



**BARGHAUSEN**

# PRELIMINARY STORMWATER SITE PLAN

---

## **Brown Bear Car Wash**

17110 43rd Avenue N.E.  
Arlington, WA 98223

City File No. PLN #1077



08/04/2023

Prepared for:  
Joe Giuseffi  
Car Wash Enterprises, Inc.  
3977 Leary Way N.W.  
Seattle, WA 98107

August 4, 2023  
Our Job No. 21860

---

# **Preliminary Stormwater Site Plan**

Barghausen Consulting Engineers, Inc.

**Brown Bear Car Wash**

Arlington, Washington

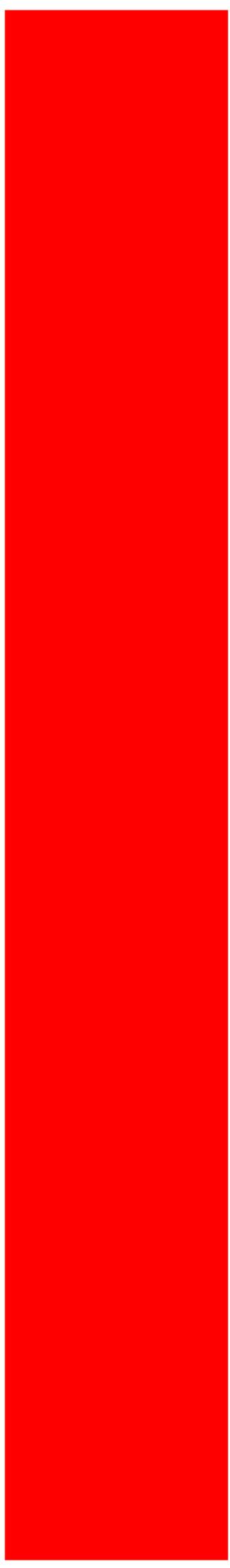
Our Job No. 21860

## TABLE OF CONTENTS

- 1.0 PROJECT OVERVIEW
  - Figure 1.1 – Vicinity Map
- 2.0 CONDITIONS AND REQUIREMENTS SUMMARY
  - 2.1 Analysis of the Minimum Requirements
    - Figure 2.1 – Flow Chart for Determining Requirements for Redevelopment
- 3.0 EXISTING CONDITIONS SUMMARY
  - Figure 3.1 – Assessor's Map
  - Figure 3.2 – FEMA Map
  - Figure 3.3 – Soil Survey Map
  - Figure 3.4 – Sensitive Areas Map
- 4.0 OFF-SITE ANALYSIS REPORT
- 5.0 PERMANENT STORMWATER CONTROL PLAN
  - 5.1 Existing Site Hydrology
    - Figure 5.1 – Existing Basin Map
  - 5.2 Developed Site Hydrology
    - Figure 5.2 – Developed Basin Map
  - 5.3 Performance Standards and Goals
  - 5.4 Low Impact Development Features
    - Figure 5.4 – Flow Chart for Determining MR No. 5 Requirements
  - 5.5 Flow Control System
  - 5.6 Water Quality System
- 6.0 CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN
- 7.0 SPECIAL REPORTS AND STUDIES
- 8.0 OTHER PERMITS
- 9.0 OPERATIONS AND MAINTENANCE MANUAL
- 10.0 DECLARATION OF COVENANT FOR PRIVATELY MAINTAINED FLOW CONTROL AND TREATMENT FACILITIES
- 11.0 DECLARATION OF COVENANT FOR PRIVATELY MAINTAINED ON-SITE STORMWATER MANAGEMENT BMPS

## 12.0 BOND QUANTITIES WORKSHEET

# Tab 1.0



## **1.0 PROJECT OVERVIEW**

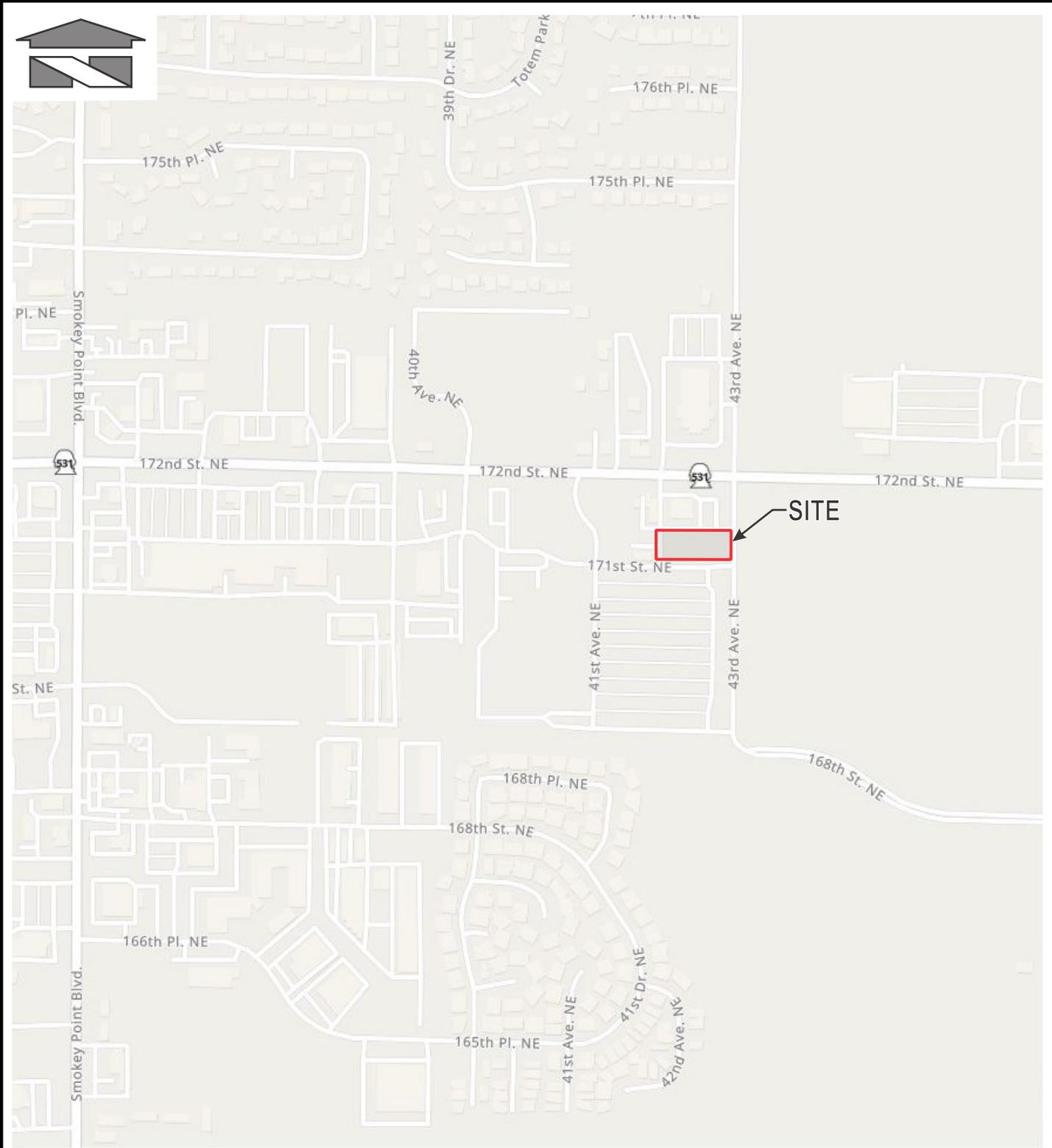
The proposed redevelopment project proposes a Brown Bear Car Wash with an Auto Sentry Building located on single property with tax parcel number 31052800207700. The site address is 17110 43rd Avenue N.E., Arlington, WA 98223, and is situated within Section 28, Township 31 North, Range 5 East, Willamette Meridian, Snohomish County, Washington. Please see Figure 1.1, Vicinity Map, for a graphical description of the exact site location.

The existing site is primarily undeveloped and consists of an asphalt drive aisle and vegetation. The site is generally flat with varying grades throughout the site. The project proposes a car wash, an auto sentry building, ADA parking, on-site sidewalks, landscaping, proposed curbing, and associated stormwater improvements.

The redevelopment project proposes greater than 5,000 square feet of new hard surfaces and therefore must address Minimum Requirement Nos. 1 through 9 of the 2019 Department of Ecology Stormwater Management Manual for Western Washington (2019 SWMMWW), refer to Figure 2.1. Please see the remainder of this report for a discussion on how this project intends to comply with all Minimum Requirements of the applicable stormwater manual.

# Figure 1.1 – Vicinity Map





REFERENCE: MapQuest (2022)

Scale:

Horizontal: N.T.S. Vertical: N/A

For:

Brown Bear Car Wash  
Arlington, Washington

Job Number

21860



**Barghausen  
Consulting Engineers, Inc.**

18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222

**barghausen.com**

Title:

VICINITY MAP

DATE: 10/21/22

# Tab 2.0



## 2.0 CONDITIONS AND REQUIREMENTS SUMMARY

*Minimum Requirement No. 1: Preparation of Stormwater Site Plan:*

**Response:** This Minimum Requirement has been fulfilled by the preparation and completion of this Preliminary Stormwater Site Plan.

*Minimum Requirement No. 2: Construction Stormwater Pollution Prevention:*

**Response:** The Construction Stormwater Pollution Prevention Plan (CSWPPP) for this project shall be provided within a subsequent submittal.

*Minimum Requirement No. 3: Source Control Prevention:*

**Response:** All known available and reasonable Source Control BMPs will be applied to this project in accordance with those applicable to the proposed development. At a minimum, the parking lot will be swept on a regular basis, and the owner will be educated about the proper use of pesticides and fertilizers. The trash enclosure will be graded to prevent run-on from adjacent areas and will contain leak proof waste containers with solid lids. Water used for the car wash operations will be collected by the tunnel drainage system and discharged to the reclaim system connected to the sanitary sewer.

*Minimum Requirement No. 4: Preservation of Natural Drainage System and Outfalls:*

**Response:** The project proposes to fully infiltrate on-site via an infiltration facility and is not anticipated to negatively impact existing drainage patterns.

*Minimum Requirement No. 5: On-Site Stormwater Management:*

**Response:** This project triggers Minimum Requirements Nos. 1 through 9 and is on a parcel inside the UGA; therefore, this project must either meet the LID performance standard, or consider the BMPs in the order listed in List No. 1 for each type of surface and use the first BMP that is considered feasible. A full discussion of the feasibility of On-site Stormwater management BMPs is provided in Section 5.4 of this report.

*Minimum Requirement No. 6: Runoff Treatment:*

**Response:** The project proposes more than 5,000 SF of new and replaced pollution generating hard surfaces, and therefore triggers the requirements to provide water quality treatment. Water quality treatment facilities shall be provided on-site as applicable. Please see Section 5.6 of this report for a more detailed discussion.

*Minimum Requirement No. 7: Flow Control:*

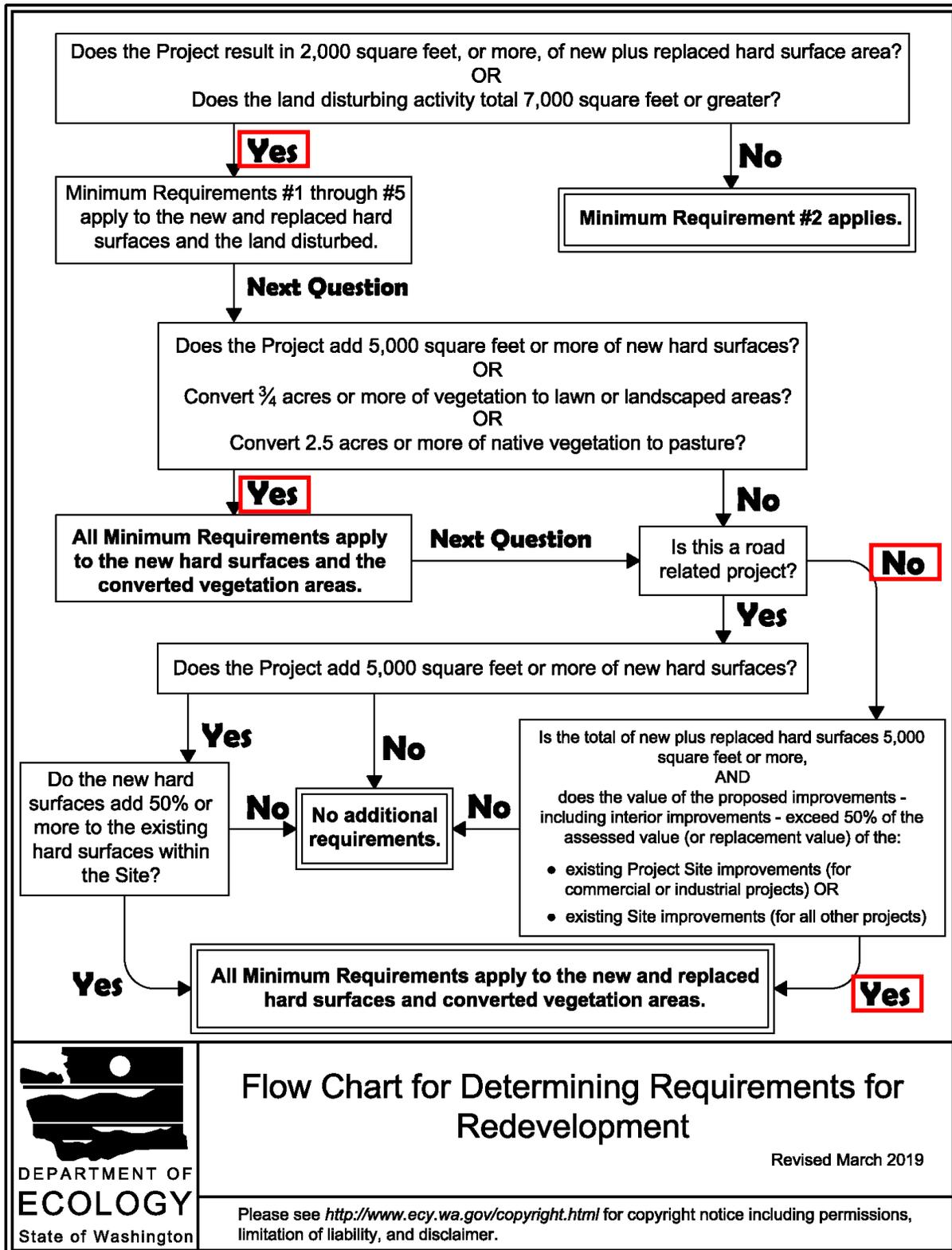
**Response:** The project proposes greater than 10,000 SF of new and replaced effective impervious area, and therefore triggers the requirement for flow control. This project proposes to fully infiltrate the on-site stormwater runoff via an on-site infiltration facility. Please see Section 5.5 for further information. WWHM calculations for the proposed infiltration facility shall be provided within a subsequent submittal and shall demonstrate compliance with the LID Performance Standard.

*Minimum Requirement No. 8: Wetland Protection:*

**Response:** There are no wetlands or wetland buffers associated with this project.

Figure 2.1 – Flow  
Chart for Determining  
Requirements for  
Redevelopment

**Figure I-3.2: Flow Chart for Determining Requirements for Redevelopment**



**Flow Chart for Determining Requirements for Redevelopment**

Revised March 2019

Please see <http://www.ecy.wa.gov/copyright.html> for copyright notice including permissions, limitation of liability, and disclaimer.

*Minimum Requirement No. 9: Operation and Maintenance*

**Response:** An Operations and Maintenance Manual shall be provided within a subsequent submittal.

# Tab 3.0

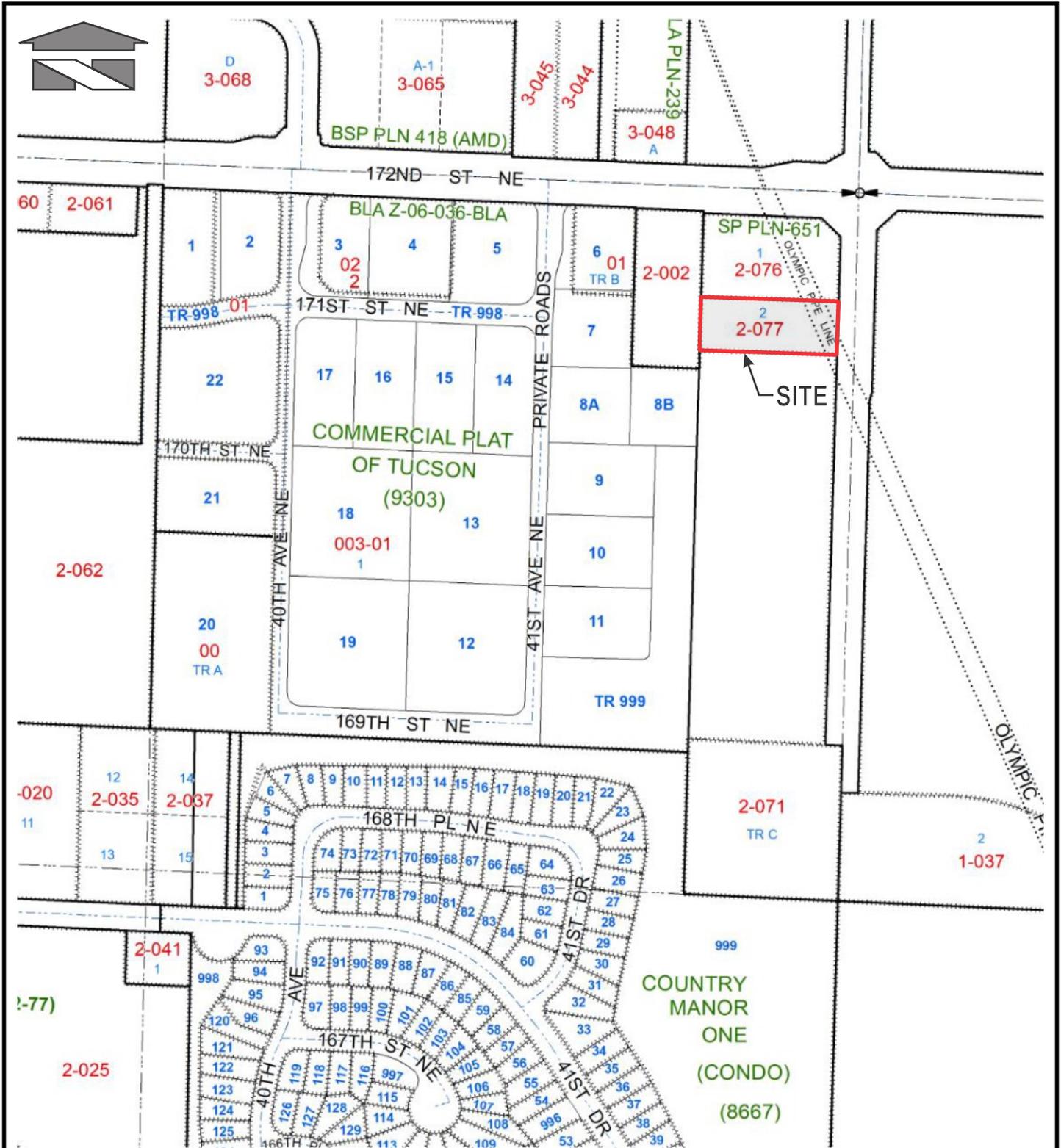


### **3.0 EXISTING CONDITIONS SUMMARY**

The existing site is located in the Highway Commercial/Mix Use Zone and is adjacent to 43rd Avenue N.E. to the east, commercial lots to the south, west, and north. Currently, the project site is primarily undeveloped and consists of concrete curbs, asphalt pavement, and vegetation. Existing vegetation includes trees and landscaping while existing underground utilities include an existing stormwater conveyance, sewer, water, gas, and power. The existing impervious areas cover more than a total of 35 percent of the site area, and therefore, this project is defined as a redevelopment project. The site is generally flat and does not appear to be within the vicinity of any critical areas or wetlands.

# Figure 3.1 – Assessor's Map





REFERENCE: Snohomish County Department of Assessments (Sept. 2022)

Scale:

Horizontal: N.T.S. Vertical: N/A

For:

Brown Bear Car Wash  
Arlington, Washington

Job Number

21860



**Barghausen  
Consulting Engineers, Inc.**

18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222

[barghausen.com](http://barghausen.com)

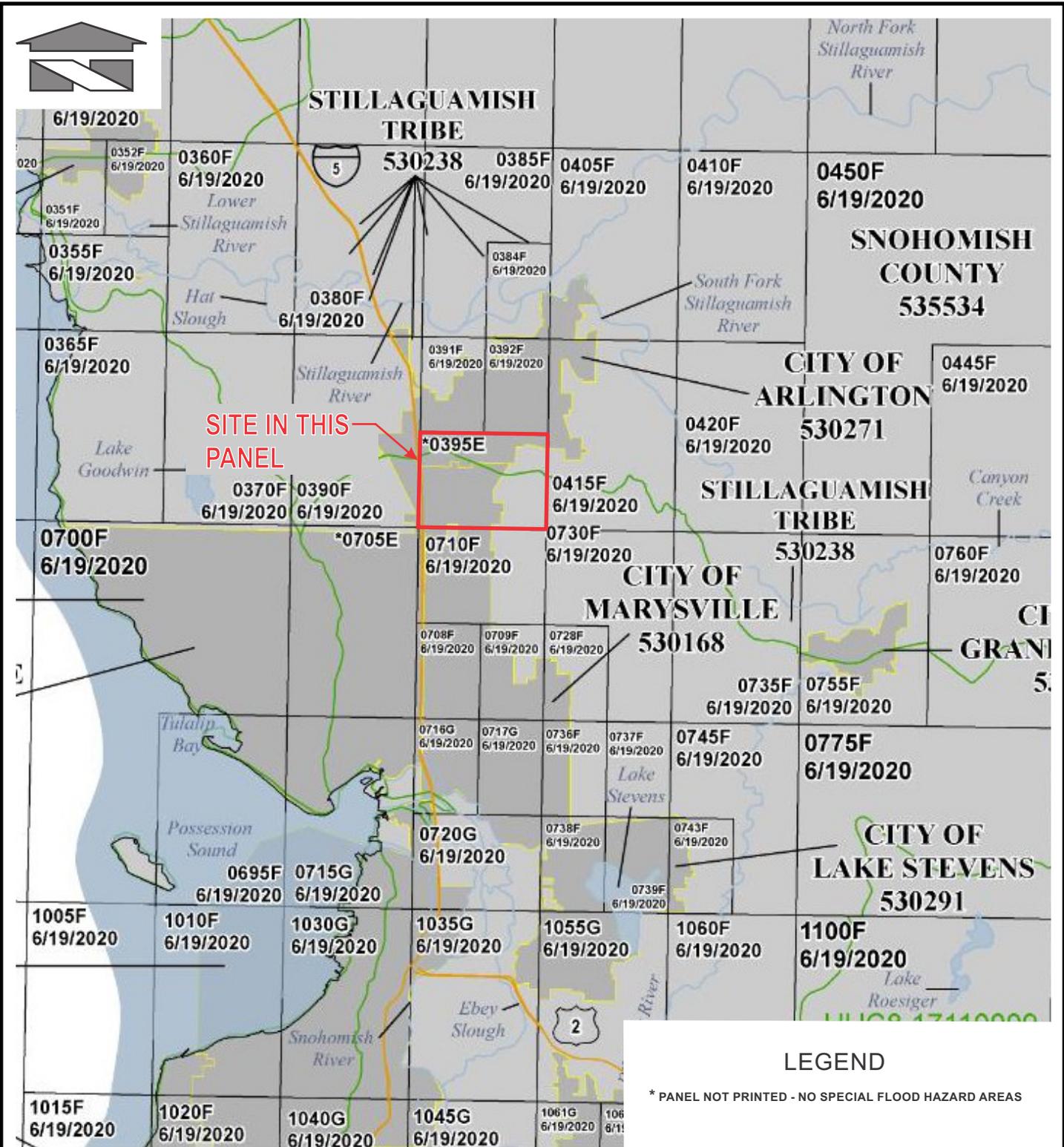
Title:

ASSESSOR MAP

DATE: 10/21/22

## Figure 3.2 – FEMA Map





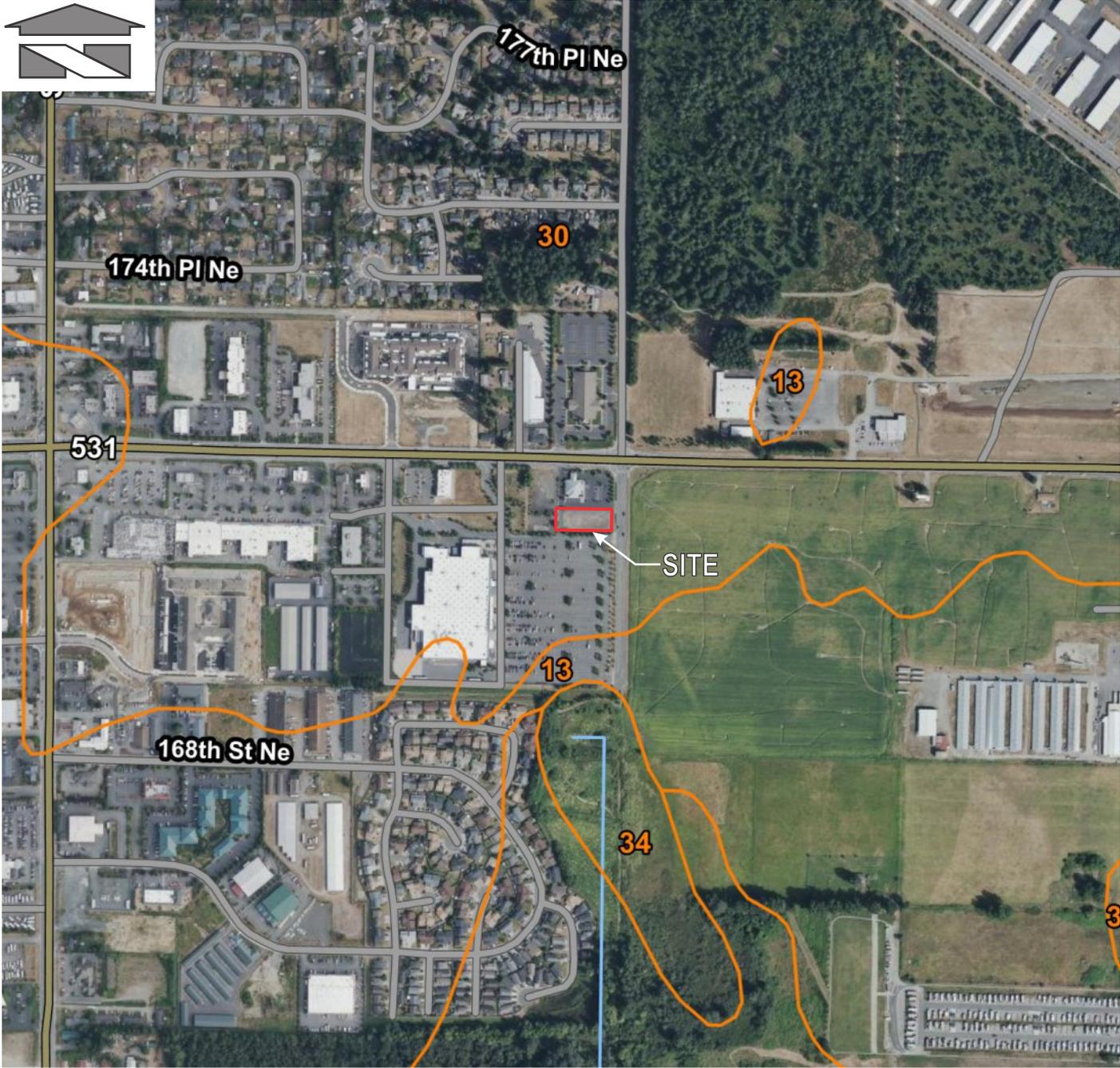
**SITE IN THIS PANEL**

**LEGEND**  
 \* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS

REFERENCE: Federal Emergency Management Agency (Portion of Map 53061CIND1B, June 2020)

Scale: Horizontal: N.T.S.      Vertical: N/A	For: Brown Bear Car Wash Arlington, Washington	Job Number 21860
 <b>Barghausen Consulting Engineers, Inc.</b> 18215 72nd Avenue South Kent, WA 98032 425.251.6222 <a href="http://barghausen.com">barghausen.com</a>	Title: FEMA MAP	DATE: 10/21/22

## Figure 3.3 – Soil Survey Map



REFERENCE: USDA, Natural Resources Conservation Service

**LEGEND:**  
 30 = Lynnwood loamy sand, 0-3% slopes  
 HSG  
 A

Scale:  
 Horizontal: N.T.S.      Vertical: N/A

For:  
 Brown Bear Car Wash  
 Arlington, Washington

Job Number  
 21860

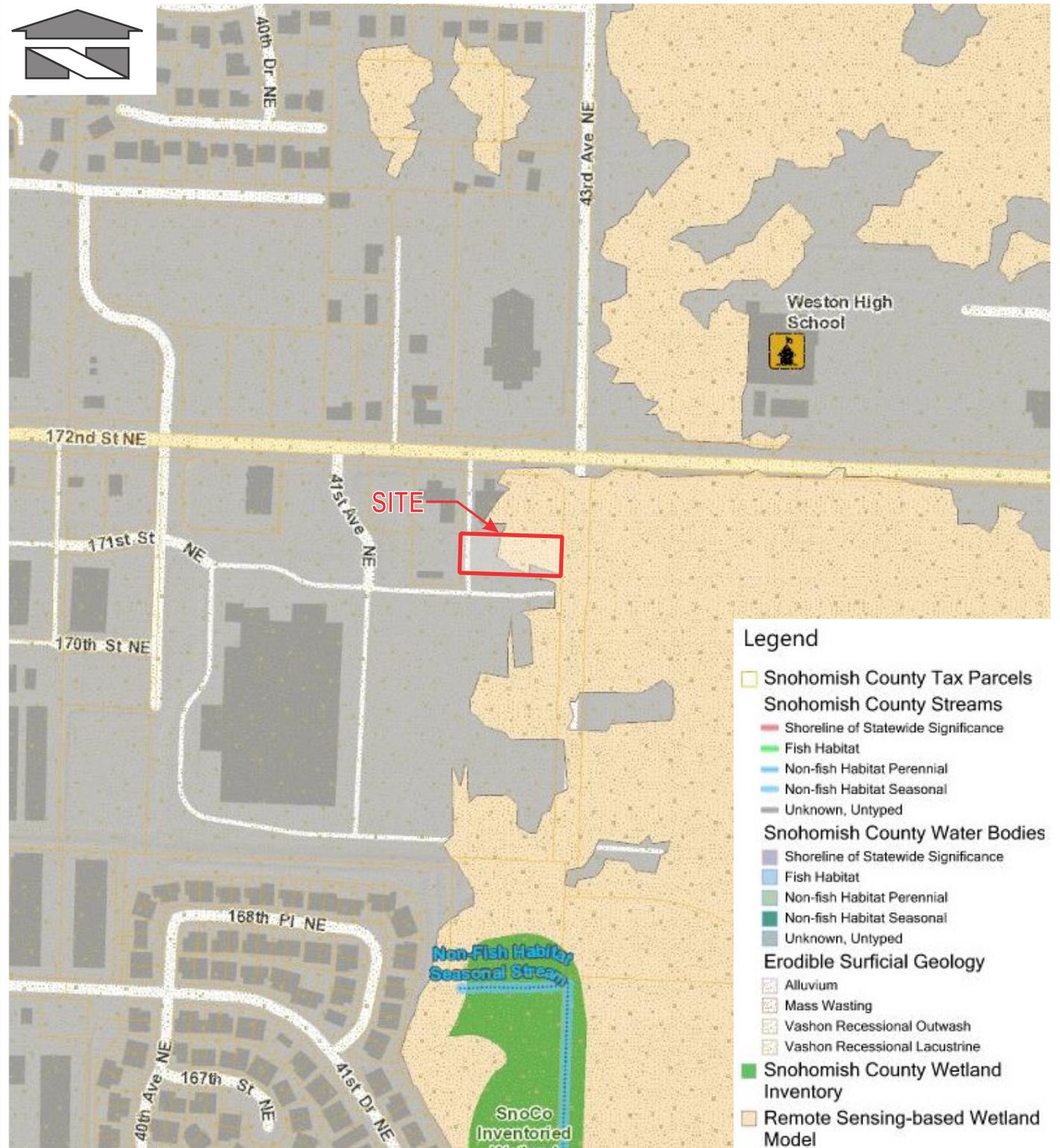


**Barghausen  
 Consulting Engineers, Inc.**  
 18215 72nd Avenue South  
 Kent, WA 98032  
 425.251.6222      [barghausen.com](http://barghausen.com)

Title:  
 SOIL SURVEY MAP

DATE: 10/21/22

# Figure 3.4 – Sensitive Areas Map



- Legend**
- Snohomish County Tax Parcels
  - Snohomish County Streams**
    - Shoreline of Statewide Significance
    - Fish Habitat
    - Non-fish Habitat Perennial
    - Non-fish Habitat Seasonal
    - Unknown, Untyped
  - Snohomish County Water Bodies**
    - Shoreline of Statewide Significance
    - Fish Habitat
    - Non-fish Habitat Perennial
    - Non-fish Habitat Seasonal
    - Unknown, Untyped
  - Erodible Surficial Geology**
    - Alluvium
    - Mass Wasting
    - Vashon Recessional Outwash
    - Vashon Recessional Lacustrine
  - Snohomish County Wetland Inventory
  - Remote Sensing-based Wetland Model

REFERENCE: Snohomish County PDS Map Portal (2022)

Scale:  
Horizontal: N.T.S.      Vertical: N/A

For:  
Brown Bear Car Wash  
Arlington, Washington

Job Number  
21860



**Barghausen Consulting Engineers, Inc.**  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222      [barghausen.com](http://barghausen.com)

Title:  
SENSITIVE AREAS  
MAP

DATE: 10/21/22

# Tab 4.0



#### **4.0 OFF-SITE ANALYSIS REPORT**

An off-site Analysis report shall be provided within a subsequent submittal. However, the redevelopment proposes a similar drainage pattern to the current conditions. All the on-site stormwater runoff is proposed to fully infiltrate via a proposed on-site infiltration facility and is not anticipated to negatively impact existing drainage patterns.

# Tab 5.0



## **5.0 PERMANENT STORMWATER CONTROL PLAN**

This section contains the following information:

- 5.1 Existing Site Hydrology
- 5.2 Developed Site Hydrology
- 5.3 Performance Standards and Goals
- 5.4 Low Impact Development Feature
- 5.5 Flow Control System
- 5.6 Water Quality System

## **5.1 Existing Site Hydrology**

Existing on-site groundcover primarily consist of vegetation with an asphalt access road along the north and west property lines. Runoff from the existing pavements appear to sheet flow to the north where it's collected within existing catch basins and conveyed to the existing infiltration facilities. Within the vegetation the runoff either sheet flows north and is collected by the existing on-site catch basins or infiltrates into the soils.

Refer to Figure 5.1 for the Existing Basin Map.

# Figure 5.1 – Existing Basin Map

# EXISTING BASIN MAP

FOR

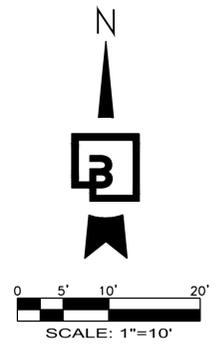
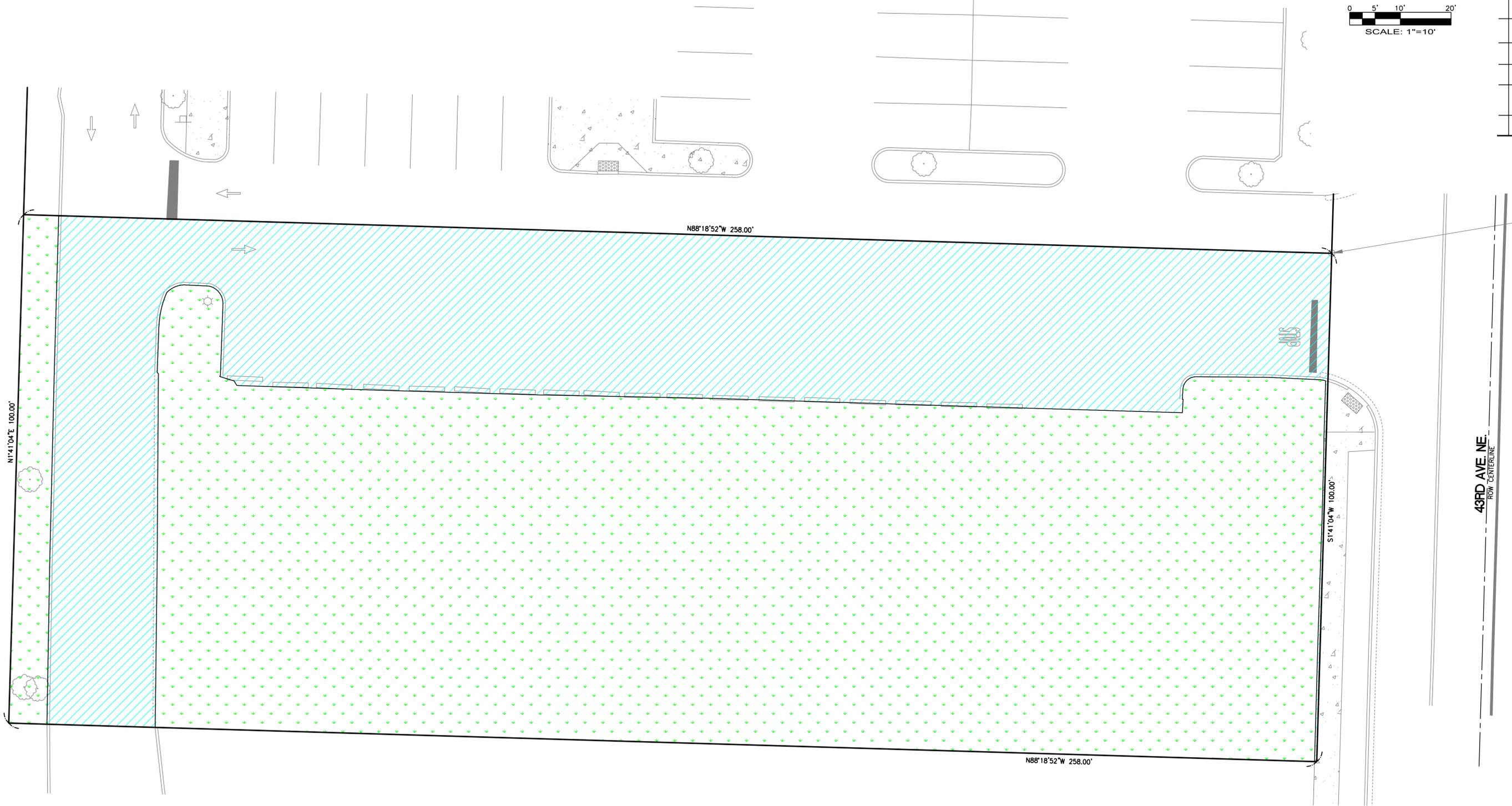
## BROWN BEAR CAR WASH

SEC. 28, TWN. 31 N., RGE. 5 E. W.M.

CITY OF ARLINGTON, SNOHOMISH COUNTY, WASHINGTON

### PROJECT GROUND COVER

HARD SURFACES	9,115 SF (0.21 AC)	
PERVIOUS SURFACES	16,685 SF (0.38 AC)	
TOTAL	25,800 SF (0.59 AC)	



Job Number <b>21860</b>	Sheet <b>1 of 1</b>	 <b>Barghausen Consulting Engineers, Inc.</b> 18215 72nd Avenue South Kent, WA 98032 425.251.6222 <a href="http://barghausen.com">barghausen.com</a>	Designed <u>JDF</u> Draw <u>JDF</u> Checked <u>ADW</u> Approved <u>CRU</u> Date <u>10/21/22</u>	Scale: Horizontal 1" = 10' Vertical N.A.	For: <b>CAR WASH ENTERPRISES, INC.</b> 3977 LEARY WAY NW SEATTLE, WA 98107	Title: <b>EXISTING BASIN MAP</b> BROWN BEAR CAR WASH 17110 43RD AVE NE ARLINGTON, WASHINGTON 98223
			No. _____ Date _____ By _____ Ckt. _____ Appr. _____	Revision _____ _____ _____		

\\Apollo-VA\Projects\21000s\21860\exhibit\21860-Pre-Developed Basin\_Map.dwg 10/21/2022 4:46 PM JLEHARTY

## **5.2 Developed Site Hydrology**

The proposed redevelopment consists of a Brown Bear Car Wash and installation of an Auto Sentry Building. Proposed surfaces will include new roof and pavement surfaces. In addition to these improvements, a few new catch basins shall be added along with some water quality units and an infiltration facility. The on-site runoff will sheet flow into the proposed stormwater infrastructure, while the existing asphalt drive aisle along the north and west property boundary will continue to flow into the existing stormwater infrastructure.

See Figure 5.2 for the Developed Basin Map.

Figure 5.2 –  
Developed  
Basin Map

# DEVELOPED BASIN MAP

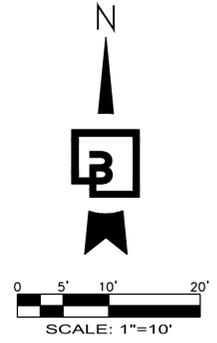
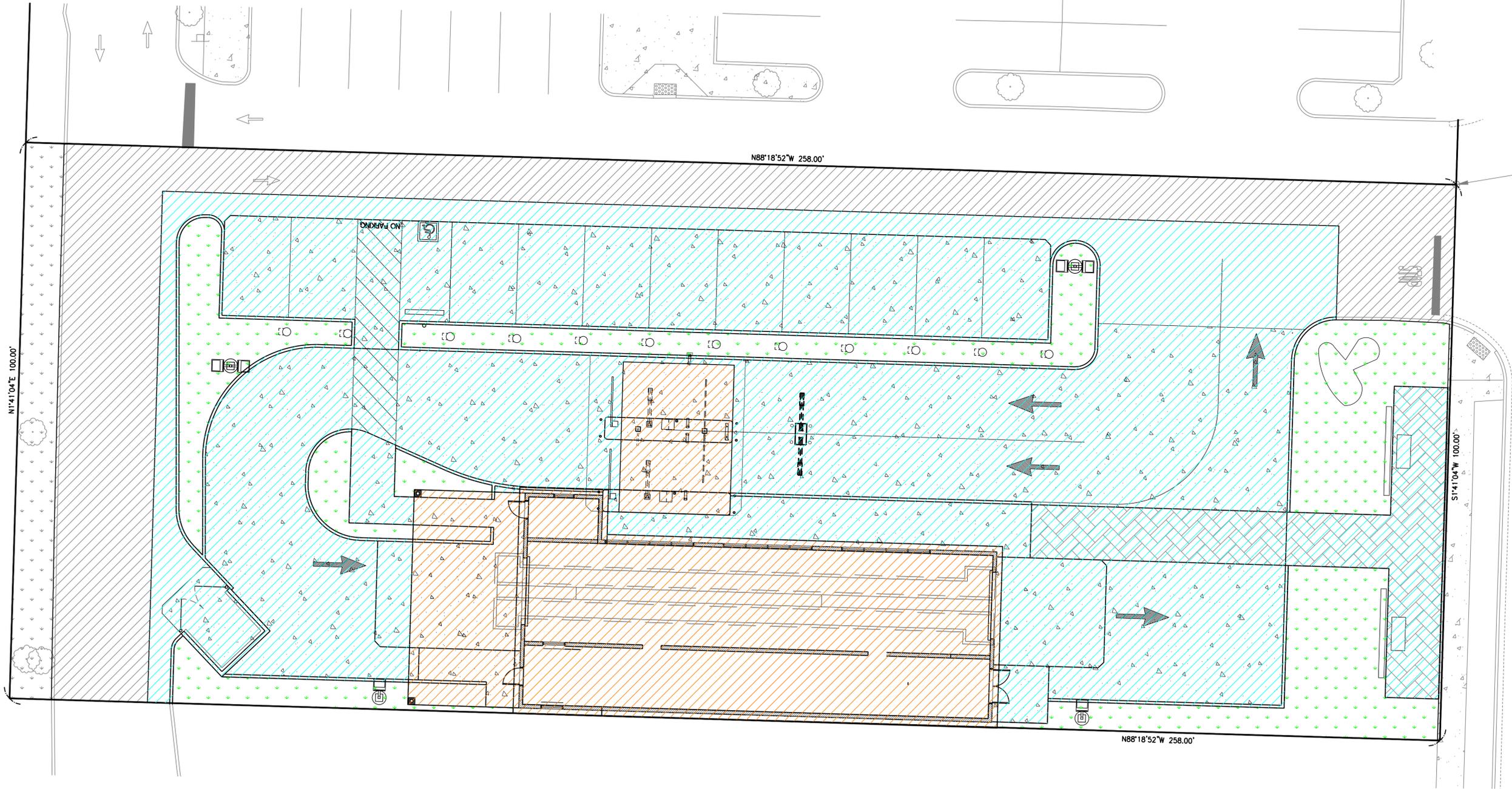
FOR

## BROWN BEAR CAR WASH

SEC. 28, TWN. 31 N., RGE. 5 E. W.M.  
CITY OF ARLINGTON, SNOHOMISH COUNTY, WASHINGTON

### PROJECT GROUND COVER

NEW/REPLACED HARD SURFACE	17,821 SF (0.41 AC)	
ROOF/CANOPY	4,250 SF (0.10 AC)	
ASPHALT/CONCRETE/CURB	13,571 SF (0.31 AC)	
EX. HARD SURFACES	4,036 SF (0.09 AC)	
PERVIOUS SURFACES	3,233 SF (0.07 AC)	
EX. PERVIOUS SURFACES	710 SF (0.02 AC)	
<b>TOTAL</b>	<b>25,800 SF (0.59 AC)</b>	



No.	Date	By	Ckt.	Appr.	Revision

**Title:**  
DEVELOPED BASIN MAP  
BROWN BEAR CAR WASH  
17110 43RD AVE NE  
ARLINGTON, WASHINGTON 98223

**For:**  
CAR WASH ENTERPRISES, INC.  
3977 LEARY WAY NW  
SEATTLE, WA 98107

Designed	JDF	Scale:	Horizontal	1" = 10'
Drawn	JDF	Vertical	N.A.	
Checked	ADW			
Approved	GRU			
Date	10/21/22			



**Barghausen Consulting Engineers, Inc.**  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222 [barghausen.com](http://barghausen.com)

Job Number	21860
Sheet	1 of 1

### **5.3 Performance Standards and Goals**

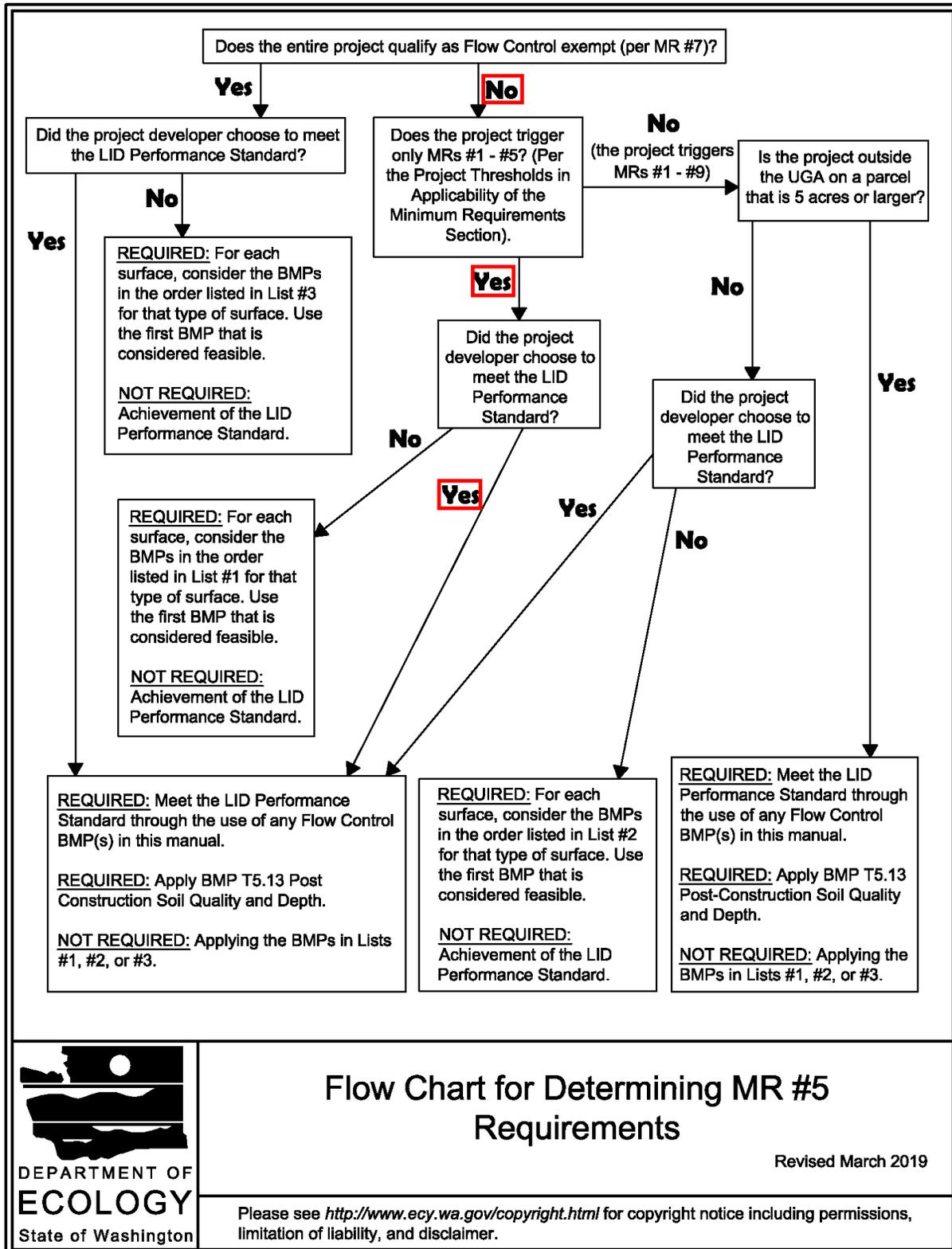
This project is required to meet flow control and water quality treatment standards per the 2019 Stormwater Management Manual for Western Washington. The following is a full discussion of how this project intends to meet the required performance objectives.

#### **5.4 Low Impact Development Feature**

This project proposes greater than 5,000 square feet of new and replaced hard surface and must evaluate the applicability of Minimum Requirements Nos. 1 to 9. This project chooses to meet the Low Impact Development Performance Standard for all on-site impervious surfaces and apply BMP T5.13: Post Construction Soil Quality and Depth for all landscaped areas. The WWHM2012 submitted within the subsequent submittal will demonstrate compliance with the Low Impact Development performance standard by infiltrating 100% of on-site runoff.

Figure 5.4 –  
Flow Chart for  
Determining  
MR No. 5  
Requirements

**Figure I-3.3: Flow Chart for Determining MR #5 Requirements**



## Flow Chart for Determining MR #5 Requirements

Revised March 2019

Please see <http://www.ecy.wa.gov/copyright.html> for copyright notice including permissions, limitation of liability, and disclaimer.

## **5.5 Flow Control System**

This project proposes greater than 10,000 square feet of new and replaced hard surfaces and must provide flow control such that "Stormwater discharges shall match developed discharge durations to pre-developed durations for the range of pre-developed discharge rates from 50 percent of the 2-year peak flow up to the full 50-year peak flow."

The proposed infiltration facility shall be sized and modeled in WWHM2012 to infiltrate 100% of the on-site stormwater runoff and comply with the LID Performance Standard. WWHM calculations for the proposed infiltration facility shall be provided within a subsequent submittal.

## **5.6 Water Quality System**

This project is defined as a commercial project that proposes greater than 5,000 square feet of new and replaced pollution generating hard surfaces and therefore must provide enhanced water quality treatment. This project proposes to use a Contech Modular Wetland Facility that will be located upstream of the infiltration facility. This site is also classified as a high-use site, therefore this site will provide oil control using a Coalescing Plate Oil/Water Separator located offline and upstream of the proposed infiltration facility. Water quality calculations will be provided within a subsequent submittal.

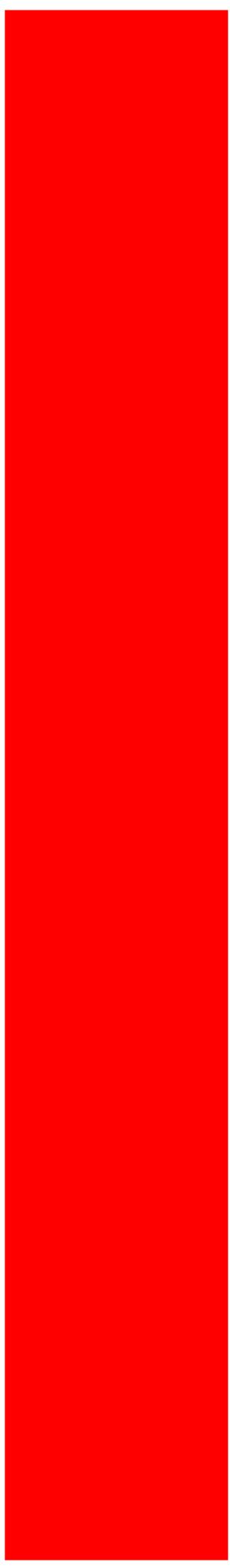
# Tab 6.0



## **6.0 CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN**

A Construction Stormwater Pollution Prevention Plan will be provided within a subsequent submittal.

# Tab 7.0



## **7.0 SPECIAL REPORTS AND STUDIES**

Any special reports and studies shall be provided within a subsequent submittal.

# Tab 8.0



## **8.0 OTHER PERMITS**

Any other necessary permits shall be provided within a subsequent submittal.

# Tab 9.0



## **9.0 OPERATIONS AND MAINTENANCE MANUAL**

All applicable maintenance and operation manuals shall be provided within a subsequent submittal.

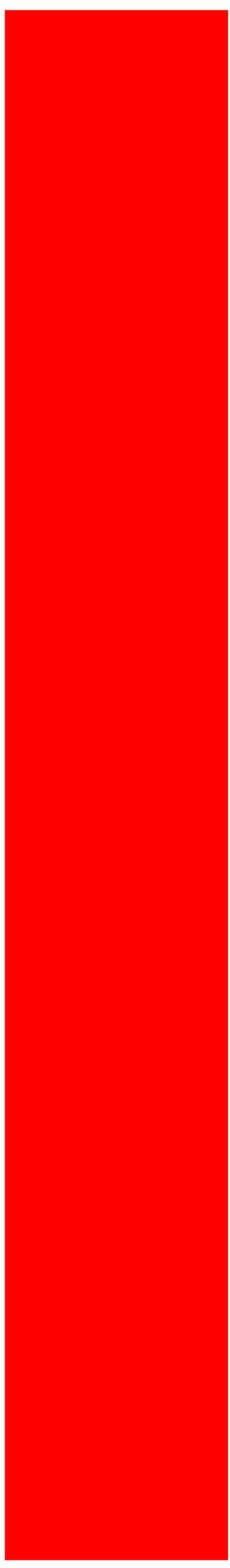
# Tab 10.0



**10.0 DECLARATION OF COVENANT FOR PRIVATELY MAINTAINED FLOW CONTROL AND TREATMENT FACILITIES**

Applicable documents will be provided within a subsequent submittal.

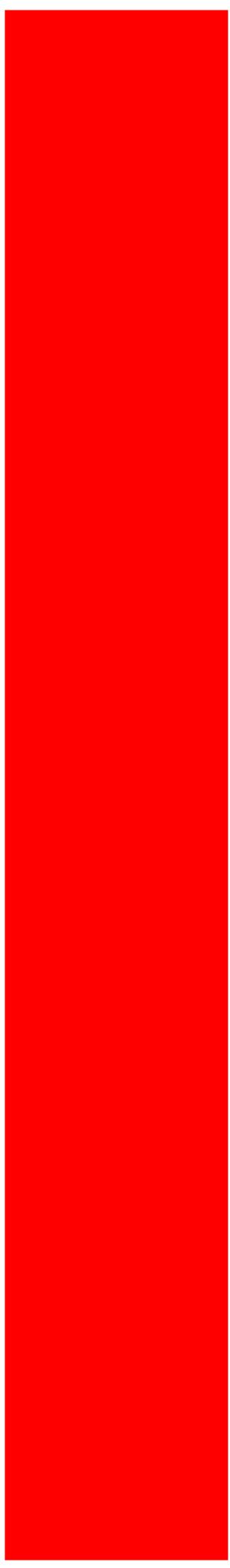
# Tab 11.0



**11.0 DECLARATION OF COVENANT FOR PRIVATELY MAINTAINED ON-SITE STORMWATER MANAGEMENT BMPS**

Applicable documents will be provided within a subsequent submittal.

# Tab 12.0



## **12.0 BOND QUANTITIES WORKSHEET**

A completed Bond Quantities Worksheet will be provided within a subsequent submittal.