C. Gary Schulz

Wetland/Forest Ecologist
7700 S. Lakeridge Drive
Seattle, Washington 98178-3135
206/772/6514 ~ 206-920-5489 cell

August 27, 2016

Mr. John Priebe
Raging River Quarry, LLC

Re: **Wetland & Stream Reconnaissance for the Raging River Quarry Expansion: (Parcel # 2224079033) King County, WA.**

Dear Mr. Priebe:

A wetland and stream investigation has been conducted on the Raging River Quarry Property (Expansion Area) located west of Preston-Fall City Road S.E. at the intersection with Carmichael Road in unincorporated King County (Parcel # 2224079033). The Property is situated along the west side of the Raging River and has a total area of 25.02 acres. There was a previous critical areas study conducted on the adjacent property to the west more than 5 years ago (Welch Property: Critical Area Site Designation L07SA395; Parcel No. 2124079017, 60XX 322nd Avenue SE Fall City, WA – 9/25/08 Letter from King County). Based on this 2008 critical area study an identified Type N stream is also located on the subject Property.

This wetland and stream reconnaissance is a site-specific study to determine the presence or absence of wetland areas or additional streams. The previously identified Type N stream that flows through the Property (Expansion Area) is also described for future project work. Wetland areas were not observed on the Property.

In addition, please refer to drawings included in the permit submittal that include the mapped on-site portion of stream (Existing Conditions, Sheet C1.02 & Excavation Plan, Sheet C3.01 Raging River Quarry - Core Design, 2016). The current phase of the mining operation is located on Parcel # 2224079011.

Site Description

The subject Property is undeveloped land with the majority being forest habitat. The current Raging River Quarry mine is located on the parcel directly north of the Expansion Property. The upper bench area reviewed is above the River's shoreline zone that is 200 feet west of the Raging River. The Expansion Area has undulating topography generally sloping to the east and south and then transitions to steep slopes extending down to the Raging River corridor.

Purpose / Methodology

The primary purpose of this report is to specifically identify the presence or absence of wetlands and streams, and the associated buffer areas related to the grading permit and related mining activities on the Property. The updated project plan will include avoidance of direct impacts to wetlands and streams.

In accordance with current State requirements, the 1987 US Army Corps of Engineers Wetlands Delineation Manual (FICWD 1987) was used for wetland determination. The methodology is based on the presence of dominant hydrophytic vegetation (i.e. plant species adapted to, or tolerant of, growing in saturated soil conditions), hydric soils, and observed wetland hydrology as described in the Manual and consistent with the Regional Supplemental to the Corps of Engineers Wetland Delineation Manual (US Army Corps of Engineers 2010). The technical criteria for vegetation, soils, and hydrology are mandatory under normal conditions and must all be met or present for an area to be identified as wetland.

The On-site Determination Method was Routine for areas greater than five acres. Wetland data transects were installed and used as a way to uniformly observe the site in a grid pattern. Four wetland data transects were installed to investigate the project site. The wetland transects are generally oriented west and east for Transects 1, 2, and 4. Transect 3 was installed parallel and adjacent to the stream to observe if any wetland seepage areas are associated with the stream. Data sampling and/or observation points are flagged about every 200 feet along the wetland transects. A total of 10 wetland data plots, approximately 0.01 acres in size, were installed throughout the Property (Expansion Area).

In general wetland data plots were installed to investigate potential wetland areas and provide a determination. The wetland data plot forms are attached at the end of this report. In addition, cursory soil excavations were conducted to verify upland conditions were present where there was significant cover of hydrophytic vegetation.

Determination of wetland area was based on observed plant species, topographic relief, soil profiles, and hydrology. Pink plastic flagging was used to mark the site's wetland data transects and data plot locations. Figures 1 and 2 are provided in this report to show the approximate location of wetland data transects (T-1 to T-4) and the associated wetland data plots. Per the County's critical areas code, the Washington State Wetland Rating System for Western Washington (Ecology Pub. #04-06-025) is used to rate wetlands (KCC Chapter 21A.24.318).

Wetland & Stream Reconnaissance

The Property was investigated during the months of April and May 2016. Based on the investigation of soils, hydrology, and dominant vegetation cover, wetlands were not observed on the Property or adjacent areas. An unnamed, seasonal stream flows through the Property generally west to east and was investigated along both sides of its channel.

The vegetation cover is primarily native species comprised of a mostly mature forest canopy. The upper bench area in the north portion is described as open forest with very little shrub cover. Side slope and swale areas have significant cover of shrubs.

The trees on the site are primarily Douglas fir *(Pseudotsuga douglasii)*, Western hemlock *(Tsuga heterophylla)*, Western red cedar *(Thuja plicata)*, red alder *(Alnus rubra)*, and big leaf maple *(Acer macrophyllum)*. A few Sitka spruce *(Picea sitchensis)* and black cottonwood *(Populus balsamifera)* trees were also observed. The shrub cover is predominately salmonberry *(Rubus spectabilis)* and vine maple *(Acer circinatum)*.

Groundcover species are diverse with sword fern *(Polystichum munitum)* occurring throughout the Property. In addition to sword fern dominant groundcover species observed are Oregon grape *(Mahonia nervosa)*, bleeding heart *(Dicentra formosa)*, and waterleaf *(Hydrophyllum sp.)*.

Soil

According to the King County Area - Soil Survey (US Soil Conservation Service 1973), the property is mapped as having Alderwood and Kitsap soils, very steep (AkF). The soils observed in upland areas closely resemble the Alderwood series. Alderwood soils are moderately well drained soils formed under conifers, in glacial deposits. Slopes are 0 to 70 percent. Soils that can be included in this map unit are Norma, Bellingham, Seattle, Tukwila, and Shalcar series. These are poorly drained, hydric (wetland) soils

Hydrology

The soils on the Property are described as well-drained. With the exception of the seasonal stream, there were no observations of surface water ponding or evidence of water movement and erosion caused by flowing water. Based on topography most of the area drains toward the Raging River.

The seasonal stream enters the Property at the west boundary and flows east to the Raging River. Additional information is provided under the *Stream* section.

Wetland

The determination that there is no wetland habitat occurring on the Property (Expansion Area) is based upon several observations. In addition to the wetland data transects much of the Property was walked over the time of the investigation using old logging trails or following boundary lines. Please see Figures 1 and 2 for locations of wetland data transects and wetland data plots.

The vegetation cover is dominated by 'Upland' and 'Facultative Upland' species throughout most of the site. Low topographic areas and swales have well-drained soils that infiltrate rainfall and surface water runoff. Soil excavations did not encounter shallow groundwater or saturation. The only erosive feature from surface water movement is the channel of the identified stream located in the central portion of the Property. The time period of this investigation was during the "growing season" when wetland hydrology under normal circumstances is visible through water ponding, surface saturation, and/or shallow groundwater. Wetland hydrology indicators were not observed.

Stream

The subject stream flows east under 322nd Avenue S.E. and enters the Property very close to the southeast corner of the Welsh property (Parcel No. 2124079017) and the common northeast corner of the Ditch property (Parcel No. 2124079088) (Figure 3). As identified in the 2008 study the stream channel was surveyed on the Welsh property as a Type N stream. In accordance with County code, Aquatic areas include Type N streams and are defined as waters that include all segments of aquatic areas that are not Type S or F waters and that are physically connected to Type S or F waters by an above-ground channel system, stream or wetland (KCC 21A.24.355.A.). The subject stream flows into the Raging River but is not a State shoreline (Type S) and is not known to support fish (Type F).

During the investigation the upper and lower portions of the stream were observed. Generally the stream has a channel bottom of about 4 feet in width composed of gravel and cobble-sized native rock. The channel varies from nearly flat to incised stream banks about 3 feet deep. Low water flows were observed in the lower portion above the steep slope adjacent to the Raging River. The upper western portion of the stream had intermittent surface water with subsurface flows evident. Riparian vegetation cover included scattered trees with vine maple and salmonberry shrubs.

The stream has been mapped on the Existing Conditions and Excavation Plan sheets based on the King County iMap (Raging River Quarry, Core Design 2016). The stream as mapped on the website resource iMap appears relatively accurate (Figures 1 and 3). Type N streams have a standard buffer width of 65 feet

In summary, the Property has been investigated for the presence of wetland and stream areas. The reconnaissance of the Property relative to the project site did not observe wetland habitats. One Type N stream flows through the Property and has been mapped with a 65-foot aquatic area buffer. Please contact me with any questions or concerns regarding this wetland and stream report.

Sincerely,

C. Gary Schulz

C. Gary Schulz
Wetland/Forest Ecologist

King County iMap

Date: 5/19/2016 Notes:

RRQ Expansion Area - Wetland Transects

N

Figure 1

King County GIS Center

SEC. 22, TWP. 24 N., RGE. 7 E., W.M.

Wetland Data Transects
(T-1 to T-4)
(Approximate Locations)

Wetland Data Exhibit For Quarry Expansion Parcel #224079033

Wetland Data Plots - Approximate Locations: (1)

Figure 2

Gary Schulz - Wetland/Forest Ecologist
206-920-5489

NOTES

1. SETBACK DISTANCES FOR STRUCTURES WILL BE NO CLOSER THAN 100 FEET. WHERE GRADE IS BELOW 50 FEET OF RESIDENTIAL ZONE GRADE THEN STRUCTURE SETBACK MAY BE REDUCED TO 50 FEET (PER KCC 21.A.22.060.E-G). STRUCTURES WILL ALSO BE A MINIMUM OF 50 FEET SETBACK FROM ANY ROADWAY (PER KCC 21.A.22.060.E).
2. CLEARING AND GRADING SHALL NOT BE PERMITTED WITHIN 50 FEET OF ANY PROPERTY LINE EXCEPT UNLESS REQUIRED FOR ACCESS ROADWAY, STORM, OR ALONG A SHARED BOUNDARY WITH ANOTHER MINERAL OR FOREST ZONED PROPERTY.
3. A 10 FOOT LANDSCAPE PERIMETER SHALL BE PROVIDED WHEN THERE ARE DISTURBANCES ALONG THE PERIMETER CONSISTENT WITH TYPE 1 SCREEN (PER KCC 21A.16).

BASIS OF BEARING:
N 00°48'50"E BETWEEN THE MONUMENTS FOUND IN PLACE AT THE WEST QUATER CORNER AND THE SOUTHWEST CORNER OF SECTION 22, TOWNSHIP 24N., RANGE 7E., W.M.

SCALE: 1" = 100'

CORE DESIGN
ENGINEERING · PLANNING · SURVEYING
14711 NE 29th Place Suite 101
Bellevue, Washington 98007
425.885.7877 Fax 425.885.7963

EXISTING CONDITIONS
RAGING RIVER QUARRY
JOHN PRIEBE ET AL.
3132 NE HARRISON ST
ISSAQUAH, WA 98029

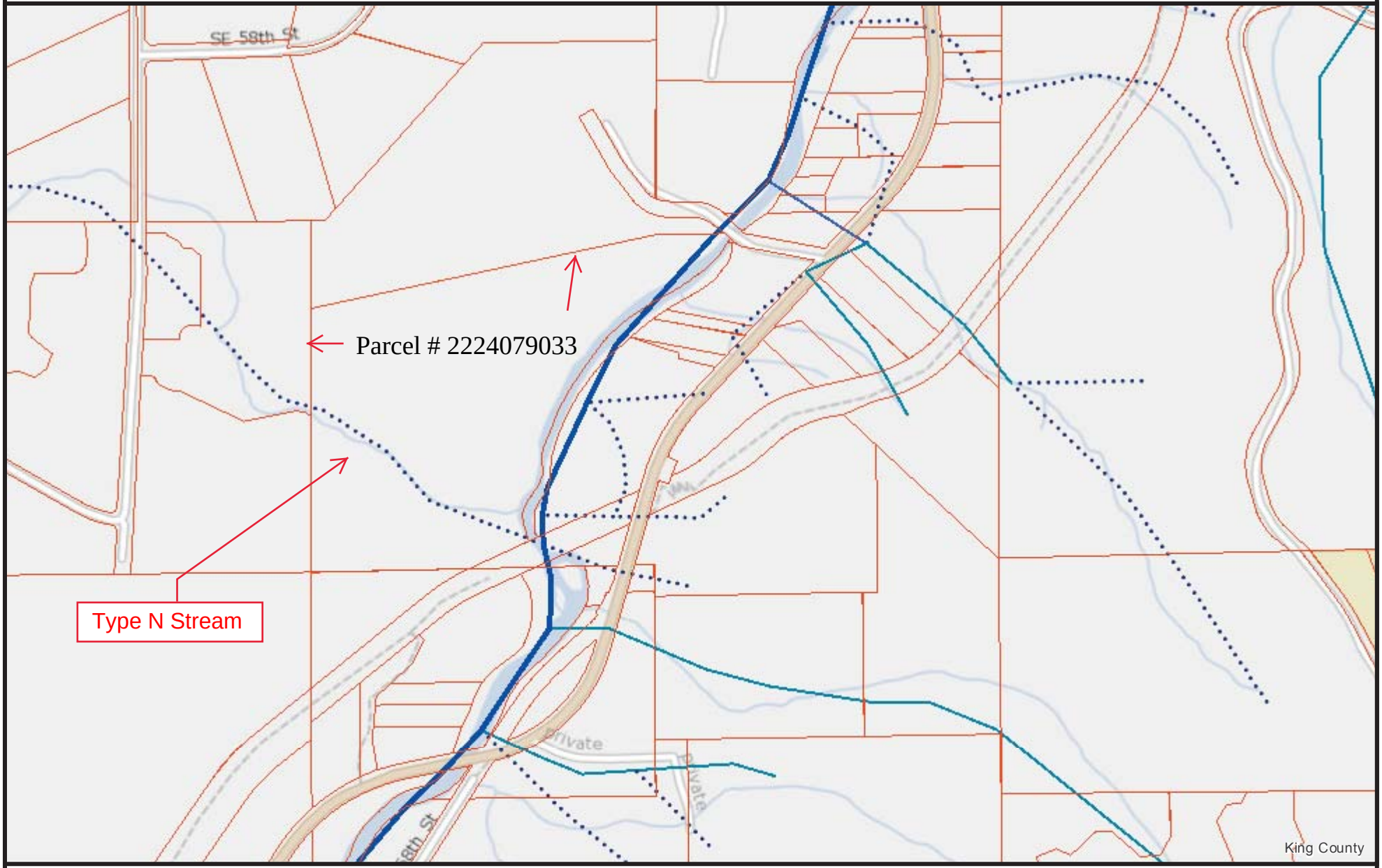
DATE	DESIGNED	DRAWN	APPROVED
JULY 2015	SLB	SLB	SLB

KEVIN J. VANJI-KJANJIAN
PROJECT MANAGER

SHEET C1.02 OF 6

PROJECT NUMBER 10001

King County iMap



Date: 8/26/2016 Notes:

RRQ EXPANSION AREA - Streams

(Parcel No. 2224079033)

King County GIS Center

Figure 3

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/18/16

Applicant/Owner: John Priebe State: WA Sampling Point: 1

Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): A Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification: _____

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	☐	No	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: Plot is located at Transect Point #T-1-1.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	80	yes	FAC
2.			
3.			
4.			
50% = _____, 20% = _____	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Acer macrophyllum (saplings)*	30	yes	FACU
2.			
3.			
4.			
5.			
50% = _____, 20% = _____	30	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Polystichum munitum*	25	yes	FACU
2.		n/a*	-
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = _____, 20% = _____	25	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum _____			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	33	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Raging River Quarry Expansion

SOIL

Sampling Point: 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
8	10YR3/2	100					sandy loam	gravelly, dry
16	10YR4/3	100					sandy loam	gravelly, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/18/16
Applicant/Owner: John Priebe State: WA Sampling Point: 2
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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 ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: Wetland A outside Flag #A-6.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	10	no	FAC
2.			
3.			
4.			
50% = , 20% =	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Rubus spectabilis*	50	yes	FAC
2. *Acer circinatum*	15	no	FACU
3.			
4.			
5.			
50% = , 20% =	65	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Athyrium felix-femina*	T	no	FACW
2. *Tolmeia menziesii*	15	no	FAC
3. *Polystichum munitum*	25	yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	40	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☐ No ☒**

Remarks:

Project Site: Raging River Quarry

SOIL Sampling Point: 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR3/2	100					sandy loam	dry
14	10YR5/4	80					sandy loam	dry, restricted, dense from gravel
	10YR5/5	20						

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/18/16
Applicant/Owner: John Priebe State: WA Sampling Point: 3
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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	☐	No	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: Plot is located about 60 feet from Transect Point #T-1-4.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	15	no	FAC
2. *Tsuga heterophylla*	20	yes	FACU
3.			
4. *2*			
50% = , 20% =	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Acer circinatum*	15	no	FACU
2.			
3.			
4.			
5.			
50% = , 20% =	15	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Polystichum munitum*	95	yes	FACU
2.		n/a*	-
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	95	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
13	10YR3/2	100					sandy loam	gravelly, dry
16	10YR4/4	100					sandy loam	gravelly, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/18/16
Applicant/Owner: John Priebe State: WA Sampling Point: 4
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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	☐	No	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: Plot is located about 36 feet from Transect Point #T-2-5.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	50	yes	FAC
2. *Acer macrophyllum*	10	no	FACU
3.			
4.			
50% = , 20% =	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Acer circinatum*	5	no	FACU
2. *Rubus spectablilis*	70	yes	FAC
3.			
4.			
5.			
50% = , 20% =	75	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Polystichum munitum*	30	yes	FACU
2. *Dicentra formosa*	15	no	NL (UPL)
3. *Cardamine sp.*	5	no	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	50	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
11	10YR3/2	100					sandy loam	gravelly, dry
16	10YR4/4	100					sandy loam	gravelly, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/18/16
Applicant/Owner: John Priebe State: WA Sampling Point: 5
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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	☐	No	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: Plot is located in a steep & short swale at the end of Transect T-2, Point #T-2-6.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	15	yes	FAC
2. *Acer macrophyllum*	10	no	FACU
3. *Thuja plicata*	40	yes	FAC
4.			
50% = , 20% =	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1.		n/a*	-
2.		n/a*	-
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Polystichum munitum*	15	yes	FACU
2. *Hydrophyllum sp.*	15	yes	FAC
3.		n/a*	-
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	30	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	75	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR3/2	100					sandy loam	gravelly, dry
16	10YR4/2	100					sandy loam	gravelly, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/19/16
Applicant/Owner: John Priebe State: WA Sampling Point: 6
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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	☐	No	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: Transect T- 3. Plot is located on north side of stream at Transect Point #T-3-2.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	15	no	FAC
2. *Acer macrophyllum*	35	yes	FACU
3. *Thuja plicata*	10	no	FAC
4.			
50% = , 20% =	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Oploplanax horridum*	10	no	FAC
2.		n/a*	-
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Galium aparine*	15	no	FACU
2. *Hydrophyllum sp.*	80	yes	FAC
3. *Dicentra formosa*	5	no	NL (UPL)
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
16	10YR3/2	100					sandy loam	gravelly, dry
18	10YR4/3	100					sandy loam	gravelly, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/19/16

Applicant/Owner: John Priebe State: WA Sampling Point: 7

Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): A Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification: _____

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	☐	No	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: Transect T- 3. Plot is located on north side of stream at Transect Point #T-3-4.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	10	no	FAC
2. *Acer macrophyllum*	25	yes	FACU
3. _____	_____	n/a*	-
4. _____	_____	____	____
50% = _____, 20% = _____	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Rubus spectabilis*	65	yes	FAC
2. _____	_____	n/a*	-
3. _____	_____	____	____
4. _____	_____	____	____
5. _____	_____	____	____
50% = _____, 20% = _____	65	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Galium aparine*	5	no	FACU
2. *Hydrophyllum sp.i*	20	yes	FAC
3. *Dicentra formosa*	10	no	NL (UPL)
4. *Polystichum munitum*	20	yes	FACU
5. _____	_____	____	____
6. _____	_____	____	____
7. _____	_____	____	____
8. _____	_____	____	____
9. _____	_____	____	____
10. _____	_____	____	____
11. _____	_____	____	____
50% = _____, 20% = _____	55	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____	_____	____	____
2. _____	_____	____	____
50% = _____, 20% = _____	_____	= Total Cover	

% Bare Ground in Herb Stratum _____

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Raging River Quarry Expansion

SOIL

Sampling Point: 7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soils Present? **Yes** ☐ **No** ☐

Remarks: Transect point located on a high bank area and no soil data needed due to non-hydrophytic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☐

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

Remarks: No hydrology observed.

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 4/19/16
Applicant/Owner: John Priebe State: WA Sampling Point: 8
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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 ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: Plot is located on north side of stream close to stream channel. Located at Transect Point #T-3-5 and is off-site west of the north property boundary.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	10	no	FAC
2.		n/a*	-
3.		n/a*	-
4.			
50% = , 20% =	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Acer circinatum*	20	yes	FAC
2.		n/a*	-
3.			
4.			
5.			
50% = , 20% =	20	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Galium aparine*	30	yes	FACU
2. *Hydrophyllum sp.*	20	yes	FAC
3. *Dicentra formosa*	15	no	NL (UPL)
4. *Grass sp.?*	10	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	75	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
16	10YR3/2	100					sandy loam	gravelly, dry
18	10YR4/4	100					sandy loam	gravelly, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 5/7/16
Applicant/Owner: John Priebe State: WA Sampling Point: 9
Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:
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 ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: Plot is located on south side of stream close to Transect T-4 in a distinct swale.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1.		n/a*	-
2.		n/a*	-
3.		n/a*	-
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Acer circinatum*	10	no	FAC
2. *Rubus spectabilis*	20	yes	FAC
3.			
4.			
5.			
50% = , 20% =	30	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Polystichum munitum*	25	yes	FACU
2. *Maianthemum dilatum*	20	yes	FAC
3. *Dicentra formosa*	15	no	NL (UPL)
4.		n/a*	-
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	60	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
14	10YR3/2	100					sandy loam	gravelly, dry
16	10YR3/3	100					sandy loam	cobbles & gravel, dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project Site: Raging River Quarry Expansion City/County: /King Sampling Date: 5/7/16

Applicant/Owner: John Priebe State: WA Sampling Point: 10

Investigator(s): Gary Schulz Section, Township, Range: 22, 24N, 7E.

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: Alderwood & Kitsap (AkF) NWI classification:

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 ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: Transect T- 4. Plot is located on south side of stream at Transect Point #T-4-1.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 1/100th acre)	Absolute % Cover	Dominant Species?	Indicator Status
1.		n/a*	-
2. *Acer macrophyllum*	50	yes	FACU
3.		n/a*	-
4.			
50% = , 20% =	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1/100th acre)			
1. *Rubus spectabilis*	5	no	FAC
2. *Acer circinatum*	60	yes	FAC
3. *Sambucus racemosa*	10	no	FACU
4.			
5.			
50% = , 20% =	75	= Total Cover	
Herb Stratum (Plot size: 1/100th acre)			
1. *Galium aparine*	10	no	FACU
2. *Hydrophyllum sp.i*	50	yes	FAC
3. *Rubus ursinus*	10	no	FACU
4. *Polystichum munitum*	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = , 20% =	75	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Raging River Quarry Expansion

SOIL Sampling Point: 10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soils Present? **Yes** ☐ **No** ☐

Remarks: Transect point located on an elevated ridge area and no soil data needed based on local observations and vegetation cover.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
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Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
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Field Observations:

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

Wetland Hydrology Present? **Yes** ☐ **No** ☐

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

Remarks: No hydrology observed.