HABITAT TECHNOLOGIES

STREAM/WETLAND CORRIDOR BUFFER RESTORATION PROGRAM

PARCEL 0420222005
320 Todd Road NE
City of Puyallup, Pierce County, Washington

This document has been revised to incorporate modifications associated with City of Puyallup review comments and suggestions

prepared for

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MAY 12, 2025

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INTRODUCTION

This document presents the revised *Stream/Wetland Corridor Buffer Restoration Program* to be implemented as a part of the development of **PARCEL 0420222005** (project site) located at 320 Todd Road NE within the City of Puyallup, Pierce County, Washington (Figure 1). This *Stream/Wetland Corridor Buffer Restoration Program* would establish and restore a protective buffer along the southeastern portion of the project site and would be associated with a stream and wetland corridor located offsite to the southeast. As outlined below, and as defined following City of Puyallup review, the offsite stream was identified as meeting the criteria for designation as a City of Puyallup Type II Stream and the offsite wetland was identified as meeting the criteria for designation as a City of Puyallup Category II Wetland. The standard buffer for a Type II Stream is 100 feet in width as measured perpendicular from the ordinary high water mark and the standard buffer for a Category II Wetland (with moderate habitat) adjacent to a high intensity land use is 150 feet as measured perpendicular from the wetland boundary.

The City of Puyallup allows for the standard buffer associated with a Category II Wetland to be reduced from the "high intensity" buffer (150 feet) to that of the "moderate intensity" buffer (110 feet) when the following are implemented (21.06.930.a).

(i) A relatively undisturbed vegetated corridor at least 100 feet in width is established, enhanced and/or protected (if adequate vegetation exists) between the wetland and any other upland priority habitats adjacent to the wetland as defined by the Washington State Department of Fish and Wildlife. The corridor shall be protected by a native growth protection easement or some other legal mechanism providing permanent protection.

(ii) A buffer enhancement plan, consistent with applicable mitigation report and monitoring requirements of this chapter, is submitted and approved in order to improve the functions of the buffer area to the maximum extent possible.

(iii) All applicable measures to minimize the potential impacts of different land uses on wetland habitat functions, as summarized in the following table, are applied to the development:

Examples of Disturbance	Examples of Measures to Minimize Impacts	Activities that Cause the Disturbance
Lights	Direct lights away from wetland	Parking Lots, Warehouses, Manufacturing, High Density Residential
Noise	Place activity that generates noise away from the wetland.	Manufacturing, High Density Residential

Examples of Disturbance	Examples of Measures to Minimize Impacts	Activities that Cause the Disturbance
Toxic runoff	Route all new untreated runoff away from wetland, Covenants limiting use of pesticides within 150 feet of wetland Integrated pest management programs	Parking Lots, Roads, Manufacturing, Residential Areas, Application of Agricultural Pesticides, Landscaping
Change in water regime	Infiltrate or treat, detain and disperse into buffer new runoff from surfaces	Any impermeable surface, Lawns, Tilling
Pets and Human disturbance	Fence around buffer Plant buffer with "impenetrable" natural vegetation appropriate for region	Residential areas
Dust	BMP's for dust	Tilled fields

PROJECT SITE DESCRIPTION

The project site was composed of an existing, generally flat parcel approximately 1.68-acres in total size. The project site was located at 320 Todd Road NE within the City of Puyallup, Pierce County, Washington (part of Section 22, Township 20N, Range 04E, W.M.). The project site has undergone a number of prior land use manipulations over the past several decades. These prior actions have focused on the development and utilization of the project site as a single-family homesite with associated managed yards. Additional onsite actions have included the routine maintenance of the homesite, the development of an access driveway, full perimeter fencing, onsite landscaping, equipment storage, the placement and maintenance of utilities, and adjacent residential and commercial developments. A channelized surface water drainage was present offsite to the southeast.

The project site was located within a well urbanized area generally converting from existing single-family homesites on moderately sized parcels into more intense residential communities and commercial usages.

Directions to Project Site: Northward on Meridian Avenue North through the City of Puyallup continue north across the Puyallup River and beyond Valley Avenue NE. Turn east onto Spencer Road and remain on Spencer Road and it turns northward to the intersection of Spencer Road and Todd Road East. Turn easterly onto Todd Road East and continue to the project site.

ENVIRONMENTALLY CRITICAL AREAS DETERMINATION

Onsite activities were completed in accordance with criteria and procedures established in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington: 2014 Update* Publication #14-06-029 (Hruby, 2014); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Puyallup – *Chapter 21.06*.

ONSITE

The entire project site was dominated by an existing single-family homesite, associated outbuildings, and well managed yard areas. **No** portion of the project site exhibited field characteristics typically associated with a "wetland" or a "stream." In addition, **no** portion of the project site was identified to exhibit field characteristics associated with a City of Puyallup "fish and wildlife habitat conservation area."

OFFSITE

With the exception of the area directly offsite to the south/southeast, the project site was generally bound by existing residential and commercial development.

A seasonal drainage ditch system was identified directly offsite of the southeastern of the project site. This drainage generally follows a remanent, small side-channel along the Puyallup River Valley that was isolated by the development of the Puyallup River revetment system during the late 1800s into the early 1900s. This drainage system is managed by the Pierce County Stormwater Management Division and enters the Puyallup River a short distance downstream of the Meridian Avenue Bridge (Figure 2).

> **STREAM:** Following discussions with the Washington Dept. of Fish and Wildlife (WDFW) Regional Biologist and City of Puyallup Environmental Review Staff the seasonal drainage through this offsite managed surface water drainage appears best defined as a City of Puyallup **Type II Stream (fish bearing)**. This surface water drainage exhibits a defined channel created by naturally occurring seasonal stormwater runoff and is defined by WDFW to provide habitats for fish. The standard buffer for a City of Puyallup Type II Stream is 100 feet in width as measured perpendicular from the ordinary high water mark.

WETLAND: The seasonal drainage through the offsite managed drainage system also appeared best defined as a City of Puyallup Category II Wetland. This managed ditch system exhibits a well-defined seasonal channel, is associated with a City of Puyallup Type II Stream, and the entire wetland area becomes inundated during periods of heavy seasonal rainfall. The passage of season surface water is in one direction towards the Puyallup River. This wetland area was re-defined as a "riverine wetland" and exhibited to total functions score of 21 points (6 habitat points) using the *Washington State Wetland Rating System* (Hruby 2014).

WETLAND	CLASSIFICATION (USFWS)	CITY OF PUYALLUP CATEGORY	WDOE TOTAL RATING SCORE	HABITAT RATING SCORE	BUFFER WIDTH high intensity land use (moderate intensity)
A	**PFOC**	**II**	**21**	**6**	**150 feet (110 feet)**

FISH AND WILDLIFE HABITAT CONSERVATION AREA: The wetland/stream corridor identified offsite to the southeast of the project site also appeared best defined as a City of Puyallup "habitat of local importance." Both the wetland and stream corridors are also defined as "Waters of the State."

SELECTED DEVELOPMENT ACTION

The *Selected Development Action* for **Parcel 0420222005** presently focuses on the re-development of the existing single-family homesite and associated outbuildings into a usable construction company office and associated equipment/vehicle storage facility. This proposed modifications would not encroach further towards the offsite stream/wetland complex than present exists onsite. Such future development would be consistent with the City of Puyallup *Comprehensive Plan*, local zoning, *Chapter 21.06,* and would implement Best Management Practices to ensure protection of local water quality and to protect against adverse erosion.

Since a portion of the existing onsite structures are presently within the standard buffer of 150 feet associated with the offsite Category II Wetland, the overall site development action would implement a *Stream/Wetland Corridor Buffer Restoration Program* to allow for the reduction of the standard buffer from 150 feet to an established buffer width of 110 feet. This proposed action would avoid adverse impacts to the offsite stream/wetland corridor while also establishing and restoring a viable onsite buffer adjacent to the offsite stream/wetland corridor consistent with the provision of the City of Puyallup *Chapter 21.06*.

STREAM/WETLAND BUFFER ESTABLISHMENT PROGRAM

Site planning for the project site has focused on the mandated hierarchy of critical areas impact reduction: ***1) avoidance, 2) minimization, and 3) compensation***. Direct and indirect potential adverse impacts to the identified Type II Stream and Category II Wetland Corridor located offsite to the south/southeast of the project site would be avoided and no adverse encroachments into this stream/wetland corridor would occur as a direct result of this proposed action. In addition, to ensure both the short-term and long-term protection of the physical and biological functions and values linked with this offsite stream/wetland corridor the established onsite buffer associated with this offsite stream/wetland corridor would be established and restored through the removal of existing invasive shrubs and grasses followed by the planting of a variety of desirable native trees and shrubs within the area of unavoidable buffer reduction caused on the present location of existing onsite structures.

As noted above, the City of Puyallup may allow for a reduction in the standard buffer width required for a wetland from the “high intensity” buffer to that of the “moderate intensity” buffer when the following are implemented (21.06.930). As such, the standard buffer of 150 feet in width for the offsite wetland would be established at 110 feet in width through this process. The establishment of a protective wetland buffer would also incorporate the standard buffer associated with the offsite Type II Stream.

To ensure consistency with the provisions of 21.06.930, the following measures would be incorporated into the overall site development action.

1. A relatively undisturbed vegetated corridor at least 100 feet in width presently exists along the offsite stream/wetland corridor. This vegetated corridor is bound by existing residential and commercial developments, along with public roadways within the area of the project site. That portion of this corridor within the project site has been managed and manipulated as landscaping and lawn for several decades. That portion of this corridor onsite would be restored and enhanced through the implementation of a buffer project outlined below.

2. A buffer enhancement program would be implemented as a part of proposed site development actions to improve the physical and biological functions of the buffer area to the maximum extent possible.

3. The following measures to minimize the potential impacts of different land uses on steam/wetland corridor habitat functions would be implemented as a part of proposed site development actions.

- **Light and Noise Impact Reduction**

Site development would focus on the re-development of the existing single-family homesite/garage area within the northern portion of the project site into a construction company office and associated equipment/vehicle storage facility. As such, associated lighting and those activities that generate noise would also be concentrated within the northern portion of the project site – away from the identified offsite stream/wetland corridor. Daily ingress and egress would be facilitated via an existing driveway connection to Todd Road NE along the northern boundary of the project site, thus future focusing associated lighting and noise away from the stream/wetland corridor. In addition, lighting within this area would be placed generally around the outer perimeter boundary and directed inward and away from the offsite stream/wetland corridor.

The southern portion of the project site would be restored and enhanced as outlined in the *Stream/Wetland Corridor Buffer Restoration Program* and would be retained as protective buffer.

- **Project Site Stormwater Runoff**

Seasonal stormwater runoff from the developed portions of the project site would be collected and treated consistent with the City of Puyallup stormwater manual and no untreated stormwater runoff would be routed directly into the offsite stream/wetland corridor.

A “spill contaminant kit” would be retained onsite and the onsite staff would be trained with the implementation of preventative actions to address any accidental spill of fuels or equipment fluids.

- **Change in Water Regime**

Seasonal stormwater runoff would be treated, detained, and dispersed to ensure protection of local water quality consistent with best management practices and the City of Puyallup stormwater manual. No untreated stormwater would be released into the established buffer along the south/southeastern portion of the project site of into the offsite stream/wetland corridor.

- **Dust Minimization**

Best management practices would be implemented during site re-development and subsequent site utilization to minimize fugitive dust. The establishment of the vegetated

buffer would also assist with the capture of potential dust entry into the offsite stream/wetland corridor.

- **Pet and Human Disturbance Minimization**

A protective buffer with a minimum width of 110 feet as measured from the edge of the offsite Category II Wetland would be established beginning along the existing retained structure in the south/southeastern portion of the project site and continuing to the southwestern boundary of the project site. In addition, the established buffer would be planted with a variety of native trees and shrubs to future provide physical and biological support for the functions and values of the offsite stream/wetland corridor (Attachment A). The outer boundary of this established buffer would also be fenced with a split-rail (or other fence approved by the City) to restrict future human or pet encroachments. The planted buffer would also provide habitats for wildlife common to the area and support for the offsite stream/wetland corridor food web.

BUFFER ESTABLISHMENT PROGRAM

1. A protective buffer of 110 feet in width would be established beginning along the existing retained structure in the south/southeastern portion of the project site and continuing to the southwestern boundary of the project site and would be associated with the offsite Type II Stream and Category II Wetland Corridor. Temporary protective silt fencing/orange construction fencing would be installed along the southern and eastern project site boundaries and along the outer boundary of the established buffer prior to any buffer manipulations.

2. The area of the protective buffer is presently dominated by managed lawn and a few ornamental trees. The buffer area would be disced (if required) to reduce soil compaction and to disrupt the lawn community.

3. The area of the protective buffer reduction would be planted with a variety of desirable native trees and shrubs. The species selected are common to the local area and identified to provide soil stability, wildlife habitats, stream corridor thermal protection, and detrital inputs for the aquatic environment (Attachment A).

4. The outer boundary of the onsite established buffer would be fenced with a split-rail fence, or other fence approved by City, to limit intrusion into the established buffer. Standard City of Puyallup buffer boundary signs would also be affixed to this fence at 50-foot intervals.

5. All buffer establishment actions would be completed at the direction of the project biologist.

6. Following the completion of the *Stream/Wetland Corridor Buffer Restoration Program* an *Implementation Report* would be prepared and submitted to the City of Puyallup. The *Implementation Report* would include a description of who completed the onsite actions, a description of the scope of work completed, a description of work specifications, and photo documentation. The *Implementation Report* would also include a project evaluation prepared by the project biologist.

7. Following the acceptance of the *Implementation Report* by the City of Puyallup, a **five-year** shoreline plant community monitoring and maintenance program would be undertaken to document the success of the *Stream/Wetland Corridor Buffer Restoration Program.*

8. The established buffer would be identified within a protective covenant established as a part of this site re-development action.

GOAL OF THE BUFFER RESTORATION PROGRAM

The **GOAL** of the *Stream/Wetland Corridor Buffer Restoration Program* is to ensure that the established final reduced buffer continues to support the physical or biological functions of the offsite stream/wetland corridor. This program would establish a viable plant community composed of native trees and shrubs within an area of prior homesite related lawn/landscaping management.

Performance Criterion #A1: As defined by a total counts 100% of the installed trees and shrubs within the reduced buffer width area would exhibit survival through the end of the first and second growing seasons following initial planting.

Performance Criterion #A2: As defined by a total counts 90% of the trees and 80% of the shrubs (combined count) planted within the reduced buffer area would exhibit survival through the end of the third, fourth, and fifth growing seasons following initial planting.

Performance Criterion #A3: As defined by an estimated percent of aerial cover the presence of invasive shrubs shall **not** adversely impact the survival of desirable vegetation. The enhanced reduced buffer area would not exceed 10% aerial coverage of blackberries or other invasive shrubs at the end of the first, second, third, fourth, of fifth growing seasons following planting.

SELECTED PLANTS

The plants selected for the *Stream/Wetland Corridor Buffer Restoration Program* would be obtained as nursery stock. These selected species are native and commonly occur in the local area. The plant species prescribed are selected to increase plant diversity, match present offsite communities, increase wildlife habitats, and enhance the aquatic environment.

NUMBER	COMMON NAME (ID) - SCIENTIFIC NAME	MINIMUM SIZE
18	Big leaf maple – *Acer macrophyllum*	2 gallon
20	Black hawthorne – *Crataegus douglasii*	2 gallon
19	Sitka spruce – *Picea sitchensis*	2 gallon
20	Bitter cherry – *Prunus emarginata*	2 gallon
19	Douglas fir – *Pseudotsuga menziesii*	2 gallon
19	Western red cedar – *Thuja plicata*	2 gallon
115	**TOTAL TREES**	
28	Vine maple - *Acer circinatum*	1 gallon
27	Tall Oregon grape - *Berberis aquifolium*	1 gallon
28	Oregon grape - *Berberis nervosa*	1 gallon
28	Hazel nut – *Corylus cornuta*	1 gallon
31	Oceanspray - *Holodiscus discolor*	1 gallon
27	Flowering currant - *Ribes sanguineum*	1 gallon
25	Wild rose - *Rosa gymnocarpa*	1 gallon
34	Snowberry - *Symphoricarpus albus*	1 gallon
228	**TOTAL SHRUBS**	

PLANT COMMUNITY MONITORING

Following the successful completion of the planting of the buffer restoration area a **five-year** monitoring and maintenance program would be undertaken. The purpose of this monitoring and maintenance is to ensure the successful completion of the *Stream/Wetland Corridor Buffer Restoration Program* as measured by an established set of performance criteria.

1. As a part of each monitoring period the project biologist would count the number of live plants which were planted in the reduced buffer area. Plants would be identified to species and plant condition shall be noted. To assist with plant counts each initially installed plant would be tagged for identification at the time of planting.

2. As a part of each monitoring period the project biologist would estimate the percent aerial coverage of invasive shrubs (as if the observer were looking straight down from above) and determine if removal actions are required.

3. As a part of each monitoring period the project biologist would take photographs that show the restored shoreline area. During the five-year monitoring period photos would be taken in the same direction and at the same location to provide a series of photos. These photos would show plant growth, plant species, and plant coverage. The locations of the photo points would be depicted in the *Implementation Report* graphic prepared by the project biologist.

4. Upon the completion of each monitoring period as noted below, the project biologist would prepare a letter report defining the monitoring observations and plant counts - with photos - to be provided to the City of Puyallup.

MONITORING YEAR	PLANT COMMUNITY MONITORING	SUBMITTAL OF MONITORING REPORT
YEAR-1	on or about Sept. 15, 202x+1	report due Oct. 7, 202x+1
YEAR-2	on or about Sept. 15, 202x+2	report due Oct. 7, 202x+2
YEAR-3	on or about Sept. 15, 202x+3	report due Oct. 7, 202x+3
YEAR-4	on or about Sept. 15, 202x+4	report due Oct. 7, 202x+4
YEAR-5	on or about Sept. 15, 202x+5	report due Oct. 7, 202x+5

* initial shoreline planting to be completed in the fall of 202x

BUFFER VEGETATION MAINTENANCE PLAN

Maintenance of the restored buffer area may be required. The overall objective is to establish an undisturbed plant community that does not require maintenance. Activities may include, but are not limited to, the removal of invasive non-native vegetation and the irrigation of selected areas. Established maintenance activities include the removal of any trash or toys that may have wandered into the shoreline area.

REMOVAL OF INVASIVE NON-NATIVE VEGETATION

As a contingency, should the removal of invasive non-native shrubs become necessary, the project biologist would contact the City to establish and define specific contingency actions to be taken. Resultant contingency plan activities would be implemented when the ongoing vegetation monitoring program indicates that invasive shrubs are becoming dominant in the onsite plant community (invasive shrubs greater than 10% aerial coverage). The following invasive vegetation removal program would be implemented to ensure the establishment of a desirable plant community.

MONITORING YEAR	FIRST REMOVAL ACTION	SECOND REMOVAL ACTION	THIRD REMOVAL ACTION
YEAR-1	On or about April 10, 202x+1	On or about June 10, 202x+1	On or about Sept. 15, 202x+1
YEAR-2	On or about April 10, 202x+2	On or about June 10, 202x+2	On or about Sept. 15, 202x+2
YEAR-3	On or about April 10, 202x+3	On or about June 10, 202x+3	On or about Sept. 15, 202x+3

* initial shoreline buffer planting to be completed in the fall of 202x

CONTINGENCY PLAN

As a contingency, should the proposed *Stream/Wetland Corridor Buffer Restoration Program* fail to meet the performance criteria, the permittee would undertake required remedial actions. Where plant survival is the failing component, the permittee would replant and ensure the success of this subsequent planting which would be held to the same standard of success as measured by threshold criteria and monitoring processes. Where non-native, invasive shrubs exceed 10% aerial coverage the homeowner would undertake removal actions. Such removal actions would be completed using hand tools or pulling the plants by hand to remove the invasive vegetation without disrupting the soil profile. All cut or pulled vegetation would be removed from the restoration area and disposed in an approved location. Herbicides would only be used following approval by the City. If used, all herbicide applications **shall** be completed by a licensed professional.

Should additional remedial actions be required, the project biologist/homeowner would meet with the City to establish and define actions to be taken to meet the desired goal of this restoration program.

TEMPORARY IRRIGATION

The permittee would ensure that a minimum of **one (1) inch of water is supplied each week** to the restoration area between May 1 and October 15 for at least the first two years following initial planting (IF REQUIRED). The calculated amount of required water would include both natural rainfall and temporary irrigation. The need for additional years of irrigation would be determined based on observed site conditions and overall plant survival. The amount of water supplied to the restoration area would be increased if onsite monitoring defines such a need. Irrigation may use a temporarily installed above ground system, or a hand watering system.

PLANTING NOTES

All plant materials utilized within the *Stream/Wetland Corridor Buffer Restoration Program* would be native to the Puget Sound Region. The project biologist/homeowner would inspect plant materials to assure the appropriate plant schedule and plant characteristics are met. The permittee would warrant that all plants would remain alive and healthy for a period of one year following completion of planting activities. The permittee would replace all dead and unhealthy plants with plants of the same specifications.

FINANCIAL GUARANTEE

IF REQUIRED the homeowner would provide the City of Puyallup with a financial guarantee defined in two parts. Part One (Implementation Guarantee) would be associated with the initial onsite elements of the buffer program. Part Two (Performance Guarantee) would be associated with the maintenance and monitoring elements of the proposed buffer program. These guarantees would be held by the City of and be equal to 125% of the actual estimated costs for identified activities. This increased percentage would allow for adequate funds to be available as a contingency should actions be required to meet the goals of these plans. The Implementation Guarantee would be deemed to be released by the City upon the successful completion of the initial onsite compensation elements and the acceptance by the City. The Performance Guarantee would be deemed to be released upon meeting the established threshold criteria and acceptance by the City of the required reporting documents. If applicable, equivalent portions of the Performance Guarantee would be released by the City after each monitoring period.

Implementation Guarantee

TASK	ASSOCIATED COST
Planting area preparation.	$600.00
Imported compost mulch for planting (10 cy)	$1,200.00
115 trees with installation ($25.00/each)	$2,875.00
228 shrubs with installation ($12.50/each)	$2,850.00
Onsite biologist technical oversight (12 hours at $175/hr)	$2,100.00
Installation of a temporary irrigation system	$500.00
Installation of an outer buffer boundary fence and signs	$3,500.00
Production of *Implementation Report*	$2,000.00
SUB-TOTAL	$15,625.00
25% contingency	$3,906.25
IMPLEMENTATION GUARANTEE TOTAL	**$19,531.25**

Performance Guarantee

TASK	ASSOCIATED COST
Year-One onsite monitoring with expenses Plant community assessment with annual report with photos	$1,450.00
Year-Two onsite monitoring with expenses Plant community assessment with annual report with photos	$1,450.00
Year-Three onsite monitoring with expenses Plant community assessment with annual report with photos	$1,750.00
Year-Four onsite monitoring with expenses Plant community assessment with annual report with photos	$1,750.00
Year-Five onsite monitoring with expenses Plant community assessment with annual report with photos	$1,750.00
Temporary Irrigation Program One inch of water per week between June 1st and October 15th for years one and two.	$1,000.00
Invasive Vegetation Removal	$650.00
SUB-TOTAL	$9,800.00
Required 25% contingency	$2,450.00
PERFORMANCE GUARANTEE TOTAL	**$12,250.00**

STANDARD OF CARE

This document has been completed by Habitat Technologies for use by **Ms. Catherine Dwyer.** Prior to extensive site planning the defined critical habitats should be reviewed and verified by the City of Puyallup. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

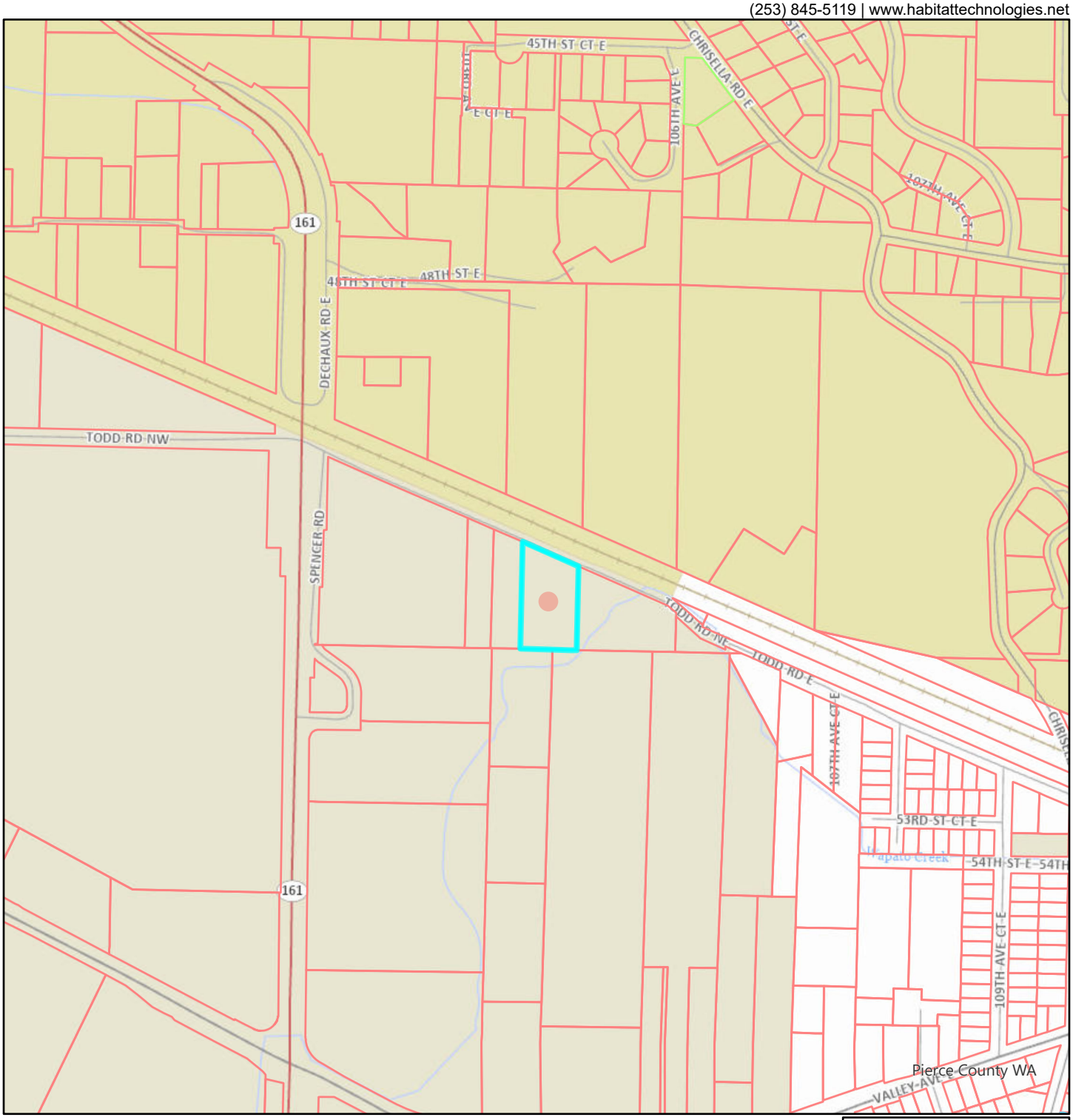
Bryan W. Peck
Senior Wetland Biologist

Thomas D. Deming
Thomas D. Deming, SPWS
Habitat Technologies

FIGURES

Figure 1 Site Vicinity

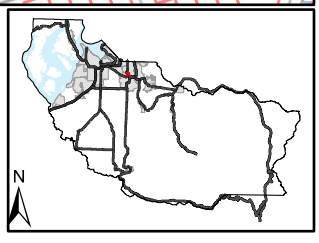
Habitat Technologies
P.O.Box 1088
Puyallup, WA 98371
(253) 845-5119 | www.habitattechnologies.net



Legend

Tax Parcels

- Base Parcel
- Condominium
- Other



1:6,000

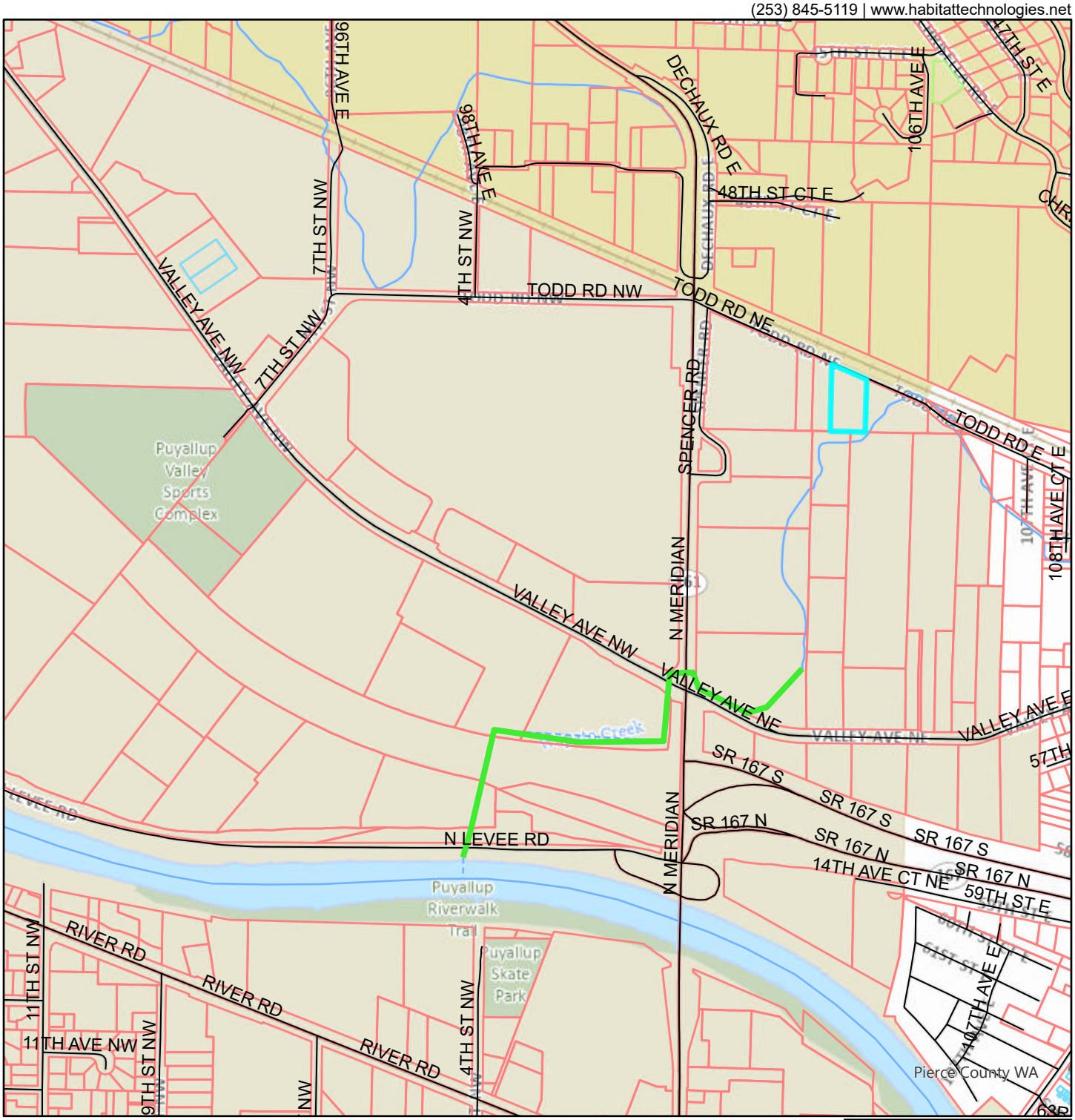
0 130 260 520 Feet

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Date: 10/18/2022 08:31 AM

Figure 2 Stormwater Flowpath

Habitat Technologies
P.O.Box 1088
Puyallup, WA 98371
(253) 845-5119 | www.habitattechnologies.net



Legend

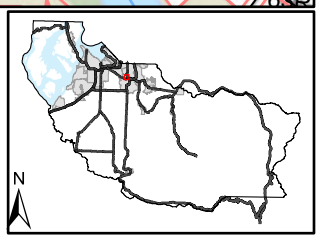
- Storm Flow Path
- Roads
- Condominium
- Other

Tax Parcels

- Base Parcel

Hydro - Centerlines

- Pipe
- Hydro Centerline



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0 212.5 425 850 Feet

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

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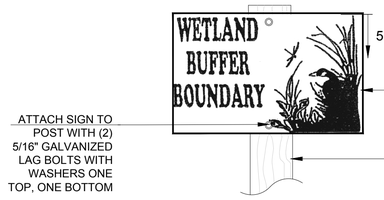
ATTACHMENT A

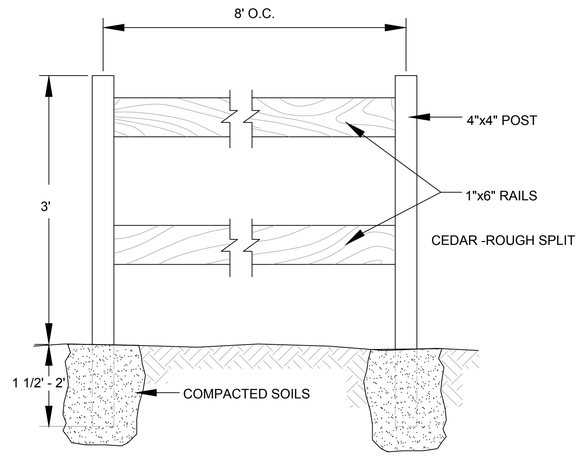
NATIVE PLANT LIST			
SYMBOL	QTY	DESCRIPTION	SIZE
TREES			
ACM	18	Acer macophyllum Big Leaf Maple	2 Gal. Min.
CRD	20	Crataegus douglasii Western Hawthrone	2 Gal. Min.
PIS	19	Picea sitchensis Sitka Spruce	2 Gal. Min.
PRE	20	Prunus emargenata Bitter Cherry	2 Gal. Min.
PSM	19	Pseudotsuga menziesii Douglas Fir	2 Gal. Min.
THP	19	Thuja plicata Western Red Cedar	2 Gal. Min.
TOTAL	115		
SHRUBS			
	28	Acer circinatum Vine Maple	1 Gal. Min.
	27	Berberis aquilfolium Tall Oregon Grape	1 Gal. Min.
	28	Berberis nervosa Oregon Grape	1 Gal. Min.
	28	Corylus cornuta Hazlenut	1 Gal. Min.
	31	Holodiscus discolor Oceansoray	1 Gal. Min.
	27	Ribes sanguineum Flowering Currant	1 Gal. Min.
	25	Rosa gymnocarpa Wild Rose	1 Gal. Min.
	34	Symphoricarpos albus Snowberry	1 Gal. Min.
TOTAL	228		

16,747 / 43,560 = 0.38 AC
300 TREES PER ACRE = 72 TREES 115
600 SHRUBS PER ACRE = 144 SHRUBS 228



- THE WETLAND/STREAM SIGN SHALL BE POSTED AT THE BOUNDARY BETWEEN THE SENSITIVE AREA BUFFER, SETBACK AREA OR SETBACK TRACT AND THE BUILDING SETBACK AREA.
- ONE SIGN SHALL BE POSTED PER LOT FOR EVERY 50 FEET OF SENSITIVE AREA BUFFER AND SHALL BE STATIONED IN A PROMINENT LOCATION, I.E.: AT THE CLOSEST POINT TO THE PROPOSED DEVELOPMENT. SIGNS MAY ALSO BE ATTACHED TO FENCES.

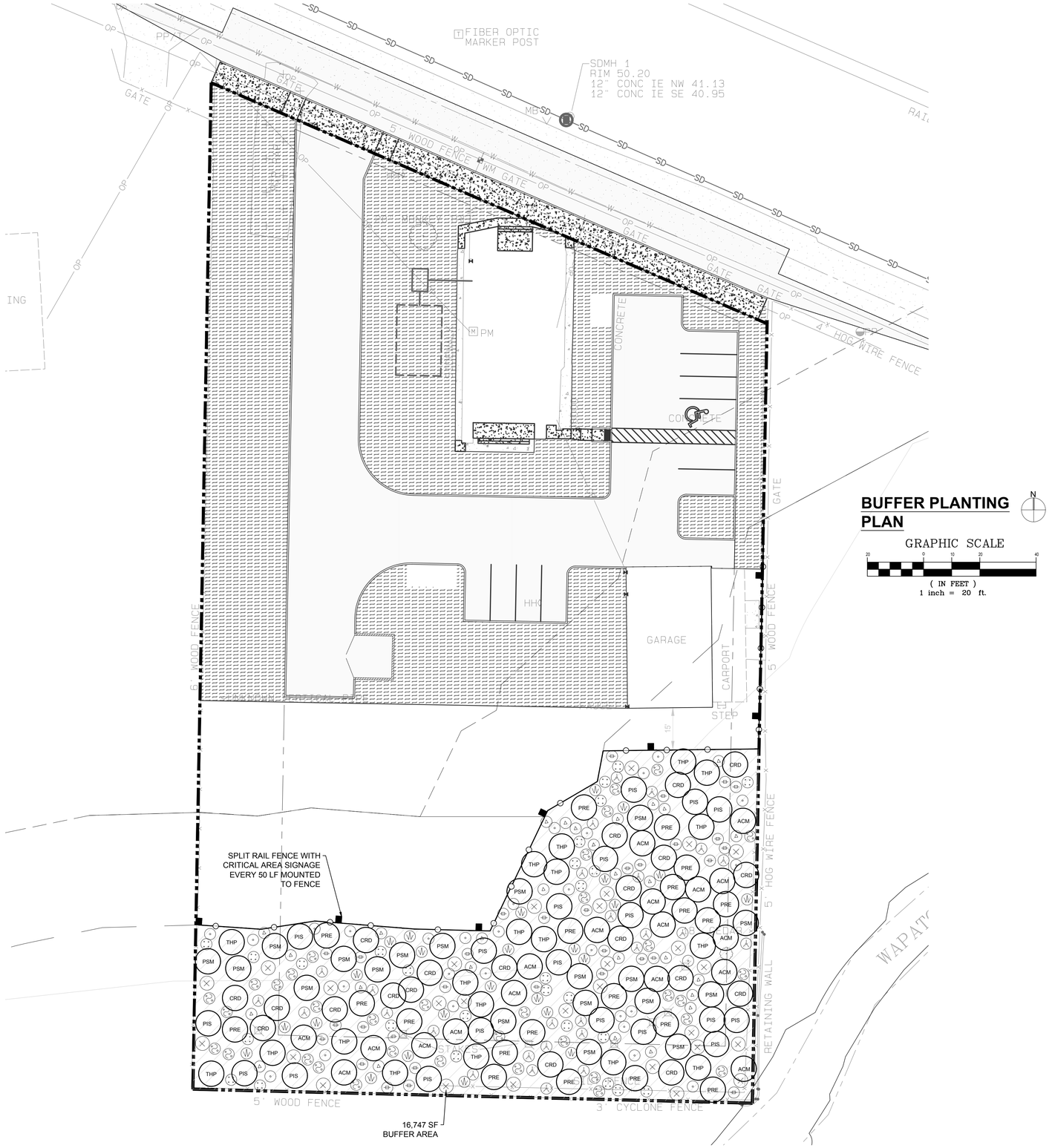
WETLAND / BUFFER SIGN AND INSTALLATION DETAIL



SPLIT RAIL FENCE DETAIL

NOT TO SCALE

811 Know what's **below.** **Call** before you dig.



BUFFER PLANTING PLAN

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

N

Nature By Design
Landscape Architecture
1320 Alameda Avenue, Suite B. Fircrest, WA 98466
www.naturebydesigninc.com
253.460.6067

PROJECT:
TODD ROAD BUFFER
320 TODD RD NE
PUYALLUP, WA
HABITAT TECHNOLOGIES

REVISIONS:

B. BUFFER ADJUSTED TO COMMENTS
C. UPDATED TO CIVIL BASE
D. UPDATED BUFFER PROPOSED
E. REVISED TO PLAN BUFFER TO 110 SETBACK

DRAWING ISSUED FOR:
AGENCY
REVIEW

DATE: MAY 6, 2025

STATE OF WASHINGTON · KATHERINE OWEN · NO. 695 · EXP. APRIL 2026 · LICENSED LANDSCAPE ARCHITECT

PROJECT NO:	2323
FILE NAME:	2323LSE
DRAWN BY:	KLO
CHECKED BY:	KLO
X-REFS:	CIVIL
PLOT SCALE:	1:1
DRAWING SCALES:	1:20

DRAWING CONTENTS

BUFFER PLANTING PLAN

DRAWING NO.:

L1

1 OF 1

ORIG. SHEET SIZE 22X34

GENERAL LANDSCAPE NOTES

1. Contractor is responsible for obtaining all necessary permits from the appropriate agency prior to commencing work. Contractor shall contact Line Locators (811) a min. of 48 hours prior to any digging or trenching. If there are any discrepancies with existing lines and landscaping, it is the contractor's responsibility to contact the landscape architect and request a site visit to address the conflicts. Contractor shall comply and conform to any and all local and state codes for work, schedules and any other project related requirements.

2. Contractor shall coordinate directly with the landscape architect for all landscape related issues, concerns, inspections and approvals. Contractor shall provide the landscape architect with a written request for a site visit to address any related items.

3. Scope of work shall include any and all specified and unspecified but related incidental work to achieve the design indicated on the landscape plans. All labor, materials, subcontractors, equipment, and related incidental items shall be supplied and installed to achieve a complete project, unless directed otherwise by the general contractor or landscape architect.

4. Contractor to verify all sub grades are set below required amendments to insure the finished grade will match what is intended by civil or drainage design. All sub grades and finished or final grades shall be graded to drain to the designed drainage system with positive drainage away from all structures.

5. **Grade Preparation:**

a. Slopes used for grass plantings or turf shall be less than 3:1 or 33 percent. Otherwise plantings should not require mechanized mowing equipment.

Soil Preparation.

a. Where soils are compacted, planting beds should be deep tilled to a depth of at least 12 inches. Soils shall be enhanced through the addition of the following materials: bark and forestry by-products, organic matter such as composted yard waste, organics and other amendments as needed through a soils test. Where Pit Planting, see planting detail for planting ring sizes and depths. Scarify the edges of planting pits to encourage root expansion.
b. On project sites where topsoil is limited or nonexistent, a minimum depth of 6 (six) inches of sandy loam topsoil should be tilled into the soil to a depth of 12 inches through all planting areas with compacted soils.
c. For all newly planted areas, three cubic yards of composted organic matter per 1,000 square feet of landscape area should be added to a depth of four inches to the top of the soil and Tilled in.
d. Seeded areas shall be fine graded and rolled. New Soil depths in lawn areas shall be 4 Inches.

6. Mulching of Newly Planted or Replanted Areas.

a. Mulches must be applied to the following depths: a minimum 3 (three) inches over bare soil, and two inches where plant materials will cover.
b. Mulches must include organic materials, such as wood chips and shredded bark.
c. Nonporous materials, such as plastic sheeting, shall not be used in any area of the landscape because of down-slope erosion and potential soil contamination from herbicide washing.
d. Mulch should be applied regularly to and maintained in all planting areas to assist soils in retaining moisture, reducing weed growth, and minimizing erosion.

7. Contractor shall field layout all plant material and contact the landscape architect for a site visit to approve the layout. Any field modifications shall be done by the landscape architect prior to planting.

8. Contractor shall immediately notify the landscape architect of any poor drainage condition in landscape areas. No standing water shall be permitted in any landscape areas - either on the surface or below the topsoil. The landscape architect shall coordinate the drainage solution with the general contractor and civil engineer. Once the concerns have been remedied planting shall commence.

9. All groundcover to be planted in a triangular spacing formation, equal in all directions to the centers of the groundcovers in distances indicated in the legend. Contractor shall verify all quantities of groundcovers by area calculations and spacing requirements.

10. Landscaping is to be per plan. Plant substitutions due to availability or otherwise will be allowed only with landscape architect, owner and agency approval. Any substitutions will be with material of similar size, growth characteristics, and quality.

11. All trees must be staked as necessary so as to maintain material in a healthy, vigorous growing condition.

12. Landscaping shall be installed in a professional workmanlike manner that is consistent and accepted throughout the industry. All landscape and irrigation work shall be performed by experienced persons familiar with scope of project.

13. All landscape material and labor is to be guaranteed for a period of one full year from the time of completion.

14. When planting 'Balled and Burlapped' product, remove all burlap, string & wire from any B&B plant material, cut and remove jute strings. Gently place in tact Rootbal into planting pit. If rootball breaks or is not solid - the plant is unacceptable and shall be replaced.

15. Street trees shall be high branching with canopy that starts at least 6' above finish grade.

16. All plant I.D. tags are to remain on the plant material until final inspection has been completed. Once approved all plant I.D. tags shall be removed and discarded appropriately.

17. Trees shall be cared for in accordance with the American National Standards Institute (ANSI) standard practices for trees, shrubs and other woody plant maintenance (ANSI 300) in order to allow them to reach there mature height and form.

18. Pruning of street trees shall be performed per the ANSI 300 standards so as to maintain the natural form of the tree, encourage vigorous growth to a mature spread and height, and avoid weakening the tree to create a hazard. Street trees shall not be topped pollarded, or otherwise pruned in a manner contrary to these goals, unless there is no practicable alternative that would preserve essential utility services.

19. Plant material selected is drought tolerant or native species. The project proponent (property Owner) shall be responsible for maintaining and watering all plant material throughout the first growing season and in times of drought.

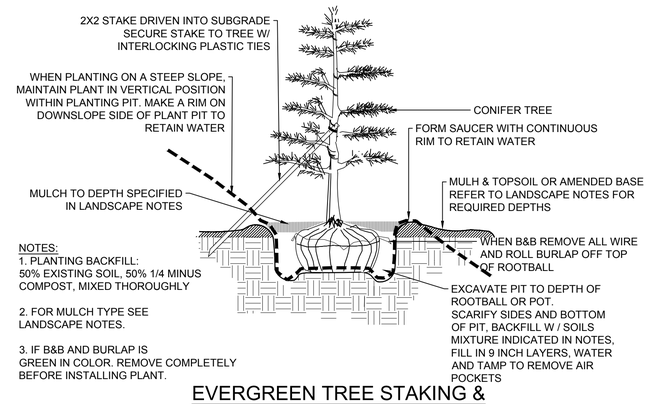
Temporary irrigation shall be provided via TREE GATOR BAGS attached to each tree. The bags shall be filled when ¼ empty - approximately 1 time per week and as needed during drought months. The bags will remain on the trees for the establishment period of two summer seasons afterwhich they shall be removed by the owner.

Owner may elect to have the contractor hired to water and warranty the plants for the establishment period. For planting warranties from contractor to be ensured, contractor shall be responsible for watering the plant material and keeping the mulch ring weed free for the first growing season as part of the contract.

It is recommended to install the landscaping in the Spring (February - April) or Fall (October - December)when dormant but before hard freeze.

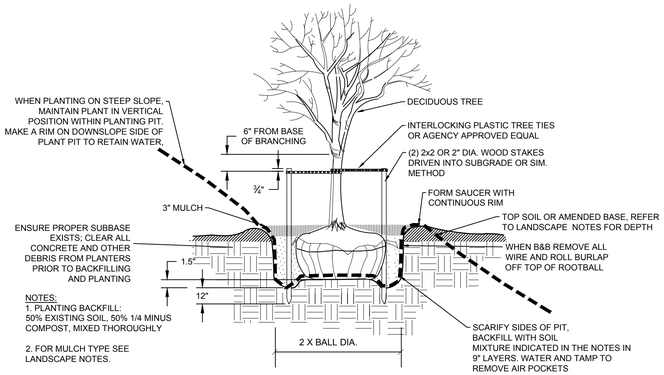
TEMPORARY IRRIGATION

The project proponent shall ensure that a minimum of **one (1) inch of water is supplied each week** to the restoration area between May 1 and October 15 for a least the first two years following initial planting. The calculated amount of required water shall include both natural rainfall and temporary irrigation.



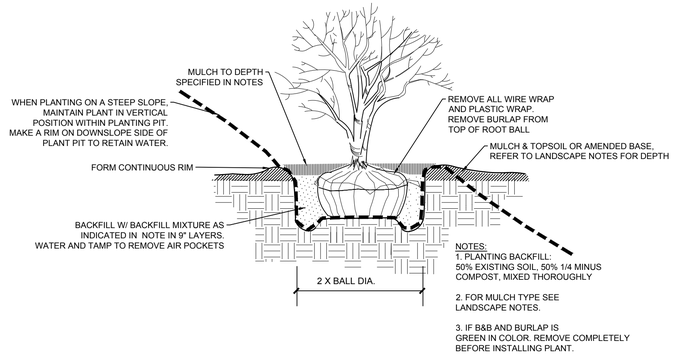
EVERGREEN TREE STAKING & PLANTING DETAIL

No Scale



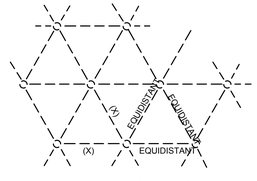
DECIDUOUS TREE PLANTING & STAKING DETAIL

No Scale



SHRUB PLANTING DETAIL

No Scale



DISTANCE (X) PER PLANT LEGEND

NOTES:

ALL GROUNDCOVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING AS SPECIFIED IN THE PLANT LEGEND.

LOCATE GROUNDCOVER ONE-HALF OF SPECIFIED ON-CENTER SPACING FROM ANY CURB, SIDEWALK OR OTHER HARD SURFACE.

GROUNDCOVER PLANTING DETAIL

No Scale

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STATE OF WASHINGTON · CATHERINE OWENS · No.692 · EXP. APRIL 9, 2027 · LICENSED LANDSCAPE ARCHITECT

PROJECT NO:	2323
FILE NAME:	2323LSE
DRAWN BY:	KLO
CHECKED BY:	KLO
X-REFS:	NONE
PLOT SCALE:	1:1
DRAWING SCALES:	N.T.S.

DRAWING CONTENTS

LANDSCAPE DETAILS & NOTES

DRAWING NO.:

L2

2 OF 2

ORIG. SHEET SIZE 22X34