

Altmann Oliver Associates, LLC

AOA



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Carnation, WA 98014

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Environmental
Planning &
Landscape
Architecture

December 20, 2022

AOA-6739

Sam Salo, PE
ssalo@encompasses.net

**SUBJECT: Wetland and Stream Study for American Pride Lending Property
212 Todd Road NE, Parcel 042022-2008, Puyallup, WA (P-21-0146)**

Dear Sam:

On March 1, 2022 I conducted an initial wetland and stream reconnaissance on and adjacent to the subject property utilizing the methodology outlined in the May 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. An additional field investigation was conducted by AOA on June 23, 2022.

At the time of the field investigations the property was entirely graveled except for a small house in the northwest corner of the site. Topography is flat and no significant native plant communities or wetlands are located on the property.

Wapato Creek flows from north to south off-site to the southeast. Although access was very limited, a narrow Riverine wetland (Wetland A) was observed in places along the creek. However, no wetlands were observed adjacent the creek in the area in closest proximity to the subject property. **Attachment A** contains a data sheet prepared for the off-site upland area immediately adjacent the creek within closest proximity to the property.

WAPATO CREEK AND WETLAND A

Wapato Creek is known to support salmonids and would therefore be considered a Type II stream by the City of Puyallup. Type II streams require a minimum standard buffer of 100 feet per PMC 21.06.1050(2)(b). There is also a required 10-foot structure setback from the edge of the buffer. Wetland A consists of a narrow Riverine Hydrogeomorphic (HGM) class wetland. Vegetation within Wetland A and the riparian corridor of Wapato Creek in the vicinity of the site consisted primarily of

a forested plant community that included red alder (*Alnus rubra*), Pacific willow (*Salix lasiandra*), Himalayan blackberry (*Rubus armeniacus*), climbing nightshade (*Solanum dulcamara*), and English ivy (*Hedera helix*).

Wetland A meets the criteria for a Category II wetland with 6 Habitat Points per the current City of Puyallup rating system (**Attachment B**). Category II wetlands with 6 Habitat Points require a standard 150-foot buffer adjacent high intensity land uses per PMC 21.06.930(2)(c). However, since Wetland A is not located adjacent to the creek in proximity to the site, it appears the Wapato Creek buffer would be more restrictive.

BUFFER RESTORATION

The City of Puyallup requires that the minimum critical area buffer be vegetated with native species as part of any proposed project. Since the 100-foot Wapato Creek buffer extends into the subject property (**Drawing W1.0**) and the buffer area is currently gravel, a buffer restoration planting plan is required as part of a proposed site plan. Restoration will consist of gravel removal and re-planting with native trees and shrubs. A rail fence will then be installed along the buffer boundary.

Goal, Objectives, and Performance Standards for Restoration Area

The primary goal of the restoration plan is to increase the habitat function of the enhanced buffer. To meet this goal, the following objectives and performance standards have been incorporated into the design of the plan:

Objective A: Increase the structural and plant species diversity within the restoration area.

Performance Standard: *Following every monitoring event for a period of at least five years, the planting area will contain at least 7 native plant species. There will be 100% survival of all woody planted species throughout the restoration area at the end of the first year of planting. For Years 2-5, success will be based on an 80% survival rate or similar number of recolonized native woody plants. Areal coverage of plantings or native re-colonized woody species will be at least 10% at Year 1, 20% at Year 2, 30% at Year 3, 40% at Year 4, and 50% at Year 5.*

Objective B: Limit the amount of invasive and exotic species within the restoration area.

Performance Standard: *After construction and following every monitoring event for a period of five years, exotic and invasive plant species will be maintained at levels below 10% total cover in the designated restoration area.*

Construction Management

Prior to commencement of any work in the restoration area the limits will be staked. A pre-construction meeting should be held at the site to review and discuss all aspects of the project with the landscape contractor and/or owner.

A consultant will supervise plan implementation during construction to ensure that objectives and specifications of the restoration plan are met. Any necessary significant modifications to the design that occur because of unforeseen site conditions will be jointly approved by the City of Puyallup and the consultant prior to their implementation.

Monitoring Methodology

The monitoring program will be conducted for a period of five years, with annual reports submitted to the City. Vegetation monitoring will include general appearance, health, mortality, colonization rates, percent cover, percent survival, volunteer plant species, and invasive weeds.

Photo-points will be established from which photographs will be taken throughout the monitoring period. These photographs will document general appearance and progress in plant community establishment in the restoration area. Review of the photos over time will provide a visual representation of success of the plan.

Maintenance Plan

Maintenance will be conducted on a routine, year-round basis. Additional maintenance needs will be identified and addressed following periodic maintenance reviews. Routine removal and control of non-native and other invasive plants within the designated mitigation area shall be performed. Undesirable and weedy exotic plant species shall be maintained at levels below 10% total cover within the restoration area during the monitoring period.

Routine maintenance of planted trees and shrubs shall be performed. Measures include resetting plants to proper grades and upright positions. Tall grasses and other competitive weeds shall be weeded at the base of plants to prevent engulfment.

Contingency Plan

All dead plants will be replaced with the same species or an approved substitute species that meets the goal of the restoration plan. Plant material shall meet the same specifications as originally installed material. Replanting will not occur until after reason for failure has been identified (e.g., moisture regime, poor plant stock, disease, shade/sun conditions, wildlife damage, etc.). Replanting shall be completed under the direction of the consultant, City of Puyallup, or the owner.

As-Built Plan

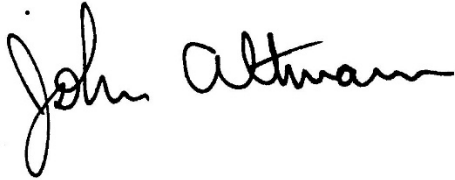
Following completion of construction activities, an as-built plan for the restoration area will be provided to the City of Puyallup. The plan will identify and describe any changes in relation to the original approved plan

Sam Salo
December 20, 2022
Page 4 of 4

If you have any questions, please give me a call.

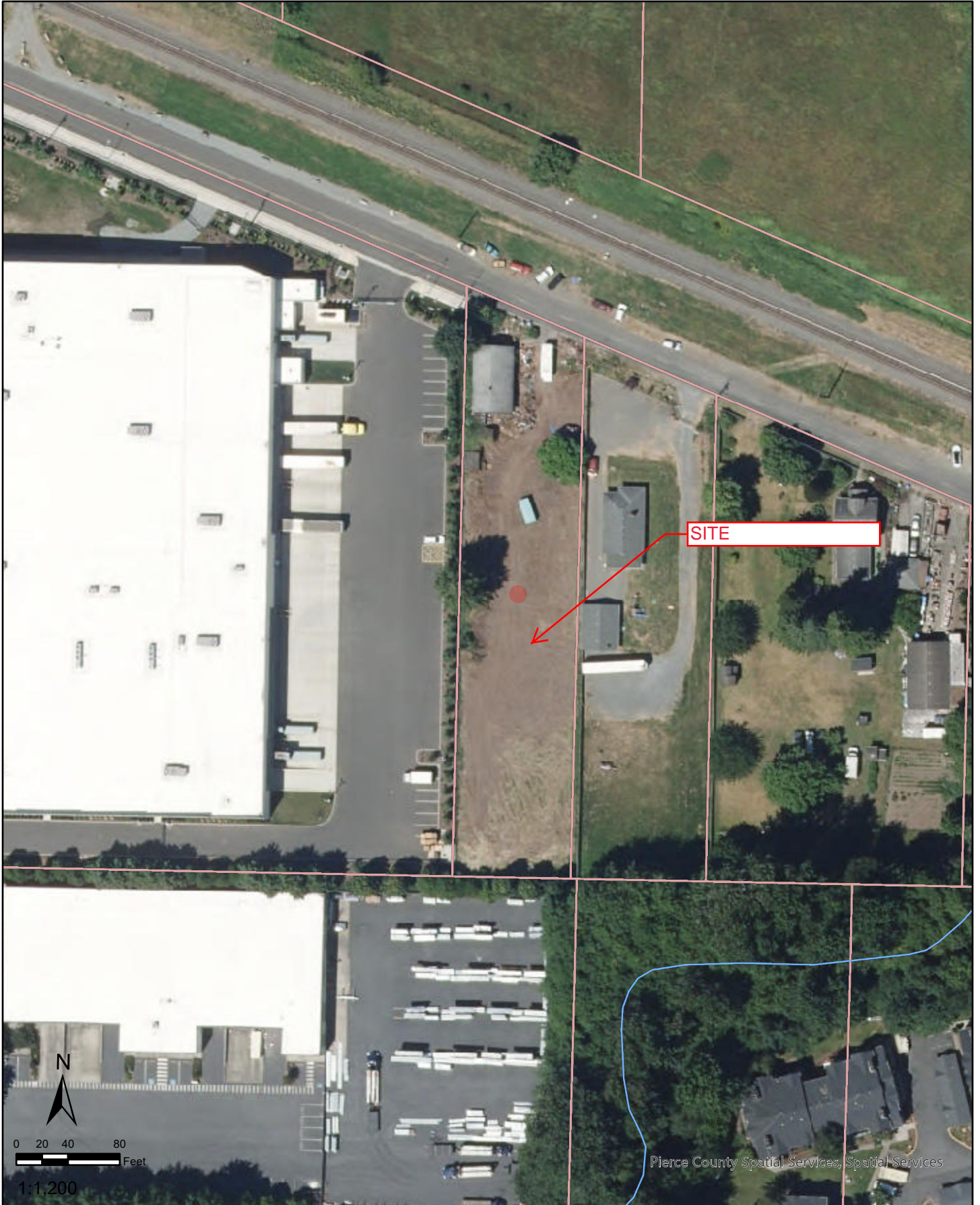
Sincerely,

ALTMANN OLIVER ASSOCIATES, LLC

A handwritten signature in black ink that reads "John Altmann". The signature is written in a cursive style with a large, looped initial "J" and a long, sweeping underline.

John Altmann
Ecologist

Attachments



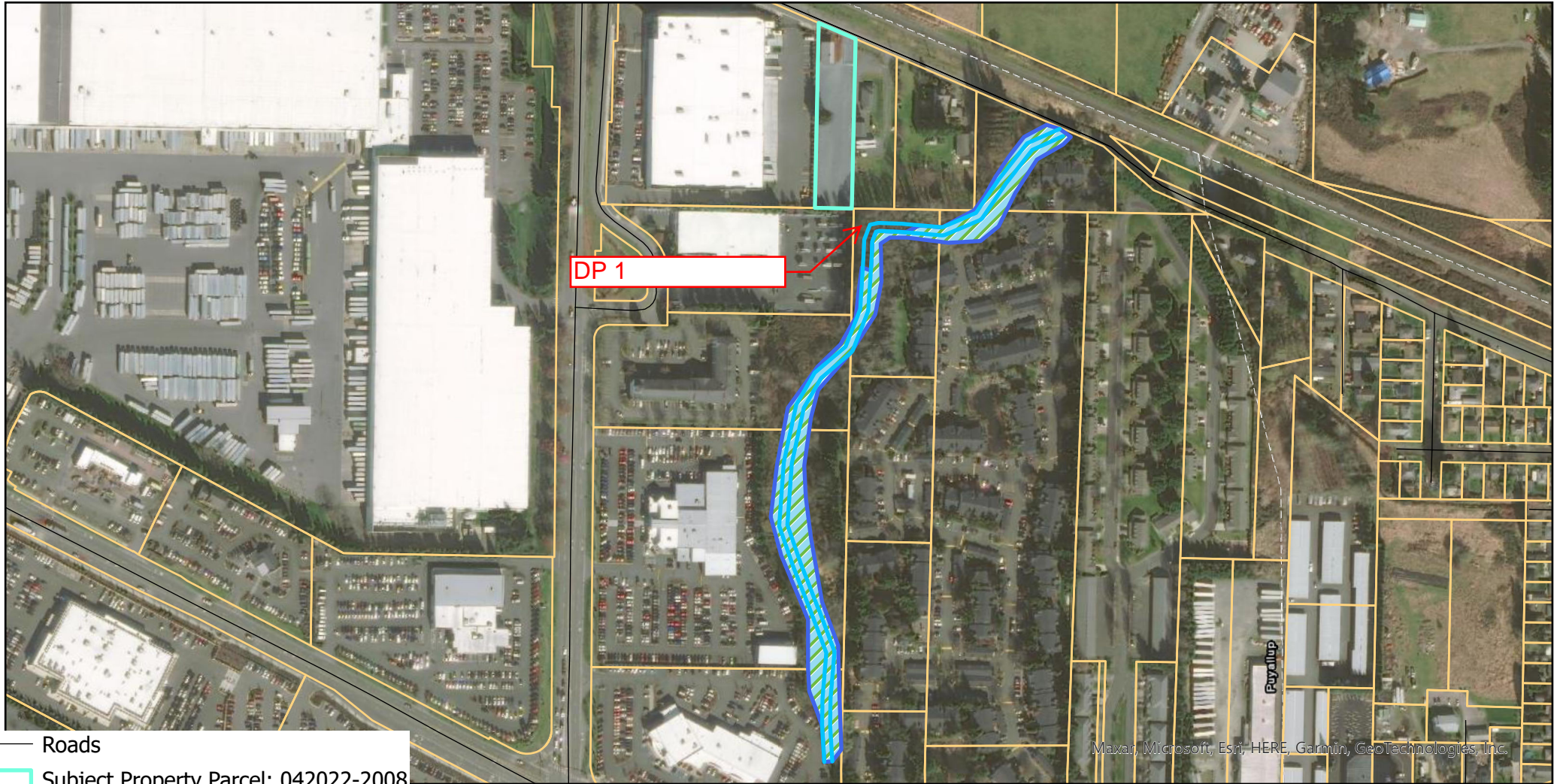
Disclaimer: The map features are approximate and have not been surveyed. Additional features not yet mapped may be present. Pierce County assumes no liability for variations ascertained by formal survey.

Date: 12/20/2022 02:21 PM

City of Puyallup
Parcel 042022-2008

AOA-6739

Critical Areas Map



- Roads
- Subject Property Parcel: 042022-2008
- Approximate Stream
- ▨ Approximate Wetland A
- Tax_Parcels

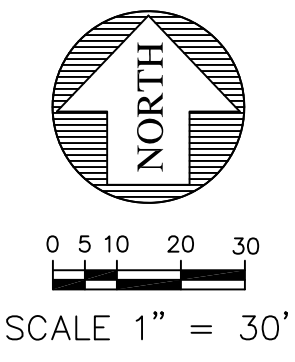
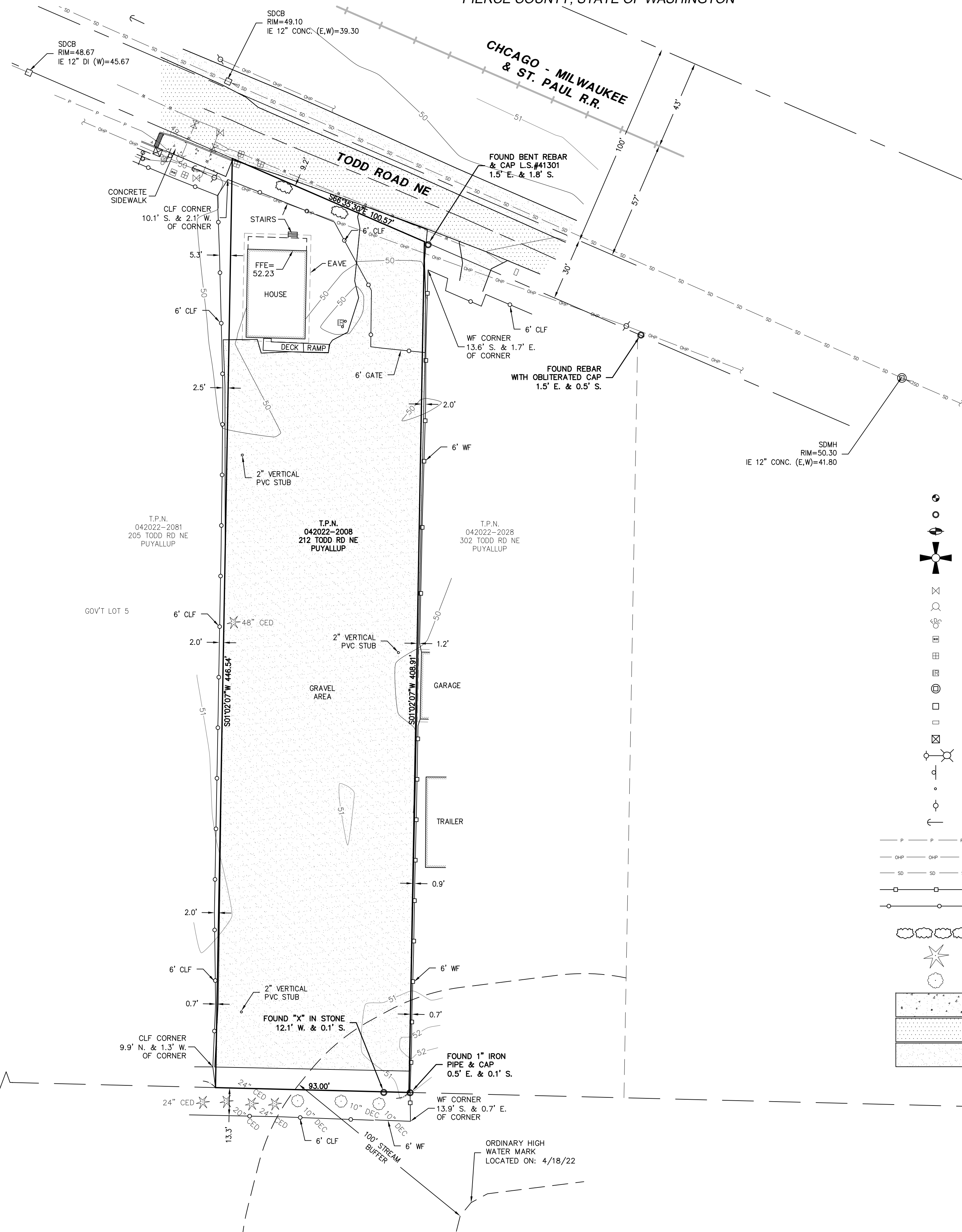
0 140 280 560 840 1,120
US Feet



Maxar, Microsoft, Esri, HERE, Garmin, GeoTechnologies, Inc.

AMERICAN PRIDE LENDING, LLC

A PORTION OF THE NW 1/4 OF THE NW 1/4 OF SEC. 22, T 20 N., R 04 E., W.M.
PIERCE COUNTY, STATE OF WASHINGTON



LEGEND

- FOUND MONUMENT IN CASE
- FOUND REBAR & CAP
- BENCHMARK
- SECTION CORNER
- WATER VALVE
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER VALVE BOX
- WATER METER
- IRRIGATION CONTROL VALVE
- STORM MANHOLE
- CATCH BASIN
- MAILBOX
- JUNCTION BOX
- LIGHT POLE
- SIGN POST
- POST
- UTILITY POLE
- GUY ANCHOR
- UNDERGROUND POWER LINE
- OVERHEAD POWER LINE
- STORM LINE
- WOOD FENCE (WF)
- CHAIN LINK FENCE (CLF)
- HEDGE LINE
- EVERGREEN TREE
- DECIDUOUS TREE
- CONCRETE
- ASPHALT
- GRAVEL

TAX PARCEL

042022-2008

VERTICAL DATUM

NAVD 88

BENCHMARK

HELD CITY OF PUYALLUP BENCHMARK NW-TODD 7
CONVERTED NGVD 29 ELEVATION OF 39.68' TO NAVD 88
ELEVATION OF 43.17 BY ADDING THE 3.49' PER CORPSCON
DATA CONVERSION SOFTWARE

HORIZONTAL DATUM

NAD 83/(2011) WASHINGTON SOUTH ZONE PER THE
WASHINGTON STATE REFERENCE NETWORK - CHECKED TO
PIERCE COUNTY REFERENCE NETWORK VIA TIES TO FOUND
MONUMENTS SM 3572 AND SM 3662

BASIS OF BEARINGS

HELD A BEARING OF S 01°02'07" W ALONG THE WEST LINE
OF GOV'T LOT 5 FROM THE FOUND MONUMENT AT THE NW
CORNER THEREOF TO A MONUMENT LOCATED ALONG THE
EXTENSION OF SAID WEST LINE LOCATED AT THE CENTER OF
INTERSECTION OF MERIDIAN AVE AND SPENCER RD E

INSTRUMENTATION

INSTRUMENT USED: 5 SECOND TOTAL STATION.

FIELD SURVEY WAS BY CLOSED TRAVERSE LOOPS, MINIMUM
CLOSURE OF LOOPS WAS 1:22,000, IN ACCORDANCE WITH
WAC 332-130-090.

LEGAL DESCRIPTION

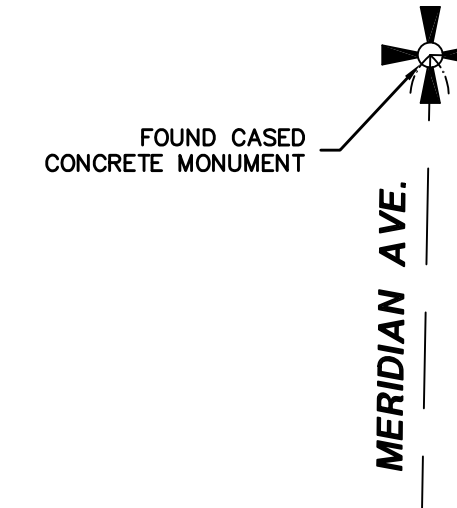
BEGINNING AT A POINT 683 FEET EAST OF THE SOUTHWEST
CORNER OF LOT 5 IN SECTION 22, TOWNSHIP 20 NORTH,
RANGE 4 EAST OF THE WILLAMETTE MERIDIAN;
THENCE NORTH PARALLEL WITH THE WEST BOUNDARY OF
SAID LOT, 442 FEET MORE OR LESS TO THE RIGHT OF WAY
OF CHICAGO, MILWAUKEE & ST PAUL RAILWAY COMPANY;
THENCE NORTHWESTERLY ALONG SAID RIGHT OF WAY 100
FEET;
THENCE SOUTH PARALLEL WITH AND 93 FEET DISTANCE
FROM EAST BOUNDARY OF TRACT 478 FEET MORE OR LESS
TO A POINT 93 FEET WEST OF THE POINT OF BEGINNING;
THENCE EAST 93 FEET TO THE POINT OF BEGINNING.

EXCEPT THE NORTHERLY 15 FEET FOR TODD ROAD
NORTHEAST.

SITUATE IN THE CITY OF PUYALLUP, COUNTY OF PIERCE,
STATE OF WASHINGTON.

REFERENCES

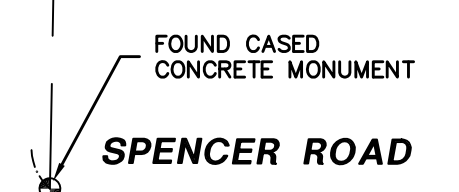
- ROS 201604295004 (R1)
- ROS 202012225005
- ROS 9005230358
- CHICAGO, MILWAUKEE AND ST PAUL RR NORTH PUYALLUP
TRACK MAPS



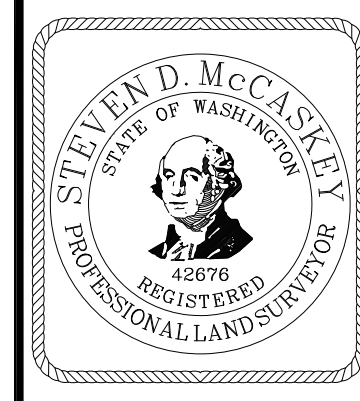
MERIDIAN AVE.

N01°02'07"E 1553.22' (MEASURED) (BASIS OF BEARING)
N01°02'07"E 1287.97' HELD PER RT

590.00'
S88°34'02"E 683.00' HELD PER DEED



REVISIONS	DESCRIPTION	BY	DATE



BOUNDARY TOPOGRAPHIC SURVEY
FOR
AMERICAN PRIDE LENDING, LLC

Encompass
ENGINEERING & SURVEYING

Western Washington Division
165 NE Juniper Street, Suite 200
Eastern Washington Division
407 Southwater Blvd. • Clk. Elm, WA 98922 • Phone: (509) 674-7433

JOB NO.	21715
DATE	07/07/22
SCALE	1"=30'
DESIGNED	N/A
DRAWN	LFM
CHECKED	SDM
APPROVED	SDM

ATTACHMENT A

DATA SHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel: 042022-2008 City/County: Puyallup/ Sampling Date: 6-23-22
 Applicant/Owner: Sekhon State: WA Sampling Point: DP#1
 Investigator(s): John Altmann Section, Township, Range: S22, T20N, R4E
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR): A Lat: 47.210042 Long: -122.290862 Datum: NAD83
 Soil Map Unit Name: 31A NWI classification: PFO1C
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: Upslope of OHW 1-2					

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																
1. <u><i>Alnus rubra</i></u>	<u>90</u>	<u>yes</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)																
2. <u><i>Pseudotsuga menziesii</i></u>	<u>10</u>	<u>no</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
50% = <u>50</u> , 20% = <u>20</u>	<u>100</u>	= Total Cover																		
<u>Sapling/Shrub Stratum (Plot size: 10')</u>				Prevalence Index worksheet: <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; border: none;">Total % Cover of:</td> <td style="text-align: center; border: none;">Multiply by:</td> </tr> <tr> <td style="border: none;">OBL species _____</td> <td style="border: none;">x1 = _____</td> </tr> <tr> <td style="border: none;">FACW species _____</td> <td style="border: none;">x2 = _____</td> </tr> <tr> <td style="border: none;">FAC species _____</td> <td style="border: none;">x3 = _____</td> </tr> <tr> <td style="border: none;">FACU species _____</td> <td style="border: none;">x4 = _____</td> </tr> <tr> <td style="border: none;">UPL species _____</td> <td style="border: none;">x5 = _____</td> </tr> <tr> <td style="border: none;">Column Totals: _____ (A)</td> <td style="border: none;">_____ (B)</td> </tr> <tr> <td colspan="2" style="border: none; text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x1 = _____	FACW species _____	x2 = _____	FAC species _____	x3 = _____	FACU species _____	x4 = _____	UPL species _____	x5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x1 = _____																			
FACW species _____	x2 = _____																			
FAC species _____	x3 = _____																			
FACU species _____	x4 = _____																			
UPL species _____	x5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
1. <u><i>Ilex aquifolium</i></u>	<u>40</u>	<u>yes</u>	<u>FACU</u>																	
2. <u><i>Oemleria cerasiformis</i></u>	<u>15</u>	<u>yes</u>	<u>FACU</u>																	
3. <u><i>Corylus cornuta</i></u>	<u>10</u>	<u>no</u>	<u>FACU</u>																	
4. <u><i>Rubus armeniacus</i></u>	<u>10</u>	<u>no</u>	<u>FAC</u>																	
5. _____	_____	_____	_____																	
50% = <u>37.5</u> , 20% = <u>15</u>	<u>75</u>	= Total Cover																		
<u>Herb Stratum (Plot size: 10')</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u><i>Equesetum telmetia</i></u>	<u>30</u>	<u>yes</u>	<u>FACW</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
50% = <u>15</u> , 20% = <u>6</u>	<u>30</u>	= Total Cover																		
<u>Woody Vine Stratum (Plot size: 10')</u>																				
1. <u><i>Hedera helix</i></u>	<u>100</u>	<u>yes</u>	<u>FACU</u>																	
2. _____	_____	_____	_____																	
50% = <u>50</u> , 20% = <u>20</u>	<u>100</u>	= Total Cover																		
% Bare Ground in Herb Stratum _____																				
Remarks:																				

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10 YR 3/3	100	_____	_____	_____	_____	clay loam	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soils Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stresses Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present?
 (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Dry

ATTACHMENT B

WETLAND RATING

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Parcel 0420222008 Date of site visit: 3/1/2022

Rated by Altmann Trained by Ecology? Yes No Date of training 03/08 & 03/15

HGM Class used for rating Riverine & Fresh Water Tidal Wetland has multiple HGM classes? Yes No

NOTE: Form is not complete with out the figures requested (figures can be combined).
 Source of base aerial photo/map Pierce County GIS

OVERALL WETLAND CATEGORY II (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

- Category I - Total score = 23 - 27
- X** Category II - Total score = 20 - 22
- Category III - Total score = 16 - 19
- Category IV - Total score = 9 - 15

Score for each function based on three ratings
 (order of ratings is not important)

9 = H, H, H
 8 = H, H, M
 7 = H, H, L
 7 = H, M, M
 6 = H, M, L
 6 = M, M, M
 5 = H, L, L
 5 = M, M, L
 4 = M, L, L
 3 = L, L, L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	M	M	M	
Landscape Potential	M	H	L	
Value	H	H	H	Total
Score Based on Ratings	7	8	6	21

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	B
Hydroperiods	H 1.2	B
Ponded depressions	R 1.1	B
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	B
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	B
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	B
Map of the contributing basin	R 2.2, R 2.3, R 5.2	E
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	A
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	C
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	D

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to another figure</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

For questions 1 -7, the criteria described must apply to the entire unit being rated.
If hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1 - 7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

- NO** - go to 2 **YES** - the wetland class is **Tidal Fringe** - go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

- NO - Saltwater Tidal Fringe (Estuarine)** **YES - Freshwater Tidal Fringe**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands.
If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be
used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.
Groundwater and surface water runoff are NOT sources of water to the unit.

- NO** - go to 3 **YES** - The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

- The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 At least 30% of the open water area is deeper than 6.6 ft (2 m).

- NO** - go to 4 **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

- The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps.
It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded**.

- NO** - go to 5 **YES** - The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 The overbank flooding occurs at least once every 2 years.

- NO** - go to 6 **YES** - The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO - go to 7

YES - The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide).** Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

NOTES and FIELD OBSERVATIONS:

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water quality

R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:		
Depressions cover $> \frac{3}{4}$ area of wetland	points = 8	2
Depressions cover $> \frac{1}{2}$ area of wetland	points = 4	
Depressions present but cover $< \frac{1}{2}$ area of wetland	points = 2	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with $>90\%$ cover at person height, not Cowardin classes)		
Trees or shrubs $> \frac{2}{3}$ area of the wetland	points = 8	8
<input type="checkbox"/> Trees or shrubs $> \frac{1}{3}$ area of the wetland	points = 6	
<input type="checkbox"/> Herbaceous plants (> 6 in high) $> \frac{2}{3}$ area of the wetland	points = 6	
Herbaceous plants (> 6 in high) $> \frac{1}{3}$ area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous $< \frac{1}{3}$ area of the wetland	points = 0	
Total for R 1	Add the points in the boxes above	10

Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L *Record the rating on the first page*

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	2
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area?	Yes = 1 No = 0	1
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1 - R 2.4?		0
Other Sources	Yes = 1 No = 0	
Total for R 2	Add the points in the boxes above	4

Rating of Landscape Potential If score is: 3 - 6 = H 1 or 2 = M 0 = L *Record the rating on the first page*

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	1
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	1
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (<i>answer YES if there is a TMDL for the drainage in which the unit is found</i>)	Yes = 2 No = 0	0
Total for R 3	Add the points in the boxes above	2

Rating of Value If score is: 2 - 4 = H 1 = M 0 = L *Record the rating on the first page*

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion

R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides: <i>Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).</i>		
If the ratio is more than 20	points = 9	2
If the ratio is 10 - 20	points = 6	
If the ratio is 5 - < 10	points = 4	
If the ratio is 1 - < 5	points = 2	
If the ratio is < 1	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have >90% cover at person height. These are NOT Cowardin classes).</i>		
Forest or shrub for > 1/3 area OR emergent plants > 2/3 area	points = 7	7
Forest or shrub for > 1/10 area OR emergent plants > 1/3 area	points = 4	
Plants do not meet above criteria	points = 0	
Total for R 4	Add the points in the boxes above	9

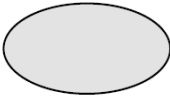
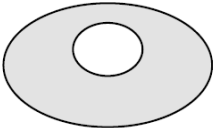
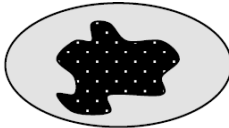
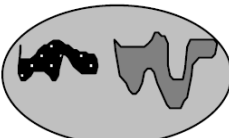

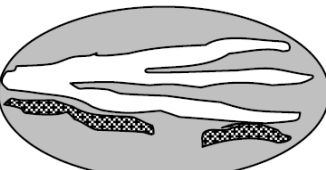
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L *Record the rating on the first page*

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	1
R 5.3 Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
Total for R 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L *Record the rating on the first page*

R 6.0. Are the hydrologic functions provided by the site valuable to society?		
R 6.1. Distance to the nearest areas downstream that have flooding problems? <i>Choose the description that best fits the site.</i>		
The sub-basin immediately down-gradient of the wetland has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	2
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for R 6	Add the points in the boxes above	2

Rating of Value If score is: 2 - 4 = H 1 = M 0 = L *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.		
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
<p>H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Aquatic bed 4 structures or more: points = 4 <input type="checkbox"/> Emergent 3 structures: points = 2 <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover) 1 structure: points = 0 <p><i>If the unit has a Forested class, check if:</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon 	1	
<p>H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).</p> <ul style="list-style-type: none"> <input type="checkbox"/> Permanently flooded or inundated 4 or more types present: points = 3 <input type="checkbox"/> Seasonally flooded or inundated 3 types present: points = 2 <input checked="" type="checkbox"/> Occasionally flooded or inundated 2 types present: points = 1 <input type="checkbox"/> Saturated only 1 types present: points = 0 <input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake Fringe wetland 2 points <input type="checkbox"/> Freshwater tidal wetland 2 points 	1	
<p>H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i></p> <p>If you counted: points = 2</p> <p style="padding-left: 20px;">> 19 species points = 1</p> <p style="padding-left: 20px;">5 - 19 species points = 0</p> <p style="padding-left: 20px;">< 5 species</p>	2	
<p>H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-bottom: 20px;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 20%;"> <p>All three diagrams in this row are HIGH = 3 points</p> </div> <div style="display: flex; justify-content: space-around;">    </div> </div>	0	

Wetland name or number A

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long) <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata) 	3
<p>Total for H 1 Add the points in the boxes above</p>	7

Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L *Record the rating on the first page*

<p>H 2.0. Does the landscape have the potential to support the habitat function of the site?</p>	
<p>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> 0.4 % undisturbed habitat + (_____ 0 % moderate & low intensity land uses / 2) = 0.4%</p> <p>If total accessible habitat is:</p> <ul style="list-style-type: none"> > 1/3 (33.3%) of 1 km Polygon points = 3 20 - 33% of 1 km Polygon points = 2 10 - 19% of 1 km Polygon points = 1 < 10 % of 1 km Polygon points = 0 	0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> 0 % undisturbed habitat + (_____ 18 % moderate & low intensity land uses / 2) = 9%</p> <ul style="list-style-type: none"> Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0 	0
<p>H 2.3 Land use intensity in 1 km Polygon: If</p> <ul style="list-style-type: none"> > 50% of 1 km Polygon is high intensity land use points = (-2) ≤ 50% of 1km Polygon is high intensity points = 0 	-2
<p>Total for H 2 Add the points in the boxes above</p>	-2

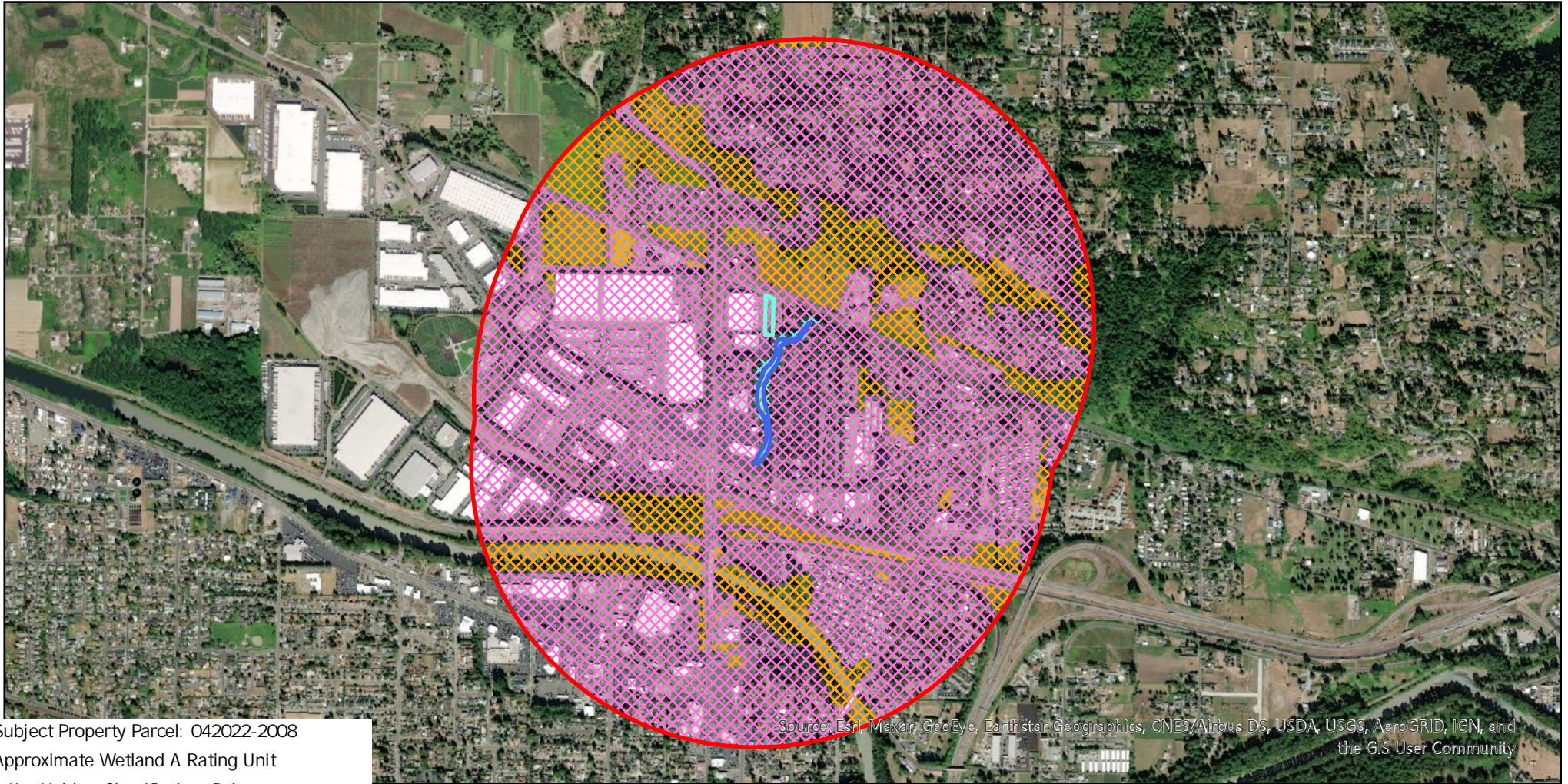
Rating of Landscape Potential If Score is: 4 - 6 = H 1 - 3 = M < 1 = L *Record the rating on the first page*









<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input checked="" type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan <p>Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	2

Rating of Value If Score is: 2 = H 1 = M 0 = L *Record the rating on the first page*

Figure A

AOA - 6739



-  Subject Property Parcel: 042022-2008
-  Approximate Wetland A Rating Unit
-  1 Km Habitat Classification Polygon
-  Accessible Relatively Undisturbed Habitat 0.4%
-  Accessible Low_Moderate Intensity Habitat 0%
-  Accessible Relatively Undisturbed Habitat 0%
-  Low_Moderate Intensity Habitat 18.0%
-  High Intensity Habitat 81.6%

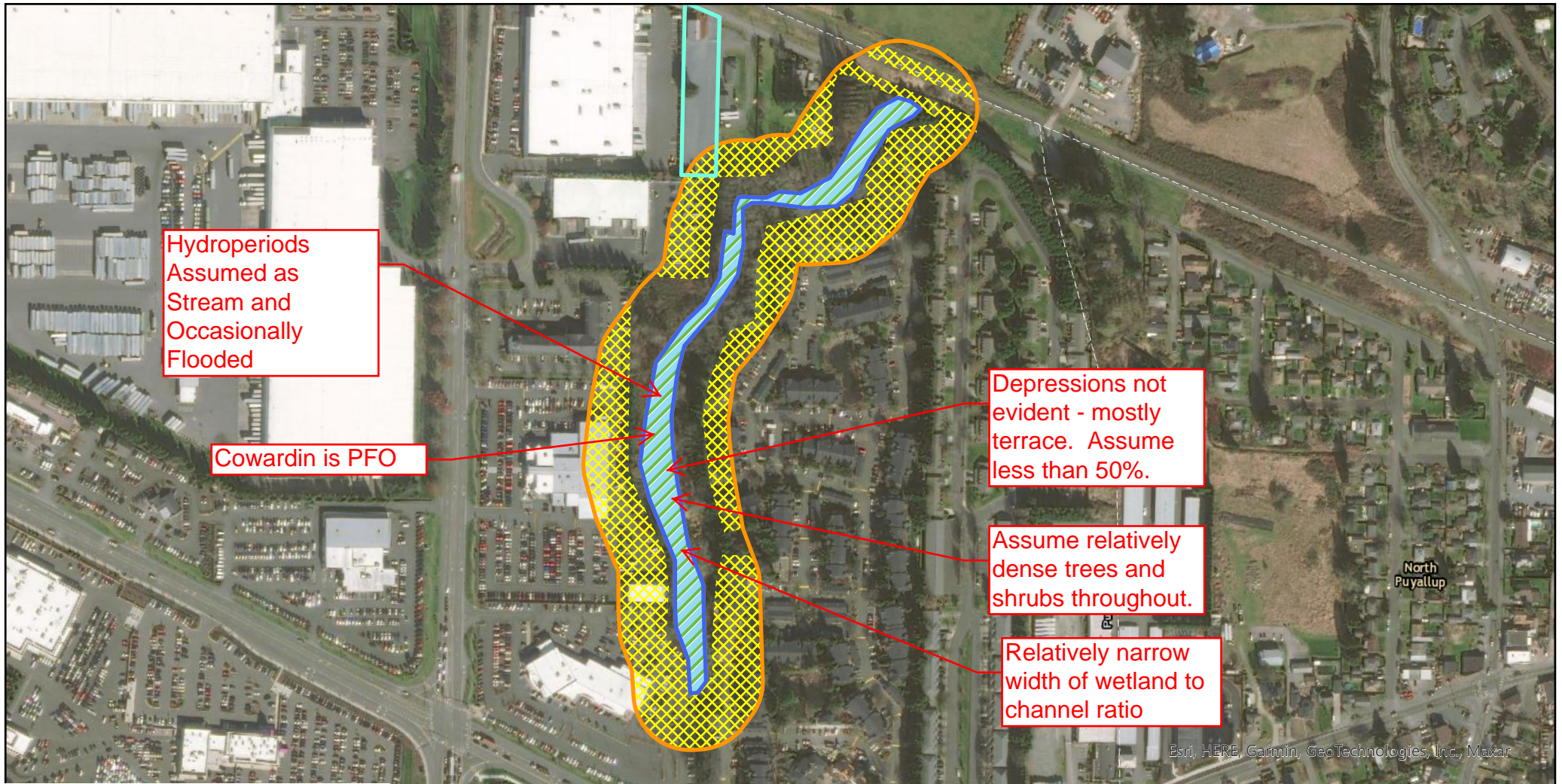
0 500 1,000 2,000 3,000 4,000
US Feet



City of Puyallup
Parcel 042022-2008

AOA-6739

Figure B

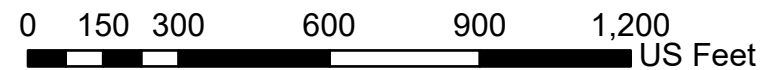


Subject Property Parcel: 042022-2008

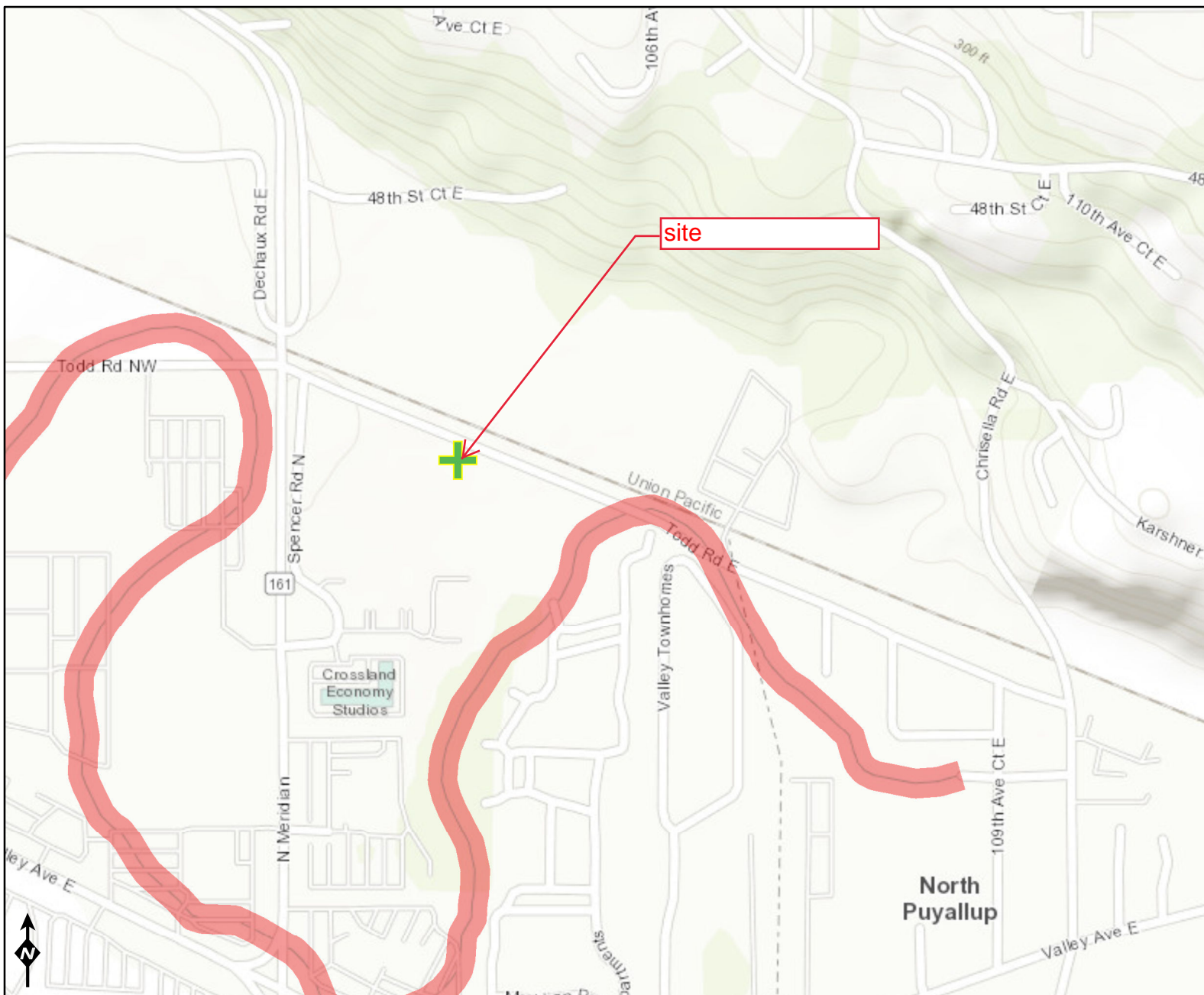
Approximate Wetland A

150' Pollution Assessment Polygon

Pollution Generating Surfaces 64.6%



6739 Figure C



Assessed Water/Sediment

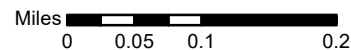
Water

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

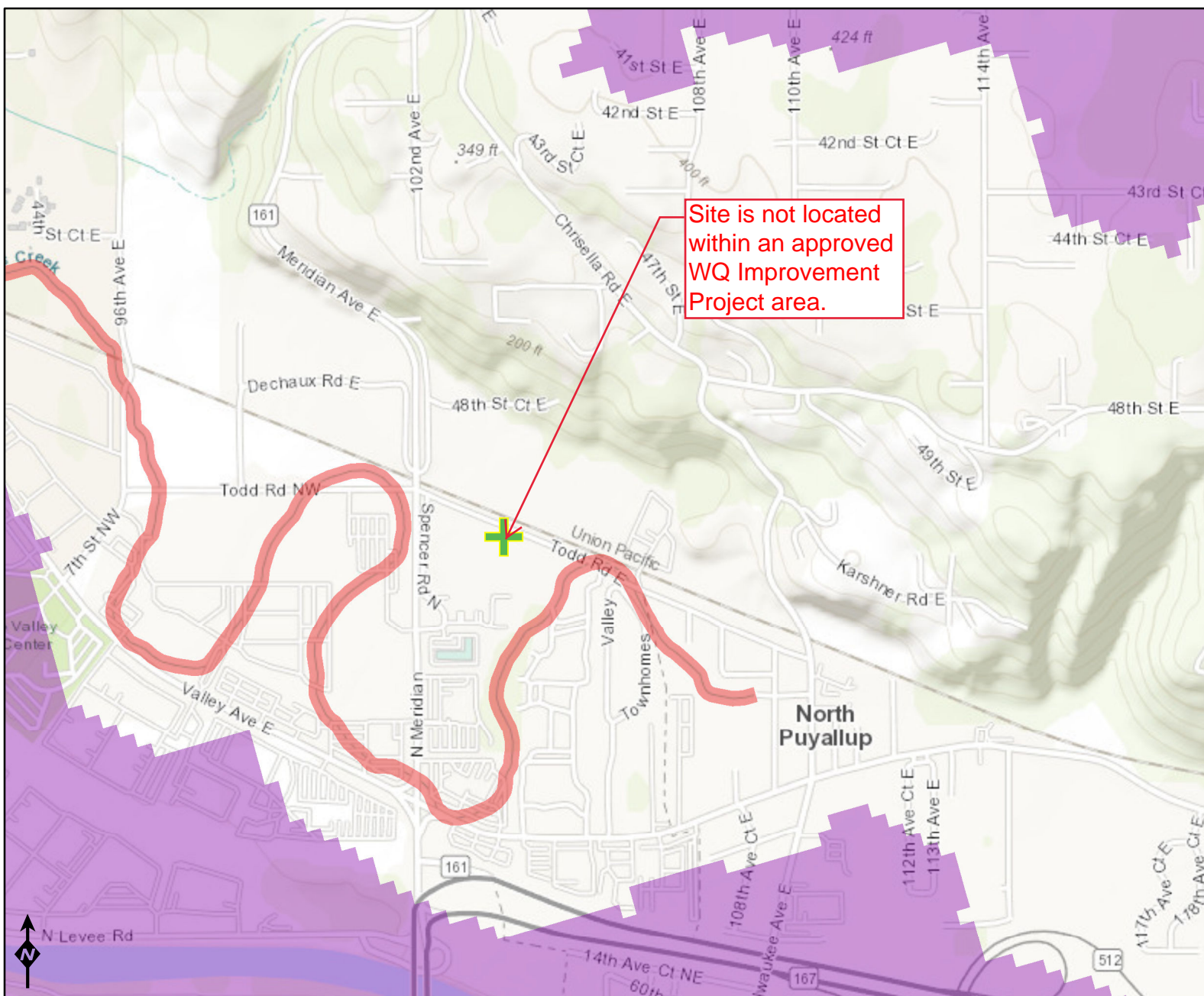
Sediment

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and







6739 Figure D








Assessed Water/Sediment



Water

-  Category 5 - 303d
-  Category 4C
-  Category 4B
-  Category 4A
-  Category 2
-  Category 1

Sediment

-  Category 5 - 303d
-  Category 4C
-  Category 4B
-  Category 4A
-  Category 2
-  Category 1

WQ Improvement Projects

-  Approved
-  In Development

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

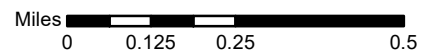
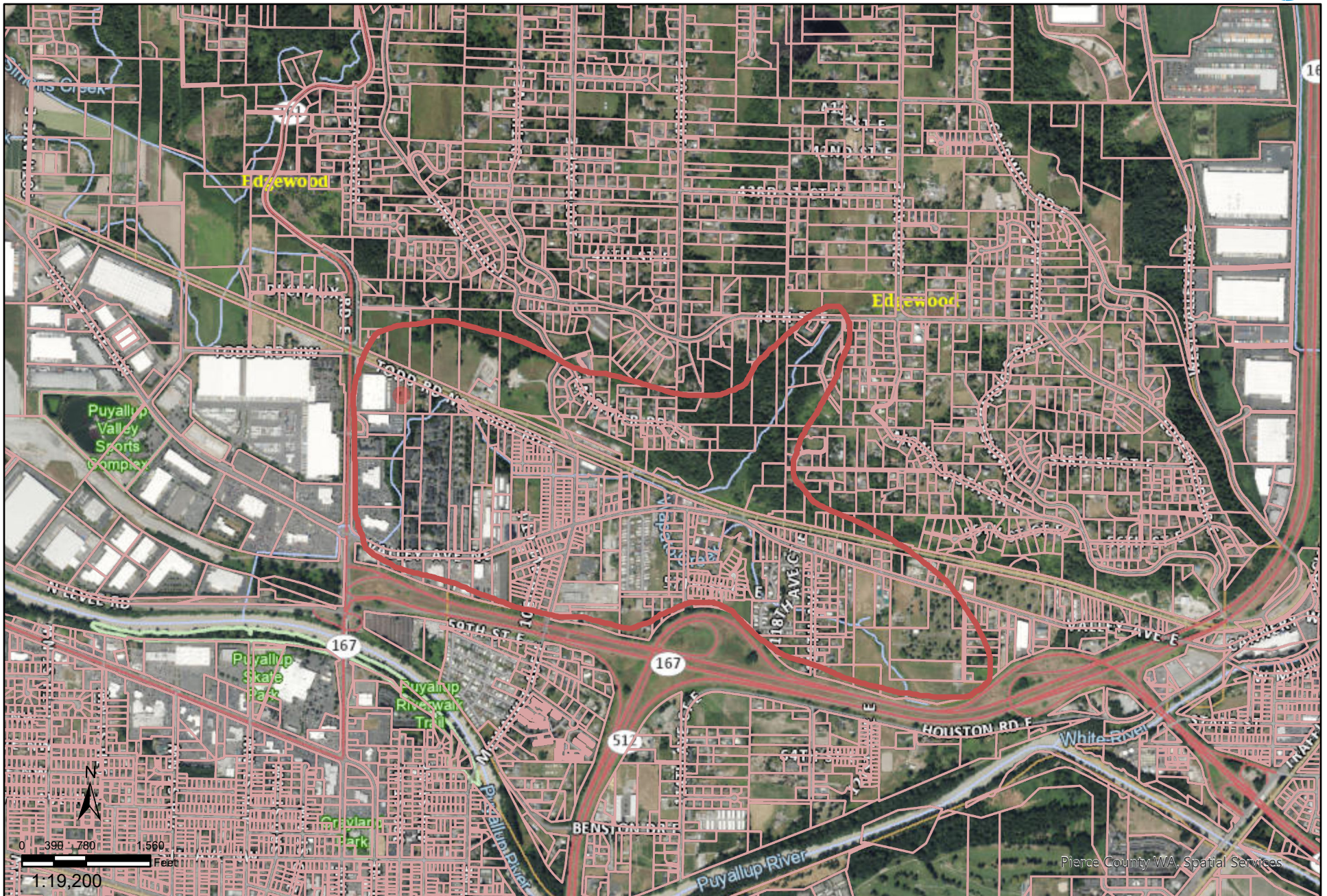


Figure E Rough Basin



Disclaimer: The map features are approximate and have not been surveyed. Additional features not yet mapped may be present. Pierce County assumes no liability for variations ascertained by formal survey.

Date: 3/17/2022 10:44 AM