 0 | 388.543 | 518.634 | 518.634 |
| 37 | 1.4298 | 712.258 | 27.0256 | D-VD<br>SAND | 0 | 38 | 249.531 | 289.77  | 370.889 | 0 | 370.889 | 498.172 | 498.172 |
| 38 | 1.4298 | 679.929 | 27.5967 | D-VD<br>SAND | 0 | 38 | 236.708 | 274.879 | 351.83  | 0 | 351.83  | 475.56  | 475.56  |
| 39 | 1.4298 | 644.478 | 28.1707 | D-VD<br>SAND | 0 | 38 | 222.943 | 258.895 | 331.371 | 0 | 331.371 | 450.765 | 450.765 |
| 40 | 1.4298 | 605.856 | 28.7478 | D-VD<br>SAND | 0 | 38 | 208.241 | 241.822 | 309.517 | 0 | 309.517 | 423.752 | 423.752 |
| 41 | 1.4298 | 564.009 | 29.3282 | D-VD<br>SAND | 0 | 38 | 192.604 | 223.663 | 286.275 | 0 | 286.275 | 394.484 | 394.484 |
| 42 | 1.4298 | 518.885 | 29.9118 | D-VD<br>SAND | 0 | 38 | 176.036 | 204.423 | 261.649 | 0 | 261.649 | 362.922 | 362.922 |
| 43 | 1.4298 | 470.423 | 30.4989 | D-VD<br>SAND | 0 | 38 | 158.54  | 184.106 | 235.645 | 0 | 235.645 | 329.028 | 329.028 |
| 44 | 1.4298 | 418.566 | 31.0896 | D-VD<br>SAND | 0 | 38 | 140.119 | 162.715 | 208.266 | 0 | 208.266 | 292.757 | 292.757 |
| 45 | 1.4298 | 363.249 | 31.6839 | D-VD<br>SAND | 0 | 38 | 120.779 | 140.256 | 179.519 | 0 | 179.519 | 254.067 | 254.067 |
| 46 | 1.4298 | 304.405 | 32.2821 | D-VD<br>SAND | 0 | 38 | 100.52  | 116.73  | 149.408 | 0 | 149.408 | 212.91  | 212.91  |
| 47 | 1.4298 | 241.966 | 32.8842 | D-VD<br>SAND | 0 | 38 | 79.3473 | 92.1429 | 117.937 | 0 | 117.937 | 169.239 | 169.239 |
| 48 | 1.4298 | 175.859 | 33.4905 | D-VD<br>SAND | 0 | 38 | 57.2632 | 66.4975 | 85.1128 | 0 | 85.1128 | 123.001 | 123.001 |
| 49 | 1.4298 | 106.392 | 34.1011 | D-VD<br>SAND | 0 | 38 | 34.3963 | 39.9431 | 51.1248 | 0 | 51.1248 | 74.4138 | 74.4138 |
| 50 | 1.4298 | 35.9204 | 34.7161 | D-VD<br>SAND | 0 | 38 | 11.529  | 13.3882 | 17.136  | 0 | 17.136  | 25.1239 | 25.1239 |

## Discharge Sections

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### Entity Information

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#### ◆ Cross Section F-F'

##### Shared Entities

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 200            |
|                   | 640, 200          |
|                   | 640, 313          |
|                   | 640, 337          |
|                   | 640, 345          |
|                   | 281, 345          |
|                   | 240, 340          |
|                   | 221, 335          |
|                   | 210, 330          |
|                   | 198, 325          |
|                   | 188, 320          |
|                   | 180, 315          |
|                   | 171, 310          |
|                   | 163, 305          |
|                   | 155, 300          |
|                   | 145, 295          |
|                   | 131, 290          |
|                   | 114, 285          |
|                   | 95, 280           |
|                   | 81, 275           |
|                   | 69, 270           |
|                   | 50, 265           |
|                   | 48.3043, 264.674  |
|                   | 24, 260           |
|                   | 0, 260            |
| Material Boundary | 155, 300          |
|                   | 422, 320          |
|                   | 640, 337          |
| Material Boundary | 48.3043, 264.674  |
|                   | 422, 295          |
|                   | 640, 313          |

##### Scenario-based Entities

| Type             | Coordinates (x,y)                        | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Water Table      | 40, 264<br>422, 300<br>640, 337          | Assigned to:<br> D-VD SAND                  | Assigned to:<br> D-VD SAND                |
| Distributed Load | 640, 345<br>281, 345<br>264.249, 342.957 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

### ◆ Cross Section AA-AA'

#### Shared Entities

| Type              | Coordinates (x,y)                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 200<br>320, 200<br>320, 350<br>242, 346<br>237, 345.286<br>200, 340<br>149, 330<br>111, 320<br>15, 272<br>9, 270<br>0, 268<br>0, 210.939 |
| Material Boundary | 170, 307<br>237, 345.286                                                                                                                    |
| Material Boundary | 0, 210.939<br>170, 307                                                                                                                      |

#### Scenario-based Entities

| Type             | Coordinates (x,y)                                                    | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 320, 350<br>242, 346<br>237, 345.286<br>200, 340<br>164.408, 333.021 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

### ◆ Cross Section BB-BB'

#### Shared Entities

| Type              | Coordinates (x,y)                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 200<br>300, 200<br>300, 368<br>260.665, 365.64<br>200, 362<br>182, 360<br>143, 354<br>20, 280<br>10, 276<br>0, 274<br>0, 253.066 |
| Material Boundary | 122, 306<br>216, 347<br>260.665, 365.64                                                                                             |
| Material Boundary | 0, 253.066<br>122, 306                                                                                                              |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                                                       | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 300, 368<br>260.665, 365.64<br>200, 362<br>182, 360<br>170.578, 358.243 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

◆ **Cross Section CC-CC'****Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>240, 250<br>240, 367<br>240, 374<br>171, 374<br>161, 372<br>158, 370<br>149.9, 367<br>131, 360<br>18, 300<br>10, 296<br>5, 294<br>0, 292 |
| Material Boundary | 149.9, 367<br>240, 367                                                                                                                             |

**Scenario-based Entities**

| Type             | Coordinates (x,y)    | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 240, 374<br>193, 374 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

◆ **Cross Section DD-DD'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 280<br>240, 280<br>240, 367<br>240, 386<br>187, 386<br>157, 380<br>146, 376<br>129.853, 367<br>24, 308<br>18, 306<br>10, 304<br>0, 302 |
| Material Boundary | 129.853, 367<br>240, 367                                                                                                                  |

**Scenario-based Entities**

| Type             | Coordinates (x,y)    | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 240, 386<br>213, 386 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

◆ **Cross Section EE-EE'**

**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>390, 250<br>390, 367<br>390, 400<br>252, 398<br>203, 396<br>185, 394<br>168, 390<br>124.76, 367<br>74, 340<br>54, 330<br>32, 320<br>0, 312 |
| Material Boundary | 124.76, 367<br>390, 367                                                                                                                              |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                                   | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 390, 400<br>252, 398<br>203, 396<br>193.89, 394.988 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

 **Cross Section FF-FF'**
**Shared Entities**

| Type              | Coordinates (x,y)                                                                                                                                 |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>272, 250<br>272, 367<br>272, 400<br>208, 394<br>190, 392<br>184, 390<br>150, 380<br>124, 367<br>70, 340<br>47, 330<br>18, 320<br>0, 316 |
| Material Boundary | 124, 367<br>272, 367                                                                                                                              |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                        | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 272, 400<br>208, 394<br>194.939, 392.549 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

### ◆ **Cross Section GG-GG'**

#### **Shared Entities**

| Type              | Coordinates (x,y)                                                                                                             |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>180, 250<br>180, 301<br>180, 350<br>135, 352<br>127, 350<br>108, 340<br>44.625, 301<br>43, 300<br>25, 290<br>0, 284 |
| Material Boundary | 44.625, 301<br>180, 301                                                                                                       |

#### **Scenario-based Entities**

| Type             | Coordinates (x,y)            | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 180, 350<br>167.935, 350.536 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |

### ◆ **Cross Section HH-HH'**

#### **Shared Entities**

| Type              | Coordinates (x,y)                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------|
| External Boundary | 0, 250<br>180, 250<br>180, 301<br>180, 350<br>180, 360<br>132, 360<br>110, 350<br>17.069, 301<br>0, 292 |
| Material Boundary | 110, 350<br>180, 350                                                                                    |
| Material Boundary | 17.069, 301<br>180, 301                                                                                 |

#### **Scenario-based Entities**

| Type             | Coordinates (x,y)    | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 180, 360<br>163, 360 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |



◆ **Cross Section II-II'**

**Shared Entities**

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 260            |
|                   | 180, 260          |
|                   | 180, 370          |
|                   | 180, 380          |
|                   | 157, 380          |
|                   | 127, 370          |
|                   | 70, 340           |
|                   | 45, 330           |
|                   | 0, 322            |
| Material Boundary | 127, 370          |
|                   | 180, 370          |

**Scenario-based Entities**

| Type             | Coordinates (x,y) | Master Scenario                                                                                   | Seismic                                                                                           |
|------------------|-------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Distributed Load | 180, 380          | Constant                                                                                          | Constant                                                                                          |
|                  | 167, 380          | DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No | DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No |

◆ **Cross Section JJ-JJ'**

**Shared Entities**

| Type              | Coordinates (x,y) |
|-------------------|-------------------|
| External Boundary | 0, 300            |
|                   | 380, 300          |
|                   | 380, 371          |
|                   | 380, 380          |
|                   | 308, 384          |
|                   | 260, 386          |
|                   | 124, 386          |
|                   | 109, 380          |
|                   | 86.5, 371         |
|                   | 84, 370           |
|                   | 58, 360           |
|                   | 33, 350           |
|                   | 12, 342           |
|                   | 0, 340            |
| Material Boundary | 86.5, 371         |
|                   | 380, 371          |

**Scenario-based Entities**

| Type             | Coordinates (x,y)                        | Master Scenario                                                                                                              | Seismic                                                                                                                      |
|------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Distributed Load | 240, 386<br>149, 386                     | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>400 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |
| Distributed Load | 289.948, 384.752<br>260, 386<br>240, 386 | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>250 lbs/ft2Creates<br>Excess Pore Pressure:<br>No | Constant<br>DistributionOrientation:<br>Normal to<br>boundaryMagnitude:<br>250 lbs/ft2Creates<br>Excess Pore Pressure:<br>No |