

SR 900 Newport Way to I-90 Widening Mitigation Site

USACE NWP (14) 200200179

Northwest Region

2014 MONITORING REPORT

Wetlands Program

Issued March 2015



**Washington State
Department of Transportation**

Environmental Services Office

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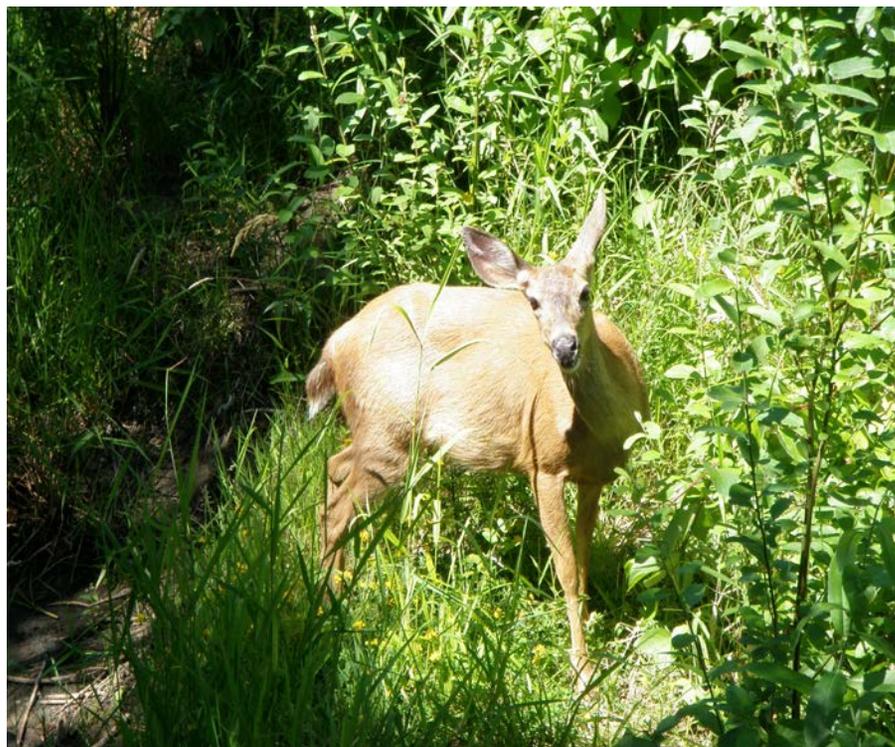
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SR 900 Newport Way to I-90 Widening Mitigation Site

USACE NWP (14) 200200179



General Site Information			
USACE NWP 14 Number	200200179		
Mitigation Location	Along the northeast bank of Tibbetts Creek, in Lake Sammamish State Park		
LLID Number	1220710475550		
Construction Date	2004		
Monitoring Period	2005-2014		
Year of Monitoring	10 of 10		
Type of Project Impact	Wetland	Waters of the U.S.	Buffer
Area of Project Impact	0.21 acre ¹	0.02 acre ¹	1.83 acres ²
Type of Mitigation	Wetland Establishment	Buffer Enhancement	
Planned Area of Mitigation	0.4 acre ²		1.02 acres ²

¹ (USACE 2003).

² (WSDOT 2003).

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Summary of Monitoring Results and Management Activities (2014)

Performance Standards	2014 Results ³	Management Activities
Native herbaceous/emergent vegetation will achieve 75% coverage.	80% cover	
Native facultative or wetter woody species will achieve 60% coverage.	67% cover (CI _{80%} = 58-76%)	
Native upland buffer woody species will achieve 70% coverage.	81% cover (CI _{80%} = 73-89%) of native FAC or drier woody species	
Non-native invasive species will not exceed 10% coverage.	4% cover (CI _{80%} = 2-7%)	Weed control was conducted on 5 dates in 2014 from February to October.
Wetland hydrology will be present in intended areas.	Hydrology monitoring discontinued (see delineation results below)	
The wetland areas will be delineated using current methodology to assure that the mitigation sites contain 0.40 acres of new wetland.	0.65 acres of wetland	

Report Introduction

This report summarizes final-year (Year-10) monitoring activities at the State Route (SR) 900 Newport Way Mitigation Site. Included are a site description, the performance standards, an explanation of monitoring methods, and an evaluation of site success. Monitoring activities in 2014 included vegetation surveys, photo-documentation, and a wetland delineation. Vegetation monitoring was conducted on July 7 and 8. A wetland delineation was completed on April 2 and 8.

³ Estimated values are presented with their corresponding statistical confidence interval. For example, 67% cover (CI_{80%} = 58-76%) means we are 80% confident that the true cover value is between 58% and 76%.

What is the SR 900 Newport Way to I-90 Widening Mitigation Site?

This mitigation site is an established wetland along Tibbetts Creek near the entrance to Lake Sammamish State Park. The site consists of three sections (Figure1). The downstream section on the north side of Tibbetts Creek adjoins and lies east of the Interstate (I)-90 Sunset Way Interchange Wall 16 Mitigation Site. The midstream and upstream sections are on the south bank of Tibbetts Creek. The mitigation site was created to compensate for the loss of wetlands and waters of the U.S. due to the SR 900 Newport Way to I-90 Widening project. It includes established emergent, scrub-shrub, and forested wetlands, and an enhanced forested buffer. This mitigation site is intended to provide the following functions: flood storage, flow attenuation, sediment removal, nutrient and toxicant removal, erosion and shoreline stabilization, wildlife and fish habitat, and production and export of organic matter.

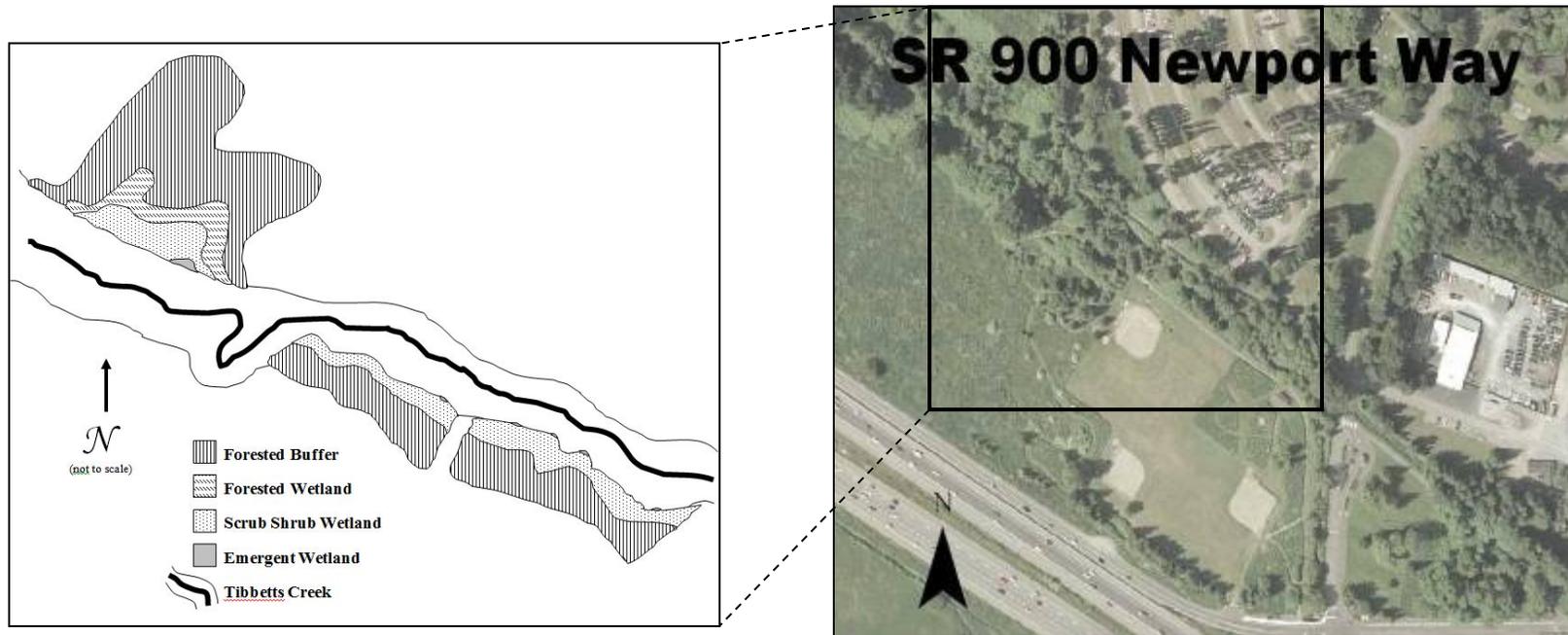


Figure 1 Site Sketch

The SR 900 Newport Way to I-90 Mitigation Site contains three sections of wetland establishment areas and buffer enhancement areas. The upstream and midstream sections are on the south bank of Tibbetts Creek while the downstream section is on the north side of the creek.

What are the performance standards for this site?

Performance Standard 1

Native herbaceous/emergent vegetation will achieve 75 percent coverage.

Performance Standard 2

Native facultative or wetter woody species will achieve 60 percent coverage.

Performance Standard 3

Native upland buffer woody species will achieve 70 percent coverage.

Performance Standard 4

Non-native invasive species, such as reed canarygrass (*Phalaris arundinacea*), non-native blackberries (*Rubus* species), Scotch broom (*Cytisus scoparius*), Japanese knotweed (*Reynoutria japonica*), and thistle (*Cirsium* species), will not exceed 10 percent coverage.

Performance Standard 5

The soils will be saturated to the surface, or standing water will be present in a monitoring well at 12 inches below the surface or less, for at least two consecutive weeks (five percent) of the growing season in years when rainfall meets or exceeds the 30-year average, or hydrology will be present sufficient to support facultative or wetter vegetative species within the created wetland areas as demonstrated in the vegetative performance standard.

Performance Standard 6

The wetland areas will be delineated using current methodology to assure that the mitigation sites contain 0.40 acre of new wetland.

Appendix 1 shows the as-built planting plans (WSDOT 2003).

How were the performance standards evaluated?

To evaluate standards for vegetative cover, a 298-meter-long baseline was established parallel to Tibbetts Creek (Figure 2). Thirty sampling transects were placed perpendicular to the baseline using a systematic random sample design. The line-intercept method was used to determine native woody cover in the buffer (Performance Standard 3), and in the scrub-shrub and forested wetland (Performance Standard 2). Thirty-one two-meter-long line-segment sample units were randomly positioned along the transects in the buffer. Twenty-nine two-meter-long line-segment sample units were randomly positioned along the transects in the forested and scrub-shrub wetland. The point-intercept method was used to estimate the cover of non-native invasive species across the entire site (Performance Standard 4). Thirty-six four-meter-long point-line sample units (twenty points each) were randomly positioned along the transects.

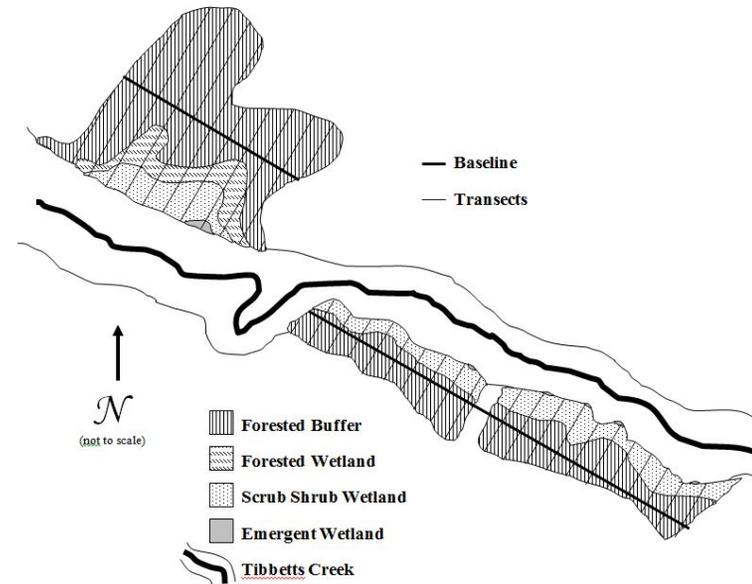


Figure 2 Site Sampling Design (2014)

Because the emergent wetland areas are very small and scattered across the site, the cover of native emergent vegetation (Performance Standard 1) was visually estimated.

WSDOT staff performed a wetland delineation using methods described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), *the Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE 2010) and a Global Positioning System (Trimble Mapping Grade) (Performance Standard 6).

For additional details on the methods, see the [WSDOT Wetland Mitigation Site Monitoring Methods Paper](#) (WSDOT 2008).

Is this site a success?

This is an interesting site that has developed quite well despite somewhat challenging conditions. Due, in part, to the channelization of Tibbetts Creek, flashy hydrology, and beaver activity, this site is very dynamic. During the course of monitoring over the last ten years, portions of the site have been temporarily flooded by beaver dams, localized erosion has caused small portions of the creek banks to slough off, typically only to create a new area of wetland bench below, and portions of the woody vegetation have been impacted by beaver activity. Despite all this, no large-scale erosion has occurred, impacted woody vegetation has repeatedly recovered, overall site development has remained on a positive trajectory, and all final-year performance standards were met in 2014.

The woody plantings have developed into dense and diverse scrub-shrub and buffer vegetation communities. There was never a sizable, distinct emergent area on-site, but rather scattered small emergent planting areas, mostly along the edge of the creek. These have mostly developed into a scattered understory in the scrub-shrub wetland. One distinct (but still small) patch of slough sedge (*Carex obnupta*), which was present in the larger northwestern section of the site, was mistakenly sprayed with herbicide in 2013. The area was already starting to be shaded by the surrounding tree and shrub cover, however, and should become indistinguishable from the rest of the scrub-shrub and forested wetland areas within a few years. This area was sampled as part of the scrub-shrub/forested wetland in 2014.

On March 11, 2013 a request to discontinue hydrology monitoring was sent to the USACE and the Department of Ecology. This request was accepted on June 24, 2013. A wetland delineation was conducted on April 2 and 8, 2014 and the final-year wetland acreage requirements have been met. A delineation report is included in Appendix 3 of this report.

Results for Performance Standard 1

(Native herbaceous/emergent vegetation will achieve 75% coverage):

Although there is no distinct emergent area of any significant size on-site, there are several small (about 15 m² or less each) patches of emergent vegetation along the creek banks. Most of these areas are also at least partially covered by native woody vegetation as well. Within these areas, collectively, the cover of native emergent vegetation (Photo 1) was visually estimated at 80 percent. The species are predominantly small-fruited bulrush (*Scirpus microcarpus*) and woolgrass (*Scirpus cyperinus*).



Photo 1
Cover of emergent vegetation (July 2014)

Results for Performance Standard 2

(Native facultative or wetter woody species will achieve 60% coverage):

The cover of native facultative or wetter woody species in the forested and scrub-shrub wetland (Photo 2) is 67% (CI_{80%} = 58-76%). This is likely meeting the final-year performance standard despite some significant impacts to woody vegetation in the upstream portion of the site due to beaver activity (Photo 3). The dominant species in these areas are redosier dogwood (*Cornus alba*), red alder (*Alnus rubra*), and twinberry honeysuckle (*Lonicera involucrata*).



Photo 2
Woody cover in the scrub-shrub wetland (July 2014)

Results for Performance Standard 3

(Native upland buffer woody species will achieve 70% coverage):

The total cover native woody species in the buffer (Photo 4) is 93% (CI_{80%} = 89-97%). This number includes some native woody species, rooted (at least partially) in the buffer, which are more typically found in wetlands. Since the performance standard specifies “upland buffer woody species”, the cover was also calculated with only those species that have a wetland indicator status of facultative or drier. The cover of native facultative or drier woody species in the buffer is 81% (CI_{80%} = 73-89%). Calculated either way this performance standard has been met. The dominant species in this zone are snowberry (*Symphoricarpos albus*), red alder (*Alnus rubra*), and thimbleberry (*Rubus parviflorus*).

Results for Performance Standard 4

(Non-native invasive species will not exceed 10% coverage):

The cover of non-native invasive species across the entire site is 4% (CI_{80%} = 2-7%). This is primarily comprised of reed canarygrass (*Phalaris arundinacea*) and Himalayan blackberry (*Rubus armeniacus*).



Photo 3
Beaver damage in the scrub-shrub wetland (April 2014)



Photo 4
Woody cover in the buffer (July 2014)

Results for Performance Standard 5

(Wetland hydrology will be present in intended areas):

A request to discontinue hydrology monitoring at this site was sent to the USACE in March of 2013 and accepted in June of 2013.

Results for Performance Standard 6

(The wetland areas will be delineated using current methodology to assure that the mitigation sites contain 0.40 acres of new wetland):

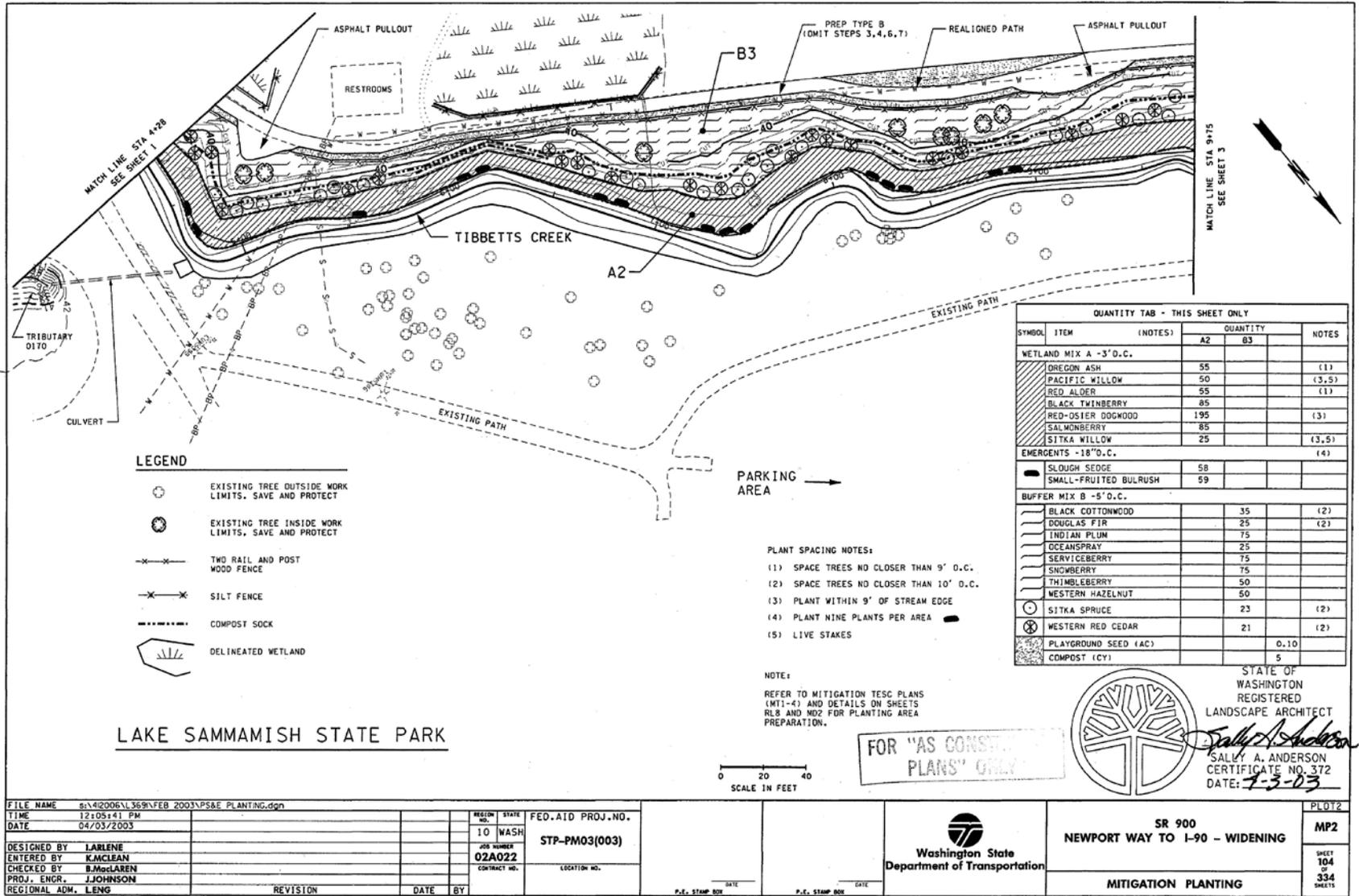
A wetland delineation was conducted by the WSDOT Wetlands Program staff on April 2 and 8, 2014 (see Appendix 3 for the full delineation report). The delineation identified 0.65 acres of wetland within the mitigation site boundaries, exceeding the performance standard requirement of 0.40 acres.

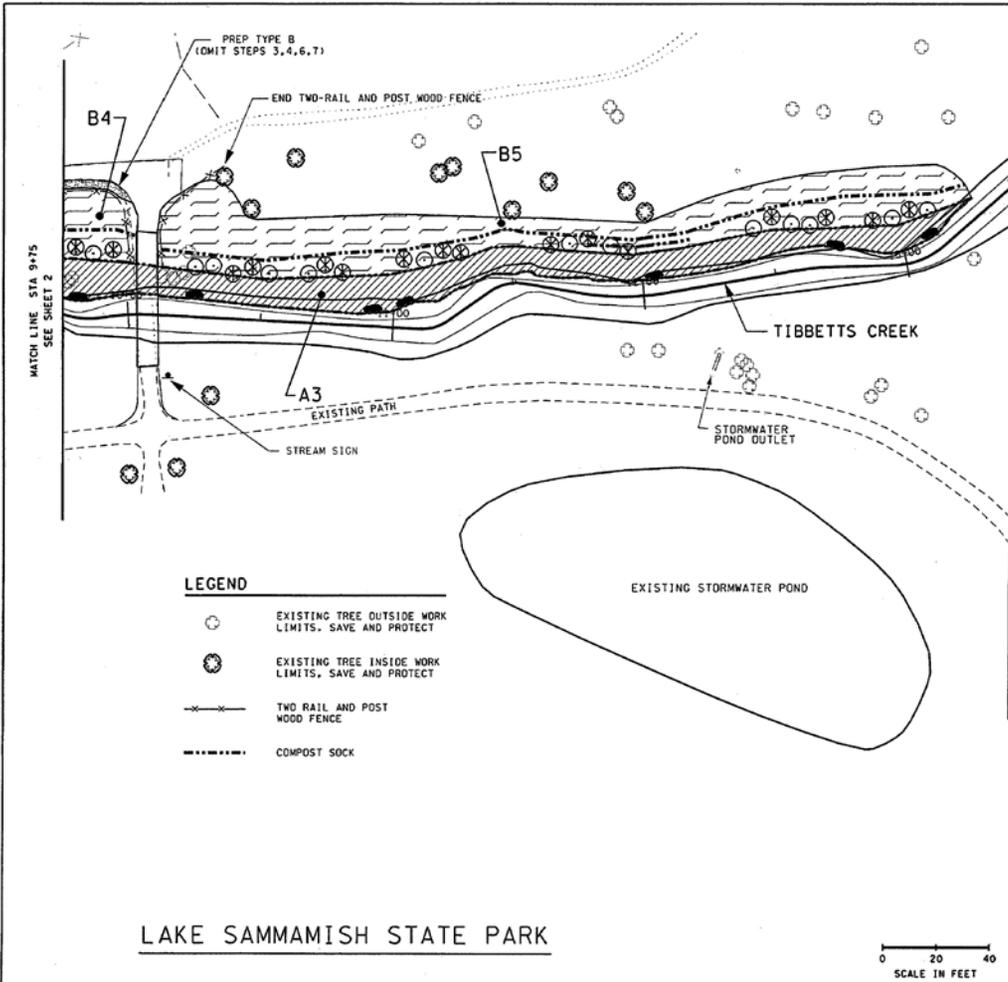
What is planned for this site?

Ongoing weed control will be conducted as needed in 2015.

Appendix 1 – As-built Planting Plans

(from WSDOT 2003)





QUANTITY TAB - THIS SHEET ONLY

SYMBOL	ITEM	(NOTES)	QUANTITY			NOTES
			A3	B4	B5	
WETLAND MIX A -3' O.C.						
	DREGON ASH		15			(1)
	PACIFIC WILLOW		15			(3,5)
	RED ALDER		15			(1)
	BLACK TWINBERRY		45			
	RED-OSIER DOGWOOD		100			(3)
	SALMONBERRY		45			
	SITKA WILLOW		15			(3,5)
EMERGENTS -18" O.C.						
	SLOUGH SEDGE		26			
	SMALL-FRUITED BULRUSH		28			
BUFFER MIX B -5' O.C.						
	BLACK COTTONWOOD		1	15		(2)
	DOUGLAS FIR		1	15		(2)
	INDIAN PLUM		4	40		
	OCEANSPRAY		1	15		
	SERVICEBERRY		4	40		
	SNOWBERRY		4	40		
	THIMBLEBERRY		3	25		
	WESTERN HAZELNUT		3	25		
	SITKA SPRUCE		1	12		(2)
	WESTERN RED CEDAR		2	14		(2)
	PLAYGROUND SEED (AC)					.04
	COMPOST (CY)					.5

- PLANT SPACING NOTES:
- (1) SPACE TREES NO CLOSER THAN 9' O.C.
 - (2) SPACE TREES NO CLOSER THAN 10' O.C.
 - (3) PLANT WITHIN 9' OF STREAM EDGE
 - (4) PLANT NINE PLANTS PER AREA
 - (5) LIVE STAKES

FOR "AS CONSTRUCTION PLANS" ONLY

NOTE:
REFER TO MITIGATION TESC PLANS (MT1-4) AND DETAILS ON SHEETS RLB AND MD2 FOR PLANTING AREA PREPARATION.

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
Sally A. Anderson
SALLY A. ANDERSON
CERTIFICATE NO. 372
DATE: 7-3-03

FILE NAME	8:\42006\1369\FEB 2003\PS&E PLANTING.dgn	REGION	STATE	FED. AID PROJ. NO.	Washington State Department of Transportation	SR 900 NEWPORT WAY TO I-90 - WIDENING	MITIGATION PLANTING	PLOTS MP3
TIME	12:09:43 PM	10	WASH	STP-PM03(003)				
DATE	04/03/2003	JOB NUMBER	CONTRACT NO.	LOCATION NO.				
DESIGNED BY	LARLENE							
ENTERED BY	K.MCLEAN							
CHECKED BY	B.McLAREN							
PROJ. ENGR.	J.JOHNSON							
REGIONAL ADM.	L.ENG	REVISION	DATE	BY	P.E. STAMP BOX	P.E. STAMP BOX		

Appendix 2 – Photo Points

The photographs below were taken from permanent photo-points on July 8, 2014 and document current site development.

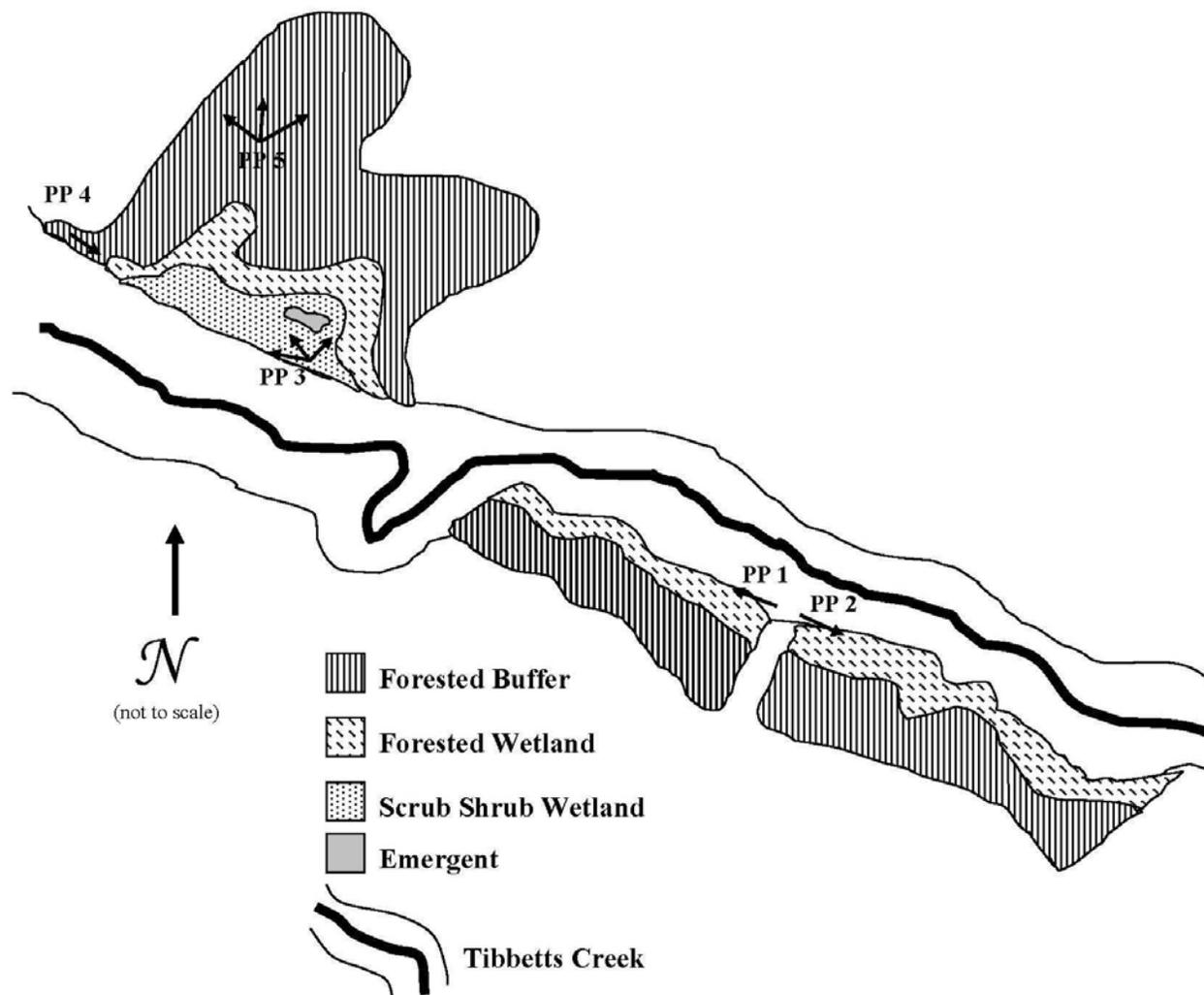




Photo Point 1



Photo Point 2



Photo Point 3a



Photo Point 3b



Photo Point 3c



Photo Point 4



Photo Point 5a



Photo Point 5b



Photo Point 5c

Driving Directions:

From I-5, take Exit 154 to I-405 north. Take Exit 11 to I-90 east, and then take the WA 900 – 117th Ave, Renton/Issaquah Exit. Travel approximately 0.3 miles, turn left onto NW Sammamish Road and look for Lake Sammamish State Park. The site is at the entrance to the park on the west side of the state park road.

Appendix 3 – Wetland Delineation Report

WETLAND DELINEATION REPORT

SR 900 Newport Way to I-90 Mitigation Site

SR 900 Newport Way to I-90 Widening (MP 20.09 to MP 21.64)

USACE (NWP 14) 2002-00179

King County, Washington

Prepared by:

Tatiana Dreisbach

WSDOT Environmental Services Office

Olympia, Washington

October 2014



**Washington State
Department of Transportation**

Introduction

This report was prepared by the Washington State Department of Transportation (WSDOT) to describe the wetland boundary delineation for the SR 900 Newport Way to I-90 mitigation site. Field work was conducted by WSDOT wetland biologists Tony Bush, Tatiana Dreisbach and Sean Patrick, on April 2nd and 8th, 2014. The delineation identifies 0.65 acres of wetland within the mitigation site boundaries.

General Information for the SR 900 Newport Way to I-90 mitigation site		
Location:	T24N, R6E, S20. King County. . (Vicinity map, Figure 1)	
	USACE NWP 14 Number	2002-00179
	Long./Lat. ID Number	1220710475550
	Land Resource Region (LRR)	A
	Major Land Resource Area (MLRA)	A-2
	Construction Date	2004
	Monitoring Period	2006-2015
	Year of Monitoring	10 of 10 (in 2014)
Area of Project Impact¹	0.21 acres	
Total Delineated Wetland Area	0.65 acres	

¹ Project impact numbers from USACE Nationwide Permit 200200179 with 0.21 acre impacts (USACE 2003).

Location

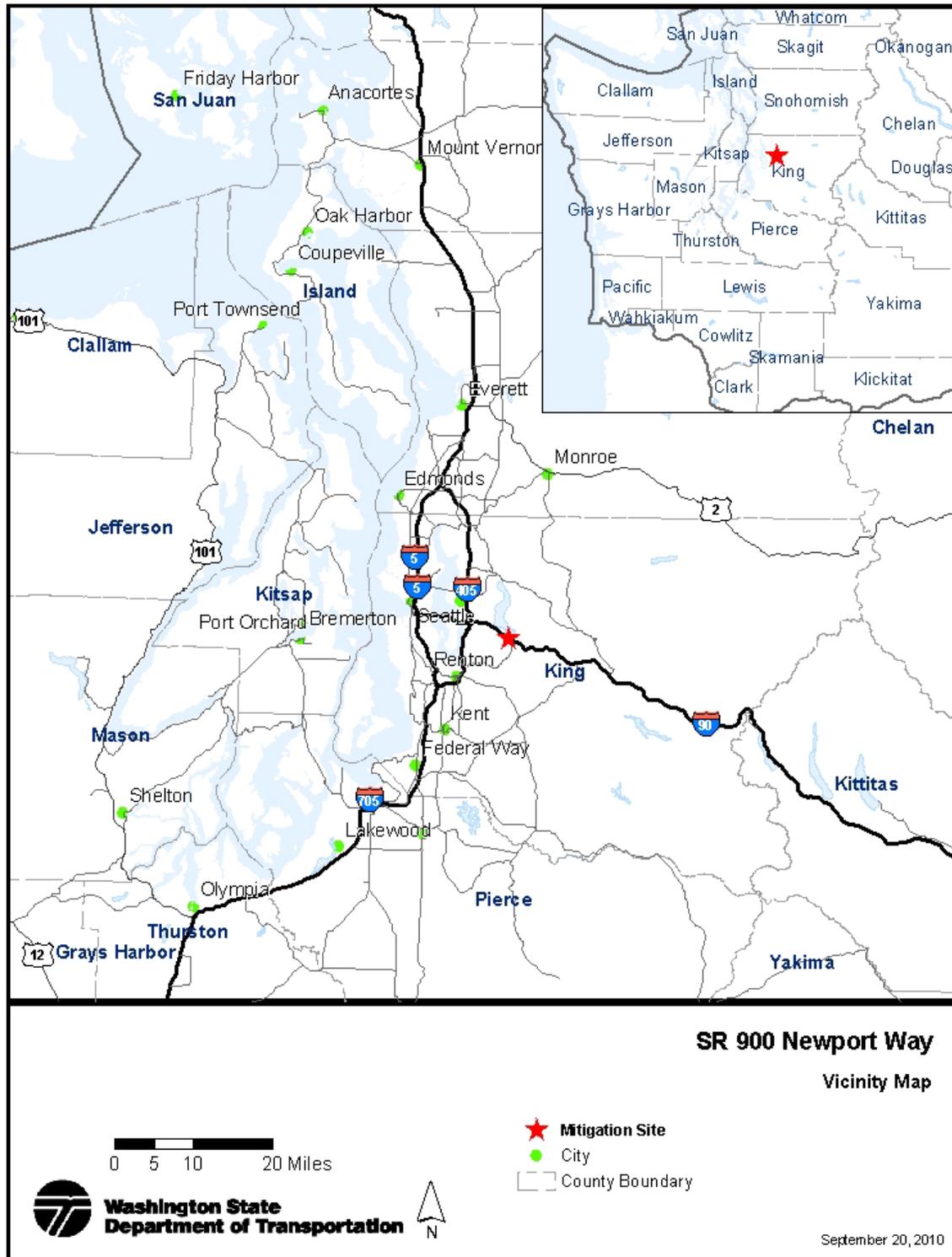


Figure 1. Vicinity Map

Methods

Wetland boundaries within the SR 900 Newport Way to I-90 mitigation site were delineated using routine methods described in the:

- Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987),
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010)

Wetland boundaries were delineated based on on-site observations of hydrology, soils, and plant communities, in conjunction with background information.

A Global Positioning System (GPS) Trimble GeoXT mapping grade unit was used to record the wetland boundaries and sampling point locations (Figure 2). Wetland boundary points were recorded at regular intervals and at any change in direction along the boundary.

Wetland Delineation and Study Area

Study Area

Wetlands described in this report were assessed only within the wetland mitigation site boundary (Figure 2).

Wetlands

The SR 900 Newport Way to I-90 mitigation site has depressional and riverine flow through wetland areas dominated by a scrub-shrub community with emergent vegetation scattered in the understory. Small emergent communities are also present. The site occurs on the banks of Tibbetts Creek. This active channel creates a dynamic wetland system where woody vegetation anchors the creek banks in some areas, while other areas experience erosive flows resulting in some bank sloughing, undercutting, and channel migration. Beavers are present in this system; altering vegetation and hydrology.

The delineation determined 0.65 acre of wetland were present within the SR 900 Newport Way to I-90 mitigation site. This wetland area is made up of several smaller wetland polygons along the creek bank and a larger wetland area to the west. Delineation data were collected at 11 sampling points and recorded on wetland determination data forms (Appendix A). Paired wetland and upland sample points were used to define the wetland edge. Additional wetland sample points characterize various wetland vegetation communities. Data recorded on wetland determination data forms characterize typical wetland and upland conditions observed on site. Vegetation, soils, and hydrology were examined in many additional sampling locations to determine the wetland boundary.

Precipitation

The Regional Delineation Supplement Version 2.0 (USACE 2010) recommends using methods described in Chapter 19 in *Engineering Field Handbook* (NRCS 1997) to determine if precipitation occurring in the three full months prior to the site visit was normal, drier than normal, or wetter than normal. Actual rainfall is compared to the normal range of the 30-year average. When considering the three prior months as whole, wetter than normal precipitation conditions were present prior to field work. The two months prior to field work were wetter than normal and the third prior month was drier than normal (Appendix B-1).

Light to moderate precipitation was recorded in the ten days preceding field work (Appendix B-2).

Growing Season

The following evidence of the growing season was observed at the time of the delineation:

- New growth on herbaceous vegetation in the wetland was observed
- The leaves on most woody species were fully emerged.

GPS Data - SR 90 Newport Way, 4/2/2014 & 4/8/2014

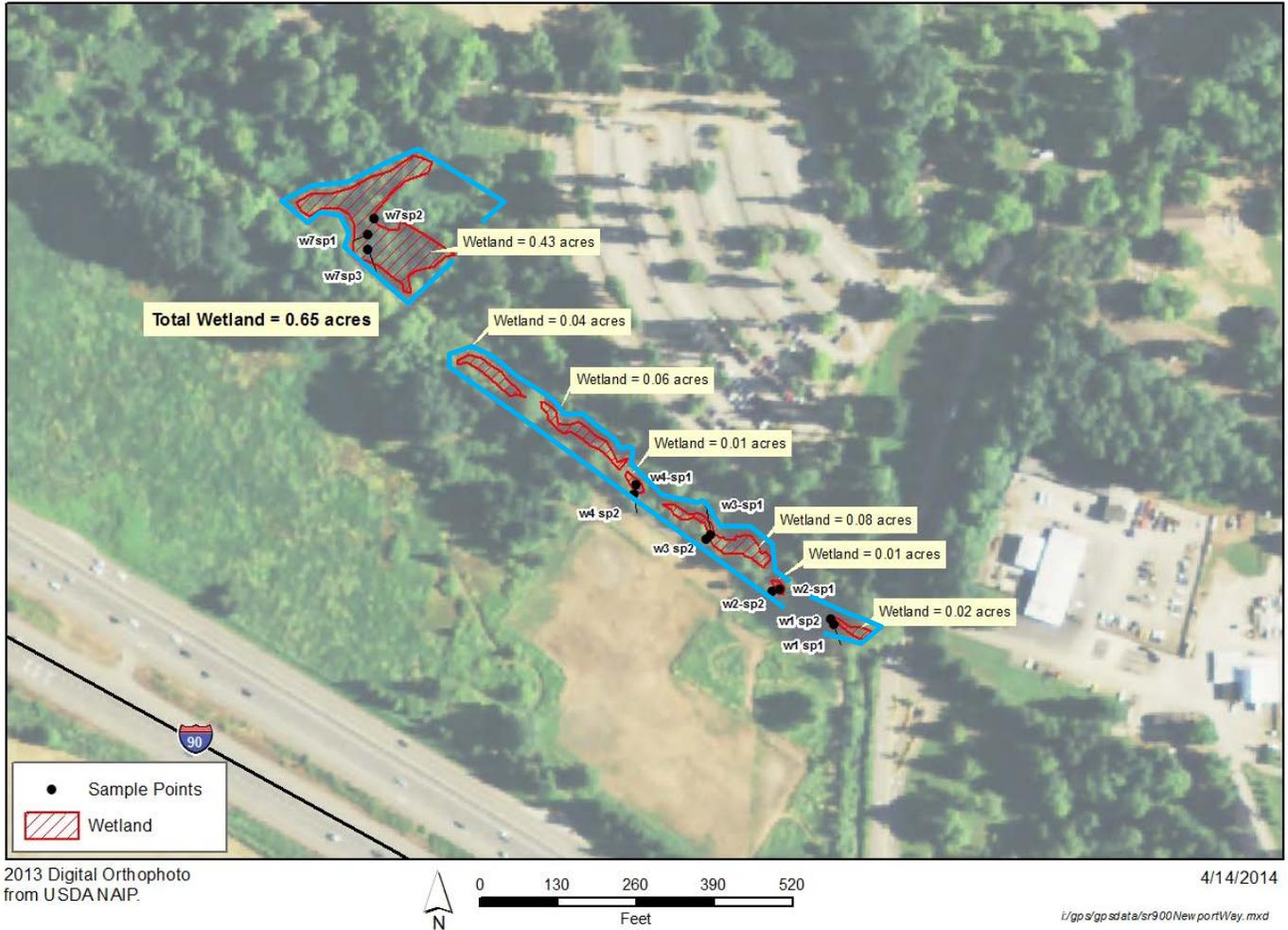


Figure 2. Study area in blue, wetland boundary in red, and sampling point locations in black.

SR 900 Newport Way to I-90 Mitigation Site – Wetland Delineation Summary		
Total Delineated Wetland Area	0.65 acre	
	Wetland Determination Data Form(s)	Appendix A; Sampling Point W1-SP1, W2-SP1, W3-SP1, W4-SP1, W7-SP1, W7-SP3
	Upland Determination Data Form(s)	Appendix A; Sampling Point W1-SP2, W2-SP2, W3-SP2, W4-SP2, W7-SP2
	Delineator(s)	Tony Bush, Sean Patrick, Tatiana Dreisbach
	Delineation Date	April 2 and 8, 2014
Vegetation	<p>Trees –</p> <p>Shrubs – redosier dogwood (<i>Cornus alba</i>), salmonberry (<i>Rubus spectabilis</i>), Sitka willow (<i>Salix sitchensis</i>), red alder (<i>Alnus rubra</i>), and twinberry honeysuckle (<i>Lonicera involucrata</i>)</p> <p>Herbs – small-fruited bulrush (<i>Scirpus microcarpus</i>), soft rush (<i>Juncus effusus</i>), colonial bentgrass (<i>Agrostis capillaris</i>), creeping buttercup (<i>Ranunculus repens</i>), and reed canarygrass (<i>Phalaris arundinacea</i>)</p>	
Soils	Soils examined to a depth of 18 inches exhibited hydric characteristics. Dark matrix colors of 10YR 3/2 and darker and depleted matrix colors were observed. Redoximorphic concentrations and depletions were observed in some layers. Indicators Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6) met.	
Hydrology	Water levels and hyporheic flows associated with Tibbetts Creek provide the predominant source of hydrology. Precipitation also contributes hydrologic inputs. Water in the observation pits was observed as high as 5 inches below the soil surface. Drainage patterns, sediment deposits, and drift deposits were also observed.	
Rationale for Delineation	Positive indicators of all three wetland criteria are present. Placement of boundary determined by presence/absence of hydric soil and hydrology indicators and topographic break in some areas. Wetland vegetation and hydric soils were present in some upland areas. Hydric soils are mapped in the area and may explain why hydric soils are present in some uplands areas that lack contemporary hydrology influences.	

Limitations

This wetland delineation report documents the investigation, best professional judgment and conclusions of WSDOT based on the site conditions encountered at the time of this study. The wetland delineation was performed in compliance with accepted standards for professional wetland biologists and applicable federal, state, and local ordinances. It is correct and complete to the best of our knowledge. It should be considered a preliminary jurisdictional determination of wetlands and other waters until it has been reviewed and approved in writing by the appropriate jurisdictional authorities.

References

1. Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Vicksburg (MS): US Army Engineer Waterways Experiment Station. Technical Report Y-87-1. Available from: <http://el.erd.c.usace.army.mil/elpubs/pdf/wlman87.pdf>
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7. [USACE] US Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. Wakeley JS, Lichvar RW, Noble CV, editors. Vicksburg (MS): US Army Engineer Research and Development Center. ERDC/EL TR-10-3. Available at: http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finals_upp.pdf
8. [WSDOT] Washington State Department of Transportation. 2003. Final Wetland Mitigation Report SR 900 Newport Way to I-90 Widening (MP 20.09 to MP 21.64). Seattle (WA): Washington State Department of Transportation, Northwest Region.
9. [WSDOT] Washington State Department of Transportation. 2014. Wetland Delineation and Assessment [Internet]. Olympia (WA): Environmental Services Office. [cited 2014 Sept 29]. Available at: <http://www.wsdot.wa.gov/Environment/Wetlands/Delineation.htm>

Appendix A —Wetland Determination Data Forms

Wetland Delineation Data Forms for:

W1-SP1

W1-SP2

W2-SP1

W2-SP2

W3-SP1

W3-SP2

W4-SP1

W4-SP2

W7-SP1

W7-SP2

W7-SP3

Wetland polygons, sampling point locations, and wetland names shown in Figure 2. Note that there are seven wetland polygons delineated within the site boundary. Sample point data is not provided for two of the polygons because wetland characteristics are similar to W1 through W4.

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w1-sp1
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): hummocky Slope: 5.0 % / 2.9 °
 Subregion (LRR): LRR A Lat.: 47.553 Long.: -122.068 Datum: NAD83HARN
 Soil Map Unit Name: Sammamish Silt Loam NWI classification: PEM

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
---	---

Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>2</u> x 1 = <u>2</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total s: <u>67</u> (A) <u>192</u> (B) Prevalence Index = B/A = <u>2.866</u>
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Herb Stratum (Plot size: <u>5 x 5 ft</u>)				
1. <u>Ranunculus repens</u>	<u>20</u>	<input checked="" type="checkbox"/> <u>29.9%</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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.
2. <u>Agrostis capillaris</u>	<u>40</u>	<input checked="" type="checkbox"/> <u>59.7%</u>	<u>FAC</u>	
3. <u>Phalaris arundinacea</u>	<u>3</u>	<input type="checkbox"/> <u>4.5%</u>	<u>FACW</u>	
4. <u>Scirpus microcarpus</u>	<u>2</u>	<input type="checkbox"/> <u>3.0%</u>	<u>OBL</u>	
5. <u>Rumex occidentalis</u>	<u>2</u>	<input type="checkbox"/> <u>3.0%</u>	<u>FACW</u>	
6. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____	
7. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____	
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____	
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____	
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____	
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
% Bare Ground in Herb Stratum: <u>33</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: W1-SP1

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
0-5	10YR	2/2	78	7.5YR	4/6	7	C	M	Clay Loam	concentration is distinct
				2.5Y	4/1	15	D	M		
5-18	2.5Y	5/1	75	5YR	5/6	25	C	M	Silt Loam	concentration is prominent

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

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, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w1-sp2
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): concave Slope: 10.0 % / 5.7 °
 Subregion (LRR): LRR A Lat.: 47.553 Long.: -122.068 Datum: NAD83HARN
 Soil Map Unit Name: Sammamish Silt Loam NWI classification: Upland

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
1. <u>Salix sitchensis</u>	40	<input checked="" type="checkbox"/> 100.0%	FACW	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>44</u> x 2 = <u>88</u> FAC species <u>105</u> x 3 = <u>315</u> FACU species <u>37</u> x 4 = <u>148</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>186</u> (A) <u>551</u> (B) Prevalence Index = B/A = <u>2.962</u>
1. <u>Oemleria cerasiformis</u>	7	<input type="checkbox"/> 10.8%	FACU	
2. <u>Picea sitchensis</u>	20	<input checked="" type="checkbox"/> 30.8%	FAC	
3. <u>Symphoricarpos albus</u>	30	<input checked="" type="checkbox"/> 46.2%	FACU	
4. <u>Lonicera involucrata</u>	5	<input type="checkbox"/> 7.7%	FAC	
5. <u>Salix sitchensis</u>	3	<input type="checkbox"/> 4.6%	FACW	
= Total Cover				
Herb Stratum (Plot size: <u>5 x 5 ft</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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>Ranunculus repens</u>	70	<input checked="" type="checkbox"/> 86.4%	FAC	
2. <u>Agrostis capillaris</u>	10	<input type="checkbox"/> 12.3%	FAC	
3. <u>Epilobium ciliatum</u>	1	<input type="checkbox"/> 1.2%	FACW	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
% Bare Ground in Herb Stratum: <u>19</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: W1-sp2

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			
0-7	10YR	3/2	100						Clay Loam	
7-18	2.5Y	5/1	50	7.5YR	4/4	45	C	M	Clay Loam	Concentration is prominent
				2.5Y	6/2	5	D	M		

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Soils would meet Indicators A11 and F3 if the matrix color in the second layer comprised 60% or more of the soil.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w2 sp1
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): hummocky Slope: 1.0 % / 0.6 °
 Subregion (LRR): LRR A Lat.: 47.553 Long.: -122.068 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: PEM

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>4</u> x 3 = <u>12</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total s: <u>29</u> (A) <u>47</u> (B) Prevalence Index = B/A = <u>1.621</u>
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Herb Stratum (Plot size: <u>5 ft x 5 ft</u>)				
1. <u>Phalaris arundinacea</u>	10	<input checked="" type="checkbox"/> 34.5%	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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.
2. <u>Scirpus microcarpus</u>	15	<input checked="" type="checkbox"/> 51.7%	OBL	
3. <u>Ranunculus repens</u>	2	<input type="checkbox"/> 6.9%	FAC	
4. <u>Agrostis capillaris</u>	2	<input type="checkbox"/> 6.9%	FAC	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
% Bare Ground in Herb Stratum: <u>71</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w2 sp2
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 21.2 % / 12.0 °
 Subregion (LRR): LRR A Lat.: 47.553 Long.: -122.068 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: Upland

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1). This plot characterizes upland conditions adjacent to the wetland boundary. Though hydrophytic vegetation and hydric soils are present, hydrology indicators are lacking during wet year during the height of the growing season.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				
1. <u>Salix sitchensis</u>	65	<input checked="" type="checkbox"/> 100.0%	FACW	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				
1. <u>Salix sitchensis</u>	25	<input checked="" type="checkbox"/> 45.5%	FACW	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total s: <u>160</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>2.625</u>
2. <u>Symphoricarpos albus</u>	30	<input checked="" type="checkbox"/> 54.5%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
= Total Cover				
Herb Stratum (Plot size: <u>5 ft x 5 ft</u>)				
1. <u>Agrostis capillaris</u>	5	<input type="checkbox"/> 12.5%	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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.
2. <u>Ranunculus repens</u>	30	<input checked="" type="checkbox"/> 75.0%	FAC	
3. <u>Geum macrophyllum</u>	2	<input type="checkbox"/> 5.0%	FAC	
4. <u>Cardamine oligosperma</u>	3	<input type="checkbox"/> 7.5%	FAC	
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
= Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
= Total Cover				
% Bare Ground in Herb Stratum: <u>60</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: W2 SP2

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			
0-5	10YR	3/2	100						Silt Loam	
5-18	10YR	4/2	94	10YR	4/6	5	C	M	Silt Loam	Concentration is prominent
				10YR	5/2	1	D	M		

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w3 sp1
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): hummocky Slope: 2.0 % / 1.1 °
 Subregion (LRR): LRR A Lat.: 47.554 Long.: -122.069 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: PSS

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>53</u> x 2 = <u>106</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total s: <u>73</u> (A) <u>166</u> (B) Prevalence Index = B/A = <u>2.274</u>
1. <u>Cornus alba</u>	<u>35</u>	<input checked="" type="checkbox"/> 87.5%	<u>FACW</u>	
2. <u>Rubus spectabilis</u>	<u>5</u>	<input type="checkbox"/> 12.5%	<u>FAC</u>	
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Herb Stratum (Plot size: <u>5 ft x 5 ft</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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>Ranunculus repens</u>	<u>10</u>	<input checked="" type="checkbox"/> 30.3%	<u>FAC</u>	
2. <u>Phalaris arundinacea</u>	<u>15</u>	<input checked="" type="checkbox"/> 45.5%	<u>FACW</u>	
3. <u>Juncus effusus</u>	<u>3</u>	<input type="checkbox"/> 9.1%	<u>FACW</u>	
4. <u>Agrostis capillaris</u>	<u>5</u>	<input type="checkbox"/> 15.2%	<u>FAC</u>	
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
% Bare Ground in Herb Stratum: <u>67</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: w3 sp1

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			
0-3	10YR	4/2	95	10YR	5/6		C	M	Silt Loam	Concentration is prominent.
3-8	10YR	3/2	95	10YR	5/8	3	C	M	Silt Loam	Concentration is prominent.
				2.5Y	5/1	2	D	M		
8-18	2.5Y	5/1	65	7.5YR	5/8	35	C	M	Silt Loam	Concentration is prominent.

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="10"/>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="6"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w3 sp2
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 15.0 % / 8.5 °
 Subregion (LRR): LRR A Lat.: 47.554 Long.: -122.069 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: Upland

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
1. <u>Salix sitchensis</u>	35	<input checked="" type="checkbox"/> 100.0%	FACW	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
	35	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>65</u> x 4 = <u>260</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>235</u> (A) <u>685</u> (B) Prevalence Index = B/A = <u>2.915</u>
1. <u>Salix sitchensis</u>	50	<input checked="" type="checkbox"/> 43.5%	FACW	
2. <u>Symphoricarpos albus</u>	45	<input checked="" type="checkbox"/> 39.1%	FACU	
3. <u>Oemleria cerasiformis</u>	20	<input type="checkbox"/> 17.4%	FACU	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
	115	= Total Cover		
Herb Stratum (Plot size: <u>5 ft x 5 ft</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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>Ranunculus repens</u>	80	<input checked="" type="checkbox"/> 94.1%	FAC	
2. <u>Agrostis capillaris</u>	5	<input type="checkbox"/> 5.9%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
	85	= Total Cover		
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
	0	= Total Cover		
% Bare Ground in Herb Stratum: <u>15</u>				

Hydrophytic Vegetation Present? Yes No

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: w3 sp2

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			
0-18	10YR	4/3	95	10YR	5/6	5	C	M	Silt Loam	Concentration is prominent.

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w4 sp1
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope: 0.0 % / 0.0 °
 Subregion (LRR): LRR A Lat.: 47.554 Long.: -122.069 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: PSS

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>60</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>2.000</u>
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				
1. <u>Salix sitchensis</u>	<u>60</u>	<input checked="" type="checkbox"/> 100.0%	<u>FACW</u>	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
60 = Total Cover				
Herb Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
6. _____	_____	<input type="checkbox"/> 0.0%	_____	
7. _____	_____	<input type="checkbox"/> 0.0%	_____	
8. _____	_____	<input type="checkbox"/> 0.0%	_____	
9. _____	_____	<input type="checkbox"/> 0.0%	_____	
10. _____	_____	<input type="checkbox"/> 0.0%	_____	
11. _____	_____	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum: _____				

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrologic Vegetation
 2 - Dominance Test is > 50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 5 - Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: w4 sp1

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			
0-12	10YR	3/2	93	7.5R	4/6	7	C	M	Silt Loam	Concentration is distinct.
12-13	10YR	2/1	100						Silt Loam	
13-18	5Y	5/1	70	5YR	5/6	30	C	M		Concentration is prominent.

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="14"/>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="9"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 02-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w4 sp2
 Investigator(s): Tony Bush and Sean Patrick Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 10.0 % / 5.7 °
 Subregion (LRR): LRR A Lat.: 47.554 Long.: -122.069 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: Upland

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="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: <u>5x 20 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5 x 10 ft</u>)				
1. <u>Salix sitchensis</u>	<u>40</u>	<input checked="" type="checkbox"/> <u>46.0%</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>40</u> x <u>2</u> = <u>80</u> FAC species <u>2</u> x <u>3</u> = <u>6</u> FACU species <u>45</u> x <u>4</u> = <u>180</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Totals: <u>87</u> (A) <u>266</u> (B) Prevalence Index = B/A = <u>3.057</u>
2. <u>Rubus parviflorus</u>	<u>5</u>	<input type="checkbox"/> <u>5.7%</u>	<u>FACU</u>	
3. <u>Symphoricarpos albus</u>	<u>30</u>	<input checked="" type="checkbox"/> <u>34.5%</u>	<u>FACU</u>	
4. <u>Oemleria cerasiformis</u>	<u>10</u>	<input type="checkbox"/> <u>11.5%</u>	<u>FACU</u>	
5. <u>Ranunculus repens</u>	<u>2</u>	<input type="checkbox"/> <u>2.3%</u>	<u>FAC</u>	
= Total Cover				
Herb Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic 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.
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
% Bare Ground in Herb Stratum: <u>100</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: w4 sp2

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				
0-6	10YR	2/2	100						Loam	
6-20	10YR	4/2	50	10YR	4/4	20	C	M	Silt Loam	concentration is distinct
				5Y	5/1	30	D	M		

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Soils would meet Indicators A11 and F3 if the matrix color in the second layer comprised 60% or more of the soil.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 08-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w7 sp1
 Investigator(s): Tony Bush and Tatiana Dreisbach Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): riverine bench Local relief (concave, convex, none): concave Slope: 5.0 % / 2.9 °
 Subregion (LRR): LRR A Lat.: 47.555 Long.: -122.071 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: PSS

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Indicator Status		
Tree Stratum (Plot size: <u>20 x 20 ft</u>)					
1. _____	_____	<input type="checkbox"/> 0.0%	_____	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>5</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>100.0%</u> (A/B)	
2. _____	_____	<input type="checkbox"/> 0.0%	_____		
3. _____	_____	<input type="checkbox"/> 0.0%	_____		
4. _____	_____	<input type="checkbox"/> 0.0%	_____		
= Total Cover					
0				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>145</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>2.621</u>	
Sapling/Shrub Stratum (Plot size: <u>15 x 15ft</u>)					
1. <u>Alnus rubra</u>	<u>20</u>	<input checked="" type="checkbox"/> 36.4%	<u>FAC</u>		
2. <u>Salix sitchensis</u>	<u>20</u>	<input checked="" type="checkbox"/> 36.4%	<u>FACW</u>		
3. <u>Lonicera involucreta</u>	<u>10</u>	<input type="checkbox"/> 18.2%	<u>FAC</u>		
4. <u>Physocarpus capitatus</u>	<u>5</u>	<input type="checkbox"/> 9.1%	<u>FACW</u>		
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____		
= Total Cover					
55					
Herb Stratum (Plot size: <u>5 x 5 ft</u>)					
1. <u>Ranunculus repens</u>	<u>30</u>	<input checked="" type="checkbox"/> 33.3%	<u>FAC</u>		
2. <u>Agrostis capillaris</u>	<u>20</u>	<input checked="" type="checkbox"/> 22.2%	<u>FAC</u>		
3. <u>Juncus effusus</u>	<u>20</u>	<input checked="" type="checkbox"/> 22.2%	<u>FACW</u>		
4. <u>Geum macrophyllum</u>	<u>5</u>	<input type="checkbox"/> 5.6%	<u>FAC</u>		
5. <u>Cardamine oligosperma</u>	<u>5</u>	<input type="checkbox"/> 5.6%	<u>FAC</u>		
6. <u>Equisetum telmateia</u>	<u>5</u>	<input type="checkbox"/> 5.6%	<u>FACW</u>		
7. <u>Impatiens noli-tangere</u>	<u>5</u>	<input type="checkbox"/> 5.6%	<u>FACW</u>		
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____		
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____		
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____		
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____		
= Total Cover					
90					
Woody Vine Stratum (Plot size: <u>5 x 5 ft</u>)					
1. _____	_____	<input type="checkbox"/> 0.0%	_____		
2. _____	_____	<input type="checkbox"/> 0.0%	_____		
= Total Cover					
0					
% Bare Ground in Herb Stratum: <u>10</u>					
				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: w7 sp1

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		
0-5	10YR	3/2	90	7.5YR	3/4	5	C	M	Silt Loam	concentration is distinct
				5Y	5/1	5	D	M		
5-21	5Y	5/1	70	5YR	5/8	30	C		Silt Loam	concentration is prominent

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

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, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 08-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w7 sp2
 Investigator(s): Tony Bush and Tatiana Dreisbach Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope: 5.0 % / 2.9 °
 Subregion (LRR): LRR A Lat.: 47.555 Long.: -122.071 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: Upland

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: 20 x 20 ft)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
1. <u>Populus balsamifera</u>	20	<input checked="" type="checkbox"/> 50.0%	FAC	
2. <u>Alnus rubra</u>	20	<input checked="" type="checkbox"/> 50.0%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	40	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 x 15ft)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>150</u> x 3 = <u>450</u> FACU species <u>64</u> x 4 = <u>256</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>219</u> (A) <u>716</u> (B) Prevalence Index = B/A = <u>3.269</u>
1. <u>Symphoricarpos albus</u>	30	<input checked="" type="checkbox"/> 35.3%	FACU	
2. <u>Lonicera involucrata</u>	30	<input checked="" type="checkbox"/> 35.3%	FAC	
3. <u>Rubus parviflorus</u>	20	<input checked="" type="checkbox"/> 23.5%	FACU	
4. <u>Physocarpus capitatus</u>	5	<input type="checkbox"/> 5.9%	FACW	
5. _____	0	<input type="checkbox"/> 0.0%		
	85	= Total Cover		
Herb Stratum (Plot size: 5 x 5 ft)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" 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>Agrostis capillaris</u>	60	<input checked="" type="checkbox"/> 63.8%	FAC	
2. <u>Geum macrophyllum</u>	10	<input type="checkbox"/> 10.6%	FAC	
3. <u>Trifolium pratense</u>	10	<input type="checkbox"/> 10.6%	FACU	
4. <u>Cardamine oligosperma</u>	10	<input type="checkbox"/> 10.6%	FAC	
5. <u>Lapsana communis</u>	2	<input type="checkbox"/> 2.1%	FACU	
6. <u>Myosotis arvensis</u>	2	<input type="checkbox"/> 2.1%	FACU	
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	94	= Total Cover		
Woody Vine Stratum (Plot size: 5 x 5 ft)				
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
	0	= Total Cover		
% Bare Ground in Herb Stratum: <u>6</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: w7 sp2

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			
0-2	10YR	2/1	100						Sandy Loam	
2-4	10YR	4/3	85	10YR	5/8	10	C	M	Sandy Loam	concentration is prominent
				5Y	6/1	5	D	M		
4-20	10YR	4/3	90	5YR	5/8	10	C	M	Sandy Loam	concentration is prominent

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.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Chroma too bright to meet an indicator.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:

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

Project/Site: SR 900 Newport Way to I-90 City/County: Issaquah/King Sampling Date: 08-Apr-14
 Applicant/Owner: WSDOT State: WA Sampling Point: w7 sp3
 Investigator(s): Tony Bush and Tatiana Dreisbach Section, Township, Range: S 20 T 24N R 6E
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): concave Slope: 5.0 % / 2.9 °
 Subregion (LRR): LRR A Lat.: 47.555 Long.: -122.071 Datum: NAD83HARN
 Soil Map Unit Name: Shalcar Muck NWI classification: PSS

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Wetter than normal conditions characterize the three months preceding field work (Appendix B-1).

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: 20 x 20 ft)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: 15 x 15ft)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>27</u> x 2 = <u>54</u> FAC species <u>109</u> x 3 = <u>327</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>146</u> (A) <u>391</u> (B) Prevalence Index = B/A = <u>2.678</u>
1. <u>Salix sitchensis</u>	10	<input checked="" type="checkbox"/> 28.6%	FACW	
2. <u>Alnus rubra</u>	10	<input checked="" type="checkbox"/> 28.6%	FAC	
3. <u>Lonicera involucrata</u>	5	<input type="checkbox"/> 14.3%	FAC	
4. <u>Cornus alba</u>	10	<input checked="" type="checkbox"/> 28.6%	FACW	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Herb Stratum (Plot size: 5 x 5 ft)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" 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>Ranunculus repens</u>	80	<input checked="" type="checkbox"/> 72.1%	FAC	
2. <u>Geum macrophyllum</u>	5	<input type="checkbox"/> 4.5%	FAC	
3. <u>Scirpus microcarpus</u>	10	<input type="checkbox"/> 9.0%	OBL	
4. <u>Phalaris arundinacea</u>	5	<input type="checkbox"/> 4.5%	FACW	
5. <u>Equisetum telmateia</u>	2	<input type="checkbox"/> 1.8%	FACW	
6. <u>Rumex crispus</u>	2	<input type="checkbox"/> 1.8%	FAC	
7. <u>Agrostis capillaris</u>	5	<input type="checkbox"/> 4.5%	FAC	
8. <u>Cardamine oligosperma</u>	2	<input type="checkbox"/> 1.8%	FAC	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: 5 x 5 ft)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
% Bare Ground in Herb Stratum: <u>0</u>				

Remarks:

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Appendix B — Precipitation Data

Appendix B-1. Comparison of Observed and Normal Precipitation (NRCS 1997)

Monthly precipitation data for Kent, Washington.

		Long-term rainfall records ^a			Rain fall ^a	Condition dry, wet, normal ^b	Condition Value	Month weight value	Product of previous two columns
	Month	3 yrs. in 10 less than	Average	3 yrs. in 10 more than					
1 st prior month	Mar	3.08	4.08	4.76	8.21	W	3	3	9
2 nd prior month	Feb	2.86	4.47	5.39	5.89	W	3	2	6
3 rd prior month	Jan	3.89	5.30	6.23	3.61	D	1	1	1
								Sum	16

^aNRCS 2014

^bConditions are considered normal if they fall within the low and high range around the average.

Note: If sum is

6 - 9 then prior period has been drier than normal
 10 - 14 then period has been normal
 15 - 18 then period has been wetter than normal

Condition value:

Dry (D) =1
 Normal (N) =2
 Wet (W) =3

Conclusions: Wetter than normal precipitation conditions were present prior to the field visit.

Appendix B-2. Daily Precipitation 10 days preceding April 2 and 8, 2014 field work, Kent, Washington

Date (2014)	Daily Precipitation (inches) ^a
Apr 7	0.00
Apr 6	M ^b
Apr 5	0.10
Apr 4	0.02
Apr 3	0.06
Apr 2	M
Apr 1	0.00
Mar 31	T ^c
Mar 30	0.18
Mar 29	0.42
Mar 28	0.48
Mar 27	0.03
Mar 26	0.11
Mar 25	0.15
Mar 24	0.00
Mar 23	0.00

^a NOAA 2014

^b "M" indicates missing data

^c "T" indicates trace amount of precipitation was recorded

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2. [USACE] US Army Corps of Engineers. 2003. Department of the Army Nationwide (14) Permit Number 200200179.
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