

MEMORANDUM

To: Jill Komoto, Lummi Natural Resources
From: Vikki Jackson, PWS #514, Northwest Ecological Services, LLC (NES)
Date: 4-20-2016
RE: Wetland Review, Porter Creek Reach Restoration Phase 1 and 4

Northwest Ecological Services, LLC (NES) was contracted by the Lummi Natural Resource Department to determine if wetlands are present within proposed construction areas or impacted floodplain areas associated with the Porter Creek Reach (Phase 1 and 4) Restoration Project. The project is located in the middle reaches of the Middle Fork of the Nooksack River (Middle Fork), off Mosquito Lake Road, Deming, WA (Attachment 1). The purpose of the assessment was to identify, categorize and provide a brief functional assessment of any wetlands present in areas within the action area where the wetlands could be affected by the proposed action. The assessment was completed at the request of the project proponent, Lummi Natural Resources. The following is a description of the findings.

METHODOLOGY

NES conducted the assessment which included a review of available background documents, a site investigation, and a functional assessment of any regulated wetlands if they occur in an area of proposed construction or where changes to floodways could affect wetlands.

Vikki Jackson (Professional Wetland Scientist [PWS] #514) completed a site investigation on April 19, 2016. The ecologist reviewed the proposed project action area for presence of wetlands using the Routine Determination methodology defined in the Corps of Engineers Wetland Delineation Manual (U.S. Army Corps of Engineers 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Corps, 2010).

PROJECT DESCRIPTION AND LANDSCAPE SETTING

The Lummi Nation Natural Resources Department proposes to install twenty-three instream structures intended to restore hydrologic function for fish habitat in the Middle Fork between river mile (RM) 4.6 and RM 4.9 and along a side channel associated with Porter Creek (Attachment 2). One tributary stream is located in the review areas: Porter Creek. The review area includes the proposed access routes and within the historical floodplain of the Middle Fork (Attachments 3a and 3b). The primary goal of the project is to restore and improve floodplain and in-channel salmon habitat and salmon recovery. Project elements were designed by Natural Systems Design. Our review is based on site plan sets produced by Natural Systems Design (Natural Systems Design 2016).



NW ECOLOGICAL SERVICES

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SUMMARY OF FINDINGS

Soils

The review area is mapped to have at least eight different soil series, one is indicated to be hydric (#130 Riverwash) (<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>) (Attachment 4). The primary soils in project area are Snoqualmie Gravelly Loams (#152) primarily in the vicinity of Phase 1. Barneston Gravelly Ashy Loams (#6 and #8), Lynnwood Sandy Loams (#102) and Kline Gravelly Sandy Loams (#90) dominate in the vicinity of Phase 4.

Wetland Mapping

The National Wetland Inventory (NWI) mapper shows a freshwater forested shrub wetland in the vicinity of the northeast of portion of Phase I. This mapping does not match field observations. No wetlands were observed in this review area.

General Vegetation

The review area is dominated predominately native mixed forest on the river banks and unvegetated to shrub dominated within the channel limits. The dominant canopy cover above the Ordinary High Water Mark (OHWM) is a mix of western red cedar, black cottonwood (*Populus balsamifera*), Douglas fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), and western hemlock (*Tsuga heterophylla*). The understory is a mix of sword fern (*Polystichum munitum*), vine maple (*Acer circinatum*), salmonberry (*Rubus spectabilis*), and red elderberry (*Sambucus racemosa*).

Below the OHWM many areas were unvegetated coarse cobble and rock, but areas with accumulated fines support young black cottonwood, willows (*Salix* sp.) and invasive butterfly bush (*Buddleja davidii*).

Wetlands

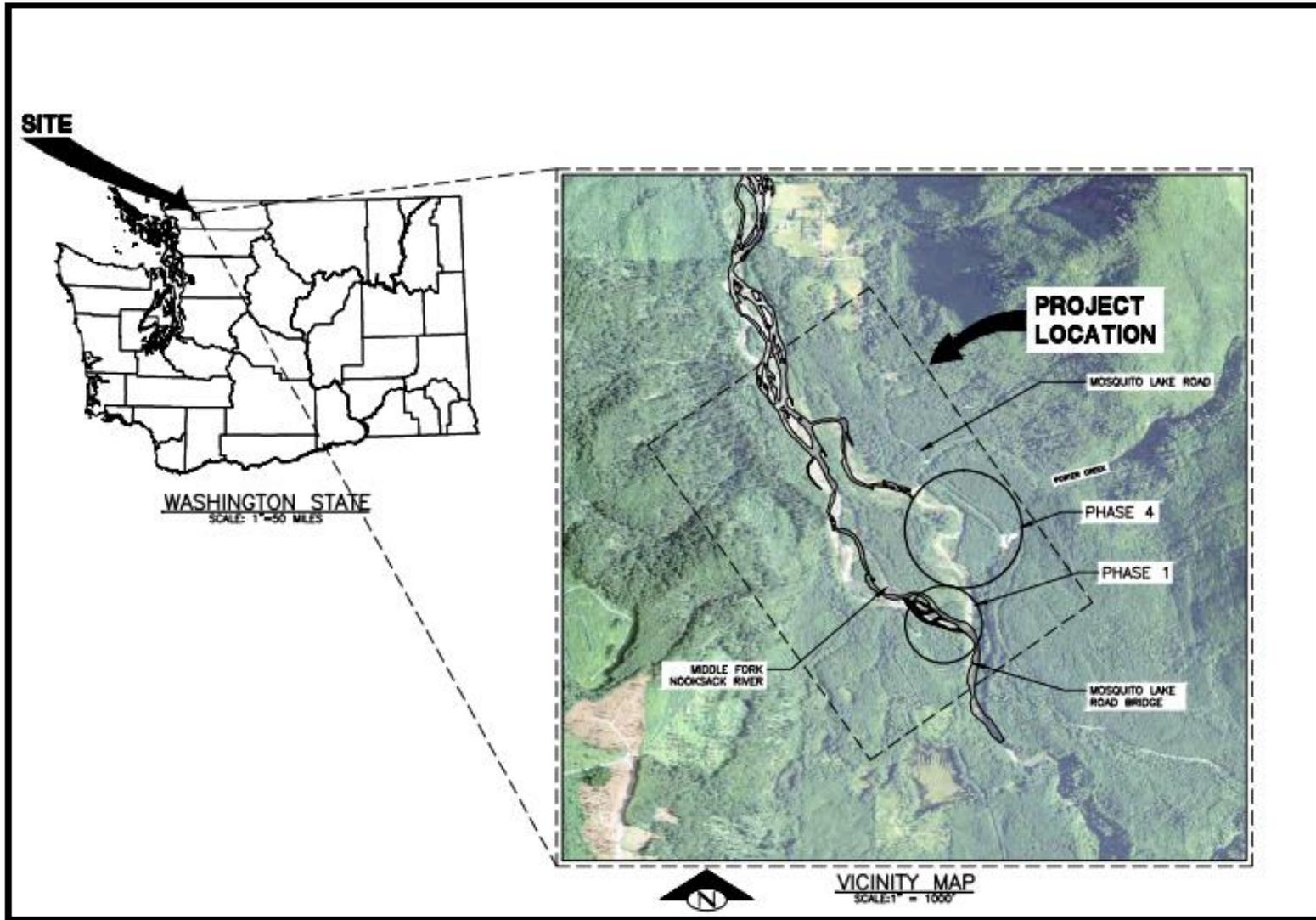
No wetlands were observed in the reviewed area. Areas above the OHWM are all well drained gravelly soils supporting non-hydrophytic vegetation. No standing water or surface saturation was observed. Areas below the OHWM ranged from dry scoured channel with stranded pools in deep areas to areas with limited flowing water from contributing tributary drainages. These pools are vegetated and remnants of past flow within the channel and do not appear to qualify as wetlands.

PROJECT WETLAND IMPACT

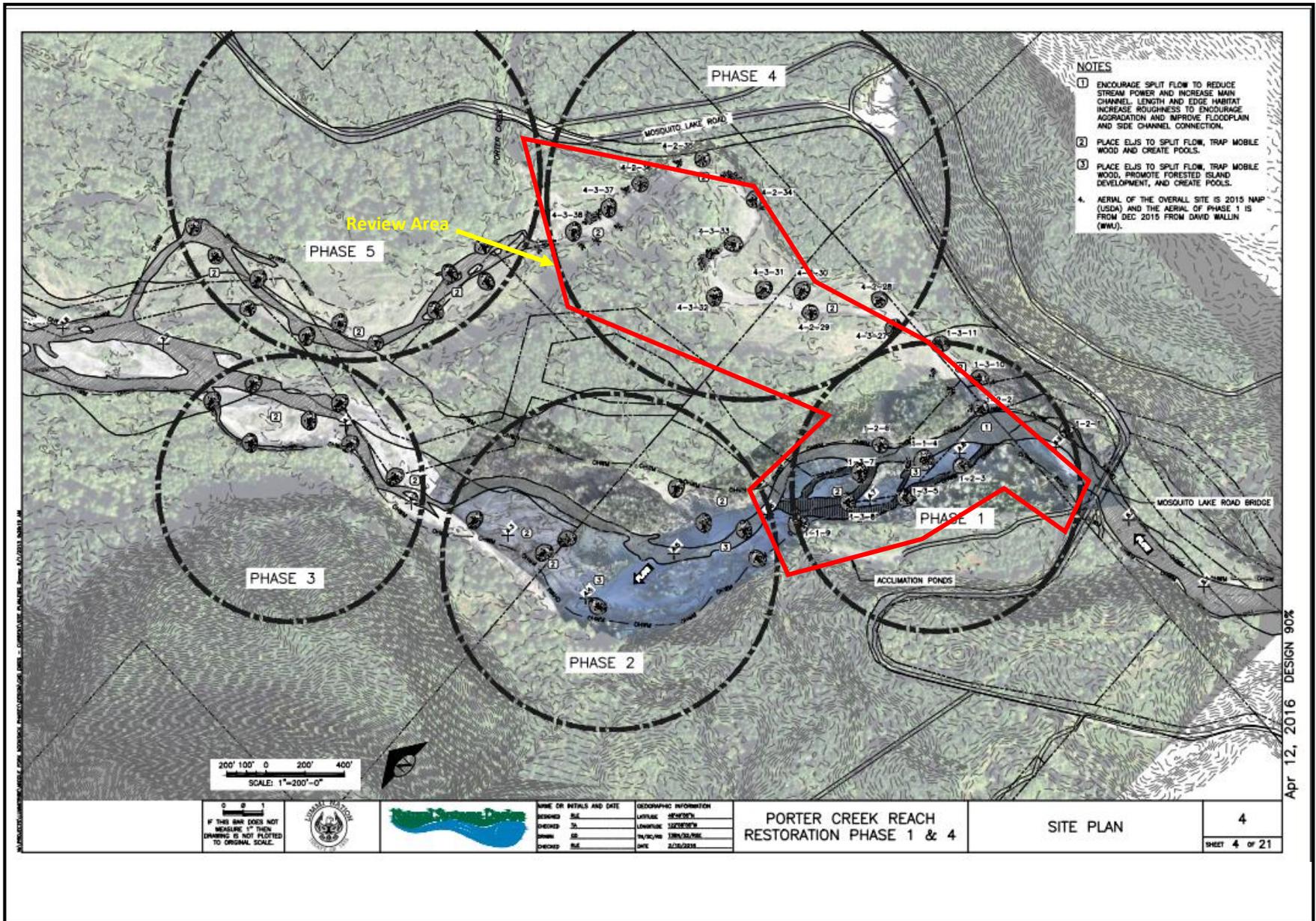
No impact is proposed or anticipated to wetlands within the project area. No wetlands were detected in the proposed access areas, floodplain or within the channels associated with these phases of the project.

References

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- Natural Systems Design. April 12, 2016. *Middle Fork Nooksack River Porter Creek Reach Restoration Phase 1 & 4*. Seattle, WA
- Soil Survey Staff, United States Department of Agriculture, Natural Resource Conservation Service. Web Soil Survey. Available online at [www.websoilsurvey.nrcs.usda.gov/] accessed July 2015. [Cited in text as USDA, NRCS, 2015.]
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center. [Cited in text as Corps, 2010.]
- U.S. Army Corps of Engineers. 2012b. *Western Mountains, Valleys, and Coast Final Draft Ratings*. U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory.
- U.S. Department of Agriculture, Natural Resource Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0 L.M. Vasilas, G.W. Hurt, and C. V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils. Lincoln, Nebraska. [Cited in text as USDA, NRCS, 2010.]
- U.S. Fish and Wildlife Service. 2015. National Wetlands Inventory Wetlands Mapper. Online at [<http://www.fws.gov/wetlands/Data/Mapper.html>]. Accessed July 2015.



<p>ECOLOGICAL</p> <p>NORTHWEST</p> 	<p style="text-align: center;">Vicinity Map</p> <p style="text-align: center;">Porter Creek Restoration Phase 1 and 4 Middle Fork Nooksack River</p>	<p style="text-align: center;">Figure 1</p> <p style="text-align: center;">April 2016</p>
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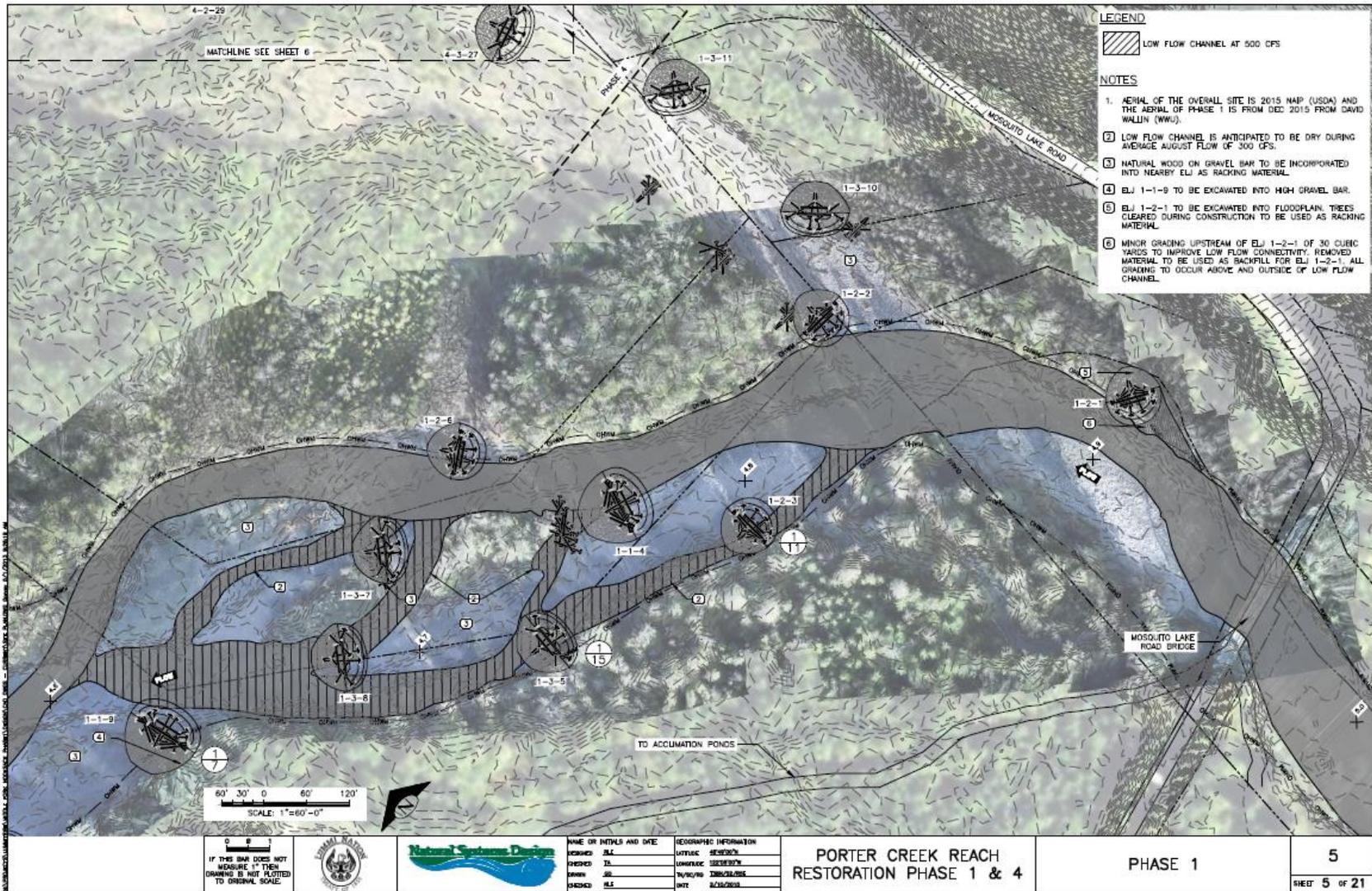


Project Plans, overview
(from Natural Systems Design 4.12.16)

Porter Creek Reach Restoration
Middle Fork Nooksack River

Attachment 2

April 2016



Apr 12, 2016 DESIGN 90%

ECOLOGICAL



Project Plans, phase 1
(from Natural Systems Design 4.12.16)

**Porter Creek Reach Restoration
Middle Fork Nooksack River**

Attachment 3a

April 2016



Apr 12, 2016 DESIGN 90%

 NORTHWEST ECOLOGICAL		NAME OR INITIALS AND DATE: DESIGNED: JLC DRAWN: JL CHECKED: JLC	GEOGRAPHIC INFORMATION: UTILITY: SEWER/S LOWWATER: SEWER/S TYPE/NO: 3/10/2016 DATE: 4/12/16	PORTER CREEK REACH RESTORATION PHASE 1 & 4	PHASE 4	6 SHEET 6 OF 21
		IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.				

 NORTHWEST ECOLOGICAL	Project Plans, phase 4 (from Natural Systems Design 4.12.16) Porter Creek Reach Restoration Middle Fork Nooksack River	Attachment 3b April 2016
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Whatcom County Area, Washington (WA673)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Barneston gravelly ashy loam, 0 to 8 percent slopes	4.8	6.0%
7	Barneston gravelly ashy loam, 8 to 30 percent slopes	1.3	1.6%
8	Barneston gravelly ashy loam, 15 to 30 percent slopes	0.0	0.0%
90	Kline gravelly sandy loam, 2 to 8 percent slopes	6.2	7.7%
102	Lynnwood sandy loam, 0 to 5 percent slopes	16.6	20.7%
124	Puyallup fine sandy loam, 0 to 2 percent slopes	13.9	17.3%
130	Riverwash	18.3	22.9%
152	Snoqualmie gravelly loamy sand, 0 to 3 percent slopes	10.2	12.8%
193	Water	8.8	10.9%
Totals for Area of Interest		79.9	100.0%



Warning: Soil Map may not be valid at this scale.

ECOLOGICAL



NRCS Soils Map

Porter Creek Reach Restoration
Middle Fork Nooksack River

Attachment 4

April 2016



View of typical channel condition Phase 4. Note Butterfly bush



Flow and pool from tributary flow across channel, Phase 4



Stranded pool, Phase 4



Typical upland forest community outside OHWM



View of Middle Fork in area of Phase I structures



View of Middle Fork in area of Phase I structures