CONCEPTUAL MITIGATION PLAN

ARLINGTON EAST HILL

APRIL 2025

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

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ARLINGTON EAST HILL

APRIL 14, 2025

PROJECT LOCATION
9104, 9110, 9116, AND 8904 TVEIT ROAD,
ARLINGTON, WASHINGTON 98223

PREPARED FOR
ARLINGTON 360, LLC
10515 20TH STREET SOUTHEAST, SUITE 202
LAKE STEVENS, WASHINGTON 98258

PREPARED BY
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Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Executive Summary

Soundview Consultants LLC (SVC) has been assisting Arlington 360 (Applicant) with a wetland and fish and wildlife habitat assessment for the proposed residential development of an approximately 208.78-acre property located at 9104, 9110, 9116, and 8904 Tveit Road in the City of Arlington, Washington. The subject property consists of eight parcels located in the Southeast and Southwest ¼ of Section 12 and Northeast ¼ of Section 13, Township 31 North, Range 05 East, W.M. (Snohomish County Tax Parcel Numbers 31051200400200, 31051200401000, 31050200402300, 31051200400400, 31051300100200, 3105300100300, 31051200300100, and 31051200300500).

SVC prepared a desktop existing conditions report preliminarily identifying potentially regulated wetlands, streams, and other fish and wildlife habitat conservation areas throughout a 330-acres study area comprising the larger Arlington East Hill Subarea dated December 20, 2023 (SVC, 2023) to support with initial project planning. During the summer, fall, and winter of 2023 and fall of 2024, SVC completed formal investigations of the subject property to confirm the presence and boundaries of potentially regulated wetlands, waterbodies, and fish and wildlife habitat. Using current methodology, the site assessments identified 26 wetlands (Wetlands A-Z & 5) and 5 streams (Streams V-Z) on the subject property. Additionally, five wetlands (Wetlands 1-4 and 6) were identified offsite within 300 feet of the subject property. Wetland 5 was initially identified as an offsite feature, but found to be located onsite following formal survey of the subject property boundaries.

Wetlands A, E, F, J-N, Q, R, T, V-X, 4, 5, and 6 are Category III wetlands with moderate habitat scores ranging from 6 to 7 points and are subject to standard 110-foot buffers per AMC 20.93.830(a) Table 20.93-4. Wetlands B, D/H, G, I, O. P, S, and Y are Category III wetland with high habitat scores of 8 points and subject to standard 225-foot buffers. Wetlands C, U, and 3 are Category II wetlands with moderate habitat scores of 7 points and subject to standard 110-foot buffers. Wetlands Z, 1, and 2 are Category IV wetlands with habitat scores ranging from 4 to 6 points and are subject to standard 40-foot buffers. These buffer widths assume a relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and any other legally protected areas/priority habitats, and minimization measures described in AMC 20.93.830(a) Table-5 are implemented. Wetlands A, F, U, and W are isolated in the landscape and maintaining a relatively undisturbed vegetated corridor between these areas and other protected features is not feasible; as such, increased 150-foot buffers specified in AMC 20.93.830(a) Table 20.93-6 are warranted.

Stream V is classified as a Type F (fish-habitat) water and is subject to a standard 100-foot buffer per AMC 20.93.730 Table 20.930-3. Stream X is classified as a Type Np (non-fish habitat, perennial) water and is subject to standard 50-foot buffer. Streams W, segments of Stream Y upstream of OHW flag Y-1k, and segments of Stream Z upstream of OHW flag Z-25 are classified as Type Ns (non-fish habitat, seasonal) waters and subject to standard 50-foot buffers. Segments of Stream Y downstream of OHW flag Y-1k and segments of Stream Z downstream of OHW flag Z-25 are classified as Type F-ESA (fish habitat with presumed presence of ESA-listed salmonids) waters and are subject to standard 150-foot buffers.

The delineated wetland and stream boundaries are generally consistent with the locations of critical areas preliminarily identified in the desktop existing conditions report for the greater Arlington East Hill Subarea. It is anticipated that offsite features throughout the subarea that were not confirmed during formal investigations of the subject property will be similarly distributed throughout the offsite

areas; however, formal investigations will be required before further development activities can be approved by the City of Arlington.

The Applicant proposes residential development of the subject property with a subdivision consisting of single-family residences, townhomes, and apartments and associated infrastructure to include internal site access, frontage improvement along Tviet Road, parking, open space, utilities, stormwater facilities, and groundwater dispersion trenches necessary to stabilize steep slopes present onsite. Additionally, the City is requiring a road through the subject property connecting Burn Road and Tviet Road ("Spine Road") due to ongoing safety concerns that regularly require closures along Burn Road. The proposed project was carefully designed to avoid and minimize impacts to wetlands, streams, and associated buffers to the greatest extent feasible by utilizing developable upland areas to the greatest extent feasible and avoiding impacts to higher functioning wetlands and maintaining existing habitat connections for wetlands and streams in existing corridors. However, the subject property is highly constrained by wetlands, streams, and associated buffers, as well as steep ravines and geologically hazardous areas.

The Spine Road connection will require the necessary, unavoidable fill of Wetlands F and Q, the fill of a portion of Wetland S and additional indirect wetland impacts, and a crossing over the upstream, Type Ns (non-fish habitat, seasonal) segment of Stream Y. The road connection is proposed to originate south of the existing Burn Road segments adjacent to geologically hazardous areas affecting road safety, and no other feasible orientation across the is available that would be less impactful due to geologically hazardous areas and higher functioning, connected wetland corridors present throughout the site.

Frontage improvements along Tviet Road will require upgrades to the existing Stream Z crossing and necessary, unavoidable fill to a portion of Wetland T. Additional indirect impacts to Wetland T associated with the unavoidable wetland fill and permanent impacts to the buffers of Wetland T, Stream Z, and offsite Wetland 1 as a result of required frontage improvements are also anticipated. No less impactful alternatives are available due to the existing location of Tviet Road, and frontage improvements are required to ensure the design of Tviet Road complies with current City development standards and can accommodate increased traffic as a result of the proposed project.

Secondary access to subject property from 200th Street Northeast will require the necessary, unavoidable fill of Wetland W due to its location adjacent to 200th Street Northeast. Secondary access is required to accommodate the residential density of the site, and no other existing roadways are present in the vicinity of the subject property to meet this requirement. Constructing a new roadway is not feasible as it would require the acquisition of privately owned properties offsite. Additionally, the location of the secondary access road is located away from geologically hazardous areas and avoids impacts to larger, higher functioning wetlands in established, connected corridors.

Lot orientations, stormwater outfalls, and the required groundwater dispersion trenches will require permanent wetland and stream buffer impacts for areas that cannot be accommodated through buffer averaging. The layout of the proposed development is the minimum necessary to meet the goals and objectives of the Applicant. Locations suitable for development onsite are highly constrained due to the presence of steep ravines meeting the criteria of geologically hazardous areas and a scattered distribution of associated wetland and stream corridors. Buffer averaging will be implemented to the extent feasible in order to avoid permanent buffer impacts and ensure no net loss of wetland buffer functions or area onsite. However, limited development opportunities necessitate intrusions into

wetland and stream buffers to accommodate lot densities beyond the buffer width modifications. Additionally, stormwater outfalls in the inner 75 percent of wetland and stream buffers are necessary to maintain existing site drainage patterns and hydroperiods based on site topography, and the locations of groundwater dispersion trenches are necessary to help stabilize steep slopes and allow for safe site utilization based on geotechnical analysis.

In addition to direct and indirect wetland impacts, stream crossings, and permanent buffer impacts, development activities are anticipated to require temporary wetland and buffer impacts associated with site grading and development activities. All temporary impacts will be fully restored with native plantings to ensure no net loss of wetland or buffer functions.

The proposed project requires direct impacts to Wetlands F, Q, and W, direct and indirect impacts to Wetlands T and S, a new crossing over a segment of Stream Y, and upgrades to an existing crossing over Stream Z associated with site access and frontage improvements along Tviet Road. Additionally, permanent buffer impacts that cannot be avoided through buffer averaging are proposed to meet site layout and density requirements, for the construction of stormwater outfalls at elevations necessary to maintain existing hydroperiods and site drainage patterns, and for the construction of groundwater dispersion trenches necessary to stabilize steep slopes onsite.

Unavoidable direct and indirect wetland impacts, impacts from the proposed stream crossings, and permanent buffer impacts will be compensated for through onsite, in-kind wetland creation and buffer creation and enhancement actions. The proposed onsite mitigation actions aim to establish higher functioning stream and wetland habitat within protected corridors. It is the intent of the project that these actions will provide a net positive ecological benefit for the area and comply with the mitigation requirements and ratios established in AMC 20.93.740(a) AMC 20.93.840(d) Table 20.93-7 to ensure no net loss of wetland, stream, or buffer functions onsite, however given that this design concept is preliminary and we have only recently received preliminary stormwater designs and are still processing wetland hydroperiod data further analysis and design iterations are anticipated to be necessary. See Chapter 3 for further details.

The table below identifies the critical areas and summarizes the potential regulatory status by local, state, and federal agencies.

Waterbody Name	Size Onsite	Category	Regulated Under AMC 20.93	Regulated Under RCW 90.48	Regulated Under Section 404 of the CWA
Wetland A	1,315 SF	III	Yes	Yes	Not Likely
Wetland B	40,032 SF	III	Yes	Yes	Likely
Wetland C	715 SF	II	Yes	Yes	Likely
Wetland D/H	81,728 SF	III	Yes	Yes	Likely
Wetland E	34,492 SF	III	Yes	Yes	Likely
Wetland F	6,209 SF	III	Yes	Yes	Not Likely
Wetland G	8,377 SF	III	Yes	Yes	Likely
Wetland I	5,747 SF	III	Yes	Yes	Likely
Wetland J	5,231 SF	III	Yes	Yes	Likely
Wetland K	9,961 SF	III	Yes	Yes	Likely

Waterbody Name	Size Onsite	Category	Regulated Under AMC 20.93	Regulated Under RCW 90.48	Regulated Under Section 404 of the CWA
Wetland L	16,566 SF	III	Yes	Yes	Likely
Wetland M	225 SF	III	Yes	Yes	Not Likely
Wetland N	753 SF	III	Yes	Yes	Not Likely
Wetland O	32,418 SF	III	Yes	Yes	Likely
Wetland P	~14,138 SF	III	Yes	Yes	Likely
Wetland Q	16,203 SF	III	Yes	Yes	Not Likely
Wetland R	6,763 SF	III	Yes	Yes	Likely
Wetland S	26,023 SF	III	Yes	Yes	Likely
Wetland T	~21,724 SF	III	Yes	Yes	Likely
Wetland U	6,408 SF	II	Yes	Yes	Not Likely
Wetland V	62,817 SF	III	Yes	Yes	Likely
Wetland W	12,539 SF	III	Yes	Yes	Not Likely
Wetland X	~7,687 SF	III	Yes	Yes	Likely
Wetland Y	~8,296 SF	III	Yes	Yes	Likely
Wetland Z	~2,057 SF	IV	Yes	Yes	Not Likely
Wetland 1	N/A - Offsite	IV	Yes	Yes	Not Likely
Wetland 2	N/A - Offsite	IV	Yes	Yes	Not Likely
Wetland 3	N/A - Offsite	II	Yes	Yes	Likely
Wetland 4	N/A - Offsite	III	Yes	Yes	Likely
Wetland 5	~17,449	III	Yes	Yes	Likely
Wetland 6	N/A - Offsite	III	Yes	Yes	Not Likely
Stream V	~1,700 LF	F	Yes	Yes	Likely
Stream W	~50 LF	Ns	Yes	Yes	Likely
Stream X	~760 LF	Np	Yes	Yes	Likely
Stream Y	~3,413 LF	Ns/F-ESA	Yes	Yes	Likely
Stream Z	~2,515 LF	Ns/F-ESA	Yes	Yes	Likely

1. Washington State Department of Ecology (WSDOE) wetland rating system (Hruby and Yahnke, 2023) per AMC 20.93.800(a); DNR stream typing system (WAC 222-16-030) per AMC 20.93.700(a).

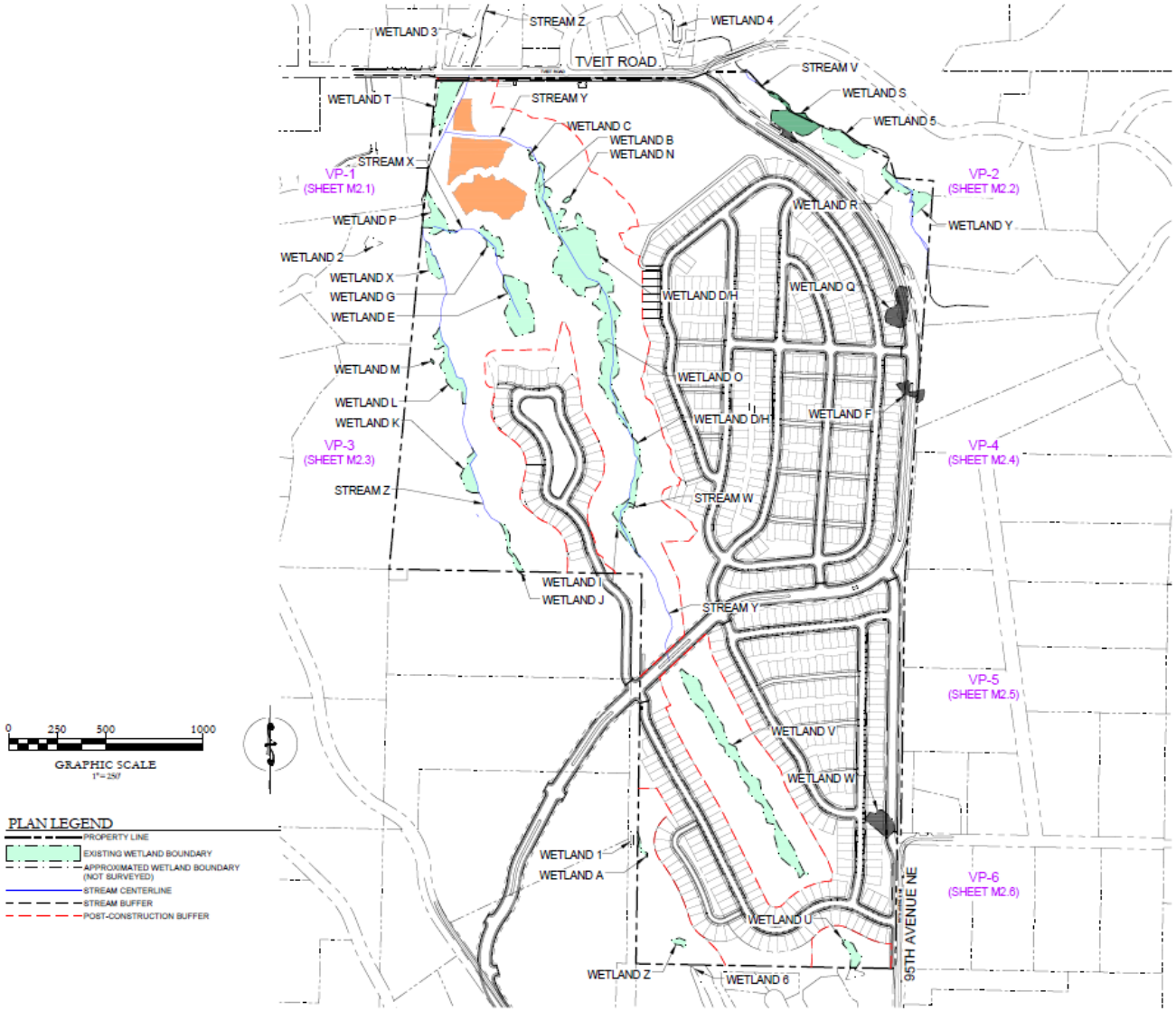
The table below summarizes the proposed critical area impacts.

Critical Area	Existing Area Onsite	Impact Area	Impact Type
Wetland F	6,209 SF	6,209 SF	Direct
Wetland Q	16,203 SF	16,203 SF	Direct
Wetland S	26,023 SF	3,342 SF	Direct
		22,681	Indirect
Wetland T	21,724 SF	734 SF	Direct
Wetland W	12,539 SF	12,539 SF	Direct
Stream Y	~3,413 LF	53 LF	Direct

The table below summarizes the proposed mitigation actions.

Mitigation Type	Mitigation Area
Compensatory Wetland Mitigation	
Wetland Creation	105,682 SF
Non-Compensatory Buffer Mitigation	
Net Buffer Increase	351,647 SF
Buffer Mitigation	
Buffer Enhancement	115,369 SF
Buffer Creation	588,613 SF

Site Map


WETLAND 3
STREAM Z
WETLAND 4
TVEIT ROAD
STREAM V
WETLAND S
WETLAND 5
WETLAND T
STREAM Y
WETLAND C
WETLAND B
WETLAND N
STREAM X
VP-1
(SHEET M2.1)
VP-2
(SHEET M2.2)
WETLAND R
WETLAND Y
WETLAND P
WETLAND 2
WETLAND X
WETLAND G
WETLAND E
WETLAND D/H
WETLAND Q
WETLAND M
WETLAND O
WETLAND L
WETLAND K
WETLAND D/H
WETLAND F
VP-3
(SHEET M2.3)
VP-4
(SHEET M2.4)
STREAM Z
STREAM W
WETLAND I
WETLAND J
STREAM Y
VP-5
(SHEET M2.5)
WETLAND V
WETLAND W
WETLAND 1
WETLAND A
VP-6
(SHEET M2.6)
WETLAND U
95TH AVENUE NE
WETLAND Z
WETLAND 6
0
250
500
1000
GRAPHIC SCALE
1" = 250'
PLAN LEGEND
PROPERTY LINE
EXISTING WETLAND BOUNDARY
APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
STREAM CENTERLINE
STREAM BUFFER
POST-CONSTRUCTION BUFFER

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Chapter 1. Existing Conditions

Soundview Consultants LLC (SVC) has been assisting Arlington 360 (Applicant) with a wetland and fish and wildlife habitat assessment and environmental planning for the proposed residential development of an approximately 208.78-acre property located at 9104, 9110, 9116, and 8904 Tveit Road in the City of Arlington, Washington. The subject property consists of eight parcels located in the Southeast and Southwest ¼ of Section 12 and Northeast ¼ of Section 13, Township 31 North, Range 05 East, W.M. (Snohomish County Tax Parcel Numbers 31051200400200, 31051200401000, 31050200402300, 31051200400400, 31051300100200, 3105300100300, 31051200300100, and 31051200300500).

The subject property is located near the northeastern boundary of the City of Arlington and within the Stillaguamish watershed (Water Resource Inventory Area 5) (Figure 1). It is zoned Residential Ultra Low Capacity (RULC), Residential Low Capacity (RLC), and Residential High Capacity (RHC) and contains a mix of low-density single-family development, utility corridors, and forestry and agriculture uses. Surrounding development includes multi-family and single-family residential developments, utility property, agricultural fields, undeveloped forest areas, and local roadways.

Figure 1. Aerial View of the Subject Property

1.1 Critical Area Findings

SVC investigated the subject property for the presence of potentially-regulated wetlands, waterbodies, and fish and wildlife habitat in the summer, fall, and winter of 2023 and the fall of 2024. Using current methodology, the site assessment identified twenty-six (26) wetlands (Wetlands A-Z & 5) and five (5) streams (Streams V-Z) onsite. Additionally, five wetlands (Wetlands 1-4 and Wetland 6) were identified offsite within 300 feet of the subject property. Wetland 5 was initially identified as offsite during field investigations according to statewide parcel data but found to be onsite when the property was surveyed. AMC 20.93.800(a) has adopted the current 2014 wetland rating system for western Washington (Hruby and Yahnke, 2023). Category IV wetlands have the lowest level of functions, scoring less than 16 points, and are often heavily disturbed. These are wetlands that should be replaceable, and often can be improved. Category III wetlands are those that generally provide moderate levels of function, scoring between 16 and 19 points, and can often be replaced with a well-planned mitigation project. Category III wetlands have generally been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category II wetlands are difficult, though not impossible, to replace, and provide a moderately high level of functions. Category II wetlands score between 20 and 22 points.

Wetlands A, E, F, J-N, Q, R, T, V-X, 4, 5, and 6 are Category III wetlands with moderate habitat scores ranging from 6-7 points. Wetlands B, D/H, G, I, O, P, S, and Y are Category III wetlands with high habitat scores of 8 points. Wetlands C, U, and 3 are Category II wetlands with moderate habitat scores of 7 points. Wetland Z and Wetlands 1 and 2 are Category IV wetlands with habitat scores ranging from 4 to 6 points.

Stream V is classified as a Type F (fish habitat) water. Stream X is classified as a Type Np (non-fish habitat, perennial) water. Streams W, segments of Stream Y upstream of OHW flag Y-1k, and segments of Stream Z upstream of OHW flag Z-25 are classified as Type Ns (non-fish habitat, seasonal) waters. Segments of Stream Y downstream of OHW flag Y-1k and segments of Stream Z downstream of OHW flag Z-25 are classified as Type F-ESA (fish habitat with presumed presence of ESA-listed salmonids) waters.

No other potentially regulated wetlands, waterbodies, or fish and wildlife priority habitats and species were identified within 300 feet of the subject property during the site investigations. Critical area findings are described in a *Wetland and Fish and Wildlife Habitat Assessment- Arlington 360* Technical Memorandum by SVC dated February 19, 2024.

The delineated wetland and stream boundaries are generally consistent with the locations of critical areas preliminarily identified in the desktop existing conditions report for the greater Arlington East Hill Subarea (SVC, 2024). It is anticipated that offsite features throughout the subarea that were not confirmed during formal investigations of the subject property will be similarly distributed throughout the offsite areas; however, formal investigations will be required before further development activities can be approved by the City of Arlington.

1.2 Regulatory Considerations

1.2.1 Local Buffer Requirements

Wetland Buffer Requirements

Per AMC 20.93.830 Table 20.93-4, standard wetland buffers are based on wetland category and level of habitat functions. Category II and Category III wetlands with high habitat scores of 8-9 points are subject to a standard 225-foot buffer. Category II and Category III wetlands with moderate habitat scores of 6-7 points are subject to a standard 110-foot buffer. Category IV wetlands are subject to a standard 40-foot buffer regardless of habitat score. These buffer widths require the implementation of minimization measures described in AMC 20.93.830 Table 20.93-5 to minimize the impacts of adjacent land uses; if these measures cannot be implemented, increased buffer widths outlined in AMC 20.93.830 Table 20.93-6 are required. A wetland buffer summary is provided in Table 1 below. A summary of required minimization measures is provided in Table 2.

Table 1. Wetland Buffer Summary.

Wetland	Category	Habitat Score	Standard Buffer Width (feet)[1]
A	III	6	150[2]
B	III	8	225
C	II	7	110
D/H	III	8	225
E	III	7	110
F	III	7	150[2]
G	III	8	225
I	III	8	225
J	III	7	110
K	III	7	110
L	III	7	110
M	III	7	110
N	III	7	110
O	III	8	225
P	III	8	225
Q	III	7	110
R	III	7	110
S	III	8	225
T	III	6	110
U	II	7	150[2]
V	III	7	110
W	III	6	150[2]
X	III	7	110
Y	III	8	225
Z	IV	6	40
1	IV	4	40
2	IV	5	40
3	II	7	110
4	III	6	110
5	III	7	110
6	III	6	110

1. Wetland buffer widths per AMC 20.93.830(a) Table 20.93-4 with implementation of minimization measures and vegetated corridors.
2. Wetland buffer widths per AMC 20.93.830 Table 20.93-6 due to inability to provide vegetated corridor.

Table 2. Required Measures to Minimize Impacts to Wetlands

Examples of disturbance	Examples of Activities and Uses that Cause Disturbance	Examples of measures to minimize impacts
Lights	•Parking lots •Warehouses •Manufacturing •Residential •Parks	•Direct lights away from critical areas and buffers •Day use only regulations preventing the need for lights •Timer on lights
Noise	•Manufacturing •Residential	•Locate activity that generates noise away from wetlands •If warranted, enhance existing buffer with native vegetation planting adjacent to noise source •For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining establish an additional 10 feet heavily vegetated buffer strip •Seasonal limitations on hours of operation
Toxic runoff	•Parking lots •Roads •Manufacturing •Residential areas •Application of agricultural pesticides •Landscaping	•Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered •Establish covenants limiting use of pesticides within 150 ft. of critical area or buffer •Apply integrated pest management
Stormwater runoff	•Parking lots •Roads •Manufacturing •Residential areas •Commercial •Landscaping	•Retrofit stormwater detention and treatment for roads and existing adjacent development •Prevent channelized flow from lawns that directly enters the buffer •Use Low Intensity Development technique (for more information refer to the drainage manual)
Change in water regime	•Impermeable surfaces •Lawns •Tilling •Forest and forest duff removal	•Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns •Retain minimum forest and forest duff
Pets and human disturbance	•Residential areas •Parks	•Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion •Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	•Construction sites	•Use best management practices to control dust
Disruption of corridors or connections	•Roads •Residential •Commercial •Manufacturing	•Maintain connection to offsite areas that are undisturbed •Restore corridors or connections to offsite habitats by replanting

Examples of disturbance	Examples of Activities and Uses that Cause Disturbance	Examples of measures to minimize impacts
	•Landscaping •Stormwater	

1. Measures to minimize wetland impacts per AMC 20.93.830(a) Table 20.93-5.

Per AMC 20.93.830(a)(1), to utilize reduced buffers and the minimization measures above and to minimize the impacts to adjacent land uses, wetlands scoring 6 or more points for habitat functions also require the establishment of a relatively undisturbed corridor at least 100 feet wide be protected between the wetland and:

i. Any legally protected, relatively undisturbed vegetated areas (e.g., priority habitats, compensatory mitigation sites, wildlife areas/refuges, national, county, and state parks where they have management plans with identified areas designated as natural, natural forest, or natural areas preserves; or,
ii. Areas that are the site of a watershed project identified within and fully consistent with a watershed plan; or
iii. Areas where development is prohibited according to the provisions of the local shoreline master program; or
iv. Areas with equivalent habitat quality that have a conservation status in perpetuity, in consultation with WDFW.

The corridor must be protected for the entire distance between the wetland and the shoreline or legally protected area by a conservation easement, deed restriction, or other legal site protection mechanism. If this corridor cannot be implemented, increased buffer widths outlined in AMC 20.93.830 Table 20.93-6 are required.

The minimization measures outlined in AMC 20.93.830 Table 20.93-5 will be implemented where applicable to minimize impacts from adjacent land uses to the identified wetlands onsite. Light and noise generating sources will be located interior to the development relative to the identified wetlands to the greatest extent feasible. All new runoff will be collected and treated prior to being dispersed to critical area buffers retain existing hydroperiods. For wetlands lacking a relatively intact native buffer, buffer enhancement will be implemented, and critical areas will be placed in a separate, protected easement and marked with critical areas signs and fences to prevent intrusion. Additionally, where feasible, a relatively undisturbed corridor at least 100 feet wide will be protected between the critical areas onsite to maintain habitat connectivity.

Wetland A, F, U, and W are isolated and located over 100 feet from other critical areas identified onsite. As such maintaining a protected corridor is not feasible, and increased buffer widths specified in AMC 20.93.830 Table 20.93-6 are required.

Per AMC 20.93.830(a)(4), the standard buffer widths described in AMC 20.93.830 Table 20.93-4 and Table 20.93-6 assume the presence of a buffer vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer must either be planted to create the appropriate plant community or widened to ensure that the buffer provides adequate functions to protect the wetland.

A majority of the wetlands identified on and within 300 feet of the subject property have relatively intact buffers dominated by forested communities native to the Pacific Northwest. However, portions of the buffers of Wetlands B, C, D/H, G, P, R, S, T, Y and 5 and the buffers of Wetlands C, P, and T onsite are degraded due to the presence of non-native invasive species and prior land clearing and development activities. As such, buffer enhancement actions including the removal of non-native invasive species and planting an assortment of native trees, shrubs, and groundcover to establish adequate screening between the identified wetlands and the proposed development will be implemented. See Chapter 3 for additional details.

Stream Buffers

Per AMC 20.93.730 Table 20.930-3, Type Np and Ns streams are subject to standard 50-foot buffers. Type F streams are subject to a standard 100-foot buffer. Type F-ESA streams are subject to a standard 150-foot buffer. A stream buffer summary is provided in Table 3 below.

Table 3. Stream Buffer Summary.

Stream	Type	Standard Buffer Width (feet)[1]
V	F	100
W	Ns	50
X	Np	50
Y (Upstream of Y-1k)	Ns	50
Y (Downstream of Y-1k)	F-ESA	150
Z (Upstream of Z-25)	Ns	50
Z (Downstream of Z-25)	F-ESA	150

1. Stream buffer widths per AMC 20.93.730 Table 20.93-3.

Building Setback

Per AMC 20.93.340, an additional 15-foot building setback is required from the edge of all critical area buffers.

1.2.2 State Regulations

All of the identified wetlands and streams are likely regulated by the WSDOE as natural surface waters under the Revised Code of Washington (RCW) 90.48.

1.2.3 Federal Regulations

On January 18, 2023, USACE and EPA published a revised definition of "Waters of the United States" (USACE and EPA, 2023a). The revised rule became effective on March 20, 2023. On May 25, 2023, the U.S. Supreme Court issued a decision affecting the definition of Waters of the United States, or "WOTUS", in *Sackett Et Ux. V Environmental Protection Agency Et Al.* On August 29, 2023, the US EPA and USACE issued a final rule to amend the final "Revised Definition of 'Waters of the United States'" rule. The amendment conforms the definition of "Waters of the United States" to the U.S. Supreme Court's decision in the Sackett Et Ux. V Environmental Protection Agency Et Al case. The revised and amended definition of "Waters of the United States" is as follows:

(a) Waters of the United States means:

(1) Waters which are: (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section;

(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The 2023 revised and amended definition of Waters of the United States defines "adjacent" as "having a continuous surface connection."

Stream Z is a tributary to the Stillaguamish River, a traditional navigable water and regulated Water of the United States (WOTUS). All of the onsite streams, a majority of the onsite wetlands, and offsite Wetlands 3 and 4 are situated adjacent to and have continuous surface water connectivity to the identified streams. As such, these waters all likely meet the criteria of WOTUS and are likely regulated by the USACE under Section 404 of the Clean Water Act (CWA).

Wetlands A, F, M, N, U, W, Z and offsite Wetlands 1, 2, and 6 are isolated features that lack a surface water connection to onsite nearby streams. As such, these waters do not appear to meet the criteria of WOTUS and are not likely regulated by the USACE under Section 404 of the CWA. Additionally, Wetland Q connects to Stream V via an excavated ditch that only conveys hydrology following high precipitation events. As such, Wetland Q does not likely have a continuous surface water connection to Stream V and is not likely regulated. However, an Approved Jurisdictional Determination (AJD) from USACE would be required to confirm federal jurisdiction over a wetland or waterbody.

A summary of the state and federal regulatory status of the identified waters is provided in Table 4 below.

Table 4. State and Federal Regulatory Status of Onsite Waters

Waterbody Name	Regulated Under RCW 90.48	Regulated Under Section 404 of the CWA
Wetland A	Yes	Not Likely
Wetland B	Yes	Likely
Wetland C	Yes	Likely
Wetland D/H	Yes	Likely
Wetland E	Yes	Likely
Wetland F	Yes	Not Likely
Wetland G	Yes	Likely
Wetland I	Yes	Likely
Wetland J	Yes	Likely
Wetland K	Yes	Likely
Wetland L	Yes	Likely
Wetland M	Yes	Not Likely
Wetland N	Yes	Not Likely
Wetland O	Yes	Likely
Wetland P	Yes	Likely
Wetland Q	Yes	Not Likely
Wetland R	Yes	Likely
Wetland S	Yes	Likely
Wetland T	Yes	Likely
Wetland U	Yes	Not Likely
Wetland V	Yes	Likely
Wetland W	Yes	Not Likely
Wetland X	Yes	Likely
Wetland Y	Yes	Likely

Waterbody Name	Regulated Under RCW 90.48	Regulated Under Section 404 of the CWA
Wetland Z	Yes	Not Likely
Wetland 1	Yes	Not Likely
Wetland 2	Yes	Not Likely
Wetland 3	Yes	Likely
Wetland 4	Yes	Likely
Wetland 5	Yes	Likely
Wetland 6	Yes	Not Likely
Stream V	Yes	Likely
Stream W	Yes	Likely
Stream X	Yes	Likely
Stream Y	Yes	Likely
Stream Z	Yes	Likely

Chapter 2. Proposed Project

2.1 Purpose and Need

The purpose of the proposed project is to provide additional housing units within the City of Arlington to help alleviate the shortage of residences in the greater Snohomish County area.

2.2 Project Description

The Applicant proposes residential development of the subject property with a subdivision consisting of single-family residences, townhomes, and apartments and associated infrastructure to include internal site access, frontage improvements along Tviet Road, parking, open space, utilities, stormwater facilities, and groundwater redirection trenches necessary to stabilize steep slopes present throughout the site. Site access will include a City-required connection between a portion of Burn Road and Tveit Road (referred to as "Spine Road") due to ongoing safety concerns that regularly require closures along Burn Road. Secondary access will be provided from 200th Street Northeast to accommodate/alleviate projected traffic flows and meet site access requirements.

The proposed project requires direct impacts to Wetlands F, Q, and W, direct and indirect impacts to Wetlands S, indirect impacts to Stream Y for a new crossing, and upgrades to an existing crossing over Stream Z associated with site access and frontage improvements along Tviet Road. Additionally, permanent buffer impacts that cannot be avoided through buffer averaging are proposed in order to meet site layout and density requirements, for the construction of stormwater outfalls at elevations necessary to maintain existing wetland hydroperiods and site drainage patterns, and for the construction of groundwater redirection trenches necessary to stabilize steep slopes onsite. Mitigation to offset direct and indirect wetland impacts, stream impacts, and permanent buffer impacts will be provided through a combination of wetland creation and buffer creation and enhancement. See Chapter 3 for further details.

2.3 Site Planning

2.3.1 Mitigation Sequencing

Per AMC 20.93.740 and 20.93.840, adequate mitigation must be provided in order to avoid significant environmental impacts for activities where impacts to streams and wetland are unavoidable. What is considered adequate mitigation will depend on the nature and magnitude of the impact. According to AMC 20.93.100, "mitigation" is defined as avoiding, minimizing, or compensating for adverse critical area impacts in the following sequential order of preference:

1. *Avoiding the impact altogether by not taking a certain action or parts of actions.*

   The Applicant proposes residential development of the subject property with a subdivision consisting of single-family residences, townhomes, and apartments and associated infrastructure to include internal site access, frontage improvement along Tviet Road, parking, open space, utilities, stormwater facilities, and groundwater redirection trenches necessary to stabilize steep slopes present onsite. Additionally, the City is requiring a road through the subject property connecting Burn Road and Tviet Road ("Spine Road") due to ongoing safety

concerns that regularly require closures along Burn Road. The proposed project was carefully designed to avoid and minimize impacts to wetlands, streams, and associated buffers to the greatest extent feasible by utilizing developable upland areas to avoid impacts to higher functioning wetlands and maintaining existing habitat connections for wetlands and streams in existing corridors. However, the subject property is highly constrained by wetlands, streams, and associated buffers, as well as steep ravines and geologically hazardous areas.

The Spine Road connection will require the necessary, unavoidable fill of Wetlands F and Q, the fill of a portion of Wetland S, resulting additional indirect wetland impacts, and a crossing near the upstream, Type Ns (non-fish habitat, seasonal) segment of Stream Y. The road connection is proposed to originate southwest of the site near Burn Road adjacent to geologically hazardous areas affecting road safety, and no other feasible orientation across the site is available that would be less impactful due to geologically hazardous areas and higher functioning, connected wetland corridors present throughout the site.

Frontage improvements along Tviet Road will require upgrades to the existing Stream Z crossing and necessary, unavoidable fill to a portion of Wetland T. Additional indirect impacts to Wetland T associated with the unavoidable wetland fill and permanent impacts to the buffers of Wetland T, Stream Z, and offsite Wetland 3 as a result of anticipated required frontage improvements. No less impactful alternatives are available due to the existing location of Tviet Road, and frontage improvements are required to ensure the design of Tviet Road complies with current City development standards and can accommodate increased traffic as a result of the proposed project.

Secondary access to the subject property from 200th Street Northeast will require the necessary, unavoidable fill of Wetland W due to its location adjacent to 200th Street Northeast and 95th Avenue Northeast. Secondary access is required to accommodate the residential density of the site, and no other existing roadways are present in the vicinity of the subject property to meet this requirement. Constructing a new roadway is not feasible as it would require the acquisition of privately owned properties offsite. Additionally, the location of the secondary access road is located away from geologically hazardous areas and avoids impacts to larger, higher functioning wetlands in established, connected corridors.

Lot orientations, stormwater outfalls, and the required groundwater redirection trenches will require permanent wetland and stream buffer impacts for areas that cannot be accommodated through buffer averaging. The layout of the proposed development is the minimum necessary to meet the goals and objectives of the Applicant. Locations suitable for development onsite are highly constrained due to the presence of steep ravines meeting the criteria of geologically hazardous areas and a scattered distribution of associated wetland and stream corridors. Buffer averaging will be implemented to the extent feasible in order to avoid permanent buffer impacts and ensure no net loss of wetland buffer functions or area onsite. However, limited development layouts necessitate intrusions into wetland and stream buffers to accommodate lot densities beyond the buffer width modifications. Additionally, stormwater outfalls in the inner 75 percent of wetland and stream buffers are necessary to maintain existing site drainage patterns and stream and wetland hydroperiods based on site topography, and the locations of groundwater redirection trenches are necessary to help stabilize steep slopes and allow for safe site utilization based on geotechnical analysis.

In addition to direct and indirect wetland impacts, stream crossings, and permanent buffer impacts, development activities are anticipated to require temporary wetland and buffer impacts associated with site grading and development activities. All temporary impacts will be fully restored with native plantings to ensure no net loss of wetland or buffer functions.

2. *Minimizing impacts by limiting the degree or magnitude of the action and its implementation*

   The proposed project was carefully designed to minimize impacts to the greatest extent feasible while meeting requirements for site access and frontage improvements, providing stormwater infrastructure that maintains existing site drainage patterns and hydroperiods, and implementing groundwater redirection trenches that will allow for safe site development. Minimization measures outlined in Table 2 will be implemented to reduce impacts to the identified wetlands and streams associated with adjacent development, and buffer averaging will be implemented to minimize the degree of permanent impacts to wetland and stream buffers. Additionally, the proposed site layout has been modified to avoid impacts to higher functioning wetlands and maintain habitat connectivity for wetlands and streams in existing connected corridors. Furthermore, appropriate best management practices (BMPs) and temporary erosion and sediment control (TESC) measures will be implemented for the duration of project activities to minimize potential construction impacts and fencing and critical areas signage will be installed along the perimeter of all onsite buffer areas to minimize intrusion into the identified wetlands, streams, and associated buffers following development.

3. *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.*

   Any temporary impacts to wetlands and wetland and stream buffer areas will be fully restored once construction is completed with native plants. As wetland fill, stream crossings, and development activities within buffer areas are the result of the establishment of permanent infrastructure, such impacts cannot be rectified. Furthermore, indirectly impacted wetland areas will function as wetland and buffer. Given that the indirect impacts cannot be avoided or minimized further, and these areas are already vegetated with predominantly native vegetation, no further onsite rectification is possible.

4. *Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.*

   The proposed direct and indirect wetland impacts and stream crossings are the result of the construction of permanent infrastructure required to support residential development of the subject property. These impacts cannot be reduced or eliminated over time. However, additional potential impacts to wetland and stream areas will be reduced over time through a combination of buffer enhancement measures to establish a densely planted screen of native vegetation, critical areas fencing and signs to prevent intrusion, and the placement of the identified wetlands, streams, and associated buffers in a protective easement to prohibit future development.

5. *Compensating for the impact to wetlands, critical aquifer recharge areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments.*

Unavoidable direct and indirect wetland impacts, impacts from the proposed stream crossings, and permanent buffer impacts will be compensated for through onsite, in-kind wetland creation and buffer creation and enhancement actions. The proposed onsite mitigation actions aim to establish higher functioning stream and wetland habitat within a protected corridors. It is anticipated that these actions will provide a net positive ecological benefit for the area and comply with the mitigation requirements and ratios established in AMC 20.93.740(a) AMC 20.93.840(d) Table 20.93-7 to ensure no net loss of wetland, stream, or buffer functions onsite.

6. *Monitoring the hazard or other required mitigation and taking remedial action when necessary.*

   The wetland and buffer mitigation areas will be monitored for a period of 10 years to ensure the success of mitigation actions, consistent with AMC 20.93.390 and interagency guidance. Appropriate contingency measures will be implemented if monitoring indicates that goals and performance standards of the mitigation plan are not being met.

2.3.2 Buffer Averaging

Due to the extent of encumbrance by wetlands, streams, and associated buffers onsite, the proposed project cannot be accomplished without permanent buffer impacts. In order to minimize such impacts, buffer averaging is proposed to reduce the standard buffer width of portions of several wetlands and streams throughout the site (see Appendix A for further details) while ensuring no net loss of critical area buffer area or functions onsite. Per AMC 20.93.320, critical area buffers may be reduced by up to 25% of the standard buffer width through buffer averaging when the Applicant demonstrates the following:

1. *That averaging is necessary to avoid an extraordinary hardship to the applicant caused by circumstances peculiar to the property or that there would be a benefit to the environmentally critical area;*

   The proposed buffer averaging is necessary due to the presence of geologically hazardous areas and the extent of encumbrance by identified wetlands, streams, and associated buffers that would otherwise substantially limit opportunities for site development. Buffer averaging will be coupled with buffer creation and, where buffers are lacking adequate screening, buffer enhancement, resulting in a net gain of buffer area and functions onsite.

2. *That the least impactive aspects of the proposed land use would be located adjacent to areas where the buffer width is reduced;*

   Buffer reductions are located adjacent to less impactful aspects of the proposed development, such as the backyard of residential developments and required open space/recreational areas to the extent feasible. The greatest noise and light generating sources (roadways, parking lots,etc..) are largely located internal to the proposed residences.

3. *That width averaging will not adversely impact the environmentally critical area functional values; and*

   The proposed buffer averaging will not adversely impact the functions and values of associated wetlands and streams onsite. Where feasible, buffers will be reduced adjacent to less impactful aspects of the proposed project and increased adjacent to similarly or more impactful aspects of the proposed project. Many of the buffer areas are already vegetated with a dense native

forest community; however, buffer areas impacted by prior land clearing and/or the encroachment of non-native invasive species will need to be enhanced by removing invasive species and establishing a dense assortment of native trees, shrubs, and groundcovers to ensure adequate screening between the identified wetlands and streams and the proposed development.

4. *That the total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.*

   The proposed buffer averaging will reduce buffers by 236,966 square feet, and increase buffers by 588,613 square feet. Overall, a net gain of 351,647 square feet of protective wetland and stream buffer area will be provided throughout the site.

2.3.3 Activities Allowed within Streams

The proposed project requires two stream crossings for site access, one new crossing over a segment of Stream Y for a City-required access road (Spine Road), and upgrades to an existing crossing over a portion of Stream Z associated with road improvements along Tviet Road. Per AMC 20.93.720(2), bridges and other crossings for public and private rights-of-way where no other feasible means of ingress and egress to a parcel is available are allowed within streams when the requirements of AMC 20.93.730 have been met and mitigation adequate to alleviate any other impacts has been proposed.

The location of the Stream Y crossing is necessary to provide a City-required connector road between Burn Road and Tviet Road. The road connection is proposed to originate south of the existing Burn Road segments adjacent to geologically hazardous areas affecting road safety, and no other feasible orientation is available that would be less impactful due to geologically hazardous areas and higher functioning, connected wetland corridors present throughout the site. Tviet Road north of the subject property is an existing crossing at Stream Z. The existing crossing consists of a piped culvert that is mapped by WDFW as a partial fish passage barrier. As part of required frontage improvements, the culvert will be replaced with a bottomless, spanning crossing meeting WDFW's current design standards (WDFW, 2013). Upgrades to the existing Stream Z crossing are anticipated to be self-mitigating as they will improve fish passage and stream functions. The new crossing over a portion of Stream Y will be mitigated in accordance with AMC 20.93.740(a).

2.3.4 Mitigation Requirements – Streams and Surface Water Features

Per AMC 20.93.740(a), in order to avoid significant environmental impacts for those activities not regulated by the Shoreline Master Program and allowed pursuant to Section 20.93.720, the applicant for a land use or development permit will select one or more of the following mitigation actions, listed in order of preference:

1. *On-site environmentally critical area restoration/improvement—Restoration or improvement in functional value of degraded on-site waterways and/or their buffers at a two to one ratio (two square feet for every one square foot impacted).*
2. *On-site ECA/Creation—Creation of on-site waterways and their buffers at a two to one ratio (two square feet for every one square foot impacted).*
3. *On-site ECA buffer restoration—Restoration or improvement in functional value of degraded on-site waterway buffers at a ratio of six to one.*

As mentioned in Section 2.3.3 above, the proposed crossing over Stream Z will consist of upgrading an existing piped culvert crossing (mapped by WDFW as a partial fish passage barrier) to a bottomless spanning crossing meeting WDFW's current design standards for stream crossings (WDFW, 2013). This upgrade will be a self-mitigating action as it will improve fish passage and provide a net lift in stream functions relative to existing degraded conditions. The proposed project also requires one new crossing over Stream Y for site access and permanent stream buffer impacts throughout the site to meet site layout needs. The crossing will also consist of bottomless spanning crossings designed to meet WDFW's current fish passage standards, and impacts to Stream Y will be limited to indirect impacts associated with shading. No work below the OHW of Stream Y is proposed. Impacts to Stream Y and the associated buffer area will be mitigated through a combination of buffer enhancement (targeting areas degraded by invasive species or clearing activities associated with prior land uses) and buffer creation to achieve a 2:1 ratio of mitigation to impacts.

2.3.5 Activities Allowed Within Wetlands

The proposed project requires direct impacts for the complete fill of three Category III wetlands (Wetlands F, Q, and W) and direct and indirect impacts for the partial fill of one Category III wetland (Wetland S) for site access. Per AMC 20.93.820(2), access to developable portions of legal lots may be constructed in Category III and IV wetlands when the following criteria are met:

A. *There is no other feasible method of accessing the property,*

   There is no feasible alternative for the proposed access roads as demonstrated through mitigation sequencing in Section 2.3.1 above.

B. *Altering the terrain would not cause drainage impacts to neighboring properties, and*

   The proposed project will implement stormwater infrastructure designed to collect runoff and discharge to wetland and stream buffers onsite such that existing drainage patterns are retained and no drainage impacts to neighboring properties occur.

C. *Not more than two thousand five hundred square feet of wetland is impacted, and mitigated.*

   The proposed access roads will require approximately 32,697 square feet of direct wetland impacts and 22,681 square feet of indirect wetland impacts onsite to provide required site access and frontage improvements. These impacts will be offset through compensatory wetland creation designed to meet the ratios and requirements of AMC 20.93.840 to ensure no net loss of ecological functions onsite or within the greater Snohomish watershed.

2.3.6 Activities Allowed Within Wetland Buffers

The proposed project requires permanent buffer impacts associated with site access, stormwater outfalls designed consistent with existing site drainage patterns, and the construction of groundwater dispersion trenches necessary to stabilize steep slopes onsite. Per AMC 20.93.820(3), the following activities are permitted in wetland buffers:

A. *Activities having minimal adverse impacts on buffers and no adverse impacts on regulated wetlands. These may include low intensity, passive recreational activities such as low impact trails in the outer twenty-five percent, non-permanent wildlife watching blinds, short-term scientific or educational activities, and sports fishing;*

No low intensity, passive recreational activities are proposed in wetland buffers.

B. *With respect to Category III and IV wetlands, stormwater management facilities having no reasonable alternative on-site location; or*

The proposed project requires the location of stormwater outfalls in wetland buffers at several locations throughout the site. The locations of the proposed stormwater outfalls are necessary to maintain existing site drainage patterns and hydroperiods due to the topography of the subject property. Final stormwater design and mitigation actions for impacts have not been fully contemplated and are likely to change through the review process.

C. *With respect to Category III and IV wetlands, development having no feasible alternative location when the following conditions have been met: Impacts are the minimum necessary; Buffer impacts are mitigated through buffer averaging.*

The proposed project requires the location of groundwater redirection trenches in the buffers of several wetlands throughout the site. The locations of the proposed groundwater redirection trenches are necessary to help stabilize steep slopes and allow for safe site utilization based on geotechnical analysis. They will be located primarily along the western and northern slopes adjacent to Wetlands D/H, E, L, and O. Buffer averaging will be implemented to offset impacts to the outer 25 percent of the wetland and stream buffers onsite, as allowed pursuant to AMC 20.93.320. Buffer impacts have been offset with significant additional buffer increase areas beyond code requirements.

3.3.7 Mitigation Requirements – Wetlands

Per AMC 20.93.840, in order to avoid significant environmental impacts, the applicant for a land use or development permit shall compensate for unavoidable wetland impacts, listed in order of preference. What is considered adequate mitigation will depend on the nature and magnitude of the potential impact.

1. *On-site wetlands restoration/improvement—Restoration or improvement in functional value of degraded on-site wetlands and/or their buffers at the ratio listed in Table 20.93-7 according to the wetland type.*
2. *On-site wetlands creation—Creation of on-site wetlands and their buffers at the ratio listed in Table 20.93-7 according to the wetland type.*
3. *On-site wetlands buffer restoration—Restoration or improvement in functional value of degraded on-site wetland buffers at the ratio listed in Table 20.93-7 according to the wetland type.*
4. *Off-site wetlands protection—Where on-site protection is not possible, dedicate an exclusive easement for the protection of equivalent (in ecological type and function) wetland and its buffer on an off-site wetland at the ratio listed in Table 20.93-7 according to the wetland type. The location of any off-site wetland mitigation area shall be located within the same watershed as the impact and as near to the site as possible, following this preferred order:*
   A. *Contiguous to the impacted wetland,*

B. *Within the same drainage basin where it would best provide the same function as the impacted wetland, and*
C. *Elsewhere within the city.*

Compensatory mitigation for necessary, unavoidable direct and indirect wetland impacts will be provided through onsite, in kind wetland creation in order to meet to meet the mitigation ratios specified under AMC 20.93.840(d) Table 20.93-7 and ensure no net loss of wetland functions onsite. The existing wetlands onsite are dominated by native plant communities and restoration of these areas is not warranted; furthermore, enhancement activities may result in greater impacts.

2.4 Description of Impacts

2.4.1 Wetland Impacts

Wetland functions for the wetlands proposed to be impacted have been assessed using the *2014 Wetland Rating System for Western Washington* (Hruby and Yahnke, 2023). The wetland functions are summarized, and the wetland rating forms are provided in the *Wetland and Fish and Wildlife Habitat Assessment – Arlington 360* (SVC, 2024). The proposed project will result in the complete loss of functions provided by Wetlands F, Q, and W, and the partial loss of functions provided by Wetlands S and T due to the proposed direct and indirect impacts from the proposed wetland fill, road construction, and stream crossing activities. A summary of wetland impacts is provided in Table 5. The proposed site plan and impacts are depicted on Sheet M2.0 of Appendix A.

The proposed project will result in the complete fill of Wetlands F, Q, and W. Wetlands F, Q, and W consist of Palustrine Forested/Scrub-Shrub/Emergent, Seasonally Saturated, and Temporarily and Seasonally Flooded depressional wetlands with moderate habitat scores. The complete fill of these areas will result in the loss of all associated wetland functions.

The proposed project will result in the partial fill of Wetlands S and T. Wetland S is a Palustine Forested/Scrub-Shrub, seasonally saturated slope wetland with a high habitat score. Wetland T is a Palustrine Forested/Scrub-Shrub, Seasonally Saturated and Flooded depressional wetland with a moderate habitat score. Fill activities within Wetland S will be limited to a small portion of the forested fringe along the western boundary of the wetland in proximity to areas already impacted by residential development. Fill activities within Wetland T will be limited to a small scrub-shrub areas dominated by non-native invasive species adjacent to Tviet Road. Indirect impacts to wetland S will occur as the result of the lack of protective buffer adjacent to the wetlands and new development, while Tveit road has already impacted wetland T in it's current state so no new indirect impacts are anticipated to occur as updated stormwater infrastructure will likely be an improvement over existing conditions.

Table 5. Wetland Impact Summary.

Wetland	HGM	Cowardin[1]	Arlington Ratings[2]	Onsite Wetland Area	Impact Type	Impact Area
F	Depressional	PSS/EMBC	III	4,467SF (0.14 ac)	Direct (fill)	6,209 SF (0.14 ac)
Q	Depressional	PFO/SS/EM AB	III	16,203 SF (0.37 ac)	Direct (fill)	16,203 SF (0.37 ac)
S	Slope	PFO/SSB	III	23,085 SF (0.08 ac)	Direct (fill)	3,342 SF (0.08 ac)
T	Depressional	PFO/SSBC	III	21,724 SF (0.50 ac)	Direct (fill)	734 SF (0.01 ac)
W	Depressional	PFOA	III	12,539 SF (0.29 ac)	Direct (fill)	12,539 SF (0.29 ac)
Total Direct Wetland Impacts						**32,697 SF (0.75 ac)**
S	Slope	PFO/SSB	III	23,085 SF (0.08 ac)	Indirect	22,681 SF (0.52 ac)
T	Depressional	PFO/SSBC	III	21,724 SF (0.50 ac)	Indirect	452 SF (0.01 ac)
Total Indirect Wetland Impacts						**23,133 SF (0.531 ac)**

Notes:

1. Federal Geographic Data Committee (2013); class based on vegetation: PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub, PEM = Palustrine Emergent. Modifiers for Water Regime or Special Situations: A = Temporarily Flooded, B = Seasonally Saturated, C= Seasonally Flooded.
2. 2014 WSDOE rating system (Hruby and Yahnke, 2023) per AMC 20.93.800(a).

2.4.2 Stream Impacts

The proposed project requires direct impacts to Streams Y and Z for the construction of the required Spine Road connection between Burn Road and Tviet Road, and road improvements along Tviet Road. Both Stream Y and Stream Z originate from groundwater seeps at the top of steep ravines situated onsite. Spine Road will cross an upstream segment of Stream Y that meets the criteria of a Type Ns (non-fish habitat, seasonal) water. Access road improvements along Tviet Road will require upgrades to an existing crossing along a Type F-ESA (ESA-listed salmonid habitat) segment of Stream Z.

Both crossings will consist of bottomless, spanning culverts designed to meet WDFW's 2013 *Water Crossing Guidelines* (WDFW, 2013). The crossing over Stream Y will result in 53 linear feet of impacts associated shading as no in-water work is proposed. Overall, shading impacts over the non-fish habitat segment of Stream Y are not anticipated to have significant adverse impacts on habitat or stream functions as the crossing is located at the origin of Stream Y where aquatic vegetation is non-existent.

A existing forest-road culvert and crossing is currently present at Stream Y in the location of the proposed improved crossing. The crossing over Stream Z will replace an existing piped culvert and require 19 LF of additional impact however due to the improvement in culvert function is considered a self-mitigating action as it will improve fish passage and stream functions associated with Stream Z.

A summary of stream impacts is provided in Table 6 below. The proposed site plan and stream impacts are depicted on Sheet M2.1 of Appendix A.

Table 6. Stream Impact Summary

Stream	Type[1]	Impact Type	Impact Area (SF)
Y	Type Ns	Indirect (Shading)	53 LF
		Total Stream Impact	72 LF

Note:
1. Stream typing per definitions in WAC 222-16-030.

2.4.3 Buffer Impacts

The proposed project requires 236,966 square feet of permanent impacts to wetland and stream buffers as well as additional temporary grading impacts that will remove existing forested and scrub-shrub vegetation. All temporary grading impacts will be restored by replanting native vegetation.

2.5 Authorizations

Proposed impacts to Wetlands T and S will require coordination and authorization from local, state, and federal agencies. The Applicant will apply for federal authorization under Section 404 of the CWA through Nationwide Permit 29 – Residential Developments, and will also require state authorization from WSDOE for Section 401 of the CWA through a Water Quality Certification and compliance with the Coastal Zone Management Program.

Wetlands F, Q, and W appear to lack a continuous surface water connection to Water of the United States (WOTUS) and therefor may not be regulated by the USACE. The Applicant plans to submit an Approved Jurisdictional Determination (AJD) request to USACE for verification of whether these wetlands are federally regulated. If USACE determines that the wetlands are not federally regulated, then the Applicant will apply for state authorization from WSDOE under RCW 90.48 through an Administrative Order. If USACE determines that the wetlands are federally regulated, then the Applicant will apply for federal authorization from USACE under Section 404 of the CWA and for associated state authorizations from WSDOE.

Proposed work over Streams Y and in/over Z will require coordination and authorization from local and state agencies. The Applicant will apply for WDFW authorization by requesting a Hydraulic Project Approval (HPA) under RCW 77.55.

Chapter 3. Conceptual Mitigation Plan

The proposed project impacts and mitigation actions attempt to closely adhere to local critical areas regulations specified in AMC 20.93 while also utilizing the best available science (Granger et al., 2005; Hruby et al., 2009; WSDOE et al. 2006, and WSDOE et al., 2021). In general, compensatory mitigation should be located within the same watershed as the impact site and should be located where it is most likely to successfully replace lost functions and values that best benefit the impacted watershed. Potential compensatory wetland and stream mitigation actions were examined in the context of both onsite and watershed-level processes to determine the most suitable mitigation strategy.

The proposed mitigation actions are intended to compensate for lost wetland and stream functions and values by providing an overall improvement in the performance of water quality, hydrologic, and habitat functions according to the needs of the site, local sub-basin, and overall Stillaguamish watershed. The project proposes onsite wetland creation/re-establishment, preservation, and enhancement, stream channel creation, and buffer creation, enhancement, and restoration to mitigate the proposed direct and indirect wetland impacts, the partial loss of open stream channel habitat resulting from proposed crossings, and permanent buffer impacts. This chapter presents the mitigation details for the proposed residential development project. The Conceptual Mitigation Plan depicting existing conditions, proposed impacts, and onsite mitigation actions is included in Appendix A.

The Applicant will submit any proposed substantial changes to the project or mitigation plan, such as significant changes to the amount, location, or design of mitigation; the goals, benchmarks, or performance standards; the monitoring or adaptive management provisions, to WSDOE for review and approval prior to implementation. Minor changes, such as alterations to the species listed in the planting plan, will be documented in the as-built report.

3.1 Mitigation Strategy

3.1.1 Wetland Mitigation Strategy

The onsite mitigation actions are intended to compensate for the proposed direct and indirect wetland impacts through 105,682 square feet (2.42 acres) of compensatory wetland creation on the northwest portion of the site between Streams Y and Z. The compensatory wetland creation area is proposed as mitigation according to local, state, and federal rules and guidance and the mitigation ratios established in AMC 20.93.840(d) Table 20.93-7 and joint state and federal agency mitigation guidance (WSDOE et al, 2021).

Table 7. Compensatory Wetland Mitigation Summary for Wetland Impacts.

Wetland	WSDOE Rating[1]	Impact Type	Impact Area (acre)	Compensation	
				Creation/Re-Establishment Ratio[2]	Area (acre)
F	III	Direct (fill)	0.14	2:1	0.28

Q	III	Direct (fill)	0.37	2:1	0.74
S	III	Direct (fill)	0.08	2:1	0.16
S	III	Indirect	0.52	1:1	0.52
T	III	Direct (fill)	0.01	2:1	0.02
T	III	Indirect	0.01	1:1	0.01
W	III	Direct (fill)	0.29	2:1	0.58
			Total	**-**	**2.31**

Notes:

1. WSDOE rating according to Washington State wetland rating system for Western Washington (Hruby and Yahnke, 2023).
2. Indirect impacts are mitigated at one half the standard mitigation ratio for direct wetland impacts (WSDOE et al, 2021).

The proposed onsite compensatory wetland mitigation area will be located on the northwest corner of the subject property, near the confluence of Streams Y and Z and in proximity to Wetlands B, C, G, P, and T. The wetland mitigation area has been designed to ensure the created wetland area will be protected by a minimum of a 110-foot "perimeter buffer". The wetland creation area will be separated from the proposed development by this "perimeter buffer" at a minimum, and in certain areas will have a greater protective buffer due to its location within the riparian habitat areas established for the onsite streams. Currently, the area surrounding the wetland creation area consist of a mix of intact native forest habitat (primarily red alder (*Alnus rubra*), and scrub-shrub areas dominated by non-native invasive Himalayan blackberry. Following development, the wetland creation area will be situated in a riparian corridor on a site developed with a high-density residential plat that meet the criteria of a high intensity land use. According to local and joint state and federal guidance (WSDOE et al, 2021), Category III wetlands adjacent to high intensity land uses should have a protective 150-foot perimeter buffer. However, per AMC 20.93.830(a)(1), a 110-foot buffer associated with moderate land use impacts may be implemented when a relatively undisturbed vegetated corridor at least 100-feet wide is maintained between the wetland and any other protected areas, and minimization measures described in AMC 20.93.830 Table 20.93-5 are implemented. These measures will be enacted onsite to allow for a 110-foot perimeter buffer surrounding the wetland creation area. The 110-foot perimeter buffer overlaps with areas dominated by non-native invasive species and will be enhanced with native plantings to increase buffer functions surrounding the wetland creation site. The proposed wetland creation site will be further protected by the establishment of a protective easement or tract surrounding the wetland creation area and surrounding the existing wetlands and streams forming a connected corridor on the western portion of the subject property.

The goal of the proposed compensatory wetland creation is to create a forested and/or scrub-scrub depressional/riverine wetland adjacent to Streams Y and Z. The existing wetland areas proposed to be impacted onsite consist of forested, scrub-shrub, emergent, temporarily and seasonally flooded, and seasonally saturated depressional and slope wetlands that are partially degraded by existing development and prior site maintenance (i.e., mowing and logging). Furthermore, Wetlands F, Q, and W are isolated in the landscape. As such, the proposed wetland creation area situated within the riparian corridor associated with Streams Y and Z will provide an increase in wetland functions onsite.

The wetland creation areas will be excavated from uplands between Streams Y and Z. At a minimum, the excavation should achieve a water table within twelve inches of the soil surface during the early

growing season for at least two consecutive weeks. Organic topsoil can be added to the wetland creation site as needed to provide a suitable substrate for native plantings; topsoil may be sourced from onsite or an approved offsite supplier.

Through careful design and utilization of best available science, the proposed mitigation plan has a high probability of success and persistence. The newly created wetland area will be installed in the same environment as the existing wetlands. The mitigation plan proposes to plant a variety of native tree, shrub, and groundcover species selected based on species wetland indicator statuses, targeted hydroperiods, local topography, and species currently present in the existing onsite wetland areas. By following the site preparation specifications outlined herein (e.g., excavation, topsoil installation as needed, and plantings), the wetland creation area will be able to maintain wetland hydrology during the growing season in most years to match the existing hydrologic regimes of the wetland areas proposed to be impacted and to provide functional wetland habitat.

In addition to the proposed compensatory and non-compensatory wetland creation and enhancement actions, any temporary wetland impacts will be fully restored immediately after site grading is completed. Restoration actions will include planting native shrubs and groundcover to ensure no net loss of wetland functions as a result of the proposed development.

3.1.2 Stream Mitigation Strategy

The mitigation actions outlined herein are intended to compensate for lost stream functions and values by providing an overall improvement in water quality, hydrologic, and habitat functions according to the needs of the site, local sub-basin, and greater Snohomish River watershed. As there is an existing culvert and established crossing in the location of the proposed crossing, additional impacts will be limited to the net increase in proposed crossing footprint. Indirect impacts to Stream Y resulting from shading associated with the proposed bottomless, spanning crossing will be offset through buffer creation at a 2:1 ratio in accordance with the mitigation requirements of AMC 20.93.740 to ensure no net loss of stream functions, as shown in Table 8 below.

Table 8. Summary of Stream Mitigation

Stream	Type[1]	Impact Type	Impact Area	Stream Buffer Creation	
				Ratio	Provided
Y	Ns	Direct (shading)	53 LF	2:1	9,588 SF
				Total	**9,588 SF**

Note:
1. Stream typing per definitions in WAC 222-16-030.

3.1.3 Buffer Mitigation Strategy

In order to offset 236,966 square feet of permanent buffer impacts, a combination of buffer creation and enhancement actions are proposed. 588,613 square feet of buffer of creation and 115,369 square feet of buffer enhancement will be provided. Much of the areas proposed for buffer creation consist of intact native forest that will be placed in a protected easement/tract contiguous with the wetlands and streams identified onsite. Buffer enhancement actions will target buffer areas onsite dominated by non-native invasive species and areas impacted by prior land clearing to provide a net lift in

screening and improve habitat between the identified critical areas and the proposed development. Throughout these areas, non-native invasive species will be removed and disturbed/cleared areas will be planted with a dense assortment of native trees, shrubs, and groundcovers. The proposed buffer creation and enhancement areas are depicted in Appendix A.

Providing native plantings within the buffer will enhance the habitat functions and critical area protection provided by the site, improve hydrology and quality of water leaving the project site, and increase buffer screening between the wetlands and proposed development. Areas of established native vegetation will be retained. Overall, the proposed project will result in a net gain in ecological functions when compared to the existing degraded conditions of the existing wetland buffers.

The buffer enhancement proposed will include, but may not be limited to, the following recommendations:

- Pre-treat invasive plants within the wetland buffer areas with a Washington Department of Agriculture approved herbicide. After pre-treatment, grub to remove the invasive plants and replant all cleared areas with native trees, shrubs, and ground covers listed in the plan set. Pre-treatment of the invasive plants should occur a minimum of two weeks prior to removal;
- Removal of all trash, refuse, and debris within the buffer areas;
- Replant all onsite buffer enhancement areas with native trees, shrubs, and groundcovers listed in the plan set, or substitutes approved by the responsible Project Scientist, to help retain soils, filter stormwater, and increase biodiversity;
- Retention of established native vegetation where possible;
- An approved native seed mix will be used to seed the disturbed areas after planting;
- Maintain and control invasive plants annually, at a minimum, or more frequently if necessary. Maintenance to reduce the growth and spread of invasive plants is not restricted to chemical applications but may include hand removal, if warranted;
- Provide dry-season irrigation as necessary to ensure native plant survival; and
- Direct exterior lights and locating noise generating sources away from the critical areas wherever possible.

3.2 Approach and Best Management Practices

The proposed onsite compensatory mitigation actions will provide increased wetland and stream protections by maintenance or improvement of wetland, stream, and buffer functions onsite. Planting or seeding should occur immediately after grading is complete to the extent practicable. TESC measures will be implemented that consists of high-visibility fencing (HVF) installed around existing wetland and stream areas proposed to be not impacted, silt fencing between the graded areas and buffers, plastic sheeting on stockpiled materials, and seeding of disturbed soils. These TESC measures should be installed prior to the start of development or mitigation actions and actively managed for the duration of the project.

All equipment staging and materials stockpiles will be kept out of the wetlands, streams and associated buffer areas, and the areas will need to be kept free of spills and/or hazardous materials. Construction materials along with all construction waste and debris will be effectively managed and stockpiled on paved surfaces and kept free of the wetland, stream, and buffer areas. Following completion of the

development, the entire site will be cleaned and detail graded using hand tools wherever necessary, and TESC measures will be removed.

3.3 Mitigation Implementation

2.5.1 Pre-Construction Meetings and Post-Construction Inspection

Pre-construction meetings are recommended to be held involving representatives from the Applicant, Project Manager or Contractor, and Project Scientist. The pre-construction meeting should occur prior to commencement of mitigation actions, and the second meeting should occur onsite after construction staking has been placed by professional surveyors. The overall purpose of the first pre-construction meeting should be to discuss the intent of the proposed mitigation actions and regulatory requirements; identify points of contact; establish communication lines between the Project Scientist, Project Manager or Contractor and landscaping personnel; review project scheduling; and address any questions or issues associated with the mitigation plan. A second pre-construction meeting is also recommended to discuss project implementation, protection of onsite habitat, construction BMPs, and identify invasive species management actions.

Post-construction inspection of all mitigation areas will be necessary to verify the installation conforms to the approved plan. This post-construction inspection effort will occur after completion of the wetland creation and Stream Z culvert replacement, and all appropriate seeding and planting actions. The post-construction inspection will be documented in an As-Built (Year 0) Report. Any significant changes to the mitigation design will also be coordinated with regulatory staff as specified in regulatory approvals and presented in the As-Built Report. During the post-construction inspection, the Project Scientist will identify and mark long-term monitoring plots and photographic stations in the field that represent representative conditions of wetland creation, and other mitigation areas. The long-term monitoring locations will be GPS located and included in the As-Built Report.

2.5.2 Project Sequencing

Compensatory mitigation and buffer restoration actions will occur concurrently with the development of the project. Initial actions will include excavation for the wetland creation and Stream Z culvert replacement. Culvert replacement within Stream Z should occur during the summer during low flow conditions and shall occur during in-water work windows approved by the regulatory agencies. Following the initial excavation and grading, native plants may be installed following consultation with the Project Scientist to determine feasibility given summer hydrology conditions. Fish exclusion and removal/recovery efforts may be necessary for any in-water work or construction. Native plants are anticipated to be fully installed during the fall or early winter (September 1– December 31) following the stream reconfigurations and wetland creation activities during the summer season. The mitigation site should be seeded prior to the beginning of the wet season to minimize erosion.

TESC measures will be implemented according to the TESC plan prepared for the proposed project. Typical TESC measures include silt fencing where appropriate to protect remaining onsite critical areas and potential offsite areas in the vicinity of project activities, plastic sheeting on stockpiled materials, and seeding of disturbed soils which will be actively managed for the duration of the project.

The Project Scientist should be consulted prior to and during the mitigation actions to ensure that mitigation actions are conducted according to the intent of the mitigation plan. The Project Scientist should review the planting plans with the landscaping contractor to ensure clear understanding of the

plan prior to installation of plant materials. The Project Scientist will assist the landscape contractor in making any final adjustments in the planting schedule as needed, in response to field conditions.

The proposed actions will include the excavation of materials to provide a wetland creation area and remove the existing piped culvert crossing from Stream Z. Mitigation and restoration actions may be completed separately from clearing and grading actions in the rest of the Project Area. Soil amendments will be installed as needed throughout the riparian corridor. The onsite soil amendments may be sourced from scraped topsoil. Imported topsoil or soil amendments may be used at the discretion of the landscape contractor.

The project sequencing is anticipated to as follows:

- Pre-construction conferences and regulatory notifications;
- Pre-treatment of non-native invasive plant species as needed;
- Install TESC measures and HVF;
- Remove existing development, debris, and invasive plant material from the mitigation areas as needed;
- Rough grade the wetland creation areas according to the approved grading plan;
- Rough grade inspection;
- Fish exclusion from in-water work area.
- Install bypass to convey Stream Z around work site for crossing upgrades;
- Replace existing piped culvert with spanning crossing for Stream Z beneath Tviet Road;
- Finish grade and prepare grounds for planting in all mitigation areas;
- Install streambed substrates;
- Monitor site hydrology;
- Seed disturbed soils for erosion control;
- Install plant materials;
- Plant inspections;
- Post-construction inspection and as-built survey; and
- Post-construction maintenance, monitoring, and annual reporting

3.4 Goals, Objectives, and Performance Standards

The goals and objectives for the onsite mitigation are based on replacing wetland, stream, and buffer functions impacted by the proposed project and improving onsite wetland and stream buffer functions relative to existing conditions. These actions are capable of providing moderate to high levels of hydrologic, water quality, and habitat functions.

The goals, objectives, and performance standards are listed below. "Cover" is used in this Mitigation Plan to mean the proportion of the ground surface that is covered by vegetation when viewed from above. Native recruits will be utilized in assessing performance standards unless otherwise specified for a particular performance standard. Dead or dying plants may be replaced, and replacement plants may be utilized in assessing performance standards, unless otherwise specified for a particular performance standard.

Goal 1 – Compensate for the loss of 32,697 square feet of wetlands and 23,133 square feet of indirect wetland impacts by creating a minimum of 105,682 square feet of wetlands that provide a moderate level of habitat functions.

Objective 1.1 – Establish a minimum of, 105,682 square feet of wetland creation areas in the upland areas between Streams Y and Z on the northwest portion of the subject property.

Performance Standard 1.1.1 – The wetland creation areas will measure at least 105,682 square feet in size as demonstrated by wetland delineation in Year 10. The wetland area will be delineated using the *1987 Army Corps of Engineers Delineation Manual and the 2010 Western Mountains, Valleys, and Coast Regional Supplement, Version 2*.

Performance Standard 1.1.2 – In at least 5 out of the 10 monitoring years, the wetland creation areas will have high water levels that consist of a) saturated soils within 12 inches of the surface; b) water tables within 12 inches of the surface; and/or c) surface waters during the growing season. Wetland hydrology will be assessed through soil pits, shallow groundwater monitoring wells, and/or direct observations.

Objective 1.2 – Establish forested and scrub-shrub wetland habitat with diverse horizontal and vertical vegetation structure and species richness to provide habitat for wetland-associated wildlife.

Performance Standard 1.2.1 – At the end of Year 1, minimum plant survivorship within the wetland creation area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 1.2.2 – Native woody vegetation in the wetland creation areas will provide at least 25 percent cover by Year 3, at least 30 percent cover by Year 5, at least 50 percent cover by Year 7, and 75 percent cover by Year 10.

Performance Standard 1.2.3 – In all monitoring years, the wetland creation areas will have at least 2 species of native trees and 3 species of native shrubs with recruitment of native species allowed.

Objective 1.3 – Effectively control non-native invasive species from the wetland creation areas.

Performance Standard 1.3.1 – Non-native, invasive plants will not make up more than 20 percent cover during all monitoring years. Non-native, invasive plants are plants listed by the Washington State Noxious Weed Board.

Performance Standard 1.3.2 – State-listed, Class-A noxious weeds, purple loosestrife (*Lythrum salicaria*), and all non-native knotweeds and hybrids, and hybrids including *Polygonum cuspidatum*, *P. polystachyum*, *P. sachalinense*, *P. bohemicum*, etc. will be eradicated from the wetland creation area during all monitoring years.

Goal 2 – Enhance 115,369 square feet of buffer in order to improve screening between the identified critical areas, proposed wetland creation areas, and the proposed development by creating dense native woody plant communities.

Objective 2.1 – Establish 115,369 square feet of buffer enhancement areas that are vegetated with native woody plant cover to create diverse horizontal and vertical vegetation structure and wildlife habitat.

Performance Standard 2.1.1 – At the end of Year 1, minimum plant survivorship within the buffer enhancement area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 2.1.2 – Native woody plant species will provide at least 20 percent cover at the end of Year 3, at least 35 percent cover at the end of Year 5, at least 50 percent cover at the end of Year 7, and at least 70 percent cover at the end of Year 10.

Performance Standard 2.1.3 – In all monitoring years, the buffer enhancement areas will have at least 2 native tree species and 4 native shrubs species.

Objective 2.2 – Effectively control and/or eliminate non-native invasive species in the buffer enhancement areas.

Performance Standard 2.2.1 – Non-native invasive plants (excluding reed canary grass) will not make up more than 20 percent cover during all monitoring years. Non-native invasive plants are plants listed by the Washington State Noxious Weed Board.

Performance Standard 2.2.2 – During all monitoring years, Reed canary grass cover will not exceed the baseline percent cover established during Year 0 (As-Built).

Performance Standard 2.2.3 – State-listed, Class-A noxious weeds, purple loosestrife (*Lythrum salicaria*), and all non-native knotweeds and hybrids, and hybrids including *Polygonum cuspidatum*, *P. polystachyum*, *P. sachalinense*, *P. bohemicum*, etc. will be eradicated from the buffer enhancement area during all monitoring years.

Goal 3 – Restore areas temporarily impacted by development activities to replace existing wetland functions in.

Objective 3.1 – Establish native plant cover within the targeted buffer areas to create diverse horizontal and vertical vegetation structure and additional wildlife habitat.

Performance Standard 3.1.1 – At the end of Year 1, minimum plant survivorship within the buffer restoration area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 3.1.2 – Native tree and shrub species will provide at least 15 percent cover of the buffer restoration areas by Year 3, at least 25 percent cover by Year 5, at least 35 percent cover for Year 7, and 50 percent cover for Year 10.

Performance Standard 3.1.3 – In all monitoring years, the buffer restoration area will have at least 2 species of native trees and 4 species of native shrubs.

Objective 3.2 – Effectively control non-native invasive species within the buffer restoration area.

Performance Standard 3.2.1 – Non-native invasive plants will not make up more than 20 percent cover during all monitoring years. Non-native invasive plants are plants listed by the Washington State Noxious Weed Board.

Goal 4 – Restore 181,253 square feet of buffer to replace existing buffer functions in areas temporarily impacted by development activities.

Objective 4.1 – Establish native plant cover within the targeted buffer areas to create diverse horizontal and vertical vegetation structure and additional wildlife habitat.

Performance Standard 4.1.1 – At the end of Year 1, minimum plant survivorship within the buffer restoration area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 4.1.2 – Native tree and shrub species will provide at least 15 percent cover of the buffer restoration areas by Year 3, at least 25 percent cover by Year 5, at least 35 percent cover for Year 7, and 50 percent cover for Year 10.

Performance Standard 4.1.3 – In all monitoring years, the buffer restoration area will have at least 2 species of native trees and 4 species of native shrubs.

Objective 4.2 – Effectively control non-native invasive species within the buffer restoration area.

Performance Standard 4.2.1 – Non-native invasive plants will not make up more than 20 percent cover during all monitoring years. Non-native invasive plants are plants listed by the Washington State Noxious Weed Board.

3.5 Plant Materials and Installation

Plant Materials

All plant materials to be used for mitigation actions will be nursery grown stock from a reputable, local source. Only native species are to be used; no hybrids or cultivars will be allowed. Plant material provided will be typical of their species or variety; if not cuttings they will exhibit normal, densely developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects, and all forms of disease and infestation.

Container stock shall have been grown in its delivery container for not less than six months but not more than two years. Plants shall not exhibit rootbound conditions. Under no circumstances shall container stock be handled by their trunks, stems, or tops. Seed mixture used for hand or hydroseeding shall contain fresh, clean, and new crop seed mixed by an approved method. The mixture is specified in the plan set.

All plant material shall be inspected by the Project Scientist upon delivery. Plant material not conforming to the specifications below will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site.

Fertilizer will be in the form of Agriform plant tabs or an approved like form. Mulch will consist of sterile wheat straw for seeded areas (if necessary) and clean recycled wood chips approximately ½-inch to 1-inch in size and ½-inch thick for woody plants. The mulch material may be sourced from non-invasive woody materials sourced from the land clearing activities.

Plant Scheduling, Species, Size, and Spacing

Plant installation should occur as close to conclusion of the residential plat construction activities as possible to limit erosion and limit the temporal loss of function provided by the critical areas and buffers. All planting should occur between September 1 and May 1 to ensure plants do not dry out after installation, or temporary irrigation measures may be necessary.

Quality Control for Planting Plan

All plant material shall be inspected by the qualified Project Scientist upon delivery. Plant material not conforming to the specifications above will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site. Under no circumstances shall container stock be handled by their trunks, stems, or tops.

The landscape contractor shall provide the responsible Project Scientist with documentation of plant material that includes the supplying nursery contact information, plant species, plant quantities, and plant sizes.

Product Handling, Delivery, and Storage

All seed and fertilizer should be delivered in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. This material should be stored in a manner to prevent wetting and deterioration. All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet industry standards will be rejected. Plants will be packed, transported, and handled with care to ensure protection against injury and from drying out. If plants cannot be planted immediately upon delivery they should be protected with soil, wet peat moss, or in a manner acceptable to the responsible Project Scientist. Plants, fertilizer, and mulch not installed immediately upon delivery shall be secured on the site to prevent theft or tampering. No plant shall be bound with rope or wire in a manner that could damage or break the branches. Plants transported on open vehicles should be secured with a protective covering to prevent windburn.

Preparation and Installation of Plant Materials

The planting contractor shall verify the location of all elements of the mitigation plan with the responsible Project Scientist prior to installation. The responsible Project Scientist reserves the right to adjust the locations of landscape elements during the installation period as appropriate. If obstructions are encountered that are not shown on the drawings, planting operations will cease until alternate plant locations have been selected by and/or approved by the Project Scientist.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least 1.5 times the width of the rootball, and the depth of the pit should accommodate the entire root system.

Broken roots should be pruned with a sharp instrument and rootballs should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling and add Agriform tablets. Water pits again upon completion of backfilling. No filling should occur around trunks or stems. Do not use frozen or

muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water and install a 4- to 6-inch layer of mulch around the base of each container plant.

Temporary Irrigation Specifications

While the native species selected for mitigation actions are hardy and typically thrive in northwest conditions and the proposed actions are planned in areas with sufficient hydroperiods for the species selected, some individual plants might perish due to dry conditions. Therefore, irrigation or regular watering may be provided as necessary for the duration of the first two growing seasons, two times per week while the native plantings become established. If used, irrigation will be discontinued after two growing seasons. Frequency and amount of irrigation will be dependent upon climatic conditions and may require more or less frequent watering than two times per week.

Invasive Plant Control and Removal

Invasive species onsite to be removed include Himalayan blackberry, reed canarygrass, and any listed noxious weeds or other invasive species that are existing or may colonize the mitigation area. These species are found nearby; therefore, to ensure these species do not expand following the mitigation actions, invasive species within the mitigation areas will be pretreated with a root-killing herbicide approved for use in aquatic sites (e.g., e.g. Glyphosate 5.4 containing herbicide) a minimum of two weeks prior to being removed from the wetland buffers. The pre-treatment with herbicide should occur prior to all planned mitigation actions, and spot treatment of any surviving other invasive vegetation should be performed again each fall prior to leaf senescence for a minimum of three years.

3.6 Maintenance & Monitoring Plan

Conceptual Maintenance and Monitoring Plans are described below in accordance with AMC 20.93.390, and anticipated conditions from other regulatory agencies. The Applicant is committed to compliance with the mitigation plan and overall success of the project. As such, the Applicant will continue to maintain the mitigation areas, keeping the site free from of non-native invasive vegetation, trash, and yard waste.

The mitigation actions will require continued monitoring and maintenance to ensure the mitigation actions are successful. Therefore, the mitigation areas will be monitored for a period of ten years, with formal inspections by a qualified Project Scientist. Monitoring events will be scheduled at the time of construction, 30 days after planting, and minimally on an annual basis during Years 1, 2, 3, 4, 5, 7, and 10. Closeout monitoring will also occur in Year 10. Delineation of compensatory wetland creation areas by a qualified Wetland Scientist will be conducted in Years 5 and 10 to ensure the success of the compensatory actions.

Monitoring will consist of percent cover measurements and stem counts at permanent monitoring stations, walk-through surveys to identify invasive species presence and dead or dying enhancement plantings, photographs taken at fixed photo points, wildlife observations, and general qualitative habitat and wetland function observations. Data collected during monitoring visits will be appropriate for the performance standards of the relevant monitoring year. The permanent monitoring stations will be established such that the mitigation site is representatively sampled. Circular sample plots, approximately 30 feet in diameter (706 square feet), will be centered at each monitoring station. Sample plots will be located entirely within the proposed mitigation site. Sample plot shapes may need to be adjusted to ensure that sample plots do not cross the mitigation site boundaries; adjusted sample plot shapes should maintain the same area as the 30-foot-diameter circular sample plots. Mean survivorship

and percent cover measurements from the sample plots will be used to estimate survivorship and percent cover across the mitigation site.

To determine survivorship, individual tree and shrub stems within the relevant circular sampling plots will be counted. Plants which grow several stems from a single base will be counted as one individual plant. These trees and shrubs will then be recorded as dead/dying or alive. To determine percent cover and species richness of woody vegetation, each species of tree or shrub within the approximately 30-foot-diameter circular sampling plots will be recorded and identified as native or invasive. Plants may be recorded by genus if species is unable to be determined at the time of the monitoring visit. Herbaceous vegetation will be sampled from a 10-foot diameter (78.5 square feet), established at the same location as the center of each tree and shrub sample plot. Herbaceous vegetation within the sampling plot will be recorded to at least the genus level and identified as native or invasive. A list of observed tree, shrub, and herbaceous genera or species, cover estimates, and wetland indicator status will be included within each monitoring report.

3.7 Reporting

Following construction an as-built report will be submitted to the City of Arlington and other appropriate permitting agencies. Additionally, a brief monitoring report detailing the current ecological status of the mitigation actions, measurement of performance standards, and management recommendations will be prepared and submitted to the City and other appropriate permitting agencies within 90 days of each monitoring event to ensure full compliance with the mitigation plan.

3.8 Contingency Plan

If monitoring results indicate that performance standards are not being met, it may be necessary to implement all or part of the contingency plan. Careful attention to maintenance is essential in ensuring that problems do not arise. Should any portions of the mitigation areas fail to meet the success criteria, a contingency plan will be developed and implemented with City approval. Such plans are adaptive and should be prepared on a case-by-case basis to reflect the failed mitigation characteristics. Contingency plans can include additional plant installation, erosion control, and plant substitutions including type, size, and location. The Contingency measures outlined below can also be utilized in perpetuity to maintain the wetlands and buffers associated with the proposed project site.

Contingency/maintenance activities may include, but are not limited to:

1. Using plugs instead of seed for emergent vegetation coverage where seeded material does not become well-established;
2. Replacing plants lost to vandalism, drought, or disease, as necessary;
3. Replacing any plant species with a 20 percent or greater mortality rate after two growing seasons with the same species or native species of similar form and function;
4. Irrigating the mitigation areas only as necessary during dry weather if plants appear to be too dry, with a minimal quantity of water;
5. Reseeding and/or repair of wetland and buffer areas as necessary if erosion or sedimentation occurs;
6. Spot treat non-native invasive plant species; and
7. Removing all trash or undesirable debris from the mitigation areas as necessary.

3.9 Critical Area Protective Measures

Long-term protection of the mitigation site shall be provided by placement in a separate tract in which development is prohibited or by execution of an easement dedicated to the City of Arlington, a conservation organization, land trust, or similarly preserved through a permanent protective mechanism acceptable to the city. The location and limitations associated with the mitigation area shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the Snohomish County recording department.

3.10 Financial Assurances

Under AMC 20.93.390(5), performance security is required to assure that all actions approved under this Mitigation Plan are satisfactorily completed in accordance with the mitigation plan, performance standards, and regulatory conditions of approval. Prior to final inspection, a maintenance and warranty security (bond) shall be obtained according to the conditions of approved development agreements with the City and appropriate permitting agencies.

Chapter 4. Closure

The findings and conclusions documented in this report have been prepared for specific application for the Arlington East Hill project. These findings and conclusions have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. The conclusions and recommendations presented in this assessment report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this assessment may need to be revised wholly or in part in the future.

Chapter 5. References

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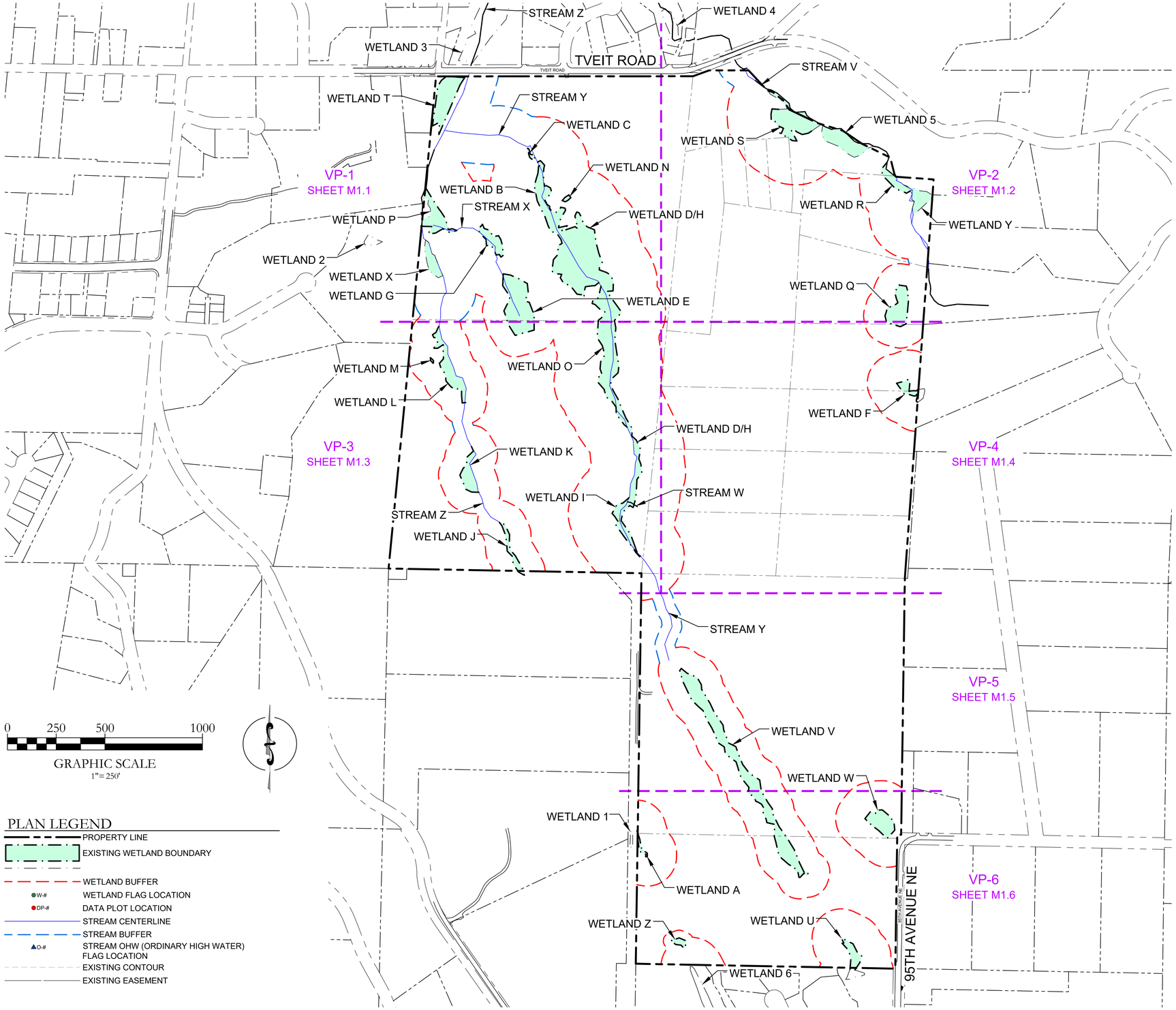
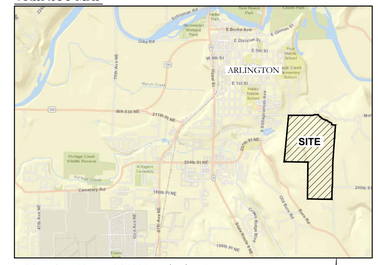
Appendix A – Existing Conditions and Proposed Exhibits



PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- WETLAND BUFFER
- W-# WETLAND FLAG LOCATION
- DP-# DATA PLOT LOCATION
- STREAM CENTERLINE
- STREAM BUFFER
- O-# STREAM OHW (ORDINARY HIGH WATER) FLAG LOCATION
- EXISTING CONTOUR
- EXISTING EASEMENT

VICINITY MAP



SOURCE: ESRI (ACCESSED 1/30/2024)

LOCATION

THE NE, SE, & SW ¼ OF SECTIONS 12 &13,

TOWNSHIP 31N, RANGE 5E, WM

APPLICANT/OWNER

NAME: ARLINGTON 360, LLC
ADDRESS: 10515 20TH STREET SE, SUITE 202
LAKE STEVENS, WA 98358
CONTACT: RYAN C. LARSEN
PHONE: (360) 631-1820
E-MAIL: RLARSEN@LANDPROGRP.COM

ENVIRONMENTAL CONSULTANT

SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE
GIG HARBOR, WA 98355
(253) 514-8952

SHEET INDEX

SOURCES:

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ARLINGTON EAST HILL
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ARLINGTON, WA 98223

SNOHOMISH COUNTY
PARCEL NUMBER(S):
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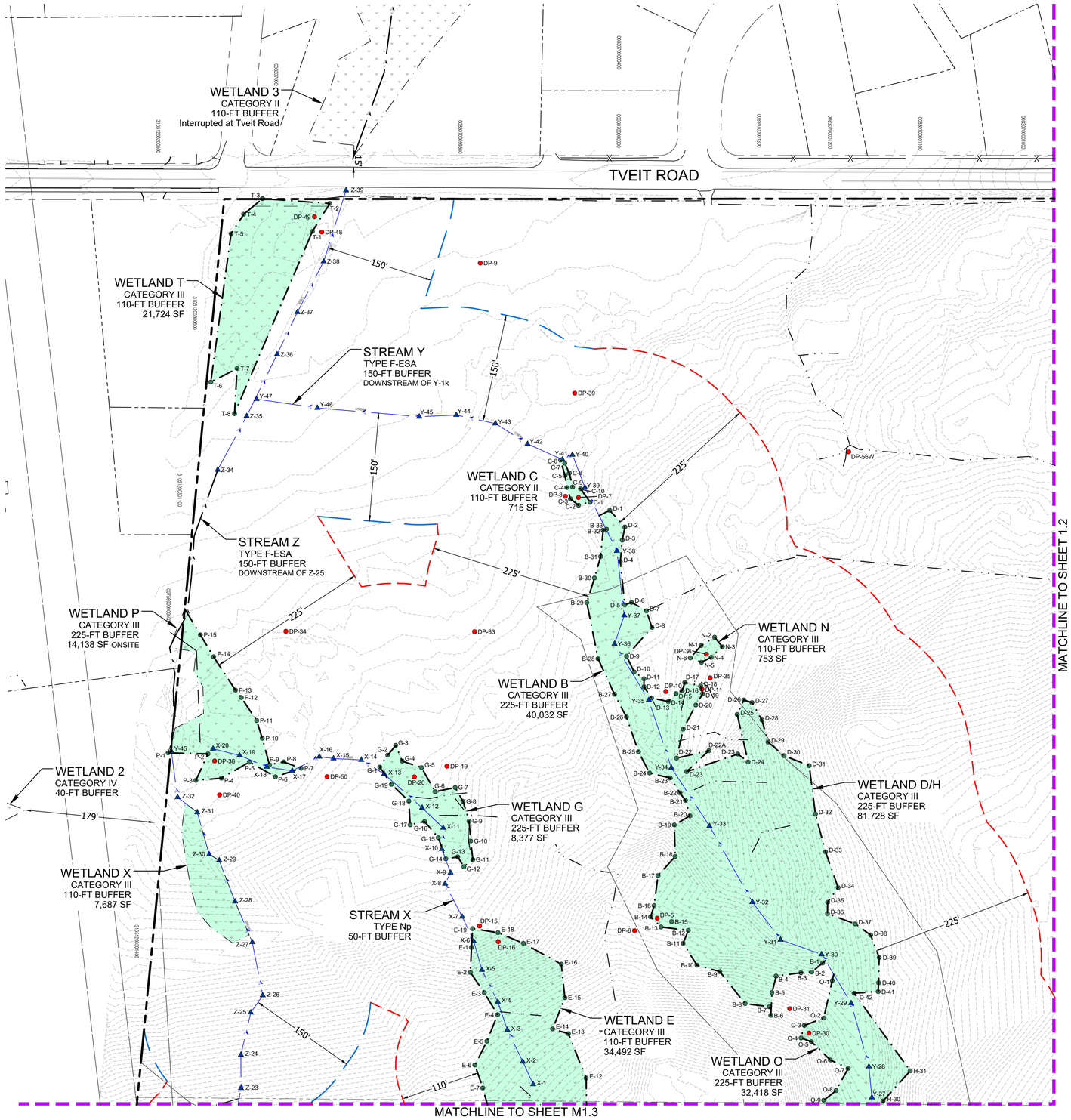

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GRAPHIC SCALE
1"= 75'

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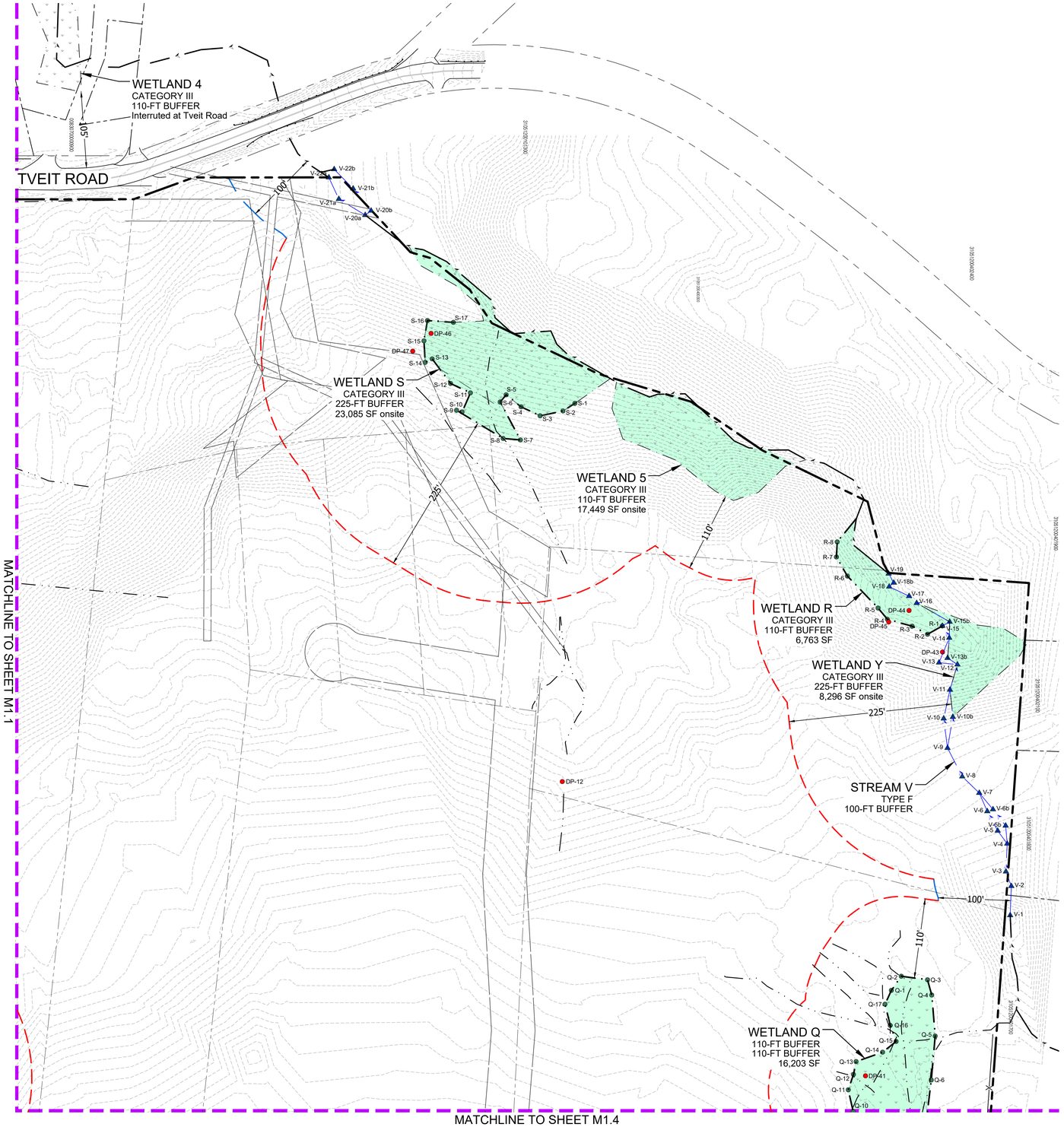

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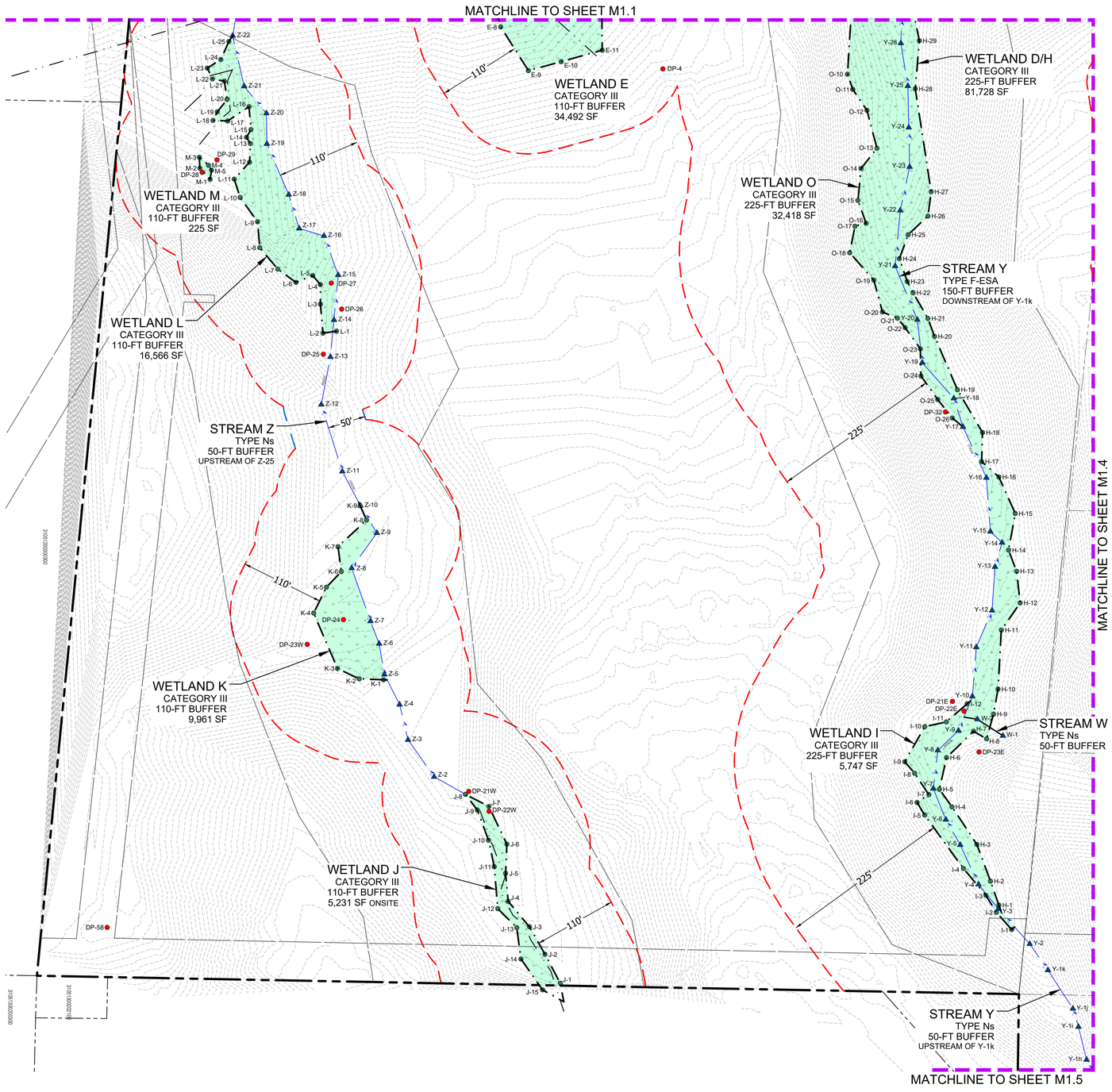

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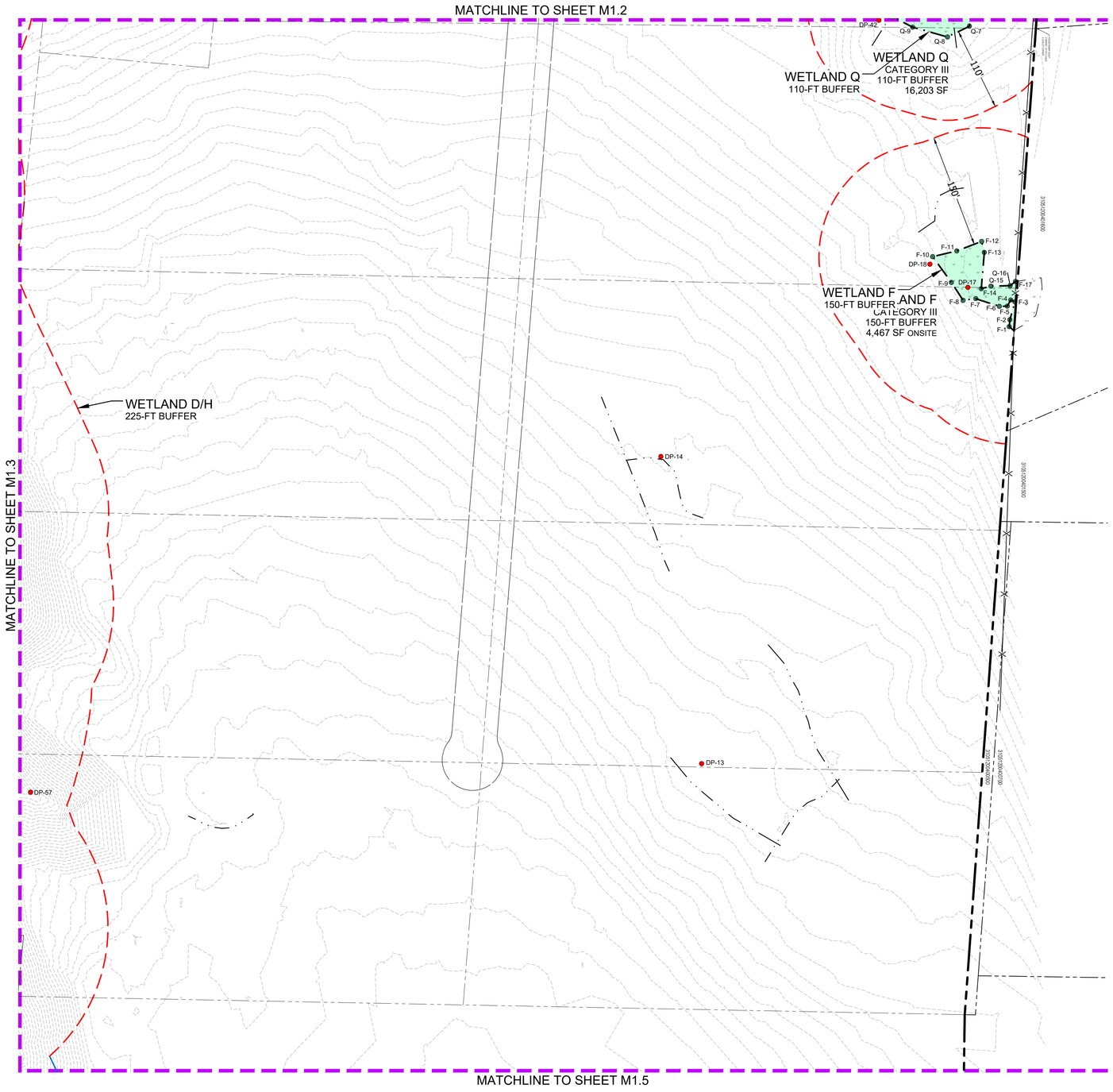

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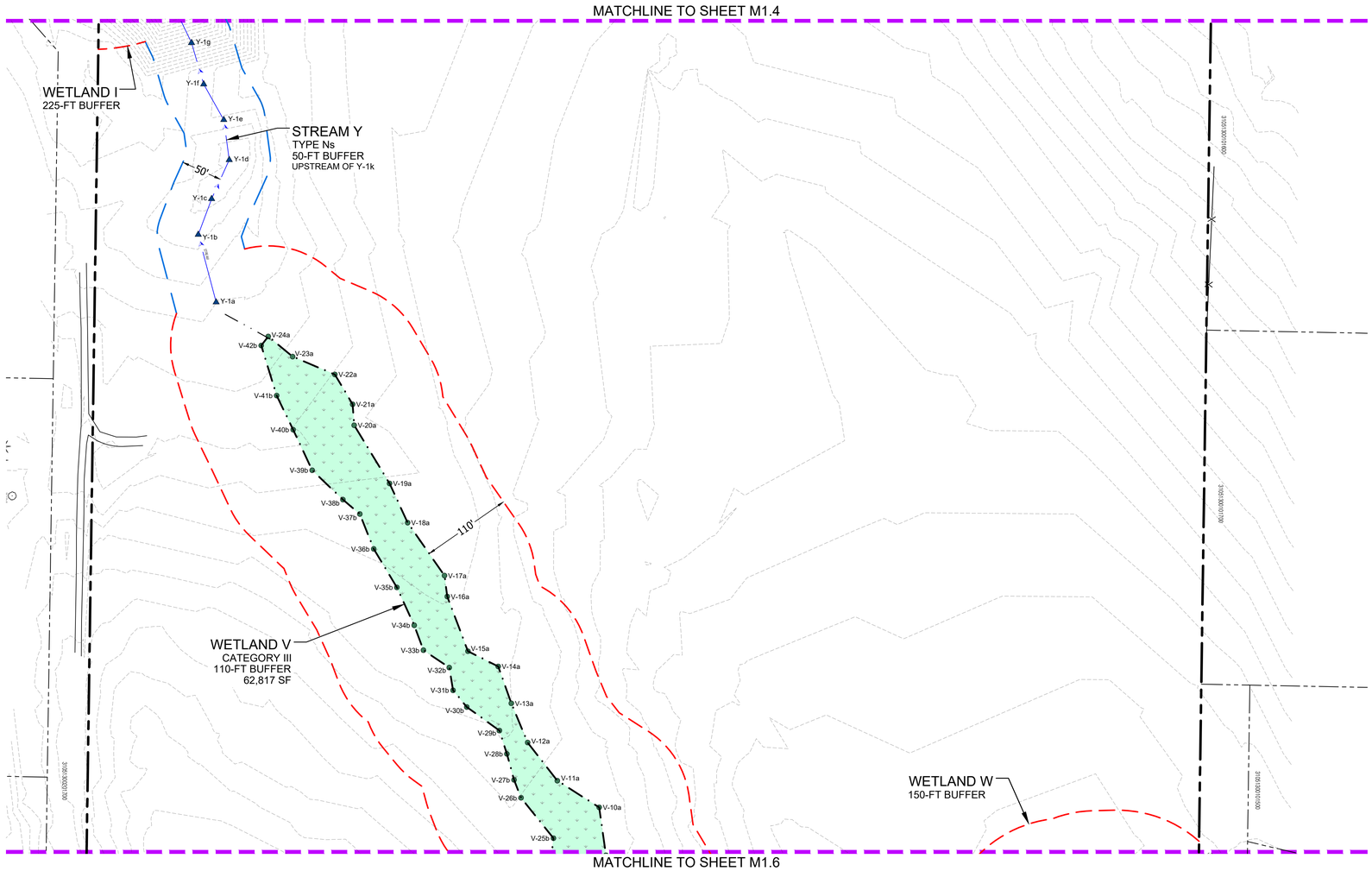

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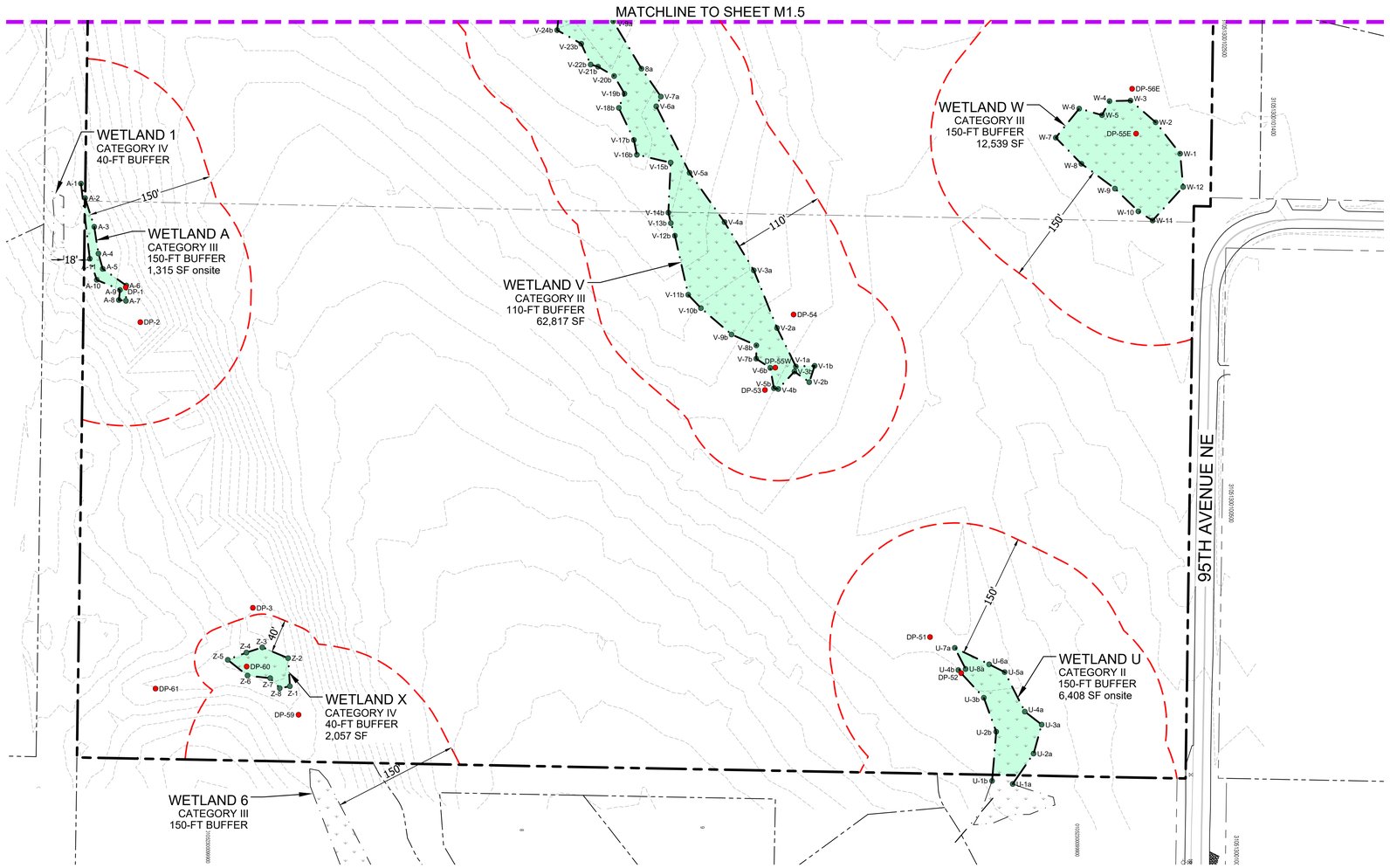

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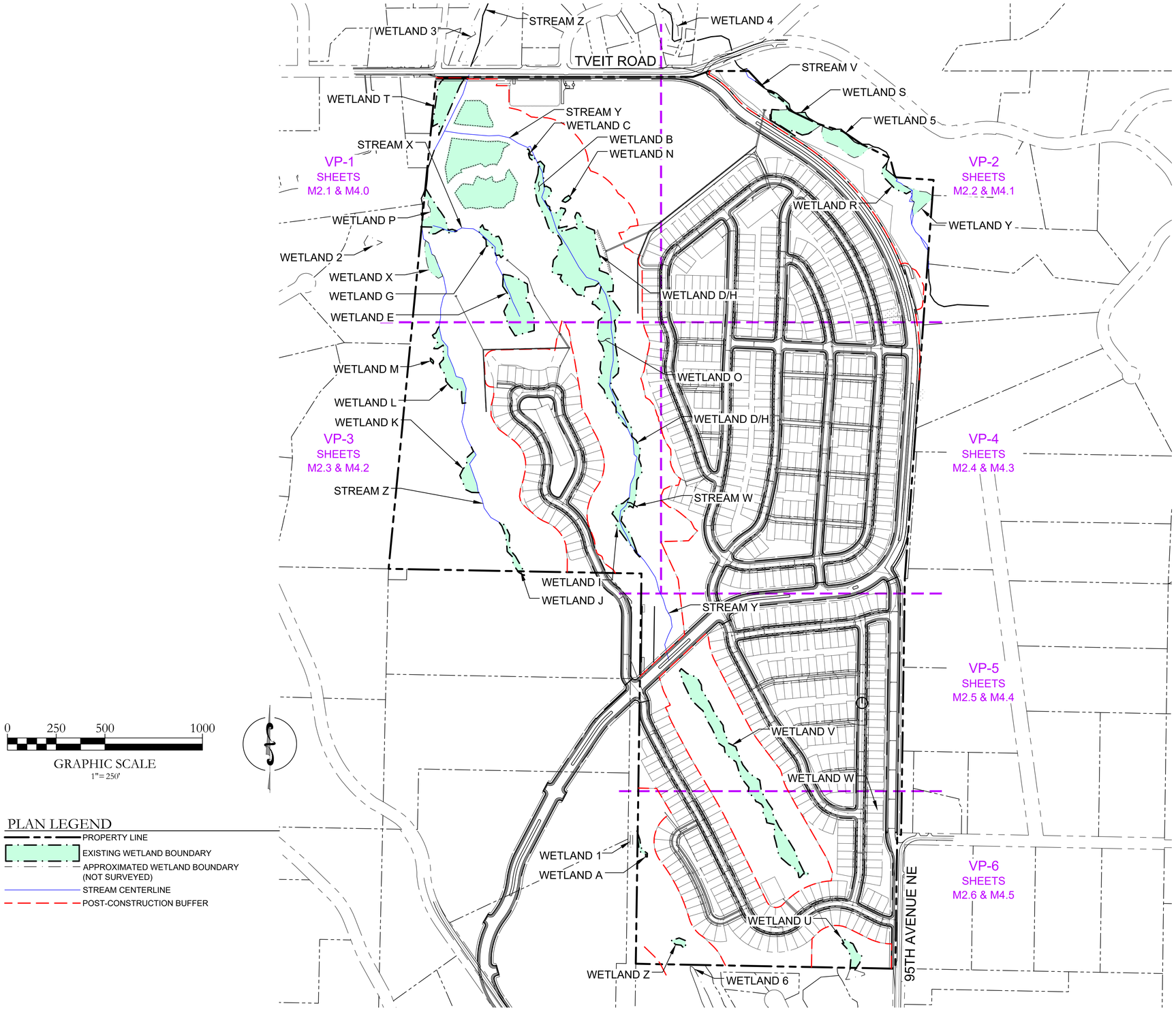

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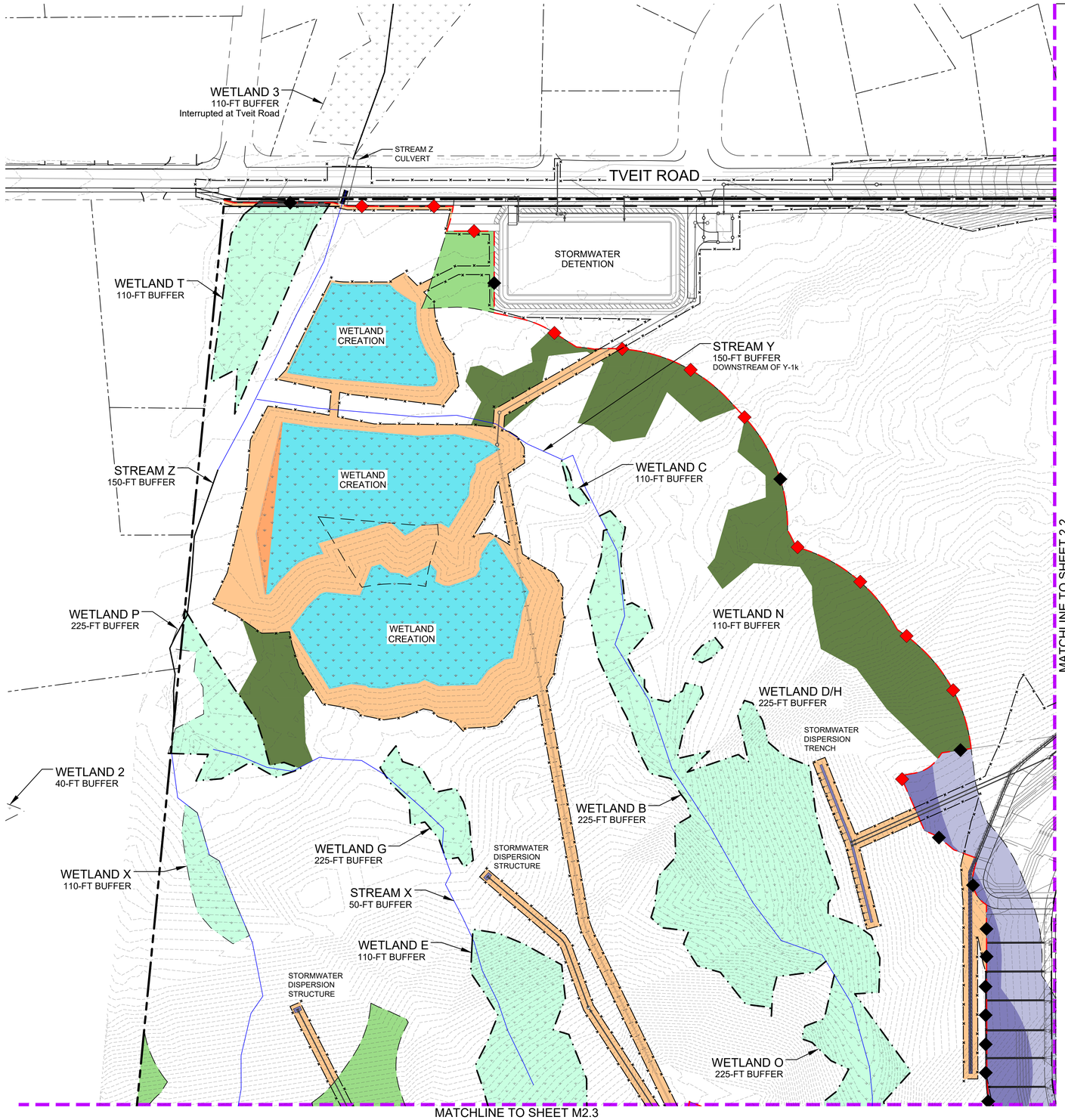

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GRAPHIC SCALE
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PLAN LEGEND

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- STREAM CENTERLINE
- APPROXIMATED STREAM CENTERLINE (NOT SURVEYED)
- EXISTING DITCH OR DRAINAGE
- 2-FT CONTOUR
- PROPOSED CLEARING LIMIT LINE
- EXISTING EASEMENT

BUFFER AVERAGING LEGEND

TOTAL OUTER BUFFER DECREASE: (OUTER 25% OF STANDARD BUFFER)	236,966 SF
TOTAL BUFFER INCREASE:	588,613 SF
NET BUFFER INCREASE:	351,647 SF

IMPACTS LEGEND

WETLAND IMPACTS

TOTAL WETLAND FILL	32,697 SF
FILL -- WETLAND F	6,209 SF
FILL -- WETLAND Q	16,203 SF
FILL -- WETLAND S	3,342 SF
FILL -- WETLAND T	734 SF
INDIRECT WETLAND S IMPACTS	23,133 SF

STREAM IMPACTS

TOTAL CULVERTED STREAM CHANNEL	72 LF
STREAM Y - PLACED IN CULVERT	53 LF
STREAM Z - PLACED IN CULVERT	19 LF

BUFFER IMPACTS

PERMANENT BUFFER IMPACTS (IMPACTS TO INNER 75% OF STANDARD BUFFER; INCLUDES STORMWATER DISPERSION.)	112,892 SF
TEMPORARY BUFFER IMPACTS (TO BE RESTORED)	179,935 SF

MITIGATION LEGEND

WETLAND MITIGATION

COMPENSATORY WETLAND CREATION	105,682 SF
NON-COMPENSATORY WETLAND CREATION	2,806 SF
BUFFER RESTORATION	181,253 SF
BUFFER ENHANCEMENT	115,369 SF

FENCES & SIGNS

POST-CONSTRUCTION BUFFER/ CRITICAL AREA FENCE	15,378 LF
CRITICAL AREA SIGN - TYPE 1	157 SIGNS
CRITICAL AREA SIGN - TYPE 2	72 SIGNS

SOURCES:

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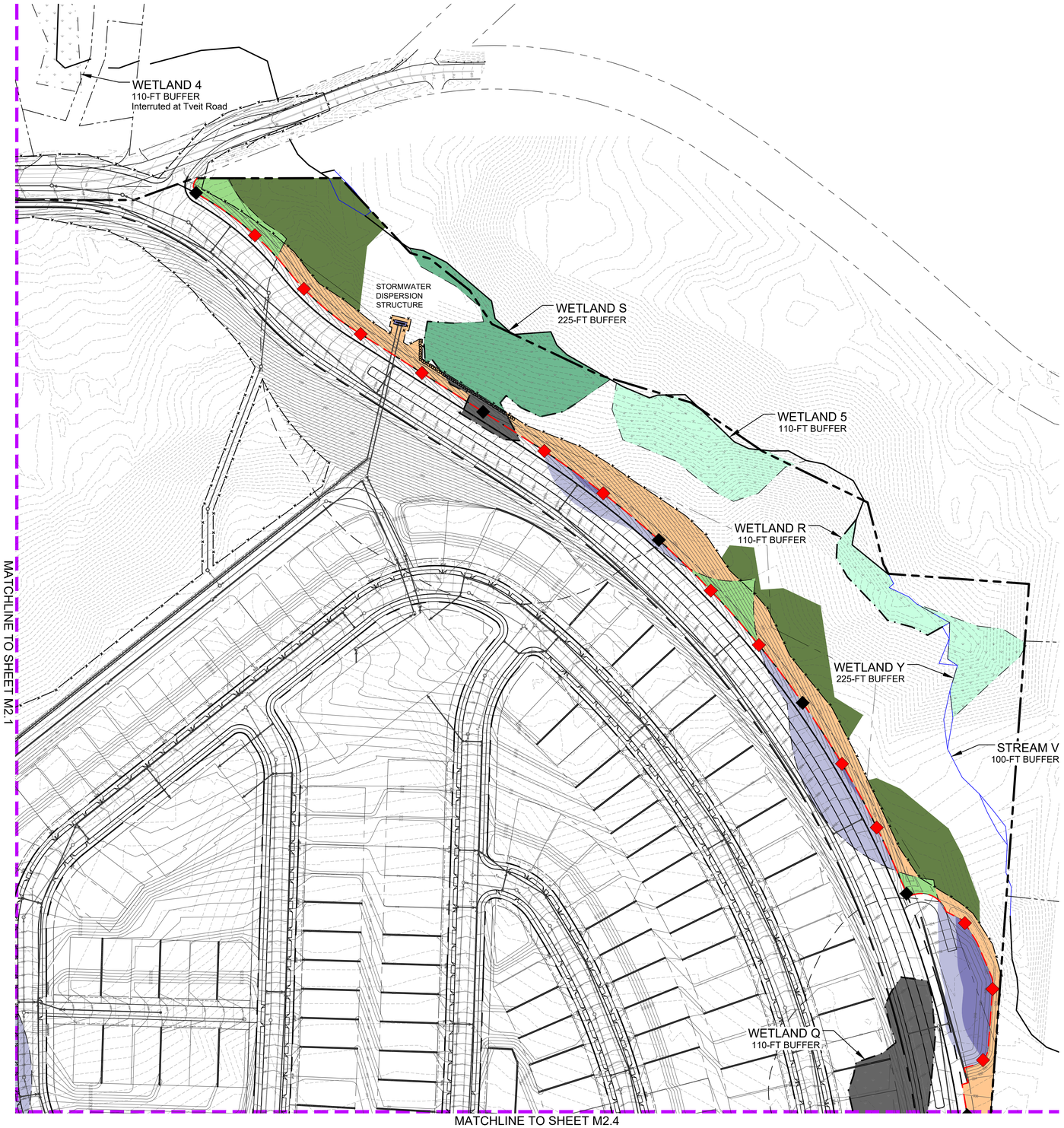

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BUFFER AVERAGING LEGEND

- OUTER BUFFER DECREASE (OUTER 25% OF STANDARD BUFFER)
- BUFFER INCREASE

IMPACTS LEGEND

WETLAND IMPACTS

- WETLAND FILL
- INDIRECT WETLAND S IMPACTS

STREAM IMPACTS

- CULVERTED STREAM CHANNEL

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WETLAND MITIGATION

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FENCES & SIGNS

- POST-CONSTRUCTION BUFFER/ CRITICAL AREA FENCE
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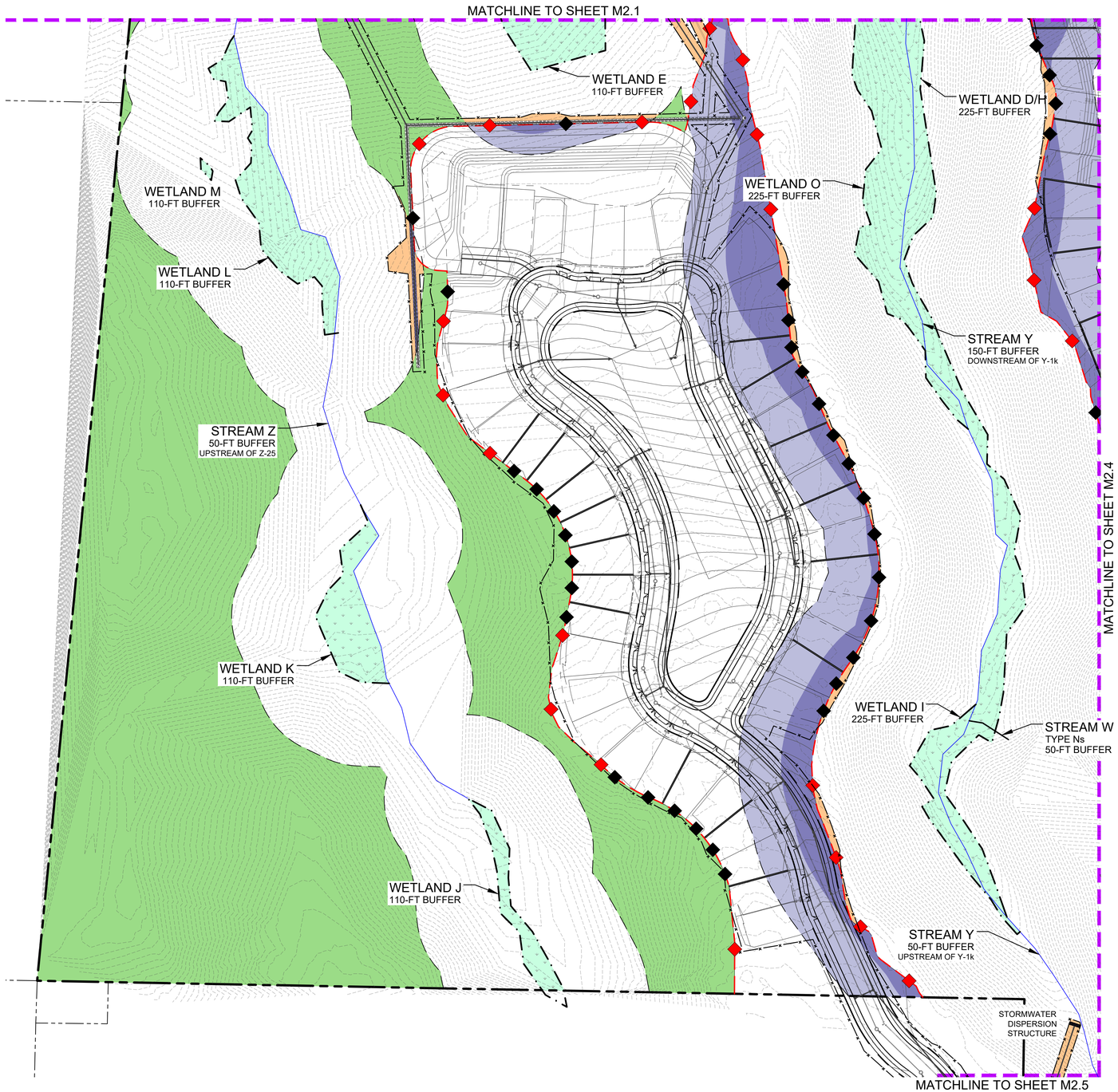

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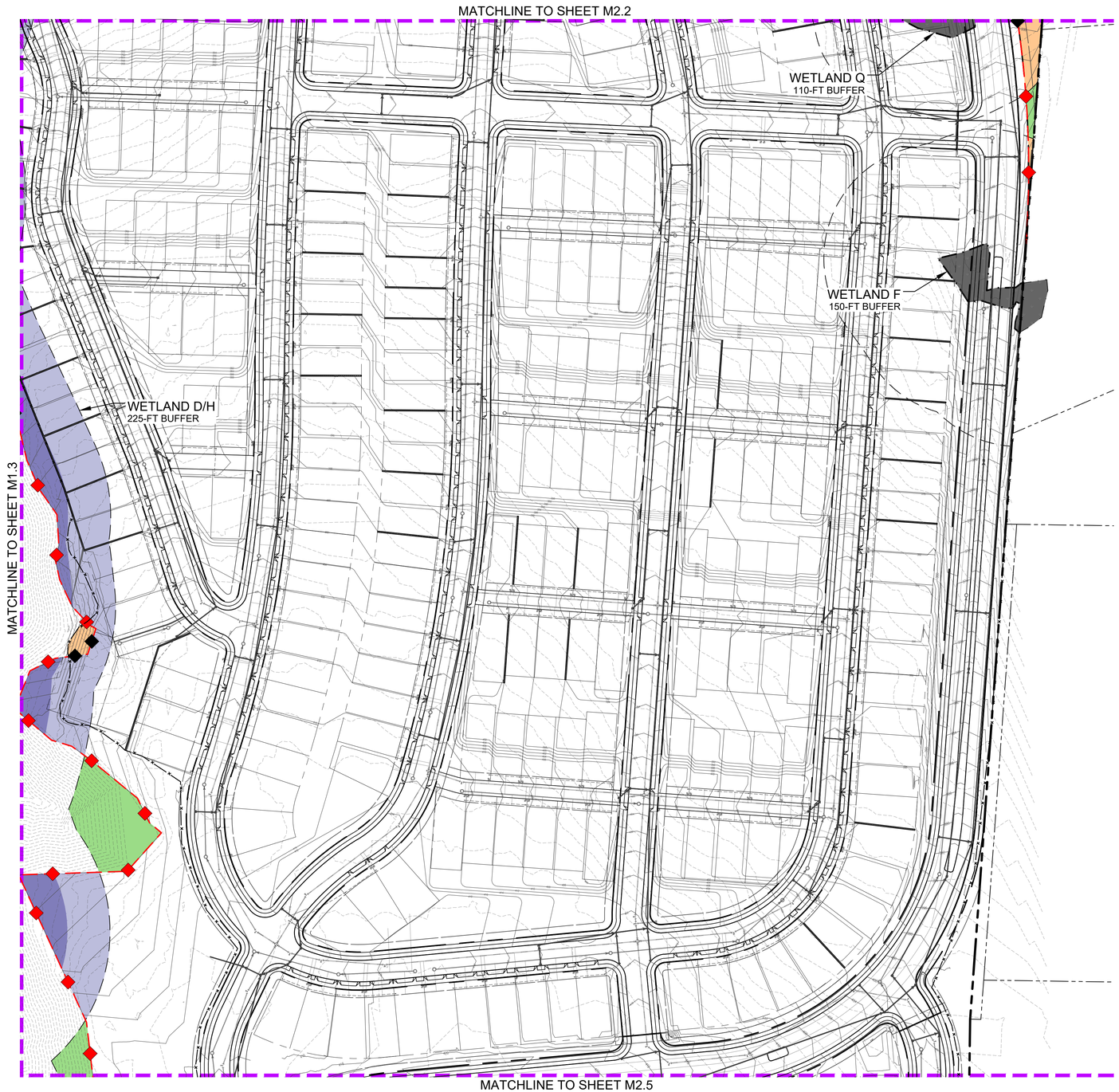

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31051200300100, & 31051200300500

DATE: 4/4/2025
JOB: 2376.0008
BY: MW
SCALE: AS SHOWN
SHEET: M2.4

0 75 150 300

GRAPHIC SCALE
1"= 75'

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- STREAM CENTERLINE
- APPROXIMATED STREAM CENTERLINE (NOT SURVEYED)
- EXISTING DITCH OR DRAINAGE
- 2-FT CONTOUR
- PROPOSED CLEARING LIMIT LINE
- EXISTING EASEMENT

BUFFER AVERAGING LEGEND

- OUTER BUFFER DECREASE (OUTER 25% OF STANDARD BUFFER)
- BUFFER INCREASE

IMPACTS LEGEND

WETLAND IMPACTS

- WETLAND FILL
- INDIRECT WETLAND S IMPACTS

STREAM IMPACTS

- CULVERTED STREAM CHANNEL

BUFFER IMPACTS

- PERMANENT BUFFER IMPACTS (IMPACTS TO INNER 75% OF STANDARD BUFFER; INCLUDES STORMWATER DISPERSION.)
- TEMPORARY BUFFER IMPACTS (TO BE RESTORED)

MITIGATION LEGEND

WETLAND MITIGATION

- COMPENSATORY WETLAND CREATION
- NON-COMPENSATORY WETLAND CREATION
- BUFFER RESTORATION
- BUFFER ENHANCEMENT

FENCES & SIGNS

- POST-CONSTRUCTION BUFFER/ CRITICAL AREA FENCE
- CRITICAL AREA SIGN - TYPE 1
- CRITICAL AREA SIGN - TYPE 2

SOURCES:

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE P. 253.514.8952
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WWW.SOUNDVIEWCONSULTANTS.COM

ARLINGTON EAST HILL

8904, 9104, 9110, & 9116 TVEIT ROAD,
ARLINGTON, WA 98223

SNOHOMISH COUNTY
PARCEL NUMBER(S):
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310512003001000, & 310512003005000

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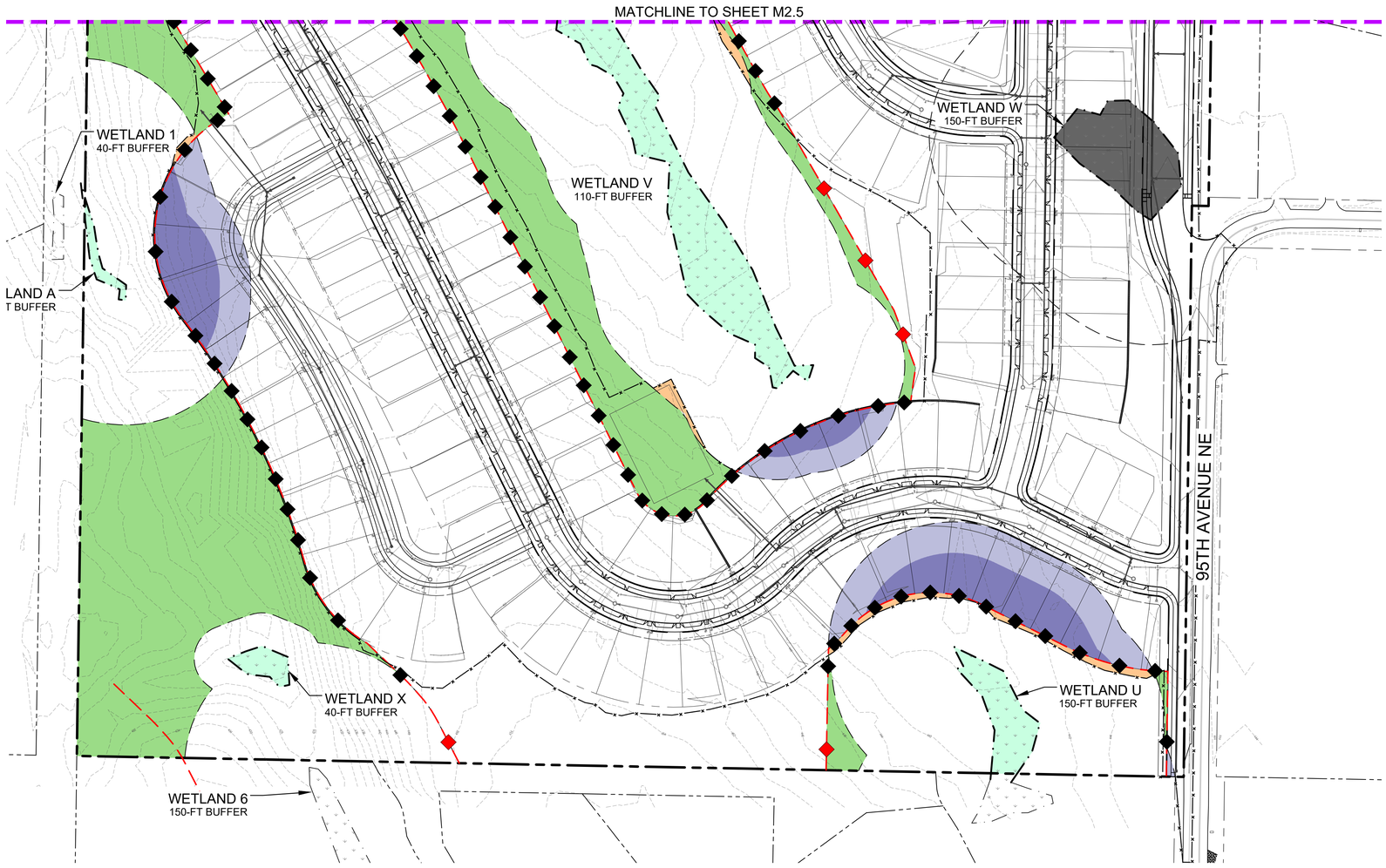

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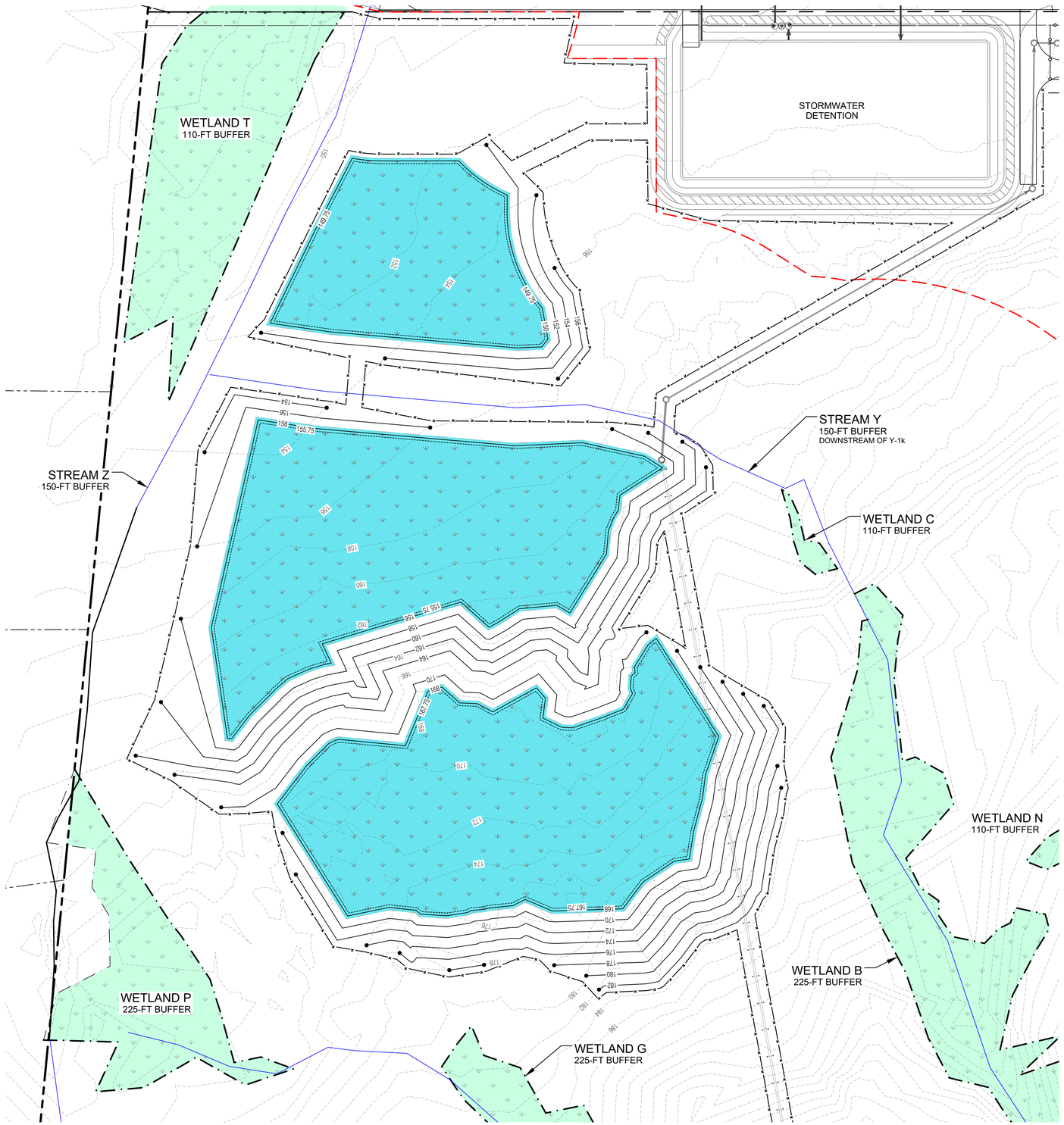

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- EXISTING DITCH OR DRAINAGE
- EXISTING EASEMENT

GRADING LEGEND

- EXISTING 2-FT CONTOUR
- PROPOSED 2-FT CONTOUR
- BOTTOM WETLAND ELEVATION
- PROPOSED CLEARING & GRADING LIMITS
- CREATED WETLAND
- POST-CONSTRUCTION BUFFER

NOTES

1. WETLAND BASE ELEVATION TO BE PERFECTLY LEVEL IN ANY DIRECTION, IN ORDER TO ACHIEVE AN EVEN DISPERSION OF SURFACE WATER AND WATER INFILTRATION.
2. MAXIMUM SLOPE WITHIN WETLAND AND BUFFER CREATION AREAS TO BE 4:1.

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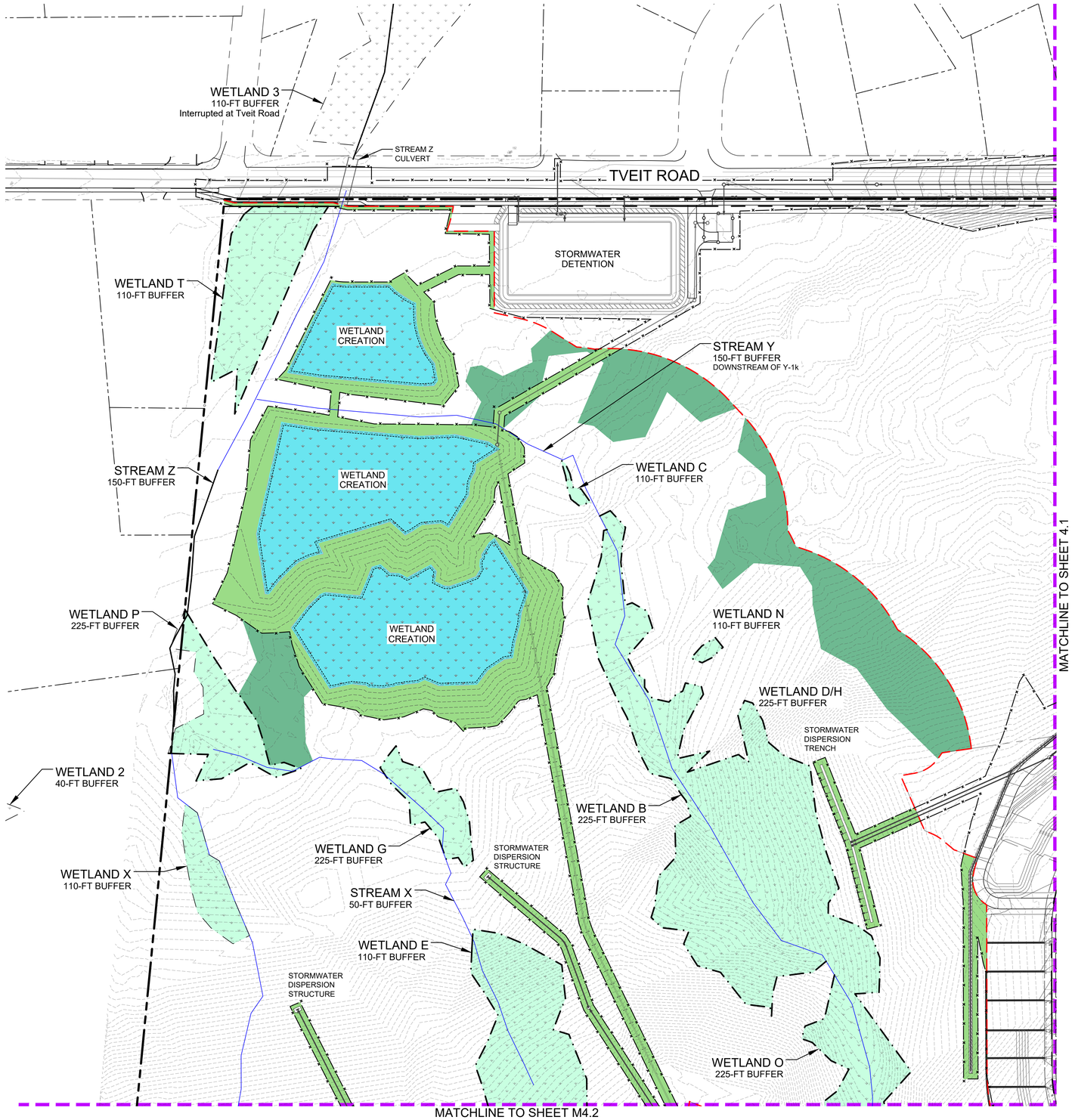
SHEET: M3.0



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- EXISTING EASEMENT

PLANTING LEGEND

WETLAND CREATION	105,682 SF
BUFFER RESTORATION	281,655 SF
BUFFER ENHANCEMENT	117,536 SF
TOTAL PLANTED AREAS:	504,873 SF

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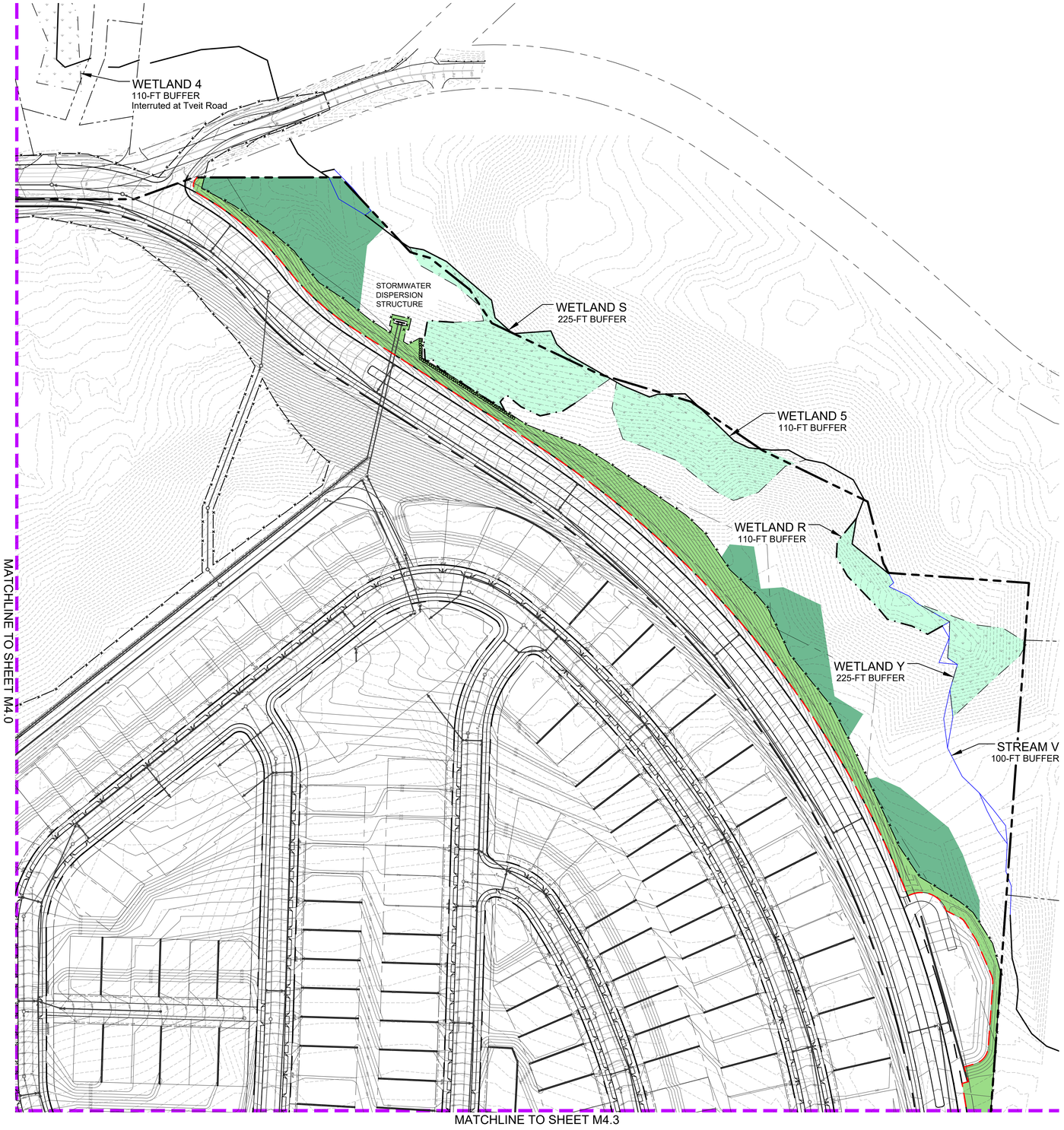

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PLANTING LEGEND

- WETLAND CREATION
- BUFFER RESTORATION
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Y:\CURRENT\2376 JM1 Holdings LLC, c\o Land Pro Group\2376.0008 Arlington 360\Graphics & Maps\CAD\A - CURRENT SVC DRAWINGS\A - Current Base DWGs\2376.0008 (2025-04) base_CURRENT.dwg
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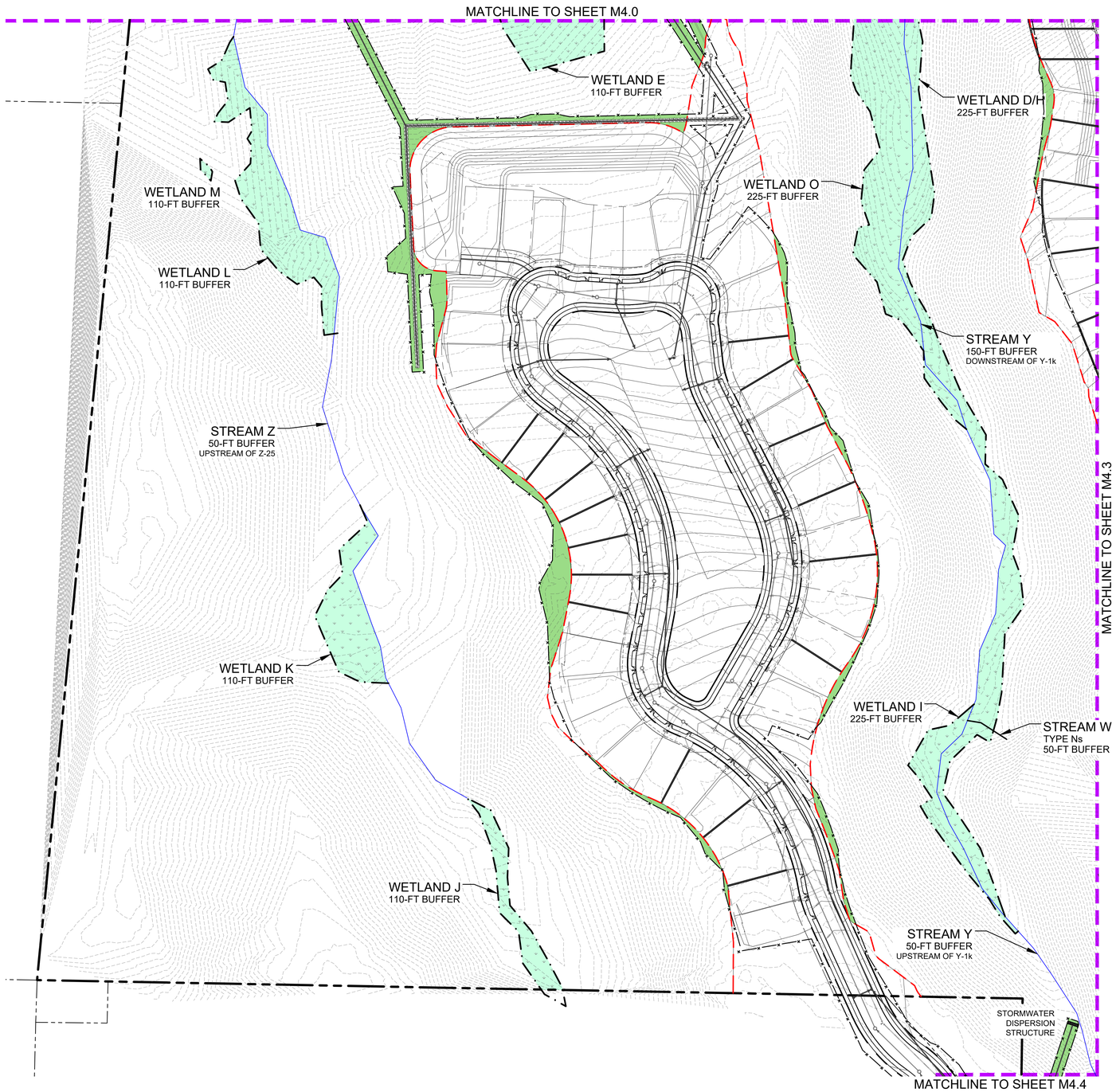

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PLANTING LEGEND

- WETLAND CREATION
- BUFFER RESTORATION
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- WETLAND CREATION
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SHEET: M4.4

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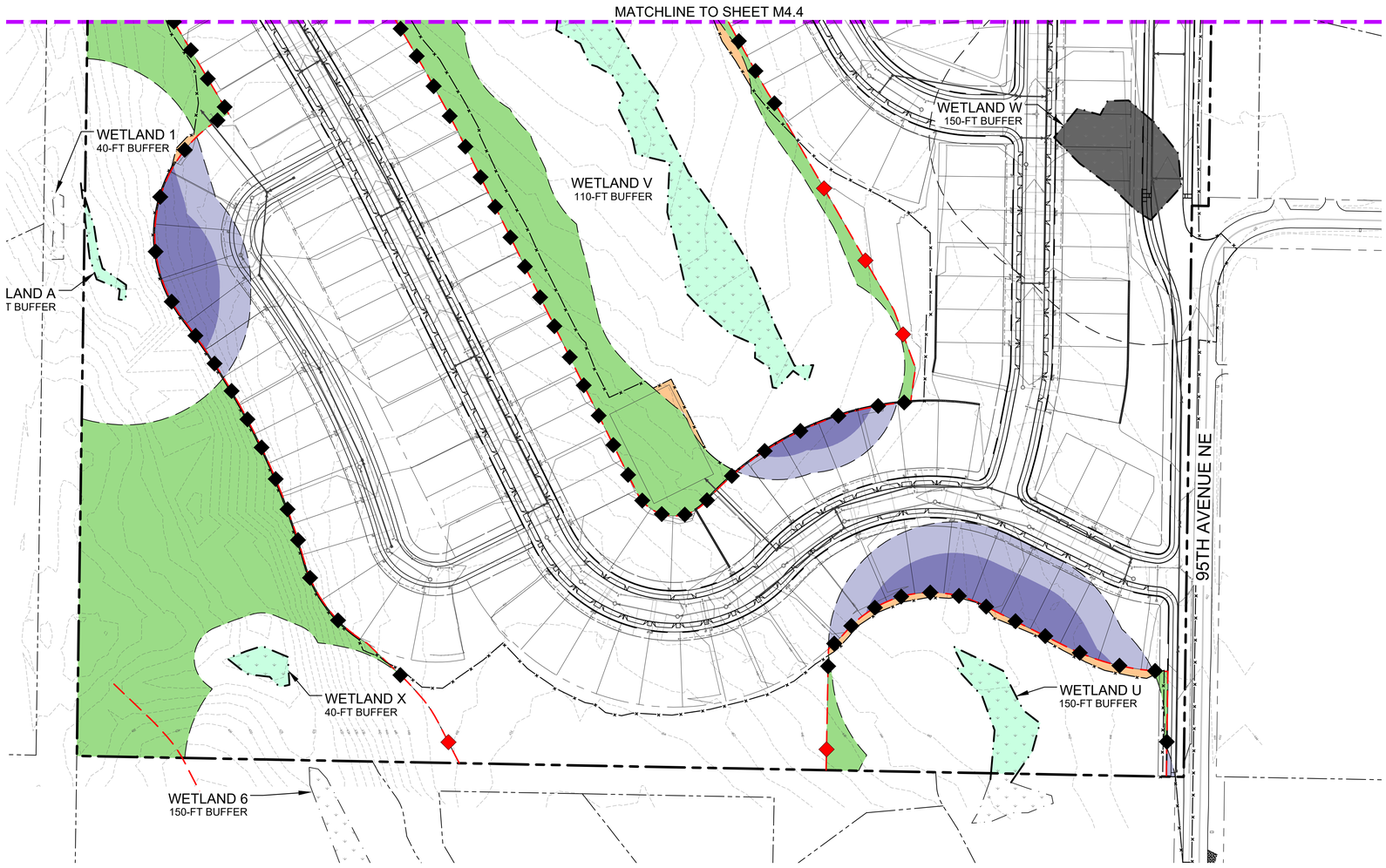

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- BUFFER RESTORATION
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PLANT SCHEDULE

			Area (sf):	105,682	281,655	117,536	504,873				
			Cov'g (%):	100	100	50					
			Trees (%):	50	50	50					
			Shrubs (%):	50	50	50					
Scientific Name	Common Name	WL Status	WETLAND CREATION	BUFFER RESTORATION	BUFFER ENHANCEMENT	TOTAL	Spacing (min.)	Height (min.)	Size (min.)	Planting Area
TREES			(Qty)	(Qty)	(Qty)	(Qty)				
Acer macrophyllum	bigleaf maple	FACU	0	196	41	**237**	**10 ft**	**3 ft**	**2 gal**	**Dry**
Frangula purshiana (Rhamnus p.)	cascara	FAC	0	49	11	**60**	**10 ft**	**3 ft**	**1 gal**	**Dry**
Malus fusca (Pyrus f.)	Pacific crabapple	FACW	22	0	0	**22**	**10 ft**	**3 ft**	**2 gal**	**Wet - On hummock or near wetland edge**
Picea sitchensis	Sitka spruce	FAC	0	163	34	**197**	**10 ft**	**3 ft**	**2 gal**	**Moist - Near buffer boundary, good sun.**
Pinus contorta var. contorta	shore pine	FAC	0	82	17	**99**	**10 ft**	**3 ft**	**1 gal**	**Dry/Moist**
Populus tremuloides	quaking aspen	FACU	0	82	17	**99**	**10 ft**	**3 ft**	**1 gal**	**Dry/Moist - Near wetland creation areas**
Populus trichocarpa	black cottonwood	FAC	0	82	17	**99**	**10 ft**	**3 ft**	**1 gal**	**Moist/Wet - Near wetland creation**
Pseudotsuga menziesii	Douglas fir	FACU	0	651	136	**787**	**10 ft**	**3 ft**	**2 gal**	**Dry**
Salix lasiandra	Pacific willow	FACW	66	0	0	**66**	**10 ft**	**4 ft**	**Stakes**	**Wet**
Salix scouleriana	Scouler's willow	FAC	262	0	0	**262**	**5 ft**	**4 ft**	**Stakes**	**Dry**
Salix sitchensis	Sitka willow	FACW	262	0	0	**262**	**5 ft**	**4 ft**	**Stakes**	**Moist/Wet**
Thuja plicata	western redcedar	FAC	0	326	68	**394**	**10 ft**	**3 ft**	**2 gal**	**Moist - on hummock**
		Total:	**612**	**1631**	**341**	**2584**				
SHRUBS			(Qty)	(Qty)	(Qty)	(Qty)				
Acer circinatum	vine maple	FAC	0	352	179	**531**	**10 ft**	**4 ft**	**2 gal**	**Dry/Moist**
Amelanchier alnifolia	serviceberry	FACU	0	75	28	**103**	**8 ft**	**3 ft**	**2 gal**	**Dry**
Cornus stolonifera	red-osier dogwood	FACW	653	500	0	**1153**	**4 ft**	**3 ft**	**1 gal**	**Moist/Wet**
Corylus cornuta var. californica	western hazlenut	FACU	0	160	60	**220**	**10 ft**	**2 ft**	**2 gal**	**Moist**
Crataegus douglasii	Douglas hawthorn	FAC	157	0	0	**157**	**5 ft**	**3 ft**	**2 gal**	**Moist - On hummock**
Gaultheria shallon	salal	FACU	0	600	0	**600**	**4 ft**	**1 ft**	**1 gal**	**Dry**
Holodiscus discolor	oceanspray	FACU	0	384	0	**384**	**5 ft**	**2 ft**	**1 gal**	**Dry**
Mahonia nervosa	low Oregon grape	FACU	0	0	0	**0**	**4 ft**	**1 ft**	**1 gal**	**Dry/Moist**
Oemleria cerasiformis	Indian plum	FACU	0	320	119	**439**	**5 ft**	**2 ft**	**2 gal**	**Dry**
Philadelphus lewisii	mock-Orange	FACU	0	0	0	**0**	**5 ft**	**2 ft**	**1 gal**	**Dry/Moist**
Polystichum munitum	western swordfern	FACU	0	1499	0	**1499**	**4 ft**	**1 ft**	**1 gal**	**Dry/Moist**
Ribes divaricatum	wax currant	FAC	0	0	186	**186**	**4 ft**	**2 ft**	**1 gal**	**Moist/Wet**
Rosa gymnocarpa	bald hip rose	FACU	0	500	186	**686**	**4 ft**	**2 ft**	**1 gal**	**Dry/Moist**
Rubus parviflorus	thimbleberry	FACU	0	500	0	**500**	**4 ft**	**2 ft**	**1 gal**	**Moist**
Rubus spectabilis var. spectabilis	salmonberry	FAC	1224	1000	372	**2596**	**4 ft**	**2 ft**	**1 gal**	**Moist**
Sambucus racemosa var. racemosa	red elderberry	FACU	0	320	119	**439**	**5 ft**	**2 ft**	**2 gal**	**Dry**
Spiraea douglasii	Douglas spirea	FACW	408	0	0	**408**	**4 ft**	**2 ft**	**1 gal**	**Moist/Wet**
Symphoricarpos albus var. laevigatus	common snowberry	FACU	0	300	112	**412**	**4 ft**	**2 ft**	**1 gal**	**Dry**
		Total:	**2442**	**6510**	**1361**	**10313**				

SEED MIXES (www.riverrefugeseed.com)		WL Status	WETLAND CREATION	BUFFER RESTORATION	BUFFER ENHANCEMENT	TOTAL
Native Upland Grass Mix #9	**20 lbs/acre**		(Qty)	(Qty)	(Qty)	(Qty)
Elymus glaucus	Blue wildrye	30%				
Bromus carinatus	California brome	25%				
Hordeum brachyantherum	Meadow barley	10%				
Festuca roemeri	Roemer's fescue	10%				
Deschampsia elongata	Slender hairgrass	10%				
Agrostis exarata	Spike bentgrass	5%				
Deschampsia cespitosa	Tufted hairgrass	5%				
Festuca rubra var. rubra	Red fescue	5%				
		Total (lbs):	**0**	**129**	**54**	**183**
Native Wetland Grass Mix #10	**20 lbs/acre**		(Qty)	(Qty)	(Qty)	(Qty)
Glyceria occidentalis	Western mannagrass	40%				
Beckmannia syzigachne	American sloughgrass	30%				
Hordeum brachyantherum	Meadow barley	20%				
Alopecurus aequalis	Shortawn foxtail	10%				
		Total (lbs):	**24**	**0**	**0**	**24**
Moist Soil Sedge & Rush Mix #11	**20 lbs/acre**		(Qty)	(Qty)	(Qty)	(Qty)
Carex unilateralis	One-sided sedge	70%				
Carex densa	Dense sedge	12%				
Juncus effusus	Common rush	5%				
Juncus tenuis	Slender rush	5%				
Juncus bufonius	Toad rush	5%				
Carex stipata	Awl fruited sedge	2%				
Carex obnupta	Slough sedge	1%				
		Total (lbs):	**24**	**0**	**0**	**24**

1 - Scientific names and species identification taken from *Flora of the Pacific Northwest, 2nd Edition (Hitchcock and Cronquist, Ed. by Giblin, Ledger, Zika, and Olmstead, 2018).*
2 - Over-sized container plants are suitable for replacement pending Project Biologist approval.
3 - Alternate native plant species may be substituted or added with Project Biologist approval.
4 - All disturbed and bare soil areas in the buffer to be seeded with a native grass seed mix.
5 - Shrub calculations based upon 5-ft average spacing.
6 - Tree calculations based upon 10-ft average spacing.
7 - *Gaultheria shallon & Polystichum munitum* to be planted in groups of 3 to 5 around the base of new trees and in areas of sparse vegetation

PLANT SCHEDULE

SOURCES:

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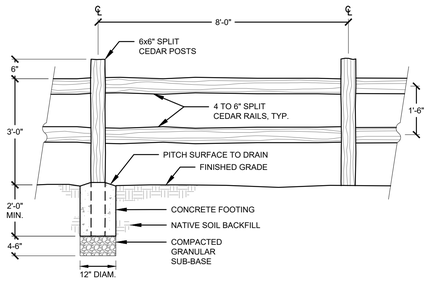
SPLIT RAIL FENCE DETAIL

NOT TO SCALE

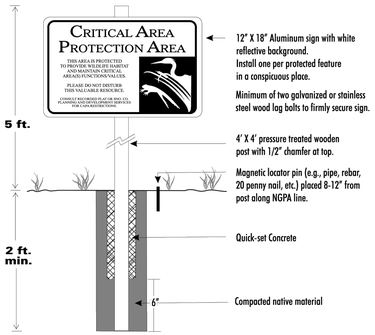


NOTES:

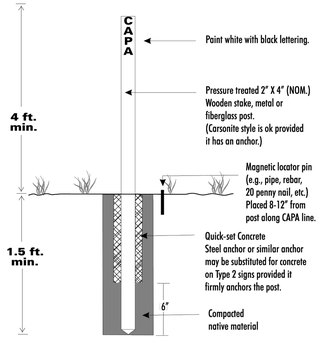
1. POSTS AND RAILINGS PRE-CUT FOR ASSEMBLY.
2. 3-RAIL DESIGNS ARE PERMITTED.
3. FENCE SHALL BE PLACED AT APPROVED BUFFER EDGE.

Critical Area Protection Area Sign Installation Guidelines

TYPE 1 SIGN



TYPE 2 SIGN

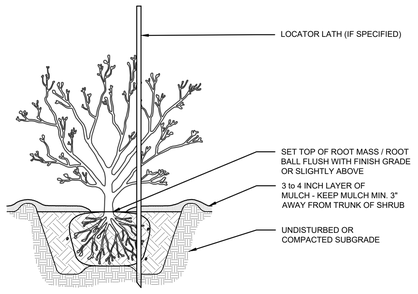


NOTES:

1. CAPA signs shall be placed no greater than 100 feet apart around the perimeter of the Critical Area Protection Area. Minimum placement shall include one Type 1 sign per wetland, and at least one Type 1 sign shall be placed in any lot that borders the Critical Area Protection Area, unless otherwise approved by the County biologist.
2. Sign placement shall be subject to the approval of Snohomish County. Alternative sign designs may be submitted to Snohomish County for approval.
3. All signs must be secure and permanent.

TREE AND SHRUB PLANTING DETAIL, TYP.

NOT TO SCALE

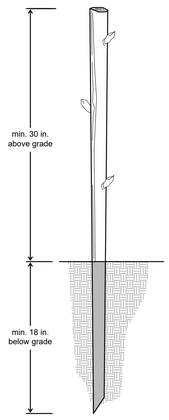


NOTES:

1. PLANT SHRUBS OF THE SAME SPECIES IN GROUPS OF 3 to 9 AS APPROPRIATE, OR AS SHOWN ON PLAN. AVOID INSTALLING PLANTS IN STRAIGHT LINES TO ACHIEVE A NATURAL-LOOKING LAYOUT.
2. EXCAVATE PIT TO FULL DEPTH OF ROOT MASS AND 2 X ROOT MASS DIAMETER. SPREAD ROOTS TO FULL WIDTH OF CANOPY. SCARIFY SIDES OF PIT.
3. MIDWAY THROUGH PLANTING ADD AGROFORM TABLET AND WATER THOROUGHLY.
4. BACKFILL TO BE COMPACTED USING WATER ONLY.
5. WATER IMMEDIATELY AFTER INSTALLATION.

LIVE STAKE PLANTING DETAIL (TYPICAL)

NOT TO SCALE



STORAGE OF LIVE STAKES:
ALL WOODY PLANT CUTTINGS COLLECTED MORE THAN 12 HR PRIOR TO INSTALLATION, MUST BE CAREFULLY BOUND, SECURED, AND STORED OUT OF DIRECT SUNLIGHT AND SUBMERGED IN CLEAN FRESH WATER FOR A PERIOD OF UP TO TWO WEEKS.

OUTDOOR TEMPERATURES MUST BE LESS THAN 50 DEGREES F AND TEMPERATURE INDOORS AND IN STORAGE CONTAINERS MUST BE BETWEEN 34 AND 50 DEGREES F.

IF THE LIVE STAKES CANNOT BE INSTALLED DURING THE DORMANT SEASON, CUT DURING THE DORMANT SEASON AND HOLD IN COLD STORAGE AT TEMPERATURES BETWEEN 33 AND 39 DEGREES F FOR UP TO 2 MONTHS.

NOTES:

1. LIVE STAKES TO BE A MIN. 1/2 INCH DIAMETER; MIN. 48 INCH LENGTH.
2. USE 1/2 INCH MIN. DIAMETER REBAR OR ROCK BAR TO MAKE PILOT HOLE WHEN PLANTING IN DENSE OR GRAVELY SOILS TO A MIN. DEPTH OF 18 INCHES.
3. MANUALLY INSERT LIVE STAKE INTO PILOT HOLE TAPERED END UP AND TEMP SOIL AROUND BASE. CUTTINGS SHOULD BE INSERTED TO A DEPTH OF AT LEAST 18 INCHES. LEAVE A MIN. OF 30" OF THE CUTTING ABOVE GROUND SURFACE TO ALLOW FOR SUCCESSFUL FOLIAGE DEVELOPMENT.
4. MINUMUM TWO BUDS ABOVE GRADE.
5. SET LIVE STAKES WITH DEAD-BLOW HAMMER.
6. WATER IMMEDIATELY AFTER INSTALLATION.

SOURCES:

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE P. 253.514.8952
GIG HARBOR, WASHINGTON 98335 F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

ARLINGTON EAST HILL
8904, 9104, 9110, & 9116 TVETT ROAD,
ARLINGTON, WA 98223

SNOHOMISH COUNTY
PARCEL NUMBER(S):
31051200400200, 31051200401000, 31050200402300,
31051200404000, 31051300100200, 31053001003000,
31051200300100, & 31051200300500

DATE: 4/4/2025
JOB: 2376.0008
BY: MW
SCALE: AS SHOWN
SHEET: M5.0

Appendix B – Qualifications

Project Manager: Alex Murphy
Report Preparation By: Morgan Kirsanova
Exhibit Preparation By: Matt Wagner
Document Quality Assurance By: Casey Lanier, Rachael Hyland

Alex Murphy is a Project Manager & Senior Environmental Planner with 10 years of professional experience. Alex has a background in land use/environmental planning and regulatory coordination. He currently manages projects for clients of all sizes and types; conducts environmental code analysis, prepares SEPA environmental assessment, mitigation reports, and permit applications to support clients through the planning and permitting processes.

Education: Bachelor of Landscape Architecture, Utah State University, Logan, UT; graduate coursework in Public Administration *Professional Certifications:* American Planning Association and American Institute of Certified Planners (#32107) *Professional Trainings:* Navigating SEPA, How to Administer Development Permits in Washington's Shorelines, and Advanced Shoreline Permitting: No Net Loss and Mitigation from Washington State Department of Ecology; Adaptation Planning for Coastal Communities from National Oceanic and Atmospheric Administration (NOAA).

Rachael Hyland is a Senior Environmental Scientist with 11 years of professional experience, and is a Professional Wetland Scientist (PWS #3480) through the Society of Wetland Scientists as well as a Certified Ecologist through the Ecological Society of America. Rachael has a background in wetland and ecological habitat assessments in various states, most notably Washington, Connecticut, Massachusetts, Rhode Island, and Ohio. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; coordinates with regulatory parties, and provides quality assurance on environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects. Her noteworthy experiences include delineation of large scale sites and associated mitigation work including wetland creation and stream relocation, and delineation of highly complex, disturbed, and problematic sites requiring extensive background research and understanding of soils and hydrology. Additionally, she also has extensive knowledge of bats and their associated habitats and white nose syndrome (*Pseudogymnoascus destructans*), a fungal disease affecting bats which was recently documented in Washington.

Education: Bachelor of Science degree in Ecology and Evolutionary Biology from University of Connecticut. *Professional Trainings:* 40-hour wetland delineation training for Western Mountains, Valleys, & Coast and Arid West Regional Supplement through Terrascience and Northcentral and Northeast supplement through Institute for Wetland and Environmental Education and Research; Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, Selecting Wetland Mitigation Sites Using a Watershed Approach, Wetland Classification, and Using the Credit-Debit Method for Estimating Mitigation Needs from Washington State Department of Ecology; Biological Assessment for Transportation Projects from Washington State Department of Transportation *Qualified Author and Scientist Lists:* Washington State Department of Transportation Biological Assessment Junior Author; Pierce County Qualified Wetland and Wildlife Specialist; Kitsap County Qualified Wetland, Habitat, and Shoreline Consultant.

Casey Lanier is an Environmental Scientist and Project Manager with 11 years of professional experience. Casey has a background in hydrology, riparian ecology, fisheries, and data collection and telemetry. He currently works as a project manager supporting single family and small commercial development projects navigating the permitting and critical areas review process. He also performs and leads small teams in wetland, stream, and shoreline delineations as well as fish and wildlife habitat assessments. His noteworthy experiences include construction monitoring and support for large stream relocation projects as well as wetland restoration and mitigation projects, time-series hydrologic data analysis for regulatory compliance and team lead for fish recovery and exclusion projects.

Education: Bachelor of Science in Environmental Science from California State University Monterey Bay), Graduate Level Course Work in Fisheries and Wildlife Management from Oregon State University. *Professional Trainings:* Washington Department of Ecology Wetland Rating Manual, Determining the Ordinary High Water Mark, How to Conduct a Forage Fish Survey, 40-hour wetland delineation training utilizing the US Army Corps of Engineers Wetland Delineation Manual (Western Mtns, Valleys, & Coast and Arid West Regional Supplement) *Qualified Author and Scientist Lists:* Pierce County Qualified Wetland Scientist.

Morgan Kirsanova is an Environmental Scientist with 5 years of professional experience. She has a background in marine and freshwater ecology, wildlife and natural resource assessments, and monitoring wetland and riparian habitat restoration sites in the Pacific Northwest. She currently assists with performing wetland, stream, and shoreline delineations and fish and wildlife habitat assessments, conducting environmental code analysis, and preparing and/or providing final quality assurance/control for various types of scientific reports and permits for agency submittal. Her noteworthy experiences include analyzing datasets for wetland hydrology monitoring, collecting eDNA samples from streams for analysis, providing document quality assurance on critical area reports, mitigation plans, and permitting documents prior to submittal, and assisting with Endangered Species Act documentation for federal permit submittals.

Education: Bachelor of Science degree in Biology with Marine Emphasis from Western Washington University, Bellingham. *Professional Training:* 40-hour wetland delineation training (Western Mountains, Valleys, and Coast and Arid West Regional Supplements), Using the 2014 Wetland Rating System, and How to Determine the Ordinary High Water Mark. *Qualified Author and Scientists Lists*: Pierce County Wetland Specialist.