Tom Duebendorfer - Biological Consultant, Professional Wetland Scientist

July 25, 2022

David Schuck
Daher: Director - Customer and Network Care
(208) 920-2780
D.Schuck@daher.com

Re: Wetland Determination Letter Property for property north of Turbine Drive (near the Sandpoint Airport) City of Sandpoint, ID
(portion of) RPS00000105804A; T57N, R2W, portion of Section 9/10 (LOT 6);
portion north of Turbine Drive

Dear David:

Per your request for environmental services, I am submitting this Wetland Determination Letter Report for the property referenced above (Figure 1). On September 8, and 11, 2015, I visited the site and used the Regional Supplement to the Corps of Engineers (Corps) Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region U.S. Army Corps of Engineers 2010, to determine whether the three required wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) were present. Data Plots and Photographs are appended. I re-visited the site in May 2022 to ascertain any potential changes to the wetland extent.

Site Conditions
The property presently contains a residence, with the remainder pasture and shrub vegetation. It is located north of Turbine Drive (near the airport), and bound by undeveloped property to the north, Great Northern (GN) Road to the west, and development to the east (Daher facilities). The property is essentially flat. The National Wetland Inventory (NWI) mapped a band of PEM1C (emergent, non-woody) wetland extending through the property. The 7.5' USGS quad map is Sandpoint.

Vegetation
The vegetation consists of several associations:

(1) **upland forest**, (2) **upland meadow**, (3) **wetland pasture**, and (4) **scrub-shrub wetland**. The wetland indicator status of the dominant plant species are given in brackets and defined below.

The **upland forest** association exists in portions of the South Area (Figure 2). It is mostly open evergreen forest dominated by young lodgepole pine (*Pinus contorta* [FAC]), and ponderosa pine (*Pinus ponderosa* [FACU). The understory (where present) is snowberry (*Symphoricarpos albus* [FACU]), serviceberry (*Amelanchier alnifolia* [FACU]), and rose (*Rosa woodsii* [FACU]). Groundcover is weedy grasses including orchardgrass (*Dactylis glomerata* [FACU]), quackgrass (*Elymus repens* [FAC]), bentgrass (*Agrostis stolonifera* [FAC]), red fescue (*Festuca rubra* [FAC]), with some areas dominated by a significant amount of tansy (*Tanacetum vulgare* [FACU]). This association IS hydrophytic — but contains other weedy upland species.

The **upland (disturbed) meadow** association is present over most of the sites — having few native species: mostly orchardgrass, quackgrass, bentgrass, St. John's wort (*Hypericum perforatum* [FACU]), tansy, hawkweeds (*Hieracium* spp. [NL]), ox-eye daisy, dandelion (*Taraxacum officinale* [FACU]), plantain (*Plantago lanceolata* [FACU]), thistle (*Cirsium arvense* [FACU]), with some representation by aster (*Symphyotrichum foliaceous* [FACU]). This association would NOT be considered hydrophytic.

* Wetland Indicator Status: OBL = obligate wetland; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; UPL = upland

The **wetland pasture** association exists wheres evidence of short-term spring ponding was observed. It mostly contains the same types of species as in the upland meadow with major representation by canarygrass (*Phalaris arundinacea* [FACW]), occasional small patches of cattail (*Typha latifolia* [OBL]), slender rush (*Juncus tenuis* [FAC], and few sedges (*Carex utriculata* [OBL]). The vegetation in this association IS hydrophytic.

The **scrub-shrub wetland** association exists in the western portion of the property associated with ditches adjacent GN Rd. It contains spiraea (*Spiraea douglasii* [FACW]), and hawthorn (*Crataegus douglasii* [FAC]). Some areas also contain tansy (*Tanacetum vulgare* [FACU]). This association IS primarily hydrophytic.

These associations are generally heterogeneous and their separation artificial. Species fidelity to any described association is often low, with occasional occurrences of hydrophytic species in the upland areas (e.g., bentgrass) and occasional non-hydrophytic herbaceous species such as thistle, tansy, and quackgrass, in the moister areas.

Soils

General

The entire area was mapped by the National Resources Conservation Service (NRCS) as Odenson silt loam (Map Unit 34) occurring on 0-2% slopes. This series is poorly drained, located in low areas on terraces, and derived from silty glacial lake-laid sediments derived from mixed sources. Permeability of this soil series is slow and there is seasonal high water table at a depths of 6 to 24 inches from February to June. It is classified as an andaqueptic haplaquoll (which means it formed recently in andesitic-based areas in a groundwater-based hydrologic condition [aquic moisture regime], and is a mollisol [a soil with a surface horizon darkened by organic matter] that is seasonally saturated [anaerobic] due to groundwater). Largely because of its seasonally saturated conditions, it is considered hydric.

Specific

On this property, two formal and numerous other undocumented soil data pits were excavated and inspected for hydric conditions. Profiles excavated during the field survey typically displayed two types. Typically, soils in the upland areas showed surface horizons of 10YR 3/3 silt loams over 10YR 3/3, or more commonly 2.5Y 5/3 silt loams or fine sandy loams. Generally lacking redoximorphic features, the chromas in these soils are too high to be considered a physical hydric soil indicator. Wetland soils were actually quite similar to the upland soils, often the chromas were slightly lower (generally still exceeding 2), but commonly had some percentage (2-10%) of redoximorphic features (either oxidized masses, or reduced depletions). The determination of whether the area contained hydric soil was largely a result of NTCHS Criterion #3 (ponding) which “trumps” any physical color indicator. Thus, areas showing evidence of surface ponding were considered to have hydric soils.

Hydrology

The National Wetlands Inventory (NWI) showed a swath through the property as palustrine, emergent, seasonally flooded wetland (PEM1C) (Figure 2). Hydrology to the site appears to derive from high spring runoff and likely snowmelt. Ponding is exacerbated by a hardpan layer in the soil which, from the surface, ranges from 4" to 14".

Wetland Determination

Jurisdictional wetlands were delineated where vegetation, soils, and hydrology all reflect anaerobic conditions as defined and described above. Topography, when diagnostic of hydrologic confines, was considered in refining the wetland boundary. Wetland boundaries were identified and flagged and/or staked (labeled with blue ribbon flagging), and mapped using ESRI ArcMap on a NAIP Bonner County 2013 aerial photograph. The wetland boundaries were located using a sub-meter handheld GPS unit.

Based on the formal data plots and the site survey, it was determined that four areas on the property showed indicators of all three required wetland parameters and were field flagged and staked (Figure 3). Table 1 identifies the wetlands, their size, classification, dominant vegetation, and the scores from the Montana Wetland Functional Assessment (which is used by the Valencia Wetland Mitigation Bank in Priest River should there be wetland fills proposed that exceed 0.1 acre [see Regulatory Requirements]). Figure 3 shows the delineation boundaries, data plot, and photograph locations. Photographs are appended.

Table 1. Summary of Wetlands on Subject Property

Wetland	Areal Extent (ac)	Classification*	Vegetation	Functional Value**
D	0.25	PEM1C	canarygrass	1.2
E	0.18	PEM1A	meadow foxtail, canarygrass	1.2
F	0.03	PSS1A	spiraea, hawthorn	1.2
G	0.02	PSS1A	spiraea	1.2
TOTALS	**0.48**			

* Cowardin System (Cowardin et al, 1979)

** Montana Wetland Functional Assessment Score (Berglund 1999) - this rating is on a scale of 1-12 (the lower, the less functional value of the wetland)

Regulatory Implications

This property was initially investigated in 2015 for wetland extent. In 2016, Quest (now Daher) applied for and received authorization for filling 0.2-acre of wetland fill for the construction of Turbine Drive (Corps permit NWW No. 2007-821-C03). I have no documentation of whether Quest was required to mitigate this approved fill. However, after a meeting with Shane Slate (US Army Corps of Engineers), representatives from Quest, Idagon, and myself, it was determined that prior wetland fills by Quest (i.e., 0.2 acres, were filled for the construction of Turbine Drive) would need to be included in any total requested future wetland fill to maintain the total wetland fill under 0.5 acre (see Regulatory Requirements). **This leaves a total of 0.3 acres of wetland that could be filled**.

A Montana Wetland Functional Assessment (MWAM) was completed for the on-site wetland and the resulting score was 1.2 functional points (out of 12). This score is multiplied by the proposed area of fill (in acres) to arrive at the required number of credits to be purchased, if future wetland fills are proposed (MWAM forms attached). As described above, 0.3 acres of the remaining wetland may be filled if a JOINT application for fill is completed and submitted to the US Army Corps of Engineers.

Thank you for requesting my services. Let me know if you have any questions or need additional information.

Sincerely,

Tom Duebendorfer, MA, PWS (Emeritus)

encls: Regulatory Requirements
Figure 1: Vicinity Map
Figure 2: National Wetland Inventory and NRCS Soils Map
Figure 3: Wetland Delineation, Data Plot, and Photograph Location Map
Photosheet
Montana Functional Assessment (5-page forms)
US Army Corps of Engineers Permit
Data Plots (2) 2-page forms
Résumé

References Used (not necessarily cited):

Berglund, J. 1999. MDT Montana Wetland Assessment Method. Document prepared for Montana Department of Transportation and Morrison-Maierle, Inc. Prepared by Western EcoTech. May 25, 1999. (This document is used by the Valencia Wetland Mitigation Bank (Valencia Wetland Trust) to calculate number of mitigation credits required for wetland fill in excess of 0.1 acre.)

Bonner County (on-line mapping tool Viewer 2.0).

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, Fish and Wildlife Service, U.S. Dept. of the Interior, FWS/OBS-79/31.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

ESRI. ArcMap 10.5.1 GIS software. Arrow Series 100 GPS unit.

Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1977 (and as updated 2018 in 2nd Edition). Vascular Plants of the Pacific Northwest. University of Washington Press. Seattle, Washington (five volumes).

NAIP 2013. USDA Aerial photography of Bonner County, ID.

NAIP 2021. USDA Aerial photography of Bonner County, ID.

NRCS. US Department of Agriculture, National Resources Conservation Service. Soil Survey (website).

NRCS. 2010. United States Department of Agriculture, Natural Resources 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.

NTCHS. 1995. National Technical Committee for Hydric Soils, Natural Resources Conservation Service (formerly Soil Conservation Service).

Vepraskas, M.J. 1992. Redoximorphic Features for Identifying Aquic Conditions. North Carolina Agricultural Research Service. Raleigh, North Carolina.

U.S. Army Corps of Engineers 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.

U.S. Army Corps of Engineers 2016. Permit NWW-2007-821. Document discussing permit implications and approved Wetland Delineation.

USDI. National Wetland Inventory mapping (website).

USGS. Sandpoint, ID 7.5' topographic quadrangle.

Regulatory Permitting Process: Types of Permits - Corps of Engineers

Under the Clean Water Act, the Corps has the authority to regulate the discharge or fill or dredged material into "Waters of the US". There are three Permits the Corps uses to regulate fill into wetlands. The Regional General and Individual Permits (not described here) are probably not appropriate for your site.

(1) Nationwide General (NWP): This permit is authorized for specific activities nationwide with minimal impact and minimal evaluation time. The NWPs typically have a ½ acre limit for fill in wetlands and 300 linear foot limit for fill in stream channels. A Pre-Construction Notification application (PCN) must be submitted to the appropriate field office (Walla Walla District). Typically, ***less than 1/10-acre (4,356 sf) of wetland fill does not require mitigation*** (though a PCN is required), and up to ½ acre of wetland fill, requires mitigation. (See below for **compensation methods**). There are Regional Conditions for Nationwide Permits (www.nww.usace.army.mil/Portals/28/Users/108/44/1644/Final%20NWW%20Regional%20Conditions%202017%20NWPs.pdf). There are 54 Nationwide Permits each regarding specific activities proposed in wetlands (www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Nationwide-Permits/).

When any permit application is received, it is evaluated based upon three criteria: avoidance, minimization, and mitigation. Once the applicant meets these criteria, a permit can be issued. It is taking Corps presently about 60 days to process permits.

Compensation Methods for unavoidable Wetland Impacts

According to the 2008 Final Mitigation Rule (Federal Register/Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations), under § 332.1 (c) the Final Mitigation Rule maintains the requirements set forth in Section 404(b)(1) Guidelines at 40 CFR part 230 which state that *"the permit applicant [is required] to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines"* (emphasis mine). According to § 230.93 (a)(2), restoration of impacted wetland is the first priority in the compensation sequence followed by purchasing credits (employing the use of approved Wetland Mitigation Banks within the service area) § 230.93 (b)(2).

The 1999 Montana Wetland Assessment Method is used to calculate the number of Wetland Credits to be purchased from the Valencia Wetland Mitigation Bank (Bank) in Priest River *should there be any wetland impacts (fill > 1/10 acre) required as a result of the proposed development*. The Assessment will result in a score between 1 and 12. This score is multiplied by the area to be filled. That result is the number of credits required to be purchased from the Bank. Currently one credit costs $28,000. Obviously, the smaller the area of wetland impact, the less it will cost in mitigation credits. The Assessment may take up to 6 hours to complete.

The City of Sandpoint does not impose any wetland setbacks (buffers). However, any wetland fill would require a permit from the Corps of Engineers.

Figure 1
Vicinity Map
Daher Property

Figure 2
National Wetland Inventory and NRCS Soils Map
Daher Property

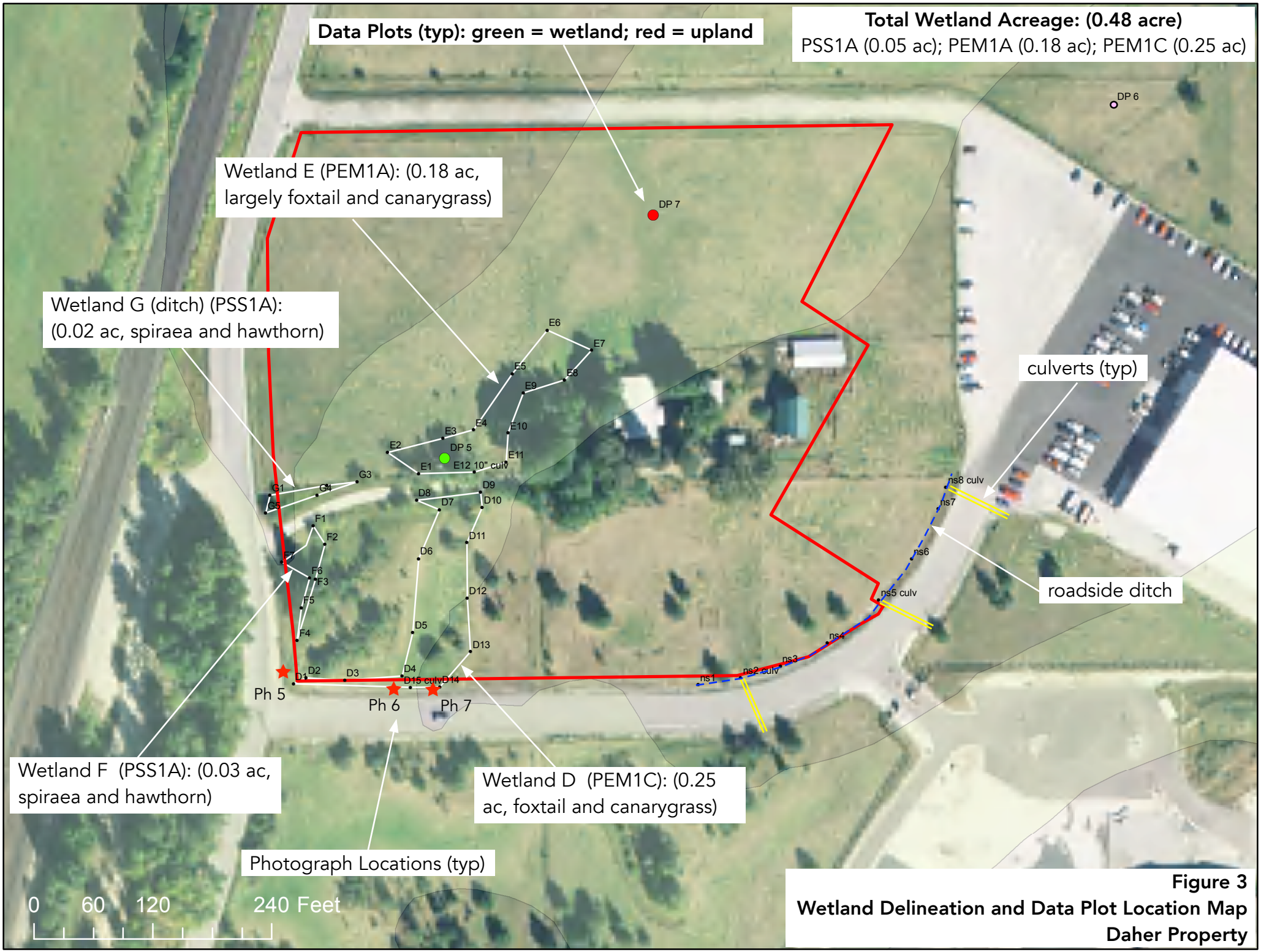

Figure 3
Wetland Delineation and Data Plot Location Map
Daher Property

Photo 5: view east from Wetland Flag D1

Photo 7: view east into roadside ditch (not considered wetland)

Photo 6: view north and northeast into Wetland D. Canarygrass swale, few hawthorn and willow (< 20% overall cover in wetland —> PEM1A; short term (temporarily) flooded; soils unequivocal, chromas 2+); ponding "trumps" physical soil indicators by virtue of NTCHS Criterion #3

Photosheet 3
Quest Expansion Area WEST

Photos taken September 11, 2015

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Daher Property 2. Project #: _____ Control #: _____

3. Evaluation Date: Mo. 9 Day 8, 11 Yr. 2015 4. Evaluator(s): Tom Duebendorfer, PWS 5. Wetlands/Site #(s) Wetlands D, E, F, G

6. Wetland Location(s): i. Legal: T 57N N or S; R 2W E or W; S 9/10 ; T ___ N or S; R ___ E or W; S _____ ;
ii. Approx. Stationing or Mileposts: _____
iii. Watershed: _____ GPS Reference No. (if applies): _____
Other Location Information:

7. a. Evaluating Agency: _____;
b. Purpose of Evaluation:
1. X Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. ___ Mitigation wetlands; post-construction
4. ___ Other

8. Wetland size: (total acres) _____ (visually estimated)
0.43 (measured, e.g. by GPS [if applies])

9. Assessment area: (AA, tot., ac., see instructions on determining AA) _____ (visually estimated)
_____ (measured, e.g. by GPS [if applies])
0.18 PEM1A; 0.05 PSS1A; 0.25 ac PEM1C

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
PEM: emergent	palustrine		EM	A/C		95%
PSS: scrub-shrub			SS	A		5%

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare Common (Abundant)
Comments:

12. General condition of AA:
i. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings.	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	high disturbance	(high disturbance)

Comments: (types of disturbance, intensity, season, etc.): _____
ii. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) canarygrass, tansy
iii. Provide brief descriptive summary of AA and surrounding land use/habitat:
area near roads, residence, developed and undeveloped properties

13. Structural Diversity: (based on number of "Cowardin" *vegetated* classes present [do not include unvegetated classes], see #10 above)

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	High	Moderate	(Low)

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (**list species**)	D S	_____
Secondary habitat (**list species**)	D S	_____
Incidental habitat (**list species**)	D S	_____
(No usable habitat)	D S	_____

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	(0 (L))

Sources for documented use (e.g. observations, records, etc):

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (**list species**)	D S	_____
Secondary habitat (**list species**)	D S	_____
Incidental habitat (**list species**)	D S	_____
(No usable habitat)	D S	_____

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	.1 (L)	(0 (L))

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- __ observations of abundant wildlife #'s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

(***Low***) (based on any of the following [check]):
- X few or no wildlife observations during peak use periods
- X little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- __ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- __ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms].)

Structural diversity (see #13)	High								Moderate								(Low)			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				(Even)			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	(L)

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Low
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)
Moderate	.9 (H)	.7 (M)	.5 (M)	.3 (L)
Minimal	.6 (M)	.4 (M)	.2 (L)	(.1 (L))

Comments:

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

i. **Habitat Quality** (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >**75%** of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – **50 to 75%** of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - < **50%** of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	**(L)**

ii. **Modified Habitat Quality** (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity* **or** *is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* **Y** **(N)** Modified habitat quality rating = (circle) **E** **H** **M** **L**

iii. **Rating** (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	**(.1 (L))**

Comments:

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

i. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	**(.2(L))**
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? Y N
Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

i. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 acre feet			≤1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ **5 out of 10 years**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	**(.2(L))**
Wetlands in AA flood or pond < **5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle **NA** here and proceed with the evaluation.)

I. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants **or** AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	**(.1 (L))**

Comments:

14H Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle **NA** here and proceed to next function)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function.

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments:

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions for further definitions of these terms].)

A	Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component <1 acre					
B	High		Moderate		Low		High		Moderate		Low		High		Moderate		Low	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA) **none**

i. Discharge Indicators

___Springs are known or observed
___Vegetation growing during dormant season/drought
___Wetland occurs at the toe of a natural slope
___Seeps are present at the wetland edge
___AA permanently flooded during drought periods
___Wetland contains an outlet, but no inlet
___Other

ii. Recharge Indicators

___Permeable substrate present without underlying impeding layer
___Wetland contains inlet but no outlet
___Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y (N) If yes, rate as [circle] High [1] and go to ii; if no go to iii)

ii. Check categories that apply to the AA: ___ Educational/scientific study; ___ Consumptive rec.; ___ Non-consumptive rec.; ___Other

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y (N)
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	.1 (L)

Comments:

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	0
B. MT Natural Heritage Program Species Habitat	L	0	1	0
C. General Wildlife Habitat	L	0.1	1	0.1138
D. General Fish/Aquatic Habitat	L	0.1	1	0.1138
E. Flood Attenuation	L	0.2	1	0.2276
F. Short and Long Term Surface Water Storage	L	0.2	1	0.2276
G. Sediment/Nutrient/Toxicant Removal	L	0.1	1	0.1138
H. Sediment/Shoreline Stabilization	L	0.1	1	0.1138
I. Production Export/Food Chain Support	L	0.1	1	0.1138
J. Groundwater Discharge/Recharge	L	0.1	1	0.1138
K. Uniqueness	L	0.1	1	0.1138
L. Recreation/Education Potential	L	0.1	1	0.1138
Totals:	L	1.2	12	1.3656

10%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II III (IV)

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, go to Category II)
___ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; **or**
___ Score of 1 functional point for Uniqueness; **or**
___ Score of 1 functional point for Flood Attenuation **and** answer to Question 14E.ii is "yes"; **or**
___ Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
___ Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
___ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
___ Score of .9 or 1 functional point for General Fish/Aquatic Habitat; **or**
___ "High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**
___ Score of .9 functional point for Uniqueness; **or**
___ Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

Category III Wetland: (Criteria for Categories I, II or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)
X "Low" rating for Uniqueness; **and**
X "Low" rating for Production Export/Food Chain Support; **and**
X Total actual functional points < 30% (round to nearest whole #) of total possible functional points

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): February 22, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Walla Walla District; NWW-2007-00821, Quest Expansion Areas

C. PROJECT LOCATION AND BACKGROUND INFORMATION: .
State: Idaho County/parish/borough: Bonner City: Sandpoint
Center coordinates of site (lat/long in degree decimal format): 48.29888° Lat. -116.56445° Long.
Universal Transverse Mercator: Zone 11 Northing 5349612.401 **N**, Easting 532301.961 **E**.
Name of nearest waterbody: Chucks Slough
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: N/A
Name of watershed or Hydrologic Unit Code (HUC): 1701021402
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: January 29, 2016
☒ Field Determination. Date(s): September 18, 2015

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **On September 25, 2015 the Corps received a delineation report titled Wetland Delineation of the Proposed Quest Expansion Areas City of Sandpoint, Bonner County, Idaho dated September 24, 2015 prepared by Tom Duebendorfer. The report identifies three small wetlands located immediately adjacent the north and east sides of the Quest Aircraft building as shown on wetland map 3 of 4. The wetlands are identified as Wetlands A, B, and C and total 0.66 acre. Per the September 24, 2015 wetland delineation, these areas meet the three parameters to be a wetland.**

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

Hydrology in Wetlands A, B, and C was determined by two secondary wetland hydrology indicators, Drainage Patterns and Geomorphic Position, and all three wetlands are dominated by hydrophytic vegetation. The entire Sandpoint Airport area was mapped by the National Resources Conservation Service (NRCS) as Odenson silt loam (Map Unit 34) occurring on 0-2% slopes. This series is poorly drained, located in low areas on terraces, and derived from silty glacial lake-laid sediments derived from mixed sources. Permeability of this soil series is low and there is seasonal high water table at a depths of 6 to 24 inches from February to June. It is classified as an andaqueptic haplaquoll (which means it formed recently in andesitic-based areas in a groundwater-based hydrologic condition [aquic moisture regime], and is a mollisol [a soil with a surface horizon darkened by organic matter] that is seasonally saturated [anaerobic] due to groundwater. Largely because of its seasonally saturated conditions, it is considered hydric.

A review of the National Wetand Inventory Map for the area shows that prior to the extensive development which has occurred in the area over the past 20 to 25 years these wetlands were part of a large wetland complex that was adjacent to a drainage located to the west and known locally as Chucks Slough which flows to Turnipseed Creek and then to Lake Pend Oreille a Section 10 water. However with the construction of the Quest Aircraft building, aircraft hangers, parking lots and various roads, these wetlands are now separated from what remains of the large complex. It also appears that during construction of the Quest Aircraft building or just from maintenance activities around the building that the top soil from these wetlands has been partially removed resulting in these areas being lower than the surrounding ground. There is also evidence that surface water collected from the roof of the Quest building during rain events or from snow melt drains to Wetland A causing periodic ponding. However there is no evidence that Wetland A has any connection to another water.

Wetland B is small, approximately 100 foot long, wetland ditch-like feature that originates east of Wetland A, then flows west, under a foot path via a culvert and ends in Wetland A.

Wetland C is positioned along the east side of the Quest building and is roughly 0.08 acre in size and vegetated with beggers tick, bentgrass and wild mint. Hydrology supporting the site is likely from a seasonal high water table and surface run-off into the wetland from adjacent uplands and paved areas. Wetland C although close to Wetland B is separated by dry land.

Based on the delineation report and an on-site inspection of the area by the Corps on September 18, 2015 prior to submission of the report, these wetlands are isolated depressional features with no surface water connection to another surface water, does not cross state lines, does not support inter-state foreign commerce or recreation, is not within a reasonable distance to another water to be considered adjacent (1600 east of Chucks Slough; 3000 feet west of Sand Creek) and thus is not subject to regulation under section 404 of the Clean Water Act.

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Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.66acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:September 25, 2015 Wetland Delineation prepared by Tom Duebendorfer.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:1:24K, ID-SANDPOINT .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☒ National wetlands inventory map(s). Cite name:Sandpoint.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Google Earth, imagery date: 7/11/2014.
or ☐ Other (Name & Date): .
☒ Previous determination(s). File no. and date of response letter:NWW-2007-821(AJD/letter for different section of Quest property), August 16, 2007 and NWW-2013-423 (AJD/Letter for surrounding Sandpoint Airport area), August 23, 2013 .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: Wetlands A, B, and C are isolated depressional features that have no direct surface connection with any other waters of the United States. These isolated wetlands total 0.66 acres and are completely surrounded by uplands.

Based on the review of the September 24, 2015 delineation report, a site vist conducted on September 18, 2015, it has been determined that Wetlands A, B, and C are isolated and not subject to regulation under Section 404 of the Clean water Act.

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DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
COEUR D'ALENE REGULATORY OFFICE
1910 NORTHWEST BOULEVARD, SUITE 210
COEUR D'ALENE, IDAHO 83814-5699

REPLY TO
ATTENTION OF

February 22, 2016

Regulatory Division

SUBJECT: NWW-2007-821, Quest Aircraft

Mr. Paul Schuck
Quest Aircraft Company, LLC
1200 Turbine Drive
Sandpoint, Idaho 83864

Dear Mr. Schuck:

Enclosed is our Department of Army (DA) Approved Jurisdictional Determinations (AJD) indicating that there are both waters of the United States (U.S.), including wetlands, and non-jurisdictional isolated wetlands within your proposed project area. This decision is based upon our review of the information your agent provided, additional information available to our office, and our September 18, 2015 site visit. Your proposed project site is located at 1200 Turbine Drive, within Section 10 of Township 57 North, Range 2 West, near latitude 48.29888 and longitude -116.56445, in Bonner County, in near Sandpoint, Idaho. Your request has been assigned file number NWW-2007-821, which should be referred to in future correspondence with our office regarding this site.

The wetland boundaries, as shown on the enclosed wetland delineation maps, dated September 22, 2015, prepared by Mr. Tom Duebendorfer have been approved. This decision is based upon the U.S. Army Corps of Engineers' 1987 Wetland Delineation Manual and the Interim Western Mountains, Valleys, and Coast Regional Supplement to the 1987 Delineation Manual.

Wetland areas "A, B, and C" as designated on the enclosed wetland delineation map, dated September 22, 2015, are isolated, intrastate, non-navigable, wetlands which have no connection to interstate or foreign commerce. Therefore, pursuant to federal guidance on the *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* and the consolidated *Rapanos v. United States and Carabell v. United States* cases, the discharge of dredged and/or fill material into these non-regulated isolated wetlands will not require a DA permit. Please be advised, this jurisdictional determination does not establish any precedent with respect to any other jurisdictional determination under Section 404 of the Clean Water Act.


a13
a12
a11
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a25
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a26
a17
a16
a27
a27a no stake
culv under pvmt
a28 close
culv under pvmt
culv under pvmt
b1 culv
b2
b5 close
b3
b4
c1
c10 close
c2
c9
c8
c7
c3
c6
c4
c5
WETLANDS A, B, and C
(isolated - not jurisdictional)
0
50
100
200 Feet


WETLANDS, D, E, F, and G
jurisdictional
e6
e7
e5
e8
e9
e4
e10
e3
e2
e11
e1
e12 2 10" culv close
g1
g2
g3
g4
g5 close
d8
d9
d10
d7
f1
f2
d11
f7 close
d6
f6
f3
d12
f5
d5
f4
d13
d1
d2
d3
d4
d15 culv close
d14
ns1
0
50
100
200 Feet

Wetland areas "D, E, F, and G" as designated on the enclosed wetland delineation map, dated September 22, 2015, are jurisdictional waters of the U.S., including wetlands. The DA exerts regulatory jurisdiction over waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). Section 404 of the Clean Water Act requires a DA permit be obtained prior to discharging dredged or fill material into Waters of the U.S., which includes most perennial and intermittent rivers and streams, natural and man-made lakes and ponds, irrigation and drainage canals and ditches that are tributaries to other waters, and wetlands.

Please be advised that discharges considered placement of dredged or fill material under our jurisdiction may include those associated with mechanized land-clearing involving vegetation removal with equipment such as front-end loaders, backhoes, or bulldozers with sheer blades, rakes, or discs, windrowing of vegetation, land leveling, or other soil disturbances in wetlands and excavation activities which result in a discharge of dredged material that destroys or degrades a Waters of the United States.

This approved JD is valid for a period of 5-years from the date of this letter, unless new information supporting a revision is provided to this office before the expiration date. Also enclosed, you will find the Approved Jurisdictional Determination Forms addressing wetlands and waters of the U.S. located within the JD review area, and a *Notification of Administrative Appeals Options and Process and Request for Appeal Form* (RFA) regarding this DA Approved Jurisdictional Determination. Should you disagree with certain terms and/or conditions of this DA Approved JD, the Notification of Administrative Appeal Options form outlines the steps to take to file your objection. Please note, the RFA form must be received by the Northwest Division Office no later than **April 22, 2016**.

Nothing in this letter shall be construed as excusing you from compliance with other Federal, state, or local statutes, ordinances or regulations which may affect this work.

We are interested in your thoughts and opinions concerning the quality of service you received from the Walla Walla District, Corps of Engineers Regulatory Division. Please visit us online at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey and complete an electronic version of our Customer Service Survey form, which will be automatically submitted to us. Alternatively, you may call and request a paper copy of the survey, which you may complete and return to us by mail. For additional information about our Regulatory program please visit us at http://www.nww.usace.army.mil/BusinessWithUs/RegulatoryDivision.aspx. Your responses are appreciated and will allow us to improve our services.

We appreciate your cooperation with the Corps of Engineers' Regulatory Program. If you have any questions about this determination, please contact me by telephone at 208-433-4474, by mail at the address in the above letterhead, or via email at shane.p.slate@usace.army.mil.

Sincerely,

Shane Slate
Project Manager
Regulatory Division

Enclosures:
Wetland Delineation Maps, dated September 22, 2015
Approved Jurisdictional Determination Forms
Notification of Administrative Appeal Options and Request for Appeal Form

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

Project/Site: Quest Expansion **City/County:** City of Sandpoint, Bonner Co. **Sampling Date:** 11-Sep-15

Applicant/Owner: Quest Aircraft Company **State:** ID **Sampling Point:** DP5

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 10 T 57N R 2W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48.2984362147222 **Long.:** -116.568317175 **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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 ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Vegetation hydrophytic; soils hydric; hydrology likely (evidence of ponding)

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus tremuloides	15	☑ 100.0%	FACU
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Alopecurus pratensis	70	☑ 77.8%	FAC
2. Phalaris arundinacea	10	☐ 11.1%	FACW
3. Carex nebrascensis	10	☐ 11.1%	OBL
4.		☐ 0.0%	
5.		☐ 0.0%	
6.		☐ 0.0%	
7.		☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	90	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

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: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	10	x 1 =	10
FACW species	10	x 2 =	20
FAC species	70	x 3 =	210
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	105 (A)		300 (B)

Prevalence Index = B/A = 2.857

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrologic 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:
Vegetation is hydrophytic. Prevalence test met.

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

Soil

Sampling Point: DP5

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR	3/3	100						Silt Loam	
8-14	10YR	2/2	90	10YR	3/1	10	D	M	Silt Loam	
14-18	10YR	4/6	100						Fine Sandy Loam	platy structure

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ◉ No ○

Remarks:

Soil hydric by physical indicators (low chroma with redoximorphic features), and area appears to become ponded (NTCHS Criterion 3)

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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, monitor well, aerial photos, previous inspections), if available:

Remarks:

Hydrology considered to be present due to evidence of spring ponding.

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

Project/Site: Quest Expansion **City/County:** City of Sandpoint, Bonner Co. **Sampling Date:** 11-Sep-15

Applicant/Owner: Quest Aircraft Company **State:** ID **Sampling Point:** DP7

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 10 T 57N R 2W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48.2991057893823 **Long.:** -116.56744634882 **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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 ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Vegetation NOT hydrophytic; soils hydric; hydrology unlikely (no evidence of ponding)

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.		☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Agrostis stolonifera	65	☑ 56.5%	FAC
2. Phleum pratense	35	☑ 30.4%	FAC
3. Alopecurus pratensis	15	☐ 13.0%	FAC
4.		☐ 0.0%	
5.		☐ 0.0%	
6.		☐ 0.0%	
7.		☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	115	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		345 (B)

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is hydrophytic - dominated by FAC pasture grasses in an area that is regularly cropped. Both tests met.

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

Soil

Sampling Point: DP7

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR	3/3	100					Silt Loam	
8-11	10YR	3/2	100					Silt Loam	
11-17	10YR	5/3	100					Fine Sandy Loam	no redox

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ○ No ◉

Remarks:

Soil not hydric by physical indicators (chroma too high and lacks redoximorphic features)

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)
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- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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, monitor well, aerial photos, previous inspections), if available:

Remarks:

Hydrology considered to be absent due to lack of evidence of spring ponding.

Tom Duebendorfer - Professional Wetland Scientist (#000157), Biologist, Botanist

OBJECTIVE

Provide botanical and ecological services to a wide range of organizations and individuals for projects involving land development, wetland delineation, vegetation mapping, rare plant surveys, resource inventories, Environmental Assessments, Biological Evaluations and Assessments, and research-level studies on specific habitats or species.

EDUCATION

WSPSS, SWS Hydric Soils Workshop, Soils and Hydrology, June 2009
Wetland Training Institute, Soils and Hydrology, August 1990
Humboldt State University, Arcata, California
M.A. Biology May 1987
California State Teaching Credential May 1987
B.A. Biology June 1977
University of California, Irvine (2 years - biology major)

EMPLOYMENT

- **Self-employed wetland and botanical consultant (1981 to present)**

  Provided botanical and wildlife surveys, floristic research, habitat characterization, ecological sampling, synecological analysis, aerial photo mapping, wetland delineation, impact analysis, restoration and mitigation, resource planning, permitting, rare and endangered plant surveys, plant taxonomy, soil analysis, computer-aided multivariate analyses and statistics, computer-aided graphics and drafting. Involved with design (as part author/editor) of Washington Dept of Ecology Hydrogeomorphic approach to wetland function assessment program (Assessment Team). Trained in E WA DOE Assessment Methodology (assisted in development of the methodology). Wetland Mitigation Bank preparation. Teaches wetland delineation and plant identification courses to Tribes, agencies, and groups.

  Project locations include rare plant surveys/studies and wetland work in southern, central, northern and coastal California; coastal, southwestern, and northeastern Oregon; north, east-central, and southwest Idaho; eastern and western Washington; and northwest Montana.

- **Senior Wetland Ecologist, Client/Project Manager, Corporate Botanist (1989-1994)**

  David Evans and Associates, Inc. Bellevue, Washington

  Provided wetland delineation, impact assessment, conceptual and final mitigation design, monitoring, cumulative impact assessment, wetland permitting, habitat characterization, rare plant and T&E animal surveys, Biological Evaluations and Assessments, as well as instruction and guidance in systematics and classification to staff in 7 west coast offices. Maintained excellent rapport with clients and other project team members (both in office and as field crew leader). Managed projects from proposals, contracting, budgeting, scheduling and invoicing, to collections.

  Project locations include: Pacific Northwest, from central and coastal Oregon to eastern, western, and coastal Washington, and northwest Montana.

CERTIFICATIONS

Professional Wetland Scientist, Society of Wetland Scientists (#000157)
Certified Wetland Delineator, Corps of Engineers (Seattle District)
Qualified Wetland Specialist, Spokane County, Washington
Qualified Wetland Specialist, City of Spokane, Washington
Completed Training in NEPA/EPA Process
Completed Soils and Hydrology workshops (WTI); Hydric Soils (WSSPSS - Updates 2009)

Tom Duebendorfer - Professional Wetland Scientist (#000157), Biologist, Botanist

SPECIFIC EXPERIENCE

Habitats include: dune coastline, coastal and inland forested, scrub, and marsh wetlands, oak woodlands, steppe scrubland, grasslands, sagebrush, agricultural areas (wetlands), coniferous and deciduous montane, alpine, bog (fen), and serpentine vegetation.

Permitting knowledge and direct use of wetland methodologies (USFWS, US Army Corps of Engineers, WA Dept of Ecology, and local county and city jurisdictions); knowledge of Corps Permit process. Restoration activities. Biological Assessments (BA), USFS Evaluations (BE), Environmental Assessments (EA); SEPA/NEPA; T&E species monitoring, Raptor Monitoring, Wetland Mitigation Bank Design.

Rare plant studies include approximately 45 sensitive plant and vegetation surveys on private, state, and federal lands for small to medium scale hydroelectric plants, stream corridors, sewage treatment facilities, water treatment facilities, prison site, seeding experiments, road and highway construction, transmission corridors (utilities), fiber optic cable routes, and mining companies. Biological Evaluations for USFS-listed sensitive species in four states.

Clients (independently and during tenure as employee) include:

Small- and Large-scale Developers:
Burlington-Northern, Puget Western, Glacier Park Company, Trillium Corporation, Quadrant, Blackhawk/Port Blakely Communities, Coldwater Creek, Valencia Wetlands Trust, Waterfront Property Mgmt., Kirk-Hughes Development, Fortress LLC, & others

Public Entities:
Washington Department of Ecology, Benewah County (through EDA), Federal Highways Administration, Bureau of Reclamation, King Co., US Army Corps of Engineers, Spokane County Engineering and Public Works, Oregon Nature Conservancy, Humboldt County Planning, Humboldt State University Research Program; Benewah County; Idaho Soil and Conservation District, City of Winchester, Idaho Transportation Department, Washington Department of Transportation, Kalispell Indian Tribe, City of Colville, Rathdrum

Communications (fiber optic projects):
AT&T, MCI/WorldCom, Cascade Utilities

Exploratory and Active Mining Companies:
Emerald Creek Garnet Company, American Gold Resources, Cal Nickel Corp., Baretta, Noranda

Assisting other Consulting Firms and Numerous Private Landowners.
The Soils Group, Intermountain Resources, Inc., Hart-Crowser, Inc., Welch-Comer Eng., Land Profile, Inc., Selkirk Environmental, David Evans and Associates, J.A. Sewell and Assoc., EarthTech, ALSC Architects; Ecological Resources, Forsgren Assoc., JUB Eng., Adolfson Assoc. Copper Basin Constr., Toothman-Orton Eng., Rocky Point Investments, HAWKEFA, Tate Engineering.

PUBLICATIONS

Duebendorfer, T.E. 1990. *"An Integrated Approach to Enhancing Rare Plant Populations through Habitat Restoration: II. Habitat Characterization through Classification of Dune Vegetation."* Pp. 478-487 in: Bonnicksen, T.M. and H.G. Hughes, eds. Proceedings of the first annual meeting of the Society for Ecological Restoration and Management. Also presented at Society of Wetland Scientists, May 1993.

Pickart, A.J., L.M. Miller, and T.E. Duebendorfer. 1998. *"Yellow bush lupine invasion in northern California coastal dunes. I. Ecological impacts and manual restoration techniques*". Restoration Ecology Vol 6 No 1, pp59-68.

Seattle Audubon Series, "*Wetland Plants of the Western Washington and NW Oregon"* (Cooke 1997, editor): My role was as a contributor and technical editor.

Hruby, T., S. Stanley, T. Granger, T. Duebendorfer, R. Friesz, B. Lang, B. Leonard, K. March, and A. Wald. 2000. Methods for Assessing Wetlands Functions. Volume II, Part 1: Assessment Methods - Depressional Wetlands in the Columbia Basin of Eastern Washington, WA State Department of Ecology Publication #00-06-47.

Fieldbook of Plant Uses (North Idaho) - self published field booklet (2019)

Tom Duebendorfer - Biological Consultant, Professional Wetland Scientist

July 25, 2022

David Schuck
Daher: Director - Customer and Network Care
(208) 920-2780
D.Schuck@daher.com

Re: Wetland Determination Letter Property for property south of Turbine Drive (near the Sandpoint Airport) City of Sandpoint, ID (portion of) RPS00000105804A; T57N, R2W, portion of Section 9/10 (LOT 6); portion south of Turbine Drive

Dear David:

Per your request for environmental services, I am submitting this Wetland Determination Letter Report for the approximately 2.06 -acre property referenced above (Figure 1). In November 2021, and June 6, 2022, I visited the site and used the Regional Supplement to the Corps of Engineers (Corps) Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region U.S. Army Corps of Engineers 2010, to determine whether the three required wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) were present. The November site visit identified areas as potentially wetland, but I waited until Spring 2022 to observe wetland hydrology. Data Plots and Photographs are appended.

Site Conditions
The property presently is undeveloped, with pasture, shrub, and forested vegetation. It is located south of Turbine Drive (near the airport), and bound by undeveloped property to the north, west, and development to the east (Silverwings). The property is essentially flat, with some minor depressions and a ponded area (swale) which exists in the northwestern portion of the property. The National Wetland Inventory (NWI) much of the property as PEM1C (emergent, non-woody). The 7.5' USGS quad map is Sandpoint.

Vegetation
The vegetation consists of several associations:

(1) **upland forest**, (2) **upland meadow**, (3) **wetland pasture**, and (4) **scrub-shrub wetland**. The wetland indicator status of the dominant plant species are given in brackets and defined below.

The **upland forest** association exists in portions of the property (Figure 2). It is mostly open evergreen forest dominated by young lodgepole pine (*Pinus contorta* [FAC]), ponderosa pine (*Pinus ponderosa* [FACU), and western white pine (*Pinus monticola* [FACU]). The understory (where present) is snowberry (*Symphoricarpos albus* [FACU]), serviceberry (*Amelanchier alnifolia* [FACU]), and rose (*Rosa woodsii* [FACU]). Groundcover is weedy pasture grasses including meadow foxtail (*Alopecurus pratensis* [FAC]) and occasionally canarygrass (*Phalaris arundinacea* [FACW]), bentgrass (*Agrostis stolonifera* [FAC]), red fescue (*Festuca rubra* [FAC]), with some areas dominated by a significant amount of tansy (*Tanacetum vulgare* [FACU]). This association is not often hydrophytic — and contains many FACU species.

The **upland meadow** association is present over some of the property, on slightly higher topography. It contains meadow foxtail and occasionally canarygrass. Upland weeds including St. John's wort (*Hypericum perforatum* [FACU]), tansy, hawkweeds (*Hieracium* spp. [NL]), ox-eye daisy, dandelion (*Taraxacum officinale* [FACU]), plantain (*Plantago lanceolata* [FACU]), and thistle (*Cirsium arvense* [FACU]) attest to the lack of wetland hydrology. This association would NOT be considered hydrophytic.

* Wetland Indicator Status: OBL = obligate wetland; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; UPL = upland

The **wetland pasture** association exists where evidence of spring ponding was observed. It mostly contains the same types of species as in the upland meadow with major representation by canarygrass, meadow foxtail and occasional small patches of cattail (*Typha latifolia* [OBL]), slender rush (*Juncus tenuis* [FAC], and few sedges (*Carex utriculata* [OBL]). The vegetation in this association is hydrophytic.

The **scrub-shrub wetland** association is associated with the banks of the ponded area and contains hawthorn (*Crataegus douglasii* [FAC]) and aspen (*Populus tremuloides* [FACU). This association is primarily hydrophytic.

These associations are generally heterogeneous and their separation artificial. Species fidelity to any described association is often low, with occasional occurrences of hydrophytic species in the upland areas (e.g., bentgrass) and occasional non-hydrophytic herbaceous species such as thistle, tansy, and quackgrass, in the moister areas.

Soils

General

The entire area was mapped by the National Resources Conservation Service (NRCS) as Odenson silt loam (Map Unit 34) occurring on 0-2% slopes. This series is poorly drained, located in low areas on terraces, and derived from silty glacial lake-laid sediments derived from mixed sources. Permeability of this soil series is slow and there is seasonal high water table at a depths of 6 to 24 inches from February to June. It is classified as an andaqueptic haplaquoll (which means it formed recently in andesitic-based areas in a groundwater-based hydrologic condition [aquic moisture regime], and is a mollisol [a soil with a surface horizon darkened by organic matter] that is seasonally saturated [anaerobic] due to groundwater). Largely because of its seasonally saturated conditions, it is considered hydric.

Specific

On this property, six formal and numerous other undocumented soil data pits were excavated and inspected for hydric conditions. Profiles excavated during the field survey typically displayed two types. Typically, soils in the upland areas showed horizons of 10YR 3/2 silt loams (without ponding or saturation). Generally lacking redoximorphic features, the chromas in these soils are too high to be considered a physical hydric soil indicator. Wetland soils were actually quite similar to the upland soils, often the chromas were slightly lower (2/1), and were saturated to fully inundated. The determination of whether the area contained hydric soil was largely a result of NTCHS Criterion #3 (ponding) which “trumps” any physical color indicator. Thus, areas showing evidence of surface ponding were considered to have hydric soils.

Hydrology

The National Wetlands Inventory (NWI) showed a large swath of palustrine, emergent, seasonally flooded wetland (PEM1C) through the property (Figure 2). Hydrology to the site appears to derive from high spring runoff and likely snowmelt. Ponding is exacerbated by a hardpan layer in the soil which, from the surface, ranges from 4" to 14". There is a ponded area (likely excavated years ago as it is near an upland mound, which appears to be dredged materials) identified within the wetland as an “inclusion”.

Wetland Determination

Jurisdictional wetlands were delineated where vegetation, soils, and hydrology all reflect anaerobic conditions as defined and described above. Topography, when diagnostic of hydrologic confines, was considered in refining the wetland boundary. Wetland boundaries were identified and flagged (labeled with blue ribbon flagging), and mapped using ESRI ArcMap on a NAIP Bonner County 2013 aerial photograph. The wetland boundaries were located using a sub-meter handheld GPS unit.

Based on the formal data plots and the site survey, it was determined that one main area on the property showed indicators of all three required wetland parameters and was field flagged (Figure 3). There is an upland "mound" mapped within the wetland (as described above - potentially dredge spoils). The entire wetland extent is approximately 52,273 sf (1.2 acres) with the small upland area encompassing 2,601 sf — thus **the total wetland area on the 2.06-acre property is 49,672 sf (1.14 acres)**. The wetland would be classified as PEM1C (palustrine, emergent, persistent, seasonally flooded). Figure 3 shows the delineation boundaries, data plot, and photograph locations. Photographs are appended.

Regulatory Implications

At this point in the development process there is no proposed wetland fill. If the property is in separate ownership, however, under the Corps of Engineers Nationwide Permit Program, up to 0.5 acre of wetland may be filled. If wetland fills exceed 0.1 acre, wetland mitigation credits would have to be purchased from the Valencia Wetland Mitigation Bank.

A Montana Wetland Functional Assessment (MWAM; Berglund 1999) was completed for the on-site wetland and the resulting score was 2.6 functional points (out of 12) for a Category III wetland. If proposed wetland fills exceed 0.1 acre, this score is multiplied by the total proposed area of fill (in acres) to arrive at the required number of credits to be purchased — if future wetland fills are proposed (MWAM forms attached).

Thank you for requesting my services. Let me know if you have any questions or need additional information.

Sincerely,

Tom Duebendorfer, MA, PWS (Emeritus)

encls: Regulatory Requirements
Figure 1: Vicinity Map
Figure 2: National Wetland Inventory and NRCS Soils Map
Figure 3: Wetland Delineation, Data Plot, and Photograph Location Map
Photosheet
Montana Functional Assessment (5-page forms)
Data Plots (6) 2-page forms
Résumé

References Used (not necessarily cited):

Berglund, J. 1999. MDT Montana Wetland Assessment Method. Document prepared for Montana Department of Transportation and Morrison-Maierle, Inc. Prepared by Western EcoTech. May 25, 1999. (This document is used by the Valencia Wetland Mitigation Bank (Valencia Wetland Trust) to calculate number of mitigation credits required for wetland fill in excess of 0.1 acre.)

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Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, Fish and Wildlife Service, U.S. Dept. of the Interior, FWS/OBS-79/31.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

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Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1977 (and as updated 2018 in 2nd Edition). Vascular Plants of the Pacific Northwest. University of Washington Press. Seattle, Washington (five volumes).

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NRCS. US Department of Agriculture, National Resources Conservation Service. Soil Survey (website).

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Vepraskas, M.J. 1992. Redoximorphic Features for Identifying Aquic Conditions. North Carolina Agricultural Research Service. Raleigh, North Carolina.

U.S. Army Corps of Engineers 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.

U.S. Army Corps of Engineers 2016. Permit NWW-2007-821. Document discussing permit implications and approved Wetland Delineation.

USDI. National Wetland Inventory mapping (website).

USGS. Sandpoint, ID 7.5' topographic quadrangle.

Regulatory Permitting Process: Types of Permits - Corps of Engineers

Under the Clean Water Act, the Corps has the authority to regulate the discharge or fill or dredged material into "Waters of the US". There are three Permits the Corps uses to regulate fill into wetlands. The Regional General and Individual Permits (not described here) are probably not appropriate for your site.

(1) Nationwide General (NWP): This permit is authorized for specific activities nationwide with minimal impact and minimal evaluation time. The NWPs typically have a ½ acre limit for fill in wetlands and 300 linear foot limit for fill in stream channels. A Pre-Construction Notification application (PCN) must be submitted to the appropriate field office (Walla Walla District). Typically, ***less than 1/10-acre (4,356 sf) of wetland fill does not require mitigation*** (though a PCN is required), and up to ½ acre of wetland fill, requires mitigation. (See below for **compensation methods**). There are Regional Conditions for Nationwide Permits (www.nww.usace.army.mil/Portals/28/Users/108/44/1644/Final%20NWW%20Regional%20Conditions%202017%20NWPs.pdf). There are 54 Nationwide Permits each regarding specific activities proposed in wetlands (www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Nationwide-Permits/).

When any permit application is received, it is evaluated based upon three criteria: avoidance, minimization, and mitigation. Once the applicant meets these criteria, a permit can be issued. It is taking Corps presently about 60 days to process permits.

Compensation Methods for unavoidable Wetland Impacts

According to the 2008 Final Mitigation Rule (Federal Register/Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations), under § 332.1 (c) the Final Mitigation Rule maintains the requirements set forth in Section 404(b)(1) Guidelines at 40 CFR part 230 which state that *"the permit applicant [is required] to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines"* (emphasis mine). According to § 230.93 (a)(2), restoration of impacted wetland is the first priority in the compensation sequence followed by purchasing credits (employing the use of approved Wetland Mitigation Banks within the service area) § 230.93 (b)(2).

The 1999 Montana Wetland Assessment Method is used to calculate the number of Wetland Credits to be purchased from the Valencia Wetland Mitigation Bank (Bank) in Priest River *should there be any wetland impacts (fill > 1/10 acre) required as a result of the proposed development*. The Assessment will result in a score between 1 and 12. This score is multiplied by the area to be filled. That result is the number of credits required to be purchased from the Bank. Currently one credit costs $28,000. Obviously, the smaller the area of wetland impact, the less it will cost in mitigation credits. The Assessment may take up to 6 hours to complete.

The City of Sandpoint does not impose any wetland setbacks (buffers). However, any wetland fill would require a permit from the Corps of Engineers.

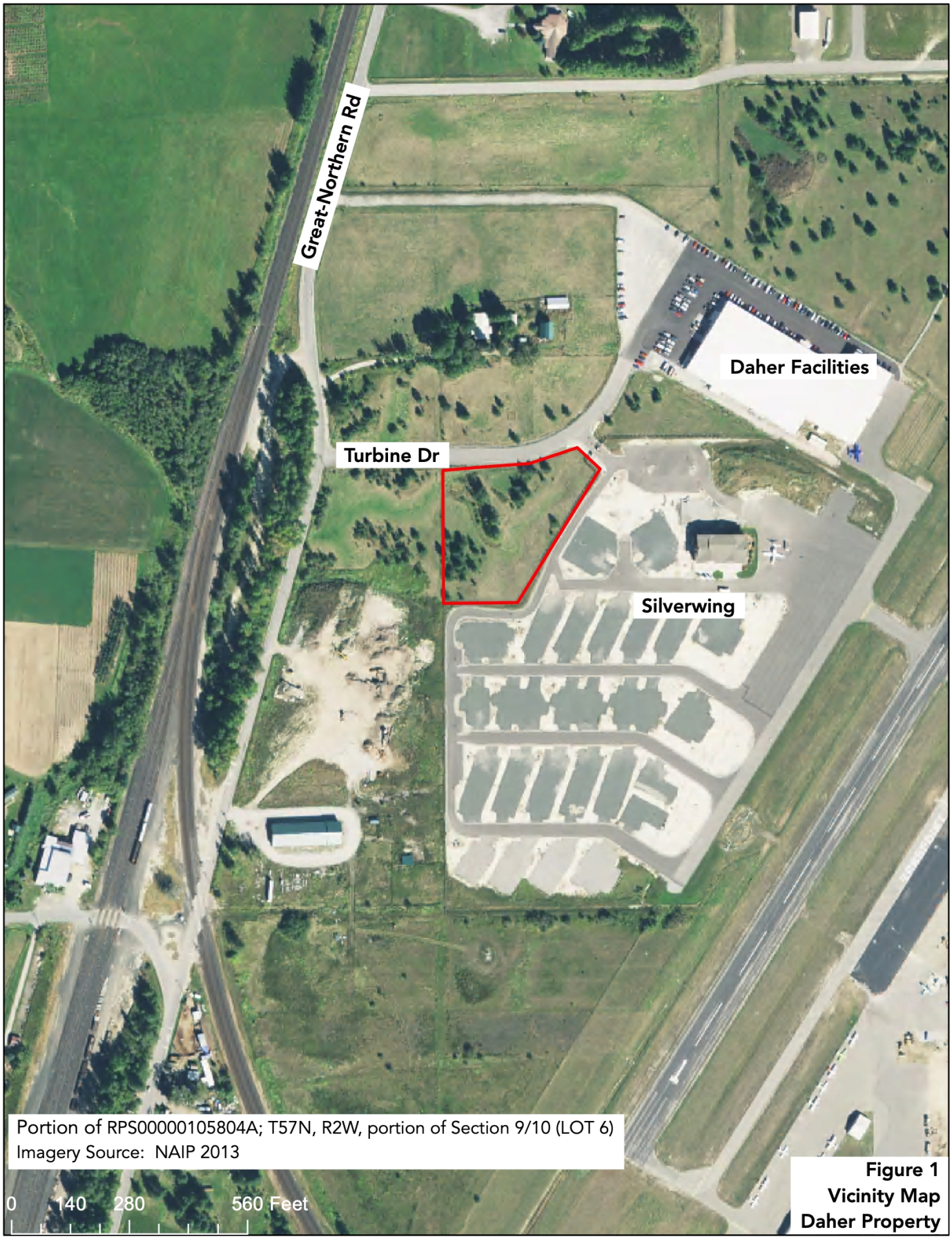

Figure 1
Vicinity Map
Daher Property

Figure 2
National Wetland Inventory and NRCS Soils Map
Daher Property

Figure 3
Wetland Delineation and Data Plot Location Map
Daher Property

Photo 1: View east from near wetland boundary flag A42. Area well ponded with meadow foxtail, canarygrass, and some rush.

Photo 2:). View north outside wetland from near wetland boundary flag A40. Area higher here, approximate wetland boundary shown as blue line (toward deeper pond area

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Daher Property - south of Turbine Drive) 2. Project #: _____ Control #: _____

3. Evaluation Date: Mo. 7 Day 24 Yr. 2022 4. Evaluator(s): Tom Duebendorfer, PWS 5. Wetlands/Site #(s) _____

6. Wetland Location(s): i. Legal: T 57N N or S; R 2W E or W; S 9/10 ; T ___ N or S; R ___ E or W; S ___ ;
ii. Approx. Stationing or Mileposts: _____
iii. Watershed: _____ GPS Reference No. (if applies): _____
Other Location Information:

7. a. Evaluating Agency: _____;
b. Purpose of Evaluation:
1. X Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. ___ Mitigation wetlands; post-construction
4. ___ Other

8. Wetland size: (total acres) _____ (visually estimated)
1.14 (measured, e.g. by GPS [if applies])

9. Assessment area: (AA, tot., ac., see instructions on determining AA) _____ (visually estimated)
_____ (measured, e.g. by GPS [if applies])

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
PEM: emergent	palustrine		EM	C		100

(Abbreviations: **System:** Palustrine(P)/ **Subsyst.**: none/ **Classes**: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ **System:** Lacustrine (L)/, **Subsyst.:** Limnetic (2)/ **Classes:** RB, UB, AB/ **Subsystem:** Littoral (4)/ **Classes:** RB, UB, AB, US, EM/ **System:** Riverine (R)/ **Subsyst.:** Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ **Subsystem:** Upper Perennial (3)/ Classes: RB, UB, AB, US/ **Water Regimes:** Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) **Modifiers:** Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) **HGM Classes:** Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare Common (Abundant)
Comments:

12. General condition of AA:
i. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings.	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	high disturbance	(high disturbance)

Comments: (types of disturbance, intensity, season, etc.): _____
ii. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) canarygrass, tansy
iii. Provide brief descriptive summary of AA and surrounding land use/habitat:
area near ooodeveloped and undeveloped properties

13. Structural Diversity: (based on number of "Cowardin" *vegetated* classes present [do not include unvegetated classes], see #10 above)

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	High	Moderate	(Low)

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (**list species**)	D S	_____
Secondary habitat (**list species**)	D S	_____
Incidental habitat (**list species**)	D S	_____
(No usable habitat)	D S	_____

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	(0 (L))

Sources for documented use (e.g. observations, records, etc):

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (**list species**)	D S	_____
Secondary habitat (**list species**)	D S	_____
Incidental habitat (**list species**)	D S	_____
(No usable habitat)	D S	_____

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	.1 (L)	(0 (L))

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- __ observations of abundant wildlife #'s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

(***Low***) (based on any of the following [check]):
- X few or no wildlife observations during peak use periods
- X little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- __ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- __ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms].)

Structural diversity (see #13)	High								Moderate								(Low)			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				(Even)			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	(L)

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Low
Substantial	1 (E)	.9 (H)	.8 (H)	.7 (M)
Moderate	.9 (H)	.7 (M)	.5 (M)	.3 (L)
Minimal	.6 (M)	.4 (M)	.2 (L)	(.1 (L))

Comments:

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

i. **Habitat Quality** (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >**75%** of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – **50 to 75%** of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - < **50%** of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	**L**	L	L	L

ii. **Modified Habitat Quality** (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity* **or** *is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* **Y** **N** Modified habitat quality rating = (circle) **E** **H** **M** **L**

iii. **Rating** (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	**.1 (L)**

Comments:

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

i. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? Y N
Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

i. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 acre feet			≤1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ **5 out of 10 years**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < **5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle **NA** here and proceed with the evaluation.)

I. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants **or** AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	**.1 (L)**

Comments:

14H Sediment/Shoreline Stabilization: (applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If does not apply, circle **NA** here and proceed to next function)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function.

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments: Not applicable

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions for further definitions of these terms].)

A	Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component <1 acre					
B	High		Moderate		Low		High		Moderate		Low		High		Moderate		Low	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

i. Discharge Indicators

___Springs are known or observed
X Vegetation growing during dormant season/drought
___Wetland occurs at the toe of a natural slope
___Seeps are present at the wetland edge
___AA permanently flooded during drought periods
___Wetland contains an outlet, but no inlet
___Other

ii. Recharge Indicators

___Permeable substrate present without underlying impeding layer
___Wetland contains inlet but no outlet
___Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	(1 (H))
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	(abundant)
Low disturbance at AA (#12i)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	(.1 (L))

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y (N) If yes, rate as [circle] High [1] and go to ii; if no go to iii)

ii. Check categories that apply to the AA: ___ Educational/scientific study; ___ Consumptive rec.; ___ Non-consumptive rec.; ___Other

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y (N)
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	(.1 (L))

Comments:

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	
B. MT Natural Heritage Program Species Habitat	L	0	1	
C. General Wildlife Habitat	L	0.1	1	
D. General Fish/Aquatic Habitat	L	0.1	1	
E. Flood Attenuation	L	0.2	1	
F. Short and Long Term Surface Water Storage	L	0.3	1	
G. Sediment/Nutrient/Toxicant Removal	L	0.1	1	
H. Sediment/Shoreline Stabilization				
I. Production Export/Food Chain Support	M	0.6	1	
J. Groundwater Discharge/Recharge	H	1.0	1	
K. Uniqueness	L	0.1	1	
L. Recreation/Education Potential	L	0.1	1	
Totals:	L	2.6	11	

23.6%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, go to Category II)
___ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; **or**
___ Score of 1 functional point for Uniqueness; **or**
___ Score of 1 functional point for Flood Attenuation **and** answer to Question 14E.ii is "yes"; **or**
___ Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
___ Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
___ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
___ Score of .9 or 1 functional point for General Fish/Aquatic Habitat; **or**
___ "High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**
___ Score of .9 functional point for Uniqueness; **or**
___ Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

Category III Wetland: (Criteria for Categories I, II or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to Category III)
X "Low" rating for Uniqueness; **and**
___ "Low" rating for Production Export/Food Chain Support; **and**
X Total actual functional points < 30% (round to nearest whole #) of total possible functional points

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

Project/Site: Daher (south of Turbine Dr) **City/County:** Sandpoint **Sampling Date:** 06-Jun-22

Applicant/Owner: Daher **State:** ID **Sampling Point:** DP 1

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 9 T 57N R 2W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48°17'50.9"N **Long.:** 116°34'04.3"'W **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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:
All three parameters met - plot is in wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
	0		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20')				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0		= Total Cover	
Herb Stratum (Plot size: 0.1 ac)				
1. Alopecurus pratensis	70	☑	63.6%	FAC
2. Phalaris arundinacea	30	☑	27.3%	FACW
3. Fragaria virginiana	4	☐	3.6%	FACU
4. Tanacetum vulgare	3	☐	2.7%	FACU
5. Equisetum arvense	3	☐	2.7%	FAC
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
	110		= Total Cover	
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0		= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	73	x 3 =	219
FACU species	7	x 4 =	28
UPL species	0	x 5 =	0
Column Totals:	110 (A)		307 (B)

Prevalence Index = B/A = 2.791

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is hydrophytic - both tests met

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

Soil

Sampling Point: DP 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-11	10YR 2/1	100%					Silt Loam	

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ◉ No ○

Remarks:

Soil is hydric, low chroma and fully saturated (NTCHS Criterion #3).

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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):	0
Water Table Present?	Yes ◉	No ○	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Hydrology observed, area fully saturated

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

Project/Site: Daher (south of Turbine Dr) **City/County:** Sandpoint **Sampling Date:** 06-Jun-22

Applicant/Owner: Daher **State:** ID **Sampling Point:** DP 2

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 9 T 57N R 2W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48°17'50.6"N **Long.:** 116°34'04.4"'W **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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:
None of three required parameters observed - plot not located in wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20')			
1. Crataegus douglasii	3	☐ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	3	= Total Cover	
Herb Stratum (Plot size: 0.1 ac)			
1. Tanacetum vulgare	50	☑ 47.2%	FACU
2. Alopecurus pratensis	40	☑ 37.7%	FAC
3. Fragaria virginiana	10	☐ 9.4%	FACU
4. Hypericum perforatum	3	☐ 2.8%	FACU
5. Solidago canadensis	3	☐ 2.8%	FACU
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	106	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

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: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	43	x 3 =	129
FACU species	66	x 4 =	264
UPL species	0	x 5 =	0
Column Totals:	109 (A)		393 (B)

Prevalence Index = B/A = 3.606

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is not hydrophytic - neither test met

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

Soil

Sampling Point: DP 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/2	100%					Silt Loam	

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ○ No ◉

Remarks:

Soil is not hydric

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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, monitor well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not observed - plot dry, no water table

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

Project/Site: Daher (south of Turbine Dr) **City/County:** Sandpoint **Sampling Date:** 06-Jun-22

Applicant/Owner: Daher **State:** ID **Sampling Point:** DP 3

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 9 T 57N R 2W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48°17'50.0"N **Long.:** 116°34'04.2"'W **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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:
None of three required parameters observed - plot not located in wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1. Pinus ponderosa	40	☑ 50.0%	FACU
2. Pinus contorta	40	☑ 50.0%	FAC
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20')			
1. Amelanchier alnifolia	15	☑ 100.0%	FACU
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	15	= Total Cover	
Herb Stratum (Plot size: 0.1 ac)			
1. Tanacetum vulgare	15	☐ 17.6%	FACU
2. Alopecurus pratensis	70	☑ 82.4%	FAC
3.		☐ 0.0%	
4.		☐ 0.0%	
5.		☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	85	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

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: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	110	x 3 =	330
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	180 (A)		610 (B)

Prevalence Index = B/A = 3.389

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is not hydrophytic - neither test met

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

Soil

Sampling Point: DP 3

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR	3/2	100%						Silt Loam	

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ○ No ◉

Remarks:

Soil is not hydric

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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, monitor well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not observed - plot dry, no water table

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

Project/Site: Daher (south of Turbine Dr) **City/County:** Sandpoint **Sampling Date:** 06-Jun-22

Applicant/Owner: Daher **State:** ID **Sampling Point:** DP 4

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 9 T 57N R 2W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48°17'49.3"N **Long.:** 116°34'03.6"'W **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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:
None of three required parameters observed - plot not located in wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1. Pinus monticola	40	☑	40.0%	FACU
2. Pinus contorta	40	☑	40.0%	FAC
3. Pinus ponderosa	20	☑	20.0%	FACU
4.	0	☐	0.0%	
	100		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20')				
1. Amelanchier alnifolia	5	☑	50.0%	FACU
2. Crataegus douglasii	5	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	10		= Total Cover	
Herb Stratum (Plot size: 0.1 ac)				
1. Alopecurus pratensis	90	☑	90.0%	FAC
2. Tanacetum vulgare	10	☐	10.0%	FACU
3.		☐	0.0%	
4.		☐	0.0%	
5.		☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
	100		= Total Cover	
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0		= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	135	x 3 =	405
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	210 (A)		705 (B)

Prevalence Index = B/A = 3.357

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is not hydrophytic - neither test met

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

Soil

Sampling Point: DP 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-11	10YR 3/2	100%					Silt Loam	

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ○ No ◉

Remarks:

Soil is not hydric

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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, monitor well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not observed - plot dry, no water table

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

Project/Site: Daher (south of Turbine Dr) **City/County:** Sandpoint **Sampling Date:** 06-Jun-22

Applicant/Owner: Daher **State:** ID **Sampling Point:** DP 5

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 9 T 57N R 2W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48°17'49.3"N **Long.:** 116°34'02.4"'W **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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:
All three parameters met - plot is in wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20')			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 0.1 ac)			
1. Alopecurus pratensis	80	☑ 72.7%	FAC
2. Phalaris arundinacea	30	☑ 27.3%	FACW
3.		☐ 0.0%	
4.		☐ 0.0%	
5.		☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	110	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		300 (B)

Prevalence Index = B/A = 2.727

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is hydrophytic - both tests met

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

Soil

Sampling Point: DP 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1	100%					Silt Loam	

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ◉ No ○

Remarks:

Soil is hydric, low chroma and fully saturated (NTCHS Criterion #3).

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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):	2
Water Table Present?	Yes ◉	No ○	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	2

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Hydrology observed, area fully saturated

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

Project/Site: Daher (south of Turbine Dr) **City/County:** Sandpoint **Sampling Date:** 06-Jun-22

Applicant/Owner: Daher **State:** ID **Sampling Point:** DP 6

Investigator(s): Tom Duebendorfer, PWS **Section, Township, Range:** S 9 T 57N R 2W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR E **Lat.:** 48°17'51.3"N **Long.:** 116°34'00.2"'W **Datum:** WGS 84

Soil Map Unit Name: Odenson silt loam **NWI classification:** PEM1C

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:
All three parameters met - plot is in wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20')			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 0.1 ac)			
1. Alopecurus pratensis	60	☑ 60.0%	FAC
2. Agrostis stolonifera	40	☑ 40.0%	FAC
3.		☐ 0.0%	
4.		☐ 0.0%	
5.		☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic 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:
Vegetation is hydrophytic - both tests met

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

Soil

Sampling Point: DP 6

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR	2/1	100%						Silt Loam	

[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 Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in 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)
- ☐ 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 Soil Present? Yes ◉ No ○

Remarks:

Soil is hydric, low chroma and fully saturated (NTCHS Criterion #3).

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 on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two 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):	1
Water Table Present?	Yes ◉	No ○	Depth (inches):	1
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	1

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Hydrology observed, area fully saturated to shallowly inundated

Tom Duebendorfer - Professional Wetland Scientist (#000157), Biologist, Botanist

OBJECTIVE

Provide botanical and ecological services to a wide range of organizations and individuals for projects involving land development, wetland delineation, vegetation mapping, rare plant surveys, resource inventories, Environmental Assessments, Biological Evaluations and Assessments, and research-level studies on specific habitats or species.

EDUCATION

WSPSS, SWS Hydric Soils Workshop, Soils and Hydrology, June 2009
Wetland Training Institute, Soils and Hydrology, August 1990
Humboldt State University, Arcata, California
M.A. Biology May 1987
California State Teaching Credential May 1987
B.A. Biology June 1977
University of California, Irvine (2 years - biology major)

EMPLOYMENT

- **Self-employed wetland and botanical consultant (1981 to present)**

  Provided botanical and wildlife surveys, floristic research, habitat characterization, ecological sampling, synecological analysis, aerial photo mapping, wetland delineation, impact analysis, restoration and mitigation, resource planning, permitting, rare and endangered plant surveys, plant taxonomy, soil analysis, computer-aided multivariate analyses and statistics, computer-aided graphics and drafting. Involved with design (as part author/editor) of Washington Dept of Ecology Hydrogeomorphic approach to wetland function assessment program (Assessment Team). Trained in E WA DOE Assessment Methodology (assisted in development of the methodology). Wetland Mitigation Bank preparation. Teaches wetland delineation and plant identification courses to Tribes, agencies, and groups.

  Project locations include rare plant surveys/studies and wetland work in southern, central, northern and coastal California; coastal, southwestern, and northeastern Oregon; north, east-central, and southwest Idaho; eastern and western Washington; and northwest Montana.

- **Senior Wetland Ecologist, Client/Project Manager, Corporate Botanist (1989-1994)**

  David Evans and Associates, Inc. Bellevue, Washington

  Provided wetland delineation, impact assessment, conceptual and final mitigation design, monitoring, cumulative impact assessment, wetland permitting, habitat characterization, rare plant and T&E animal surveys, Biological Evaluations and Assessments, as well as instruction and guidance in systematics and classification to staff in 7 west coast offices. Maintained excellent rapport with clients and other project team members (both in office and as field crew leader). Managed projects from proposals, contracting, budgeting, scheduling and invoicing, to collections.

  Project locations include: Pacific Northwest, from central and coastal Oregon to eastern, western, and coastal Washington, and northwest Montana.

CERTIFICATIONS

Professional Wetland Scientist, Society of Wetland Scientists (#000157)
Certified Wetland Delineator, Corps of Engineers (Seattle District)
Qualified Wetland Specialist, Spokane County, Washington
Qualified Wetland Specialist, City of Spokane, Washington
Completed Training in NEPA/EPA Process
Completed Soils and Hydrology workshops (WTI); Hydric Soils (WSSPSS - Updates 2009)

Tom Duebendorfer - Professional Wetland Scientist (#000157), Biologist, Botanist

SPECIFIC EXPERIENCE

Habitats include: dune coastline, coastal and inland forested, scrub, and marsh wetlands, oak woodlands, steppe scrubland, grasslands, sagebrush, agricultural areas (wetlands), coniferous and deciduous montane, alpine, bog (fen), and serpentine vegetation.

Permitting knowledge and direct use of wetland methodologies (USFWS, US Army Corps of Engineers, WA Dept of Ecology, and local county and city jurisdictions); knowledge of Corps Permit process. Restoration activities. Biological Assessments (BA), USFS Evaluations (BE), Environmental Assessments (EA); SEPA/NEPA; T&E species monitoring, Raptor Monitoring, Wetland Mitigation Bank Design.

Rare plant studies include approximately 45 sensitive plant and vegetation surveys on private, state, and federal lands for small to medium scale hydroelectric plants, stream corridors, sewage treatment facilities, water treatment facilities, prison site, seeding experiments, road and highway construction, transmission corridors (utilities), fiber optic cable routes, and mining companies. Biological Evaluations for USFS-listed sensitive species in four states.

Clients (independently and during tenure as employee) include:

Small- and Large-scale Developers:
Burlington-Northern, Puget Western, Glacier Park Company, Trillium Corporation, Quadrant, Blackhawk/Port Blakely Communities, Coldwater Creek, Valencia Wetlands Trust, Waterfront Property Mgmt., Kirk-Hughes Development, Fortress LLC, & others

Public Entities:
Washington Department of Ecology, Benewah County (through EDA), Federal Highways Administration, Bureau of Reclamation, King Co., US Army Corps of Engineers, Spokane County Engineering and Public Works, Oregon Nature Conservancy, Humboldt County Planning, Humboldt State University Research Program; Benewah County; Idaho Soil and Conservation District, City of Winchester, Idaho Transportation Department, Washington Department of Transportation, Kalispell Indian Tribe, City of Colville, Rathdrum

Communications (fiber optic projects):
AT&T, MCI/WorldCom, Cascade Utilities

Exploratory and Active Mining Companies:
Emerald Creek Garnet Company, American Gold Resources, Cal Nickel Corp., Baretta, Noranda

Assisting other Consulting Firms and Numerous Private Landowners.
The Soils Group, Intermountain Resources, Inc., Hart-Crowser, Inc., Welch-Comer Eng., Land Profile, Inc., Selkirk Environmental, David Evans and Associates, J.A. Sewell and Assoc., EarthTech, ALSC Architects; Ecological Resources, Forsgren Assoc., JUB Eng., Adolfson Assoc. Copper Basin Constr., Toothman-Orton Eng., Rocky Point Investments, HAWKEFA, Tate Engineering.

PUBLICATIONS

Duebendorfer, T.E. 1990. *"An Integrated Approach to Enhancing Rare Plant Populations through Habitat Restoration: II. Habitat Characterization through Classification of Dune Vegetation."* Pp. 478-487 in: Bonnicksen, T.M. and H.G. Hughes, eds. Proceedings of the first annual meeting of the Society for Ecological Restoration and Management. Also presented at Society of Wetland Scientists, May 1993.

Pickart, A.J., L.M. Miller, and T.E. Duebendorfer. 1998. *"Yellow bush lupine invasion in northern California coastal dunes. I. Ecological impacts and manual restoration techniques*". Restoration Ecology Vol 6 No 1, pp59-68.

Seattle Audubon Series, "*Wetland Plants of the Western Washington and NW Oregon"* (Cooke 1997, editor): My role was as a contributor and technical editor.

Hruby, T., S. Stanley, T. Granger, T. Duebendorfer, R. Friesz, B. Lang, B. Leonard, K. March, and A. Wald. 2000. Methods for Assessing Wetlands Functions. Volume II, Part 1: Assessment Methods - Depressional Wetlands in the Columbia Basin of Eastern Washington, WA State Department of Ecology Publication #00-06-47.

Fieldbook of Plant Uses (North Idaho) - self published field booklet (2019)