J. S. Jones and Associates, Inc.

Critical Area Study

Covington Water District
Water Tank
Sugarloaf Mountain
PREA25-0136

Prepared for:
Covington Water District
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Project Description & Purpose

The project involves the construction of a new 250,000 gallon potable water tank, retaining wall, access road extension, well pump upgrade, grading, retaining wall, and stormwater pond, see the attached Roadway Plan.

King County Department of Permitting and Environmental Review (DPER) issued preapplication environmental comments (PREA25-0136) requesting a Critical Area Study. This study evaluates two tax parcels: 042107-9178 and 28560-0150.

Site Location

The existing water tank parcel has a street address of 28800 316th Way S.E., 98051. Directions to the project are as follows:

Head east on S.E. Kent-Kangley Road;
Turn right heading south on 316th Way S.E.;
Head south and proceed under powerline;
Turn right at the water district gate; Open gate and proceed to second gate, staying to left;
Proceed uphill to existing tank and park, see the attached Vicinity map.

There is a security gate for the Sugarloaf community, and two locked gates on the water district access road. Access should be arranged with Covington Water District, Amber Salahdin, Design Engineer, amber.salahdin@covingtonwater.com.

The project area extends from the existing tank on parcel 28560-0150, south and east across parcel 042107-9178, to the proposed tank location, see the attached Roadway Plan.

Methodology

The wetland assessment and delineation were performed using the U.S. Army Corps of Engineers "*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*" (COE. 2010). Wetlands are rated using the *Washington State Wetland Rating System for Western Washington: 2014 Update (Version 2)*. Publication #23-06-009. Washington Department of Ecology (Hruby, T. & Yahnke, A. 2023).

The Routine Small Area Methodology is "used when the project area is small, plant communities are homogeneous, plant community boundaries are abrupt, and the project is not controversial." The wetland determination was based on the presence of the three criteria for jurisdictional wetlands, hydric soils, wetland hydrology, and hydrophytic vegetation. All three criteria must be present in order to classify an area as a wetland.

The field work and study were prepared by Jeffery S. Jones, Wetland Scientist & Wildlife Biologist. No wetlands or aquatic areas were delineated or flagged. There are six sample locations, SL-1 through SL-6, identified in the field with orange flagging.

The offsite wetland to the north and northwest of the proposed tank site was not flagged. However, to map the wetland boundary, on the side of the wetland towards the proposed

development, the biologist located each point with the survey crew present. This wetland boundary is shown on the map and is accurately located.

General Site Description

The project area is forested and open field, see the attached Critical Area Sketch.

Wetland Determination

There are no wetlands or streams, identified onsite or within 315 feet of the subject parcels, on any inventories, see the attached National Wetland Inventory and King County Imap Environmental Layers.

However, north of the proposed water tank location there is a drainage pattern. The bottom of the drainage pattern has a silt loam soil that may be seasonally saturated. As access to private property is not allowed, this offsite wetland was not delineated but is shown approximately on the attached Critical Area Sketch. The wetland does not connect to other wetlands downslope but ends where the drainage pattern ends.

Wetland Rating and Buffers

The offsite wetland scored 14 points total, with 6 habitat points, categorizing it as a Category IV wetland. The standard buffer requirement is 50 feet with a 15-foot building setback line (BSBL). These buffers do not extend into the proposed project area (see attached Wetland Rating Summary and Figures).

Rating Question D6.0
The drainage pattern ends on a gravelly terrace and wetland hydrology infiltrates into the soil. The outlet is subsurface infiltration into the groundwater. There is no indication of the wetland presence crossing or along 318th Drive S.E. The properties along 318th Drive S.E. have homes and are not accessible. Aerial photos, topography, soils mapping, and views from the closest streets were used to determine that the wetland does not have a downstream surface water connection to areas that flood.

Rating Question H1.2
In September, there were no visible indications of seasonal surface water. However, in April there were pockets of 1-2" deep surface water and a tiny flowing stream within the wetland. Questions H1.2 has been changed to 3 types of hydroperiods.

Rating Question H1.3
The hydroperiods are not so different that they increase the diversity of plant species. The estimated number of plant species is 12-15. Himalayan blackberry was not counted.

"For this question, the following species are NOT TO BE INCLUDED in the total: Eurasian watermilfoil (*Myriophyllum spicatum*), reed canarygrass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), and Canada thistle (*Circium arvense*). These species were judged to reduce the number of niches present in a wetland by the team of wetland scientists who developed this indicator" (Hruby, T. & Yahnke, A. 2023).

Rating Questions H1.4

The entire wetland is forested. "The plant structures under a forest canopy, however, should not be included in this indicator because they are within one Cowardin class (Hruby, T. & Yahnke, A. 2023).

KCC 21A.24.325 Wetlands – buffers.

A. Except as otherwise provided in this section, buffers shall be provided from the wetland edge as follows:

1. The buffers shown on the following table apply unless modified in accordance with subsections B., C., D. and E. of this section:

WETLAND CATEGORY AND CHARACTERISTICS	INTENSITY OF IMPACT OF ADJACENT LAND USE		
	HIGH IMPACT	MODERATE IMPACT	LOW IMPACT
Category I			
Wetlands of High Conservation Value	250 feet	190 feet	125 feet
Bog	250 feet	190 feet	125 feet
Estuarine	200 feet	150 feet	100 feet
Coastal Lagoon	200 feet	150 feet	100 feet
Forested	Buffer width to be based on score for habitat functions or water quality functions		
Habitat score from 8 to 9 points (high level of function)	300 feet	225 feet	150 feet
Habitat score from 6 to 7 points (moderate level of function)	150 feet	110 feet	75 feet
Category I wetlands not meeting any of the criteria above	100 feet	75 feet	50 feet
Category II			
Estuarine	150 feet	110 feet	75 feet
Habitat score from 8 to 9 points (high level of function)	300 feet	225 feet	150 feet
Habitat score from 6 to 7 points (moderate level of function)	150 feet	110 feet	75 feet
Category II wetlands not meeting any of the criteria above	100 feet	75 feet	50 feet
Category III			
Habitat score from 8 to 9 points (high level of function)	300 feet	225 feet	150 feet
Habitat score from 6 to 7 points (moderate level of function)	150 feet	110 feet	75 feet
Category III wetlands not meeting any of the criteria above	80 feet	60 feet	40 feet
Category IV	50 feet	40 feet	25 feet

Wetland Functions

The offsite wetland is approximately one acre in size and classified as Palustrine Forested (PFO) under the Cowardin system. It provides excellent wildlife habitat, but limited water quality or hydrology benefits.

Aquatic Area & Buffer

~~There are no aquatic areas on or near the subject parcels.~~
A small seasonal stream is present with the offsite wetland. The stream is a Type N, seasonally flowing, The stream buffer requirement is 65 feet, and does not extend beyond the wetland buffer.

Steep Slopes (Geologic Hazards)

Slopes exceeding 40% occur northeast of the proposed tank site. Project construction will impact these slopes. A retaining wall is proposed to minimize disturbance. Detailed evaluation and mitigation of steep slope impacts will be addressed in a separate geotechnical study.

Fish and Wildlife Habitats and Species

Priority Habitats and Species

The site is potentially habitat for Elk and Myotis myotis spp., see the attached PHS report (Washington Department of Fish and Wildlife. 2008). No priority habitats are present.

Elk are a game management species and do not have protective status. Elk feces were observed onsite.

The WDFW Biologist for King County, Julian Douglas, was contacted regarding elk use at this site. On the phone call he said there are no identified calving areas in this portion of King County. Heather Warren, WDFW PHS program, provided sensitive PHS species specific GIS data. WDFW does not provide the data in a map form and does not want the information provided to the public. This data was made into a GIS map and is attached. The subject property has no specific points or habitat types for elk, only that they are present throughout the community. There was no data for bats.

The WDFW priority species information, regarding calving habitat states, "elk calving habitat contains water within 300m (1,000''), occurs on terraces or slopes less than 15 percent, and is generally found on south or west slopes (Brown 1985, Thomas 1979). Calving areas have forage areas 0.4-16 ha (1-40 acres) in size, with 1.2-4 ha (3-10 acre) patches being preferred. These patches are within 180m (600'0 of cover." "Elk are particularly susceptible to human disturbance on calving grounds during the period from May 1-June 20 (Sachet 1988, Thomas 1979)" (WDFW, 1991).

The proposed tower location is in a mowed grass field. The field is accessible by motorized vehicles. There is a large shop building on the east side of the field and a single-family residence on the south side of the field. On the west side of the field is a large Himalayan blackberry patch. The property owner has a dog kennel with at least one large dog.

The surrounding forest habitat is excellent for elk. The identified offsite wetland is a seasonal water source, but its presence may not extend to the end of June. Elk calving occurs in hiding cover patches with a tree canopy closure over 70%. Calving occurs across the broad Kanasket area. Elk cows find locations to give birth that hide the calves, and provide access to water and feed for the cow. These locations occur wherever the conditions are right at the birthing time. Elk are sensitive to human activities during calving; therefore, the existing activities would discourage calving in the immediate vicinity.

The abbreviation "spp." means "multiple species within the genus" and, technically "*Myotis myotis spp.* is not correct usage. There is no bat species called *Myotis myotis* naturally found in Washington State. However, Washington *does* have several *Myotis* species including:

- Keen's myotis (*Myotis keenii*) — found in coastal, moist, mature forests in NW Washington and SE Alaska.
- Western long-eared myotis (*Myotis evotis*) — widely distributed, especially in forests; morphologically very similar to Keen's myotis in some regions.

- Yuma myotis (*Myotis yumanensis*) — occurs near water bodies, widespread in various habitats in WA.
- Little brown myotis (*Myotis lucifugus*) — also present, known for roosting in structures, trees, etc.

One or more species from the genus Myotis are a sensitive species. Myotis species are also on the King County Species of Local Importance, see below.

King County Species of Local Importance

King County's schedules for updating the "Species of Local Importance" (SOLI) and "Habitats of Local Importance" (HOLI) lists as part of its Comprehensive Plan: King County's Best Available Science (BAS) Review – 2025 (PDF). Appendix A lists current and newly considered Species of Local Importance, as well as policy context (Policies E-435 and E-437 in Chapter 5 of the Comprehensive Plan):
https://cdn.kingcounty.gov/-/media/king-county/depts/council/comprehensive-plan/2025/bas-report.pdf
codepublishing.com+5cdn.kingcounty.gov+5cdn.kingcounty.gov+5
Attachments from that report are Table 6.1 lists plants considered for inclusion in the SOLI list; Tables 6.2–6.4 show updates to both species and habitat lists. Many of the species on the SOLI list are associated with habitats that are not present on-site, including lacustrine and marine.

SOLI Species with Possible Habitat Association, Listed Status, & WDFW Management Recommendations

Birds (E. Larsen, J. M. Azerrad, N. Nordstrom, editors. 2004.)

- **Wood Duck (*Aix sponsa*)**
  Habitat: Beaver ponds, slow rivers, backwaters with cavity trees.
  Management: Retain large snags/cavity trees; install/maintain nest boxes; maintain emergent/riparian vegetation and 100–200 ft vegetated buffers.
- Northern Spotted Owl (*Strix occidentalis caurina*)
  Status: *Washington State: Endangered; Federal (ESA): Threatened*
  WDFW+2WDFW+2Wikipedia+9WDFW+9Medium+9
  Habitat: Mature/old-growth con ifer forests with complex structure.
  Manage: Conserve late-successional habitat; minimize disturbance near activity centers; maintain dispersal corridors; support barred owl control where authorized.
- Bald Eagle (*Haliaeetus leucocephalus*)
  Habitat: Nest trees adjacent to large waterbodies.
  Management: Protect nest/roost/perch trees; maintain shoreline buffers; minimize disturbance during breeding; retain large snags.
- Osprey (*Pandion haliaetus*)
  Habitat: Tall structures near large waterbodies.
  Management: Protect nests; maintain artificial platforms; reduce disturbances; protect foraging waters and riparian buffers.
- Northern Goshawk (*Accipiter gentilis*)
  Habitat: Mature conifer forests with dense canopy near openings.
  Management: Protect nest stands and foraging habitat; maintain multi-tier canopy; time forestry outside breeding season.

- Peregrine Falcon (*Falco peregrinus*)
  Habitat: Cliffs or bridge structures near open areas or water.
  Management: Establish seasonal buffers at eyrie sites; protect prey-rich wetlands; restrict climbing or disturbance near nests.
- American Bittern (*Botaurus lentiginosus*)
  Habitat: Emergent freshwater marshes.
  Management: Protect stable emergent marshes; keep vegetated buffers; avoid water drawdowns during breeding.
- Great Blue Heron (*Ardea herodias*)
  Habitat: Colonial nesting near water.
  Management: Protect rookeries with no-entry buffers; retain large nest trees; maintain foraging shoreline and shallow habitats.
- Hairy Woodpecker (*Dryobates villosus*)
  Habitat: Mixed coniferous/deciduous forests.
  Management: Retain diverse-size snags and decadent trees; preserve downed wood and late-successional structural elements.
- Pileated Woodpecker (*Dryocopus pileatus*)
  Habitat: Mature forests with large snags and logs.
  Management: Retain large snags (>50 cm DBH); protect nest trees; maintain closed-canopy blocks.
- Black-backed Woodpecker (*Picoides arcticus*)
  Habitat: Recently burned coniferous forests.
  Management: Retain high densities of snags in burn areas; avoid salvage logging in key foraging zones.
- American Three-toed Woodpecker (*Picoides dorsalis*)
  Habitat: Beetle-killed or post-disturbance boreal/subalpine forests.
  Management: Retain dead trees and snags; limit salvage operations in foraging areas.
- Belted Kingfisher (*Megaceryle alcyon*)
  Habitat: Streams or lakes with erodible banks for burrowing.
  Management: Preserve vertical bank structure; retain riparian woody cover; avoid instream disturbance during breeding.
- Pacific Coast Band-tailed Pigeon (*Patagioenas fasciata monilis*)
  Habitat: Conifer-hardwood forests with mineral springs.
  Management: Protect mineral spring areas; preserve fruiting plants and roost trees; avoid disturbance during nesting.
- Oregon Vesper Sparrow (*Pooecetes gramineus affinis*)
  Habitat: Native prairies and grasslands with sparse shrubs.
  Management: Protect prairie structure; avoid mowing/grazing during nesting; control invasive grasses.
- Yellow-billed Cuckoo (*Coccyzus americanus*)
  Habitat: Large cottonwood-willow riparian forests.
  Management: Restore extensive riparian corridors; minimize noise and disturbance if present.
- Vaux's Swift (*Chaetura vauxi*)
  Habitat: Chimneys in towns or large hollow trees.

Management: Retain nesting roost structures; schedule demolition outside roosting season.

- Western Meadowlark (*Sturnella neglecta*)
  Habitat: Grasslands and shrub-steppe ecosystems.
  Management: Preserve grassland mosaics; delay mowing; manage grazing; prevent shrub encroachment.
- Olive-sided Flycatcher (*Contopus cooperi*)
  Habitat: Fire edges or open conifer stands with tall perches.
  Management: Preserve tall snags; avoid disturbance during nesting; maintain early successional forest edges.
- Red-eyed Vireo (*Vireo olivaceus*)
  Habitat: Deciduous or riparian woodlands.
  Management: Retain riparian stand structure; maintain multilayered canopies; minimize fragmentation.
- Purple Finch (*Haemorhous purpureus*)
  Habitat: Mixed forests with conifer seed and deciduous mast.
  Management: Maintain diverse-age mixed forests; retain conifer seed sources; reduce window-strike risks.
- Sooty Grouse (*Dendragapus fuliginosus*)
  Habitat: Mid- to high-elevation coniferous forests.
  Management: Conserve canopy structure with patchy openings; protect winter ridges; reduce disturbance near lek and roost areas.

Mammals

- Gray Wolf (*Canis lupus*)
  Habitat: Interconnected habitats with abundant prey, primarily wild ungulates like deer and moose, and low human and road densities.
  Management: Protecting mature vegetation, maintaining a healthy prey base, and reducing fragmentation, public education, compensation for livestock losses, and the strategic use of tools to mitigate human-wildlife conflict.
- Townsend's Big-eared Bat (*Corynorhinus townsendii*)
  Habitat: Caves, mines, buildings; riparian foraging.
  Management: Secure roost sites; gate critical caves; maintain riparian corridors.
- Big Brown Bat (*Eptesicus fuscus*)
  Habitat: Human structures and natural roosts.
  Management: Protect roosts; ensure humane exclusions; preserve snags/hollow trees.
- Pallid Bat (*Antrozous pallidus*)
  Habitat: Arid shrublands and rock outcrops.
  Management: Preserve roosting structures; maintain open foraging zones; reduce pesticide exposure.
- Myotis spp. (*Myotis* spp.)
  Habitat: Forests near water with available cavities.
  Management: Protect roost trees and structures; avoid disturbance during maternity/hibernation; use bat houses if needed.

- Douglas Squirrel (*Tamiasciurus douglasii*)
  Habitat: Conifer forests with mature tree cover and down logs.
  Management: Retain mature and snags; preserve connected canopy.
- Roosevelt Elk (*Cervus canadensis roosevelti*)
  Habitat: Coastal/southern forests and forage-cover mosaics.
  Management: Maintain habitat mosaics; conserve winter ranges, and travel corridors; follow herd management plans.
- Northern Flying Squirrel (*Glaucomys sabrinus*)
  Habitat: Old moist forests with snags and canopy continuity.
  Management: Retain late-successional and canopy-connected habitat; prevent fragmentation.
- Townsend's Chipmunk (*Neotamias townsendii*)
  Habitat: Forest understory with woody debris.
  Management: Maintain understory and debris layers; ensure habitat connectivity.

Amphibians & Reptiles

- Larch Mountain Salamander (*Plethodon larselli*)
  Status: State candidate (as per March 2024 list) WDFWWDFW
  Habitat: Talus slopes in forested Cascade and Gorge landscapes.
  Management: Conserve talus and adjacent forest microhabitats; preserve canopy and woody debris; minimize disturbance.
- Oregon Spotted Frog (*Rana pretiosa*)
  Status: State endangered (not confirmed here but recognized as high concern).
  Habitat: Warm, shallow wetlands with emergent vegetation.
  Management: Protect breeding marshes; stabilize hydrology; control invasive predators; maintain buffers.
- Northern Red-legged Frog (*Rana aurora*)
  Habitat: Forested lowlands near ponds/streams.
  Management: Protect breeding and dispersal habitats; maintain buffers; reduce road mortality.
- Western Toad (*Anaxyrus boreas*)
  Habitat: Sunny shorelines, ponds.
  Management: Protect breeding sites and shoreline benches; manage road crossings; avoid disturbance during metamorphosis.
- Western Pond Turtle (*Actinemys marmorata*)
  Habitat: Still waters with basking habitat and nesting areas.
  Management: Protect wetland complexes; provide basking sites; control predators; secure upland nesting; follow recovery actions.
- Western Fence Lizard (*Sceloporus occidentalis*)
  Habitat: Open, sunny, rocky areas.
  Management: Preserve basking and cover sites; prevent pesticide drift.

Invertebrates

- **Beller's Ground Beetle (*Agonum belleri*)**
  Status: Not listed but prioritized as PHS species.
  Habitat: Sphagnum-dominated bogs.

Management: Protect hydrology; control invasive vegetation; restrict access; maintain buffers.

- Hatch's Click Beetle (*Hypnoidus hatchi*)
  Status: PHS-listed, high concern.
  Habitat: King/Snohomish sphagnum bogs.
  Management: Protect floating vegetated mats; preserve bog hydrology; survey before disturbance.
- Pacific Clubtail (*Gomphurus kurilis*)
- *Status:* The species is designated a Priority Species under WDFW's Priority Habitats and Species (PHS) program but was not identified on the PHS online report. It is listed with a State Status of Endangered, meaning it is formally recognized by WDFW as endangered within Washington, though no Federal ESA status applies at this time.
  Habitat: Clean lowland streams with sand/gravel substrate.
  Management: Preserve riffle/pool structure; protect substrate; maintain shade and riparian integrity.
- Western Bumblebee (*Bombus occidentalis*)
  Status: PHS-listed, declining species.
  Habitat: Native flower-rich habitats.
  Management: Provide seasonal bloom; protect nesting/overwintering sites; reduce pesticide risk; prevent pathogen spread.
- Johnson's Hairstreak (*Callophrys johnsoni*)
  Status: State Status Candidate — listed by WDFW as a candidate species, reflecting concern but not formal protection under state law. Recognized as a Priority Habitats & Species (PHS) due to its restricted range, rare host plant dependency, small, isolated populations, and habitat sensitivity.
- *Habitat:* Hemlock forests with dwarf mistletoe.
  Management: Retain mistletoe hosts; preserve late-seral patches; limit forestry spray.
- Valley Silverspot (*Speyeria zerene bremnerii*)
  Status: State Listed as a Candidate species, indicating high conservation concern without formal legal protection.
  ecosphere-documents-production-public.s3.amazonaws.com+15WDFW+15US Forest Service+15
- *The population in Washington is critical and declining, with only a few isolated grassland populations remaining (e.g., South Puget Sound prairies, Olympic Mountains meadows).*
- *Habitat:* South Puget prairie with native violets.
  Management: Restore host plant habitat; control invasive grasses; time management to avoid flight/larval periods.

Notes on Listing Status:

- The Northern Spotted Owl's listing is confirmed via WDFW periodic review (State: Endangered; Federal ESA: Threatened) survey123.arcgis.com+12WDFW+12WDFW+12WDFW+4Medium+4WDFW+4WDFWKXRO News Radio+2khq.com+2.

- The Larch Mountain Salamander appears on the March 2024 State Candidate Species list WDFW.
- Other species are either not listed, not designated, or considered priority species but not formally listed—no explicit WDFW listing found across available sources.

Field Observations 8/25 & 8/26, 2025
Birds

- Black-capped Chickadee
- Steller's Jay
- Dark Phase Hawk, brief view not clearly identifiable

Mammals

- Black Bear feces
- Black-tailed Deer feces
- Elk feces

Habitats

- Forest
- Open Field

Rare Plants and Ecosystems

There are no rare plants or ecosystems identified on or near the subject parcel, see the attached NHP Rare Plants and Ecosystems map.

Probable Impacts

The applicant is proposing impacts to steep slopes and steep slope buffers, see the attached Roadway Plan. The probable geological impacts will be addressed in the geotechnical study. Mitigation may be required for these impacts.

Direct and Indirect Potential Impacts

Project activities will impact steep slopes and associated buffers (see attached Roadway Plan). Impacts to steep slopes are proposed so that the water tank can be located at the highest point in the landscape. These geologic impacts will be addressed in the geotechnical study. No direct or indirect impacts to wetlands, streams, wildlife, or wildlife habitat are anticipated.

Erosion and sediment control measures will be used according to an approved Temporary Erosion and Sediment Control Plan (TESCP).

Authority

This critical area study is in accordance with King County Code, Title 21A.24.

Limitations

Wetland determinations and delineations are not final until approved by regulatory agencies and/or local jurisdictions. *J. S. Jones and Associates, Inc.* does not guarantee acceptance or approval by regulatory agencies, or that any intended use will be achieved.

References

COE, 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), Environmental Laboratory U.S. Army Corps of Engineers May 2010.

DNR Rare Plants & Ecosystems. https://dnr.wa.gov/natural-heritage-program/wnhp-data-explorer

E. Larsen, J. M. Azerrad, N. Nordstrom, editors. 2004. Management recommendations for Washington's priority species, Volume IV: Birds. Washington Department of Fish and Wildlife, Olympia, Washington, USA.

FPARS Water Typing Map. https://fpamt.dnr.wa.gov/default.aspx

Hruby, T. & Yahnke, A. (2023). *Washington State Wetland Rating System for Western Washington: 2014 Update (Version 2)*. Publication #23-06-009. Washington Department of Ecology.

National Wetland Inventory. https://www.fws.gov/wetlands/

PHS on the web. https://geodataservices.wdfw.wa.gov/hp/phs/

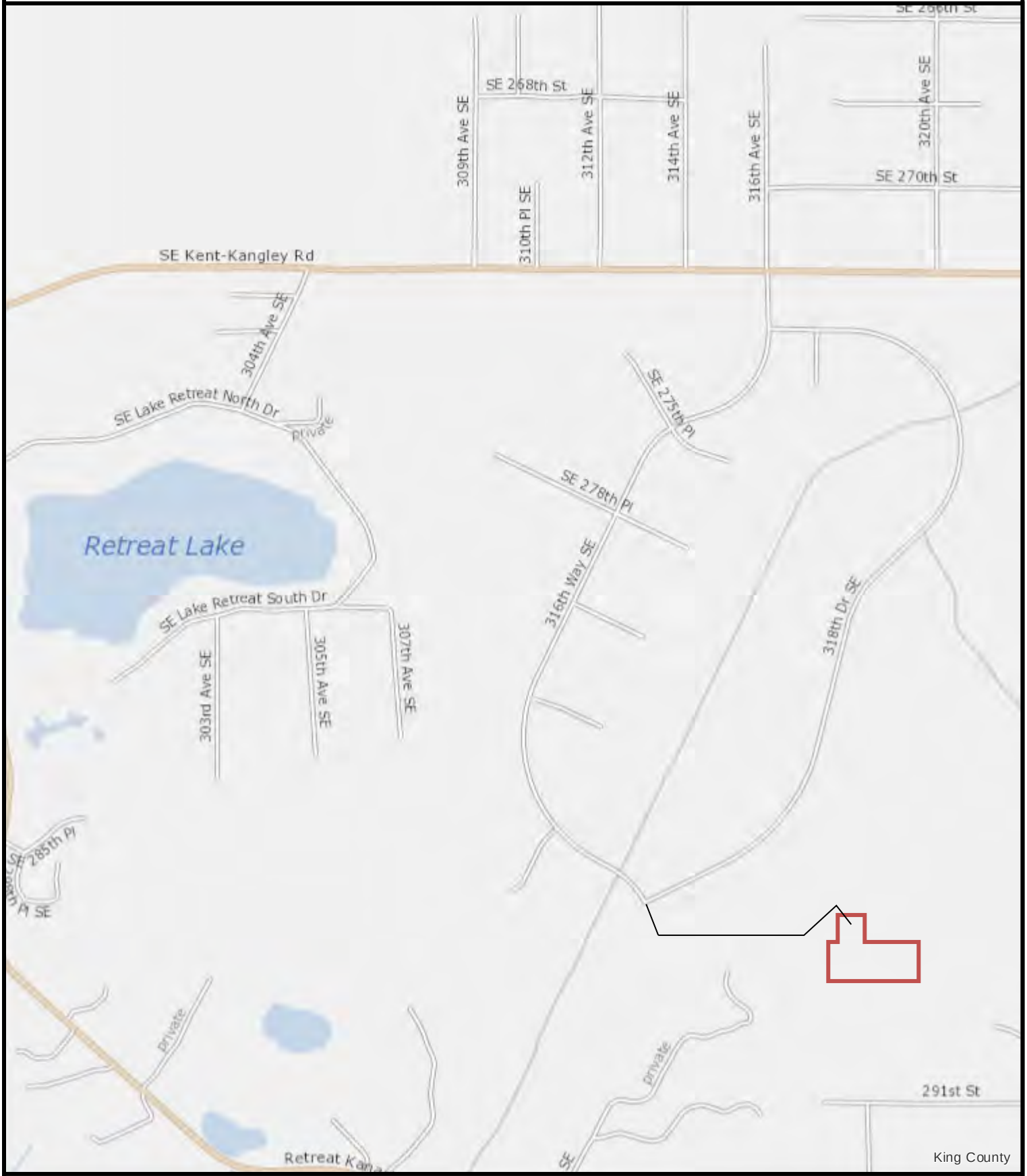
Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 292pp.

Washington Department of Wildlife. 1991. *Management Recommendations 1991 for Washington's Priority·Habitats and Species.* Elizabeth Rodrick and Ruth Milner, Technical Editors.

Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Attachments

Vicinity Map



The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.

N

King County

Date: 9/21/2025 Notes:

EARTHWORK ESTIMATE		
CUT	3400 CY	**DESCRIPTION**
FILL	3800 CY	
NET	400 CY (FILL)	

NORTH

0 20 40

Scale in Feet

RETAINING WALL
90LF
6' MAX HEIGHT

STA: 5+53.71
OFF: 1.00'

TREE TO BE
REMOVED, TYP.

SPRUCE30"

KING COUNTY MON. 7874

Call 48 Hours Before You Dig

1-800-424-5555
UNDERGROUND SERVICE

No.	Revision	Date	By	App'd

bhc CONSULTANTS
BHC Consultants, LLC
1601 Fifth Avenue, Suite 500
Seattle, Washington 98101
206.505.3400
206.505.3406 (fax)
www.bhcconsultants.com

Mead & Hunt

Designed: CLT
Drawn: ZEM
Checked: RDT

Scale:
1" = 20'-0"
One Inch at Full Scale
If Not One Inch Scale Accordingly

Covington WATER DISTRICT
18631 SE 300th Place
Kent, Washington, 98042
253.631.0565

PHASE 1 SUGARLOAF WATER SYSTEM IMPROVEMENTS

ROADWAY PLAN

Drawing: C-5
Sheet: of X
File:
Date: MARCH 2025

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Path: X:\4367900\242089.011TECH\ Filename: CIVIL ROAD Plot date: Mar 12, 2025-05:05:23pm CAD User: 02624.
Xref Filename: | Z9BHC011400SURV | 242089.01-CG | 242089.01-CL | X24-10976_Sub TB |

Critical Area Sketch



The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.

Date: 9/21/2025 Notes:

N

King County

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



September 18, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Map Scale: 1:3,440 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Snoqualmie Pass Area, Washington (Parts of King and Pierce Counties)
Survey Area Data: Version 26, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

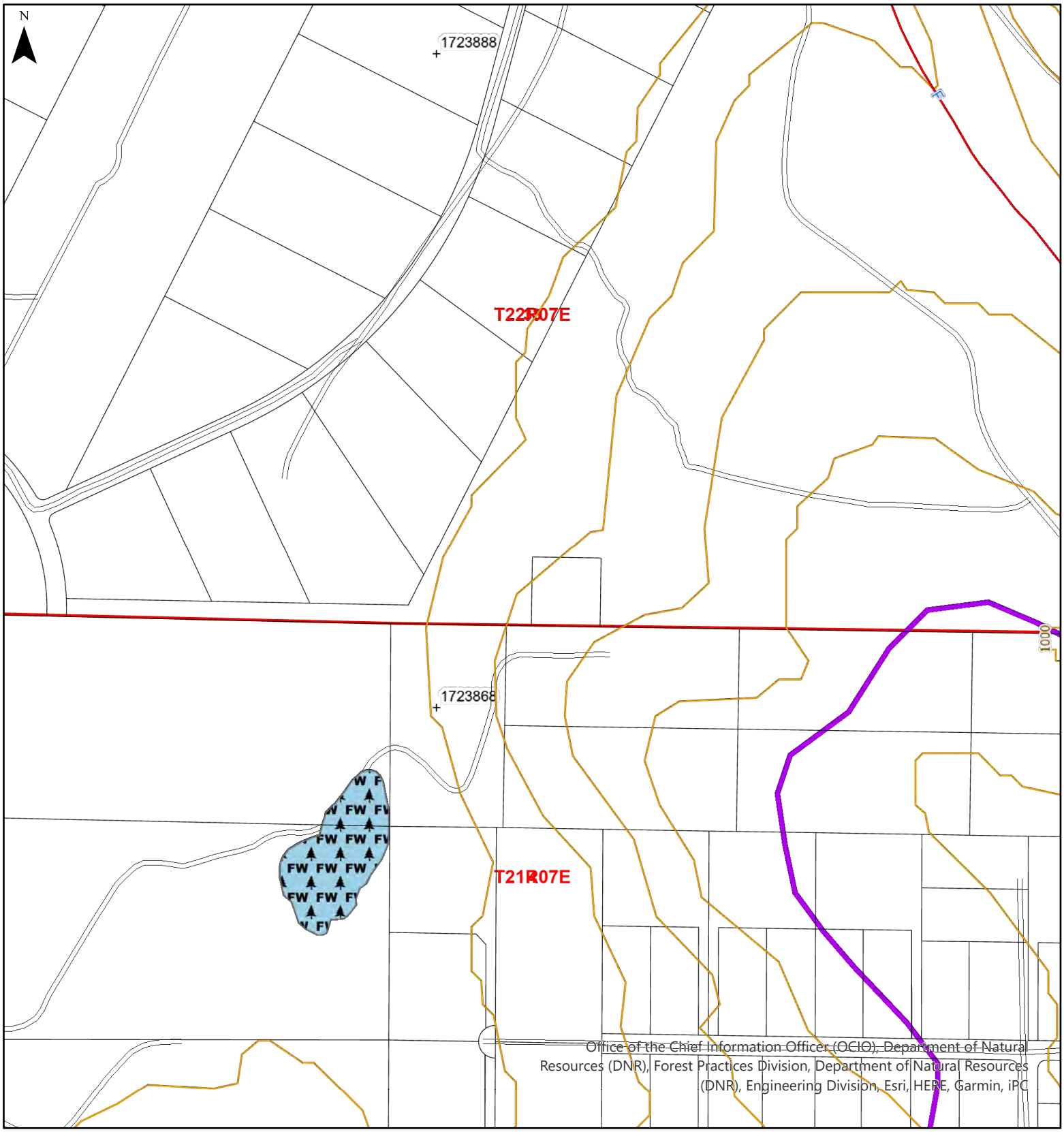
Date(s) aerial images were photographed: Aug 6, 2022—Sep 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11	Barneston gravelly ashy coarse sandy loam, 8 to 15 percent slopes	57.7	100.0%
Totals for Area of Interest		**57.7**	**100.0%**

Forest Practices Water Type Map



Map Symbols

- New Stream
- Proposed Water Type
- Stream Removal
- Break between water types
- Start and End Point of Surveyed Reach
- Natural Fish Barrier
- Manmade Barrier
- End of Fish or Last Fish

Additional Information

Legal Description

S33 T22.0N R07.0E, S04 T21.0N R07.0E

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

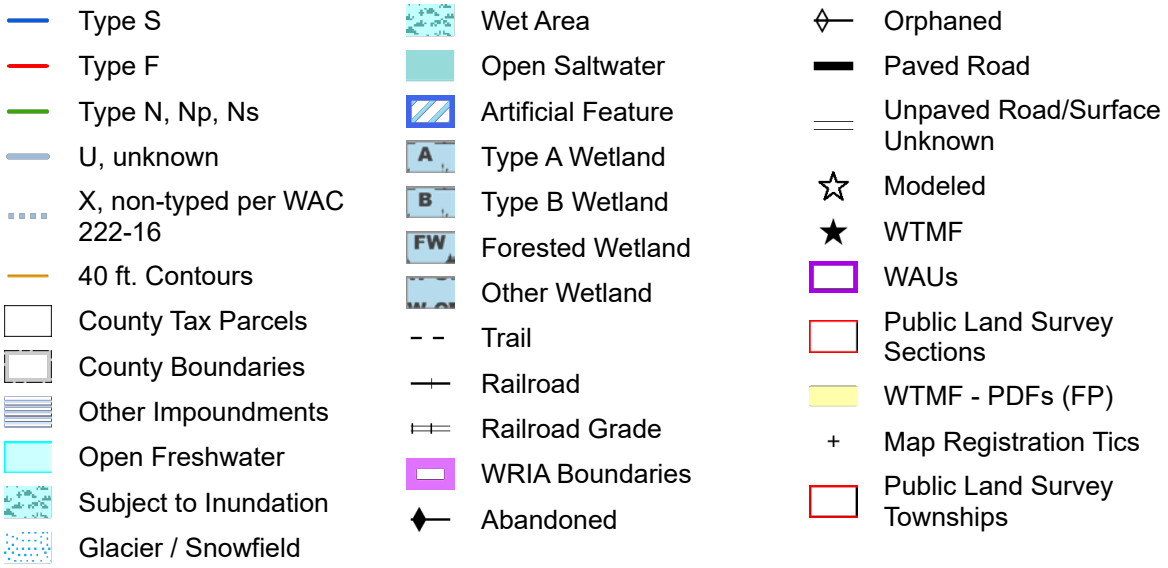
Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to rely on outside information, the Department of Natural Resources cannot accept responsibility for errors or omissions, and therefore, there are no warranties that accompany this material.

Approximate Scale : 1:4,800

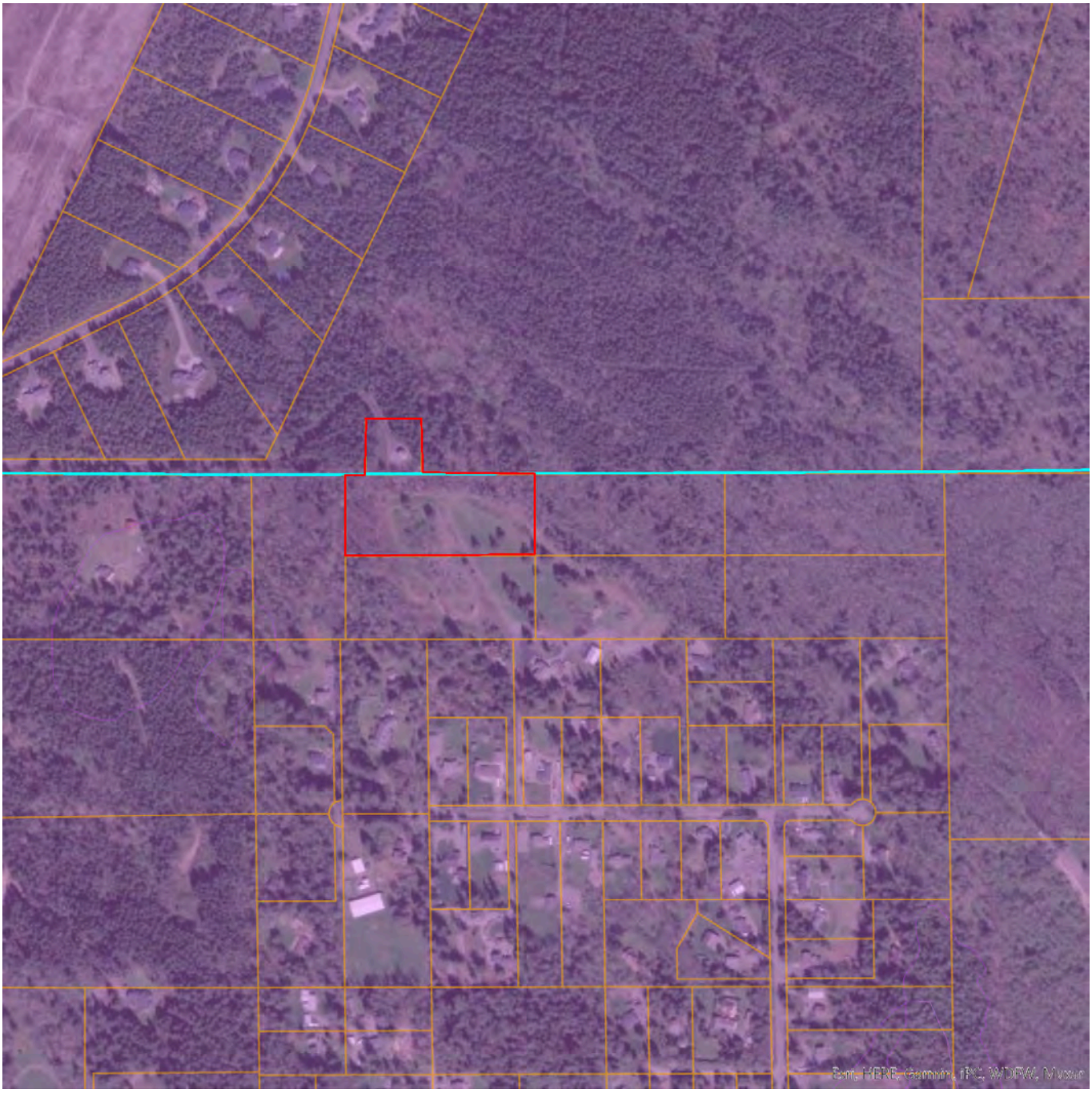
0 200 400 800 Feet

Date: 9/17/2025 Time: 7:15 PM

Legend


Type S
Type F
Type N, Np, Ns
U, unknown
X, non-typed per WAC 222-16
40 ft. Contours
County Tax Parcels
County Boundaries
Other Impoundments
Open Freshwater
Subject to Inundation
Glacier / Snowfield
Wet Area
Open Saltwater
Artificial Feature
A
Type A Wetland
B
Type B Wetland
FW
Forested Wetland
Other Wetland
Trail
Railroad
Railroad Grade
WRIA Boundaries
Abandoned
Orphaned
Paved Road
Unpaved Road/Surface Unknown
Modeled
WTMF
WAUs
Public Land Survey Sections
WTMF - PDFs (FP)
+
Map Registration Tics
Public Land Survey Townships

Priority Habitats and Species on the Web



Buffer radius: 600 Feet

Report Date: 09/17/2025

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Elk	N/A	N/A	No
myotis spp			Yes

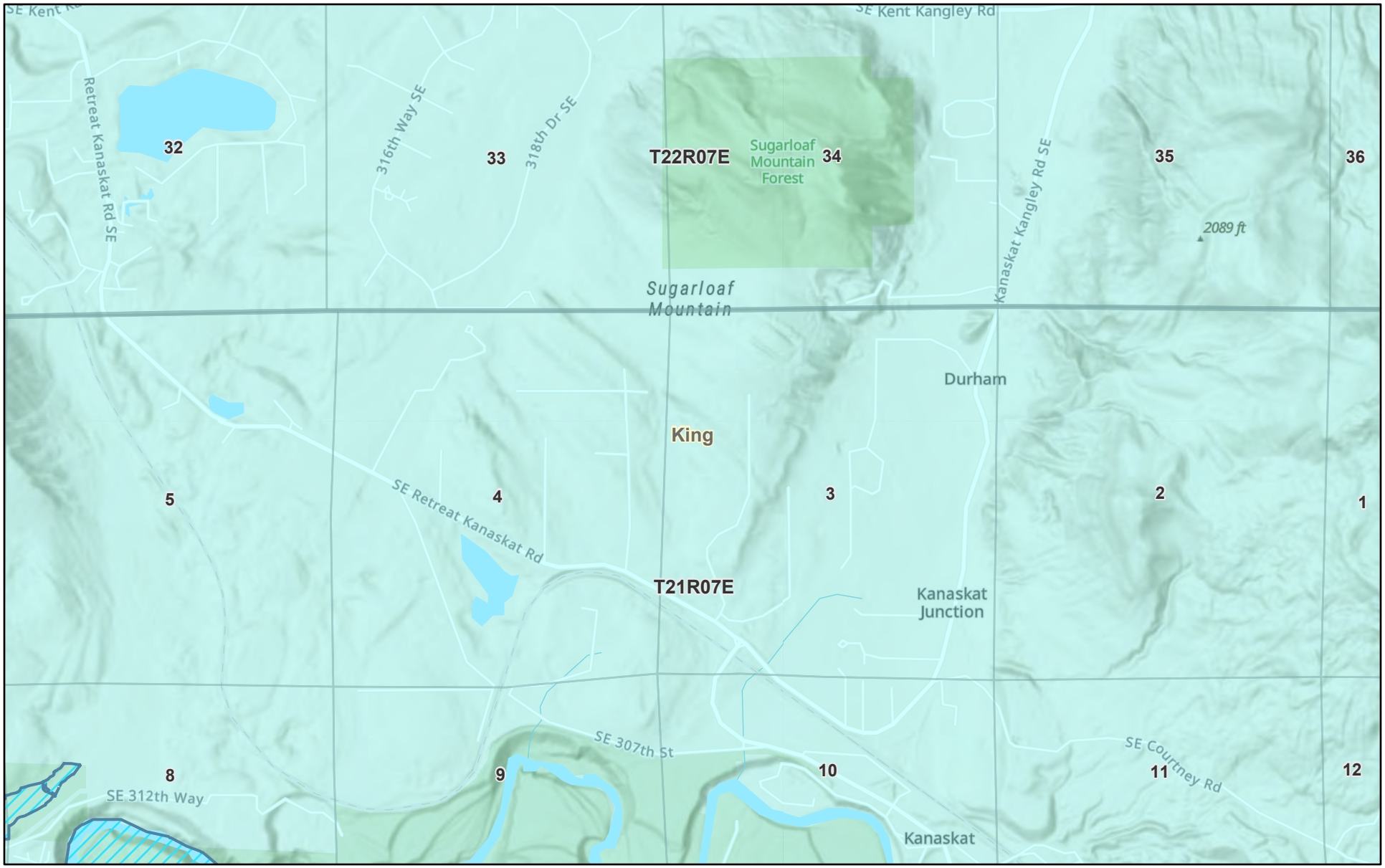
PHS Species/Habitats Details:

Elk	
Scientific Name	*Cervus elaphus*
Priority Area	Regular Concentration
Site Name	GREEN/CEDAR RIVER
Accuracy	General locality
Notes	GREEN/CEDAR RIVER WINTER ELK RANGE.KING COUNTY ELK HABITAT INCLUDES RESIDENT AND WINTER MIGRATORY ELK.
Source Record	918540
Source Dataset	PHSREGION
Source Name	SPENSER, ROCKY WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00614
Geometry Type	Polygons

myotis spp	
Scientific Name	*Myotis myotis spp*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necesssary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

WNHP Rare Plant and Ecosystem Locations



9/17/2025, 7:24:05 PM

1:38,176

0 0.23 0.45 0.9 mi

0 0.35 0.7 1.4 km

Known Rare Plants and Rare & High-quality Ecosystems

Rare and/or High Quality Ecosystem

Public Land Survey Sections

Public Land Survey Townships

State Boundary

County Boundaries

World_Hillshade

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

WNHP Plant & Ecosystem Map Viewer

KNOWN PLANT AND ECOSYSTEM LOCATIONS REFLECT KNOWN OCCURRENCE LOCATIONS BUT MAY NOT REFLECT ALL OCCURRENCES OF RARE PLANTS OR ECOSYSTEMS.

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CWD Sugarloaf Mtn | City/County: King | Sampling Date: 2025-09-18

Applicant/Owner: Covington Water District | State: Washington | Sampling Point: SL-1

Investigator(s): Jeffery Jones | Section, Township, Range: Sec 4, Twn 21 N, Rge 7 E

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): None | Slope (%): 10

Subregion (LRR/MLRA): A 1 | Lat: 47.3435473 | Long: -121.9178441 | Datum: WGS 84

Soil Map Unit Name: Barneston gravelly ashy loam | NWI classification: None

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:

Moderate Drought

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer macrophyllum	20	✔	FACU
2. Tsuga heterophylla	10	✔	FACU
3. Alnus rubra	5		FAC
4. Rhamnus purshiana	2		
	37	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft r)			
1. Rubus spectabilis	10	✔	FAC
2. Acer circinatum	5	✔	FAC
3.			
4.			
5.			
	15	=Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Polystichum munitum	10	✔	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1. Rubus ursinus	60	✔	FACU
2.			
	60	=Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	120 (A)		460 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SL-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 %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 2/1	100					Loam	Ashy gravelly
3 - 6	10YR 4/4	100					Loam	Ashy gravelly
6 - 18	7.5YR 4/4	100					Loam	Ashy gravelly
-								
-								
-								
-								

[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)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

VEGETATION Continued – Use scientific names of plants. Sampling Point: SL-1

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	37	=Total Cover	
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	15	=Total Cover	
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
	10	=Total Cover	
Woody Vine Stratum			
3.			
4.			
5.			FACU
6.			
7.			
	60	=Total Cover	

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CWD Sugarloaf Mtn | City/County: King | Sampling Date: 2025-09-18

Applicant/Owner: Covington Water District | State: Washington | Sampling Point: SL-2

Investigator(s): Jeffery Jones | Section, Township, Range: Sec 4, Twn 21 N, Rge 7 E

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): None | Slope (%): 3

Subregion (LRR/MLRA): A 1 | Lat: 47.342754 | Long: -121.9190087 | Datum: WGS 84

Soil Map Unit Name: Barneston gravelly ashy loam | NWI classification: None

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:

Moderate Drought

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft r)			
1. Rubus spectabilis	2		FAC
2.			
3.			
4.			
5.			
	2 =Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eragrostis capillaris	30	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 =Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1. Rubus armeniacus	30	✔	FAC
2. Rubus	5		FAC
	35 =Total Cover		

% Bare Ground in Herb Stratum 70

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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	67	x 3 =	201
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	67 (A)		201 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

Assume grass is FAC

SOIL

Sampling Point: SL-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 - 8	10YR 3/2	100					Loam	Gravelly ashy
8 - 18	10YR 4/4	100					Loam	Gravelly ashy
-								
-								
-								
-								
-								

[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)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

VEGETATION Continued – Use scientific names of plants. Sampling Point: SL-2

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	2 =Total Cover		
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
	30 =Total Cover		
Woody Vine Stratum			
3.			
4.			
5.			FAC
6.			
7.			
	35 =Total Cover		

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:

Assume grass is FAC

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CWD Sugarloaf Mtn | City/County: King | Sampling Date: 2025-09-18

Applicant/Owner: Covington Water District | State: Washington | Sampling Point: SL-3

Investigator(s): Jeffery Jones | Section, Township, Range:

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): | Slope (%): 10

Subregion (LRR/MLRA): A 1 | Lat: 47.3433861 | Long: -121.9194425 | Datum: WGS 84

Soil Map Unit Name: Barneston gravelly ashy loam | NWI classification: None

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 – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer macrophyllum	30	✔	FACU
2. Populous trichocarpa b.	20	✔	FAC
3.			
4.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft r)			
1. Acer circinatum	20	✔	FAC
2.			
3.			
4.			
5.			
	20	=Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1. Rubus ursinus	30	✔	FACU
2. Rubus armeniacus	20	✔	FAC
	50	=Total Cover	

% Bare Ground in Herb Stratum 70

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	120 (A)		420 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SL-3

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 - 14	10YR 4/4	100					Loam	Gravelly ashy
14 - 18	7.5YR 4/4	100					Loam	Gravelly ashy
-								
-								
-								
-								
-								

[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)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

VEGETATION Continued – Use scientific names of plants. Sampling Point: SL-3

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	20	=Total Cover	
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
		=Total Cover	
Woody Vine Stratum			
3.			
4.			
5.			FACU
6.			
7.			
	50	=Total Cover	

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CWD Sugarloaf Mtn | City/County: King | Sampling Date: 2025-09-18

Applicant/Owner: Covington Water District | State: Washington | Sampling Point: SL-4

Investigator(s): Jeffery Jones | Section, Township, Range: Sec 4, Twn 21 N, Rge 7 E

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 15

Subregion (LRR/MLRA): A 1 | Lat: 47.3434926 | Long: -121.9206936 | Datum: WGS 84

Soil Map Unit Name: Barneston gravelly ashy loam | NWI classification: None

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:

Moderate Drought

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	30	✔	FAC
2. Prunus emarginata	5	✔	FACU
3.			
4.			
	35	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft r)			
1. Acer circinatum	30	✔	FAC
2. Rubus spectabilis	10	✔	FAC
3.			
4.			
5.			
	40	=Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Polystichum munitum	20	✔	FACU
2. Tolmiea menziesii	20	✔	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1. Rubus ursinus	30	✔	FACU
2.			
	30	=Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57.14 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	145 (A)		490 (B)

Prevalence Index = B/A = 3.37

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SL-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 %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR 4/4	100					Loam	Gravelly ashy
-								
-								
-								
-								
-								
-								

[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)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

VEGETATION Continued – Use scientific names of plants. Sampling Point: SL-4

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	=Total Cover	
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	40	=Total Cover	
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
	40	=Total Cover	
Woody Vine Stratum			
3.			
4.			
5.			FACU
6.			
7.			
	30	=Total Cover	

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CWD Sugarloaf Mtn | City/County: King | Sampling Date: 2025-09-18

Applicant/Owner: Covington Water District | State: Washington | Sampling Point: SL-5

Investigator(s): Jeffery Jones | Section, Township, Range: Sec 4, Twn 21 N, Rge 7 E

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): None | Slope (%): 15

Subregion (LRR/MLRA): A 1 | Lat: 47.3427416 | Long: -121.9206263 | Datum: WGS 84

Soil Map Unit Name: Barneston gravelly ashy loam | NWI classification: None

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:

Moderate Drought

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer macrophyllum	50	✔	FACU
2.			
3.			
4.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft r)			
1. Acer circinatum	5	✔	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Polystichum munitum	20	✔	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1. Rubus ursinus	10	✔	FACU
2.			
	10	=Total Cover	

% Bare Ground in Herb Stratum 70

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	85 (A)		335 (B)

Prevalence Index = B/A = 3.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SL-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 - 14	10YR 4/4	100					Loam	Gravelly ashy
14 - 18	7.5YR 4/4	100					Loam	Gravelly ashy
-								
-								
-								
-								
-								

[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)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

VEGETATION Continued – Use scientific names of plants. Sampling Point: SL-5

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	5	=Total Cover	
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
	20	=Total Cover	
Woody Vine Stratum			
3.			
4.			
5.			FACU
6.			
7.			
	10	=Total Cover	

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CWD Sugarloaf Mtn | City/County: King | Sampling Date: 2025-09-18

Applicant/Owner: Covington Water District | State: Washington | Sampling Point: SL-6

Investigator(s): Jeffery Jones | Section, Township, Range: Sec 33, Twn 22 N, Rge 7 E

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): None | Slope (%): 10

Subregion (LRR/MLRA): A 1 | Lat: 47.3436293 | Long: -121.920204 | Datum: WGS 84

Soil Map Unit Name: Barneston gravelly ashy loam | NWI classification: None

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:

Moderate Drought

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea sitchensis	20	✔	FAC
2. Frangula purshiana	20	✔	FAC
3. Acer macrophyllum	10	✔	FACU
4.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft r)			
1. Acer circinatum	10	✔	FAC
2.			
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Polystichum munitum	20	✔	FACU
2. Geranium robertianum	3		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	23	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1. Rubus ursinus	30	✔	FACU
2.			
	30	=Total Cover	

% Bare Ground in Herb Stratum 47

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: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	63	x 4 =	252
UPL species	0	x 5 =	0
Column Totals:	113 (A)		402 (B)

Prevalence Index = B/A = 3.55

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SL-6

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 - 2	10YR 2/1	100					Loam	Gravelly ashy
2 - 14	7.5YR 4/3						Loam	Gravelly ashy
14 - 18	7.5YR 4/4	100					Loam	Gravelly ashy
-								
-								
-								
-								

[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)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

VEGETATION Continued – Use scientific names of plants. Sampling Point: SL-6

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	10	=Total Cover	
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
	23	=Total Cover	
Woody Vine Stratum			
3.			
4.			
5.			FACU
6.			
7.			
	30	=Total Cover	

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:



Sample Location 1 (SL-1), Near NE Property Corner



SL-1



Proposed Water Tower Hilltop



SL-2



SL-2



SL-4



SL-4



SL-5, Near SW Property Corner



SL-5



SL-6



SL-6



Existing Water Tank



First Gate

Wetland name or number: Offsite North

RATING SUMMARY - Western Washington

Name of wetland (or ID#): Offsite North **Date of site visit:** 09/18/2025
Rated By: Jeffery Jones **Trained by Ecology? Yes** [X] **No** [ ] **Date of Training:** 12/12/2014
HGM Class used for rating: Depressional
Wetland has multiple HGM classes? Yes [X] **No** [ ]

NOTE: Form is not complete without the figures requested *(figures can be combined).*
Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [**Category IV**] (based on functions [X] or special characteristics [ ])

1. Category of wetland based on FUNCTIONS

[ ] **Category I** - Total score = 23 - 27
[ ] **Category II** - Total score = 20 - 22
[ ] **Category III** - Total score = 16 - 19
[X] **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	**M**	**M**	**L**	
Landscape Potential	**L**	**L**	**H**	
Value	**L**	**L**	**M**	**Total**
Score Based on Ratings	**4**	**4**	**6**	**14**

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	**Not Applicable**

Wetland name or number: Offsite North

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet *(can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Wetland name or number: Offsite North

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0 Does the site have the potential to improve water quality?

D 1.1 What are the characteristics of surface water outflows from the wetland?

Wetland has no surface water outlet.	points = 3	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	**Score: 3**

D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?

Mapped as true clay or organic (muck or peat)	points = 4	
Soil texture identified as clay or organic in field	points = 4	
Soil texture identified as clay or organic by laboratory test	points = 4	
None of the above	points = 0	**Score: 0**

D 1.3 What are the characteristics and distribution of persistent plants?

Wetland has persistent, ungrazed, plants > 95% of area	points = 5	
Wetland has persistent, ungrazed, plants > 50% of area	points = 3	
Wetland has persistent, ungrazed plants > 10% of area	points = 1	
Wetland has persistent, ungrazed plants < 10% of area	points = 0	**Score: 5**

D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area?

Area seasonally ponded is > 50% total area of wetland	points = 4	
Area seasonally ponded is equal to or > 25% total area of wetland	points = 2	
Area seasonally ponded is < 25% total area of wetland	points = 0	**Score: 0**

Total for D 1: 8

Rating of Site Potential [ ] **12-16 = H** [X] **6-11 = M** [ ] **0-5 = L** *Record the rating on the first page*

D 2.0 Does the landscape have the potential to support the water quality function of the site?

D 2.1 Does the wetland unit receive stormwater discharges?

Yes	points = 1	
No	points = 0	**Score: 0**

D 2.2 Is >10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?

Yes	points = 1	
No	points = 0	**Score: 0**

D 2.3 Are there septic systems within 250ft of the wetland?

Yes	points = 1	
No	points = 0	**Score: 0**

D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?

Yes	points = 1	
No	points = 0	**Score: 0**

Wetland name or number: Offsite North

D 2.5 What are the other sources of pollutants coming into the wetland?	
Total for D 2:	**0**

Rating of Landscape Potential [ ] **3-4 = H** [ ] **1-2 = M** [X] **0 = L** *Record the rating on the first page*

D 3.0 Is the water quality improvement provided by the site valuable to society?		
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?		
Yes	points = 1	
No	points = 0	**Score: 0**
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?		
Yes	points = 1	
No	points = 0	**Score: 0**
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?		
Yes	points = 2	
No	points = 0	**Score: 0**
Total for D 3:		**0**

Rating of Value [ ] **2-4 = H** [ ] **1 = M** [X] **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradtion

D 4.0 Does the site have the potential to reduce flooding and erosion?		
D 4.1 What are the characteristics of surface water outflows from the wetland?		
Wetland has no surface water outlet.	points = 4	
Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	
Wetland is a flat depression whose outlet is a permanently flowing ditch.	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	**Score: 4**
D 4.2 What is the depth of storage during the wet periods?		
Marks of ponding are 3ft or more above the surface or bottom of the outlet.	points = 7	
Marks of ponding are between 2ft to <3ft from the surface or bottom of the outlet.	points = 5	
Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	
The wetland is a "headwater" wetland.	points = 3	
The wetland is flat but has small depressions on the surface that trap water.	points = 1	
Marks of ponding are less than 0.5ft (6in).	points = 0	**Score: 3**

Wetland name or number: Offsite North

D 4.3 What is the contribution of the wetland to storage in the watershed?		
The area of the basin is less than 10 times the area of the unit	points = 5	
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	**Score: 3**
	Total for D 4:	**10**

Rating of Site Potential [ ] **12-16 = H** [X] **6-11 = M** [ ] **0-5 = L** *Record the rating on the first page*

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges?		
Yes	points = 1	
No	points = 0	**Score: 0**
D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?		
Yes	points = 1	
No	points = 0	**Score: 0**
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?		
Yes	points = 1	
No	points = 0	**Score: 0**
	Total for D 5:	**0**

Rating of Landscape Potential [ ] **3 = H** [ ] **1-2 = M** [X] **0 = L** *Record the rating on the first page*

D 6.0 Are the hydrologic functions provided by the site valuable to society?		
D 6.1 Is the wetland in a landscape that has flooding problems?		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the basin.	points = 1	
The existing or potential outflow from the wetland is so constrained that water cannot reach areas that flood.	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	**Score: 0**
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
Yes	points = 2	
No	points = 0	**Score: 0**
	Total for D 6:	**0**

Rating of Value [ ] **2-4 = H** [ ] **1 = M** [X] **0 = L** *Record the rating on the first page*

Wetland name or number: Offsite North

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?

- [ ] Aquatic Bed
- [ ] Emergent
- [ ] Scrub-shrub
- [x] Forested
- [ ] Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	**Score: 0**

H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?

- [ ] Permanently flooded or inundated
- [ ] Seasonally flooded or inundated
- [ ] Occasionally flooded or inundated
- [x] Saturated only
- [ ] Permanently flowing stream or river in, or adjacent to, the wetland
- [ ] Seasonally flowing stream in, or adjacent to, the wetland
- [ ] Lake Fringe wetland
- [ ] Freshwater Tidal wetland

4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	**Score: 0**

H 1.3 What is the richness of the plant species in the wetland?

>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	**Score: 1**

Wetland name or number: Offsite North

H 1.4 What is the interspersion of habitats?

High	points = 3	
Moderate	points = 2	
Low	points = 1	
None	points = 0	**Score: 0**

H 1.5 What are the special habitat features in the wetland?

- [✓] Large, downed, woody debris within the wetland (>4in diameter and 6ft long).
- [✓] Standing snags (dbh >4in) within the wetland
- [ ] Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)
- [ ] Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)
- [ ] At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)
- [✓] Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)

6 habitats selected	points = 6	
5 habitats selected	points = 5	
4 habitats selected	points = 4	
3 habitats selected	points = 3	
2 habitats selected	points = 2	
1 habitat selected	points = 1	
No habitats selected	points = 0	**Score: 3**

Total for H 1: 4

Rating of Site Potential [ ] **15-18 = H** [ ] **7-14 = M** [X] **0-6 = L** *Record the rating on the first page*

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 What is the percentage of accessible habitat within 1km of the wetland?

>33% of 1km Polygon	points = 3	
20-33% of 1km Polygon	points = 2	
10-19% of 1km Polygon	points = 1	
<10% of 1km Polygon	points = 0	**Score: 3**

H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?

Total habitat is >50% of the Polygon	points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	
Total habitat is <10% of the Polygon	points = 0	**Score: 3**

Wetland name or number: Offsite North

H 2.3 What is the land use intensity in the 1km polygon?

50% of the Polygon is high intensity land use	points = -2	
<50% of the Polygon is high intensity land use	points = 0	**Score: 0**
	Total for H 2:	**6**

Rating of Landscape Potential [X] **4-6 = H** [ ] **1-3 = M** [ ] **0 = L** *Record the rating on the first page*

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?

- [ ] Aspen Stands
- [ ] Biodiversity Areas and Corridors
- [ ] Herbaceous Balds
- [ ] Old-growth/Mature Forests
- [ ] Oregon White Oak
- [ ] Riparian
- [ ] Westside Prairie
- [ ] Fresh Deepwater
- [ ] Instream
- [ ] Nearshore (Coastal, Open Coast, Puget Sound)
- [ ] Caves
- [ ] Cliffs
- [x] Snags and Logs
- [ ] Talus

The following criteria automatically score 2 points:

- [ ] The wetland provides habitat for Threatened or Endangered species
- [ ] The wetland is mapped as a location for an individual WDFW priority species
- [ ] The wetland is a Wetland of High Conservation Value
- [ ] The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	**Score: 1**
	Total for H 3:	**1**

Rating of Value [ ] **2 = H** [X] **1 = M** [ ] **0 = L** *Record the rating on the first page*

Wetland name or number: Offsite North

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

☐ The dominant water regime is tidal
☐ The wetland is vegetated
☐ The water salinity is greater than 0.5 ppt

Yes - Go to SC 1.2

No - Not an Estuarine Wetland

Result: Not an Estuarine Wetland

SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?

Yes - Category I Estuarine Wetland

No - Go to SC 1.3

Result:

SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species.
☐ At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland
☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.

Yes - Category I Estuarine Wetland

No - Category II Estuarine Wetland

Result:

SC 2.0 Wetlands of High Conservation Value

SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?

Yes - Category I Wetland of High Conservation Value

No - Go to SC 2.2

Result: Go to SC 2.2

SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

Yes - Category I Wetland of High Conservation Value

No - Not a Wetland of High Conservation Value

Result: Not a Wetland of High Conservation Value

Wetland name or number: Offsite North

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

Yes - Go to SC 3.3
No - Go to SC 3.2 **Result: Go to SC 3.2**

SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?

Yes - Go to SC 3.3
No - Not a Bog Wetland **Result:**

SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least 30% cover of plant species listed in the table provided in the instructions?

Yes - Category I Bog Wetland
No - Go to SC 3.4 **Result:**

SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the species (or combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the canopy?

Yes - Category I Bog Wetland
No - Not a Bog Wetland **Result:**

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

- [ ] Old-growth forests
- [ ] Mature forests

Yes - Category I Forested Wetland
No - Not a Forested Wetland **Result: Not a Forested Wetland**

Wetland name or number: Offsite North

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or rocks

☐ The depression in which the wetland is located contains ponded water that is saline or brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured near the bottom)

☐ The lagoon retains some of its surface water at low tide during spring tides

Yes - Go to SC 5.2

No - Not a Coastal Lagoon Wetland

Result: Not a Coastal Lagoon Wetland

SC 5.2 Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species).

☐ At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ the wetland is larger than 0.10ac (4350 sqft)

Yes - Category I Coastal Lagoon

No - Category II Coastal Lagoon

Result:

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

Yes - Go to SC 6.2

No - Not an Interdunal Wetland

Result: Not an Interdunal Wetland

SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?

Wetland is larger than 1ac in size - Go to SC 6.3

Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland

No - Go to SC 6.4

Result:

SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?

Yes - Category I Interdunal Wetland

No - Category II Interdunal Wetland

Result:

SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac and 1ac in size?

Yes - Category III Interdunal Wetland

No - Category IV Interdunal Wetland

Result:

Wetland name or number: Offsite North

Category of wetland based on Special Characteristics	
If you answered No for all types, enter "Not Applicable" on Summary Form	**Special Characteristics Category: Not Applicable**

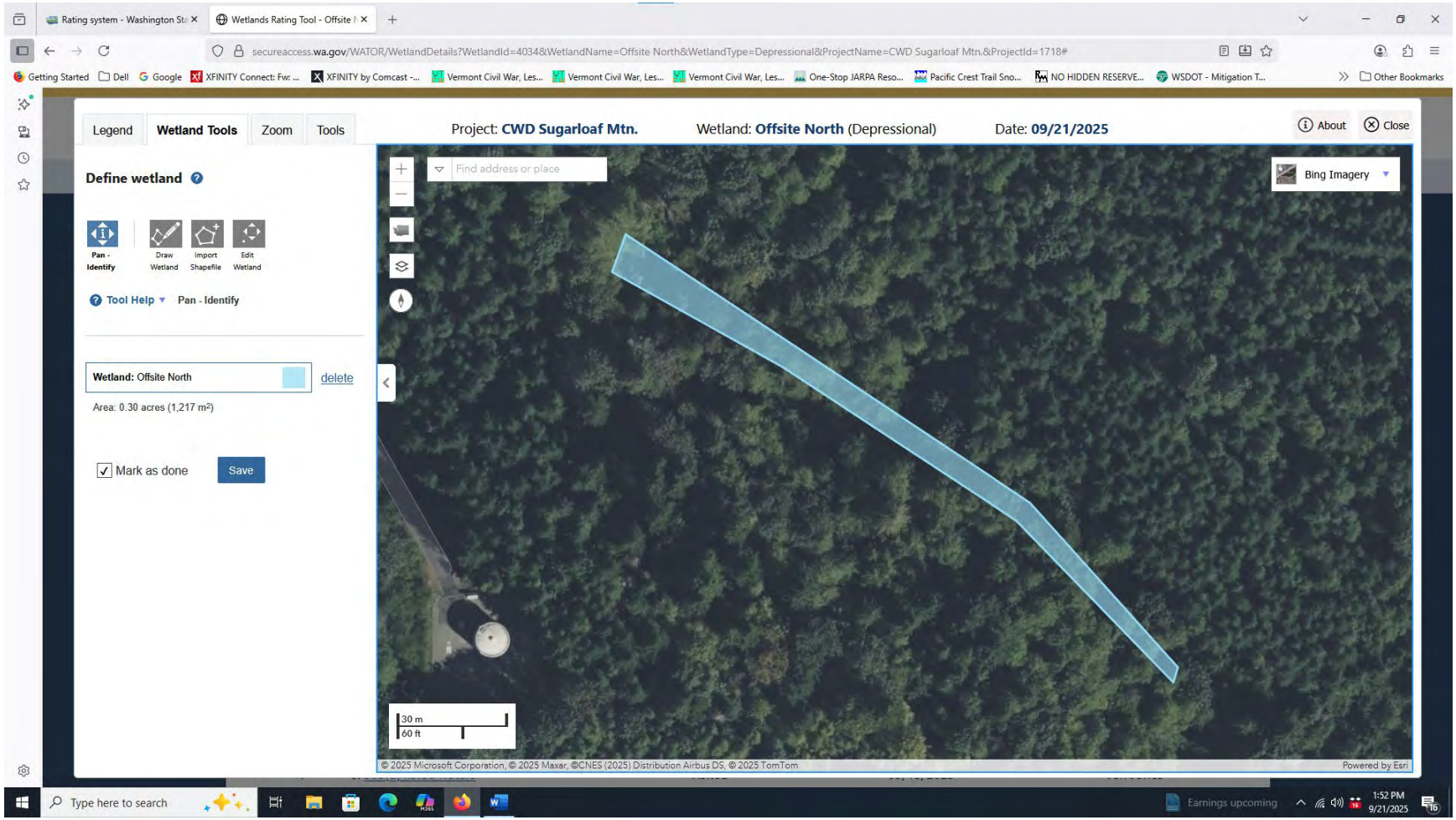


Figure 1 – Define Wetland

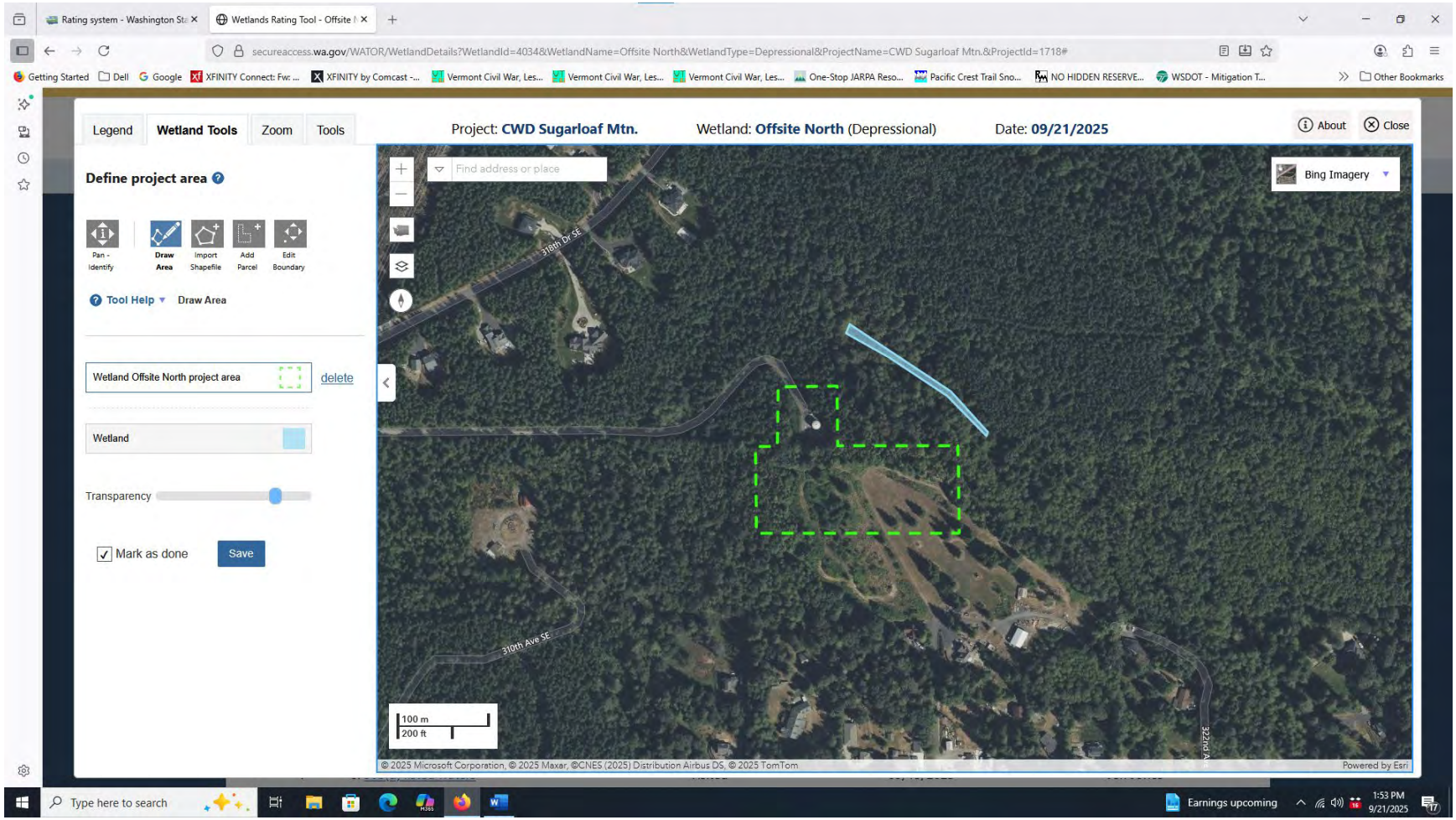


Figure 2 – Project Area

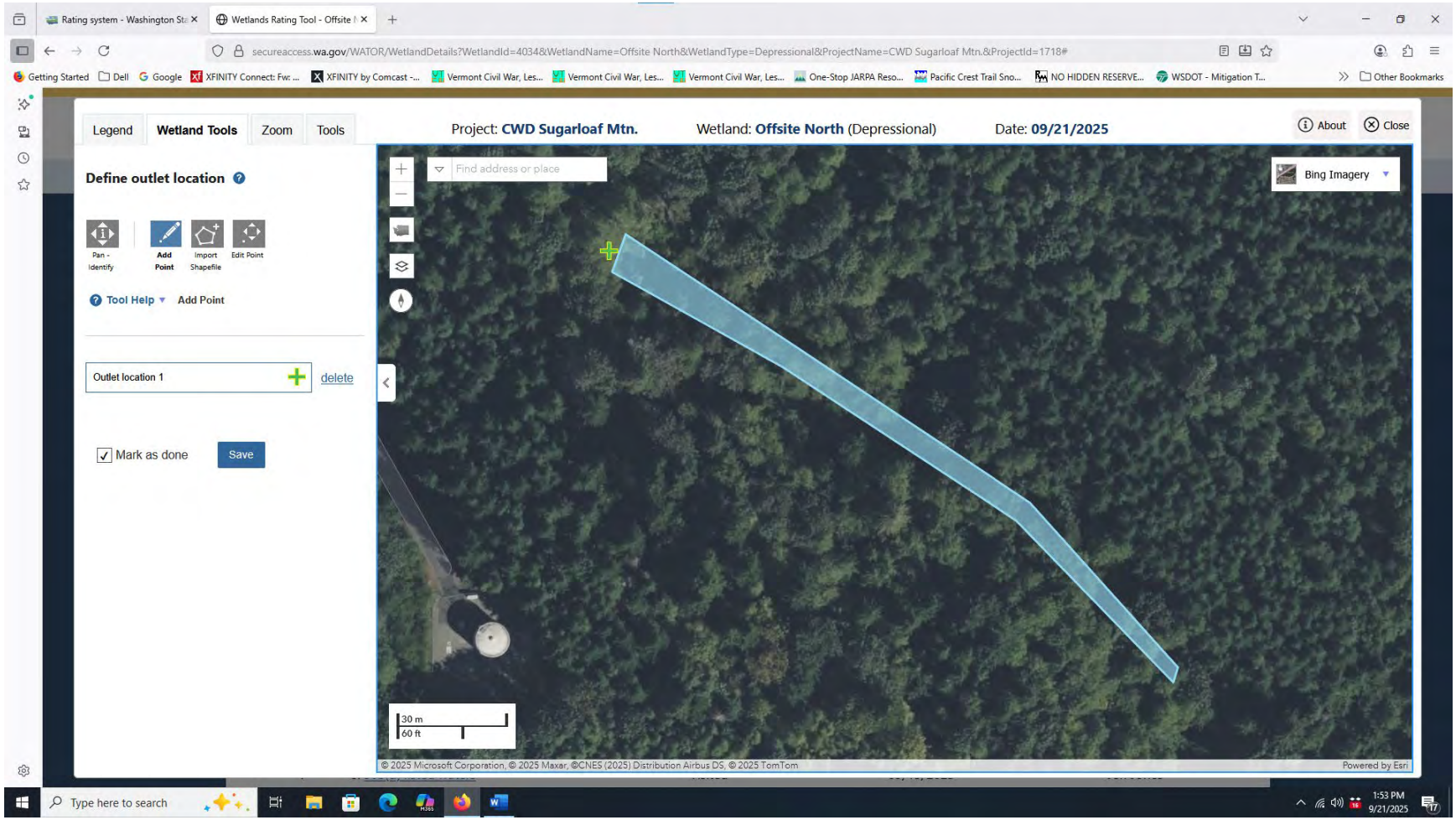


Figure 3 – Location of Outlet

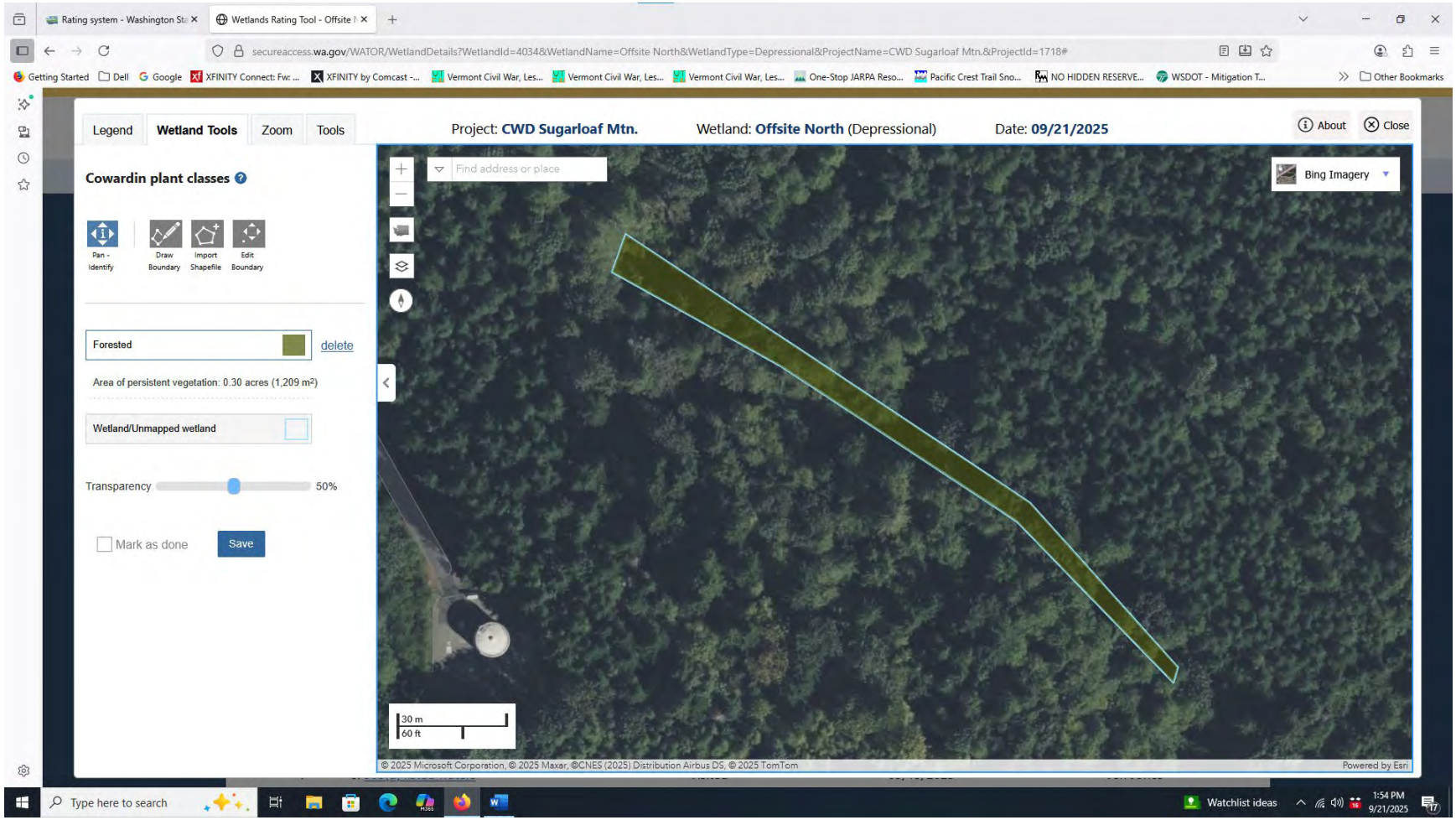


Figure 4 – Cowardin Plant Classes

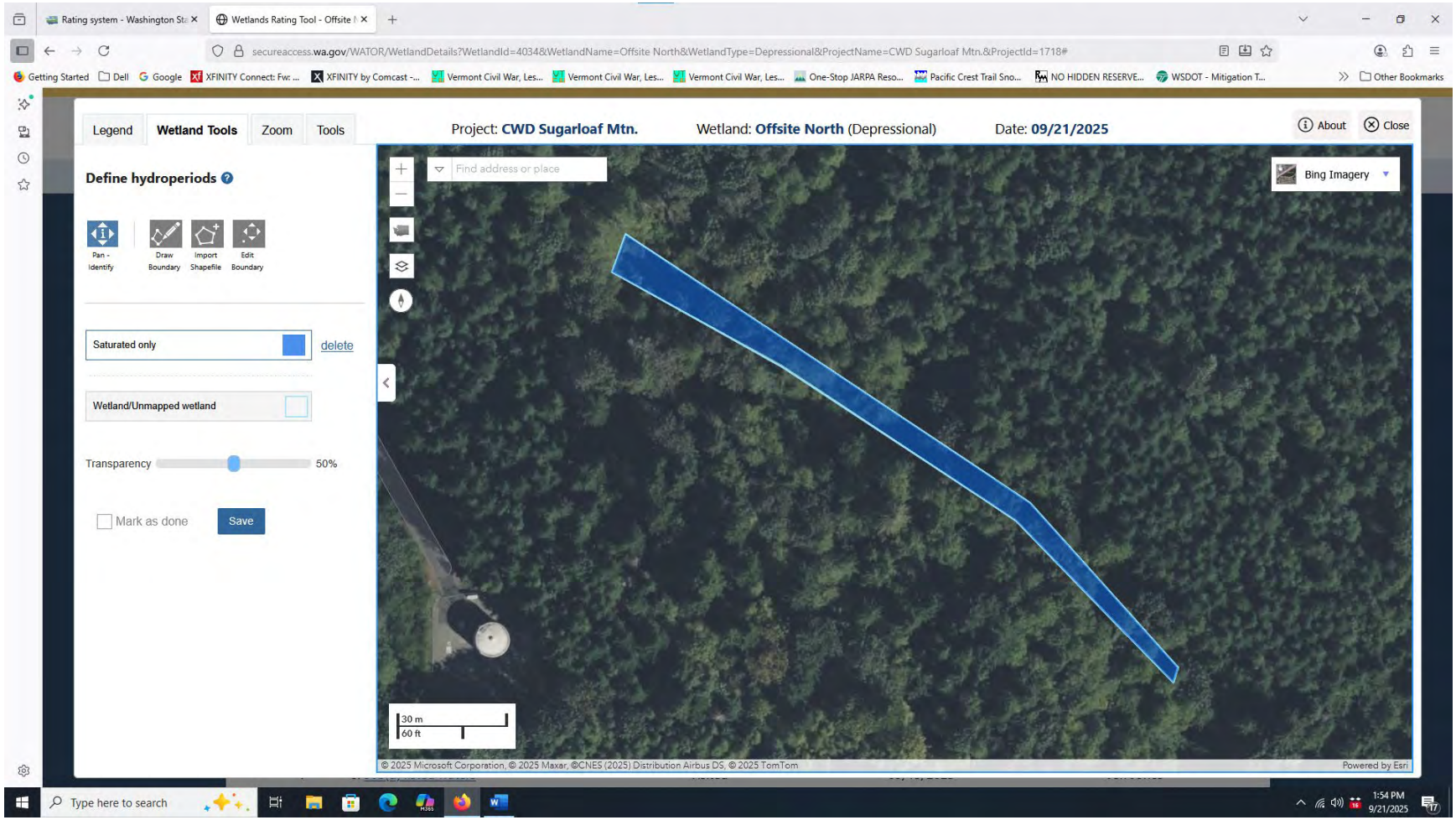


Figure 5 – Hydroperiods

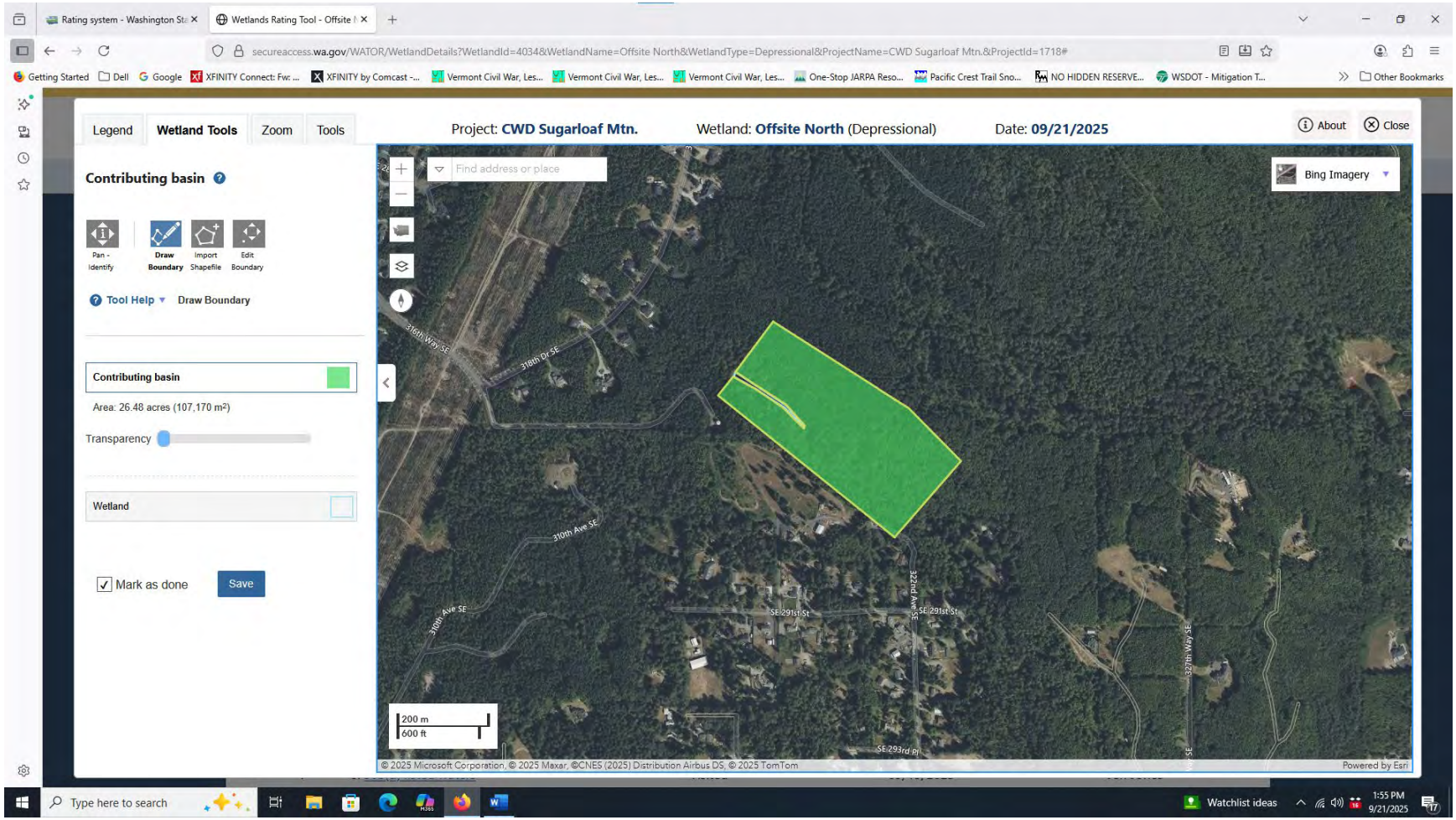


Figure 6 – Contributing Basin

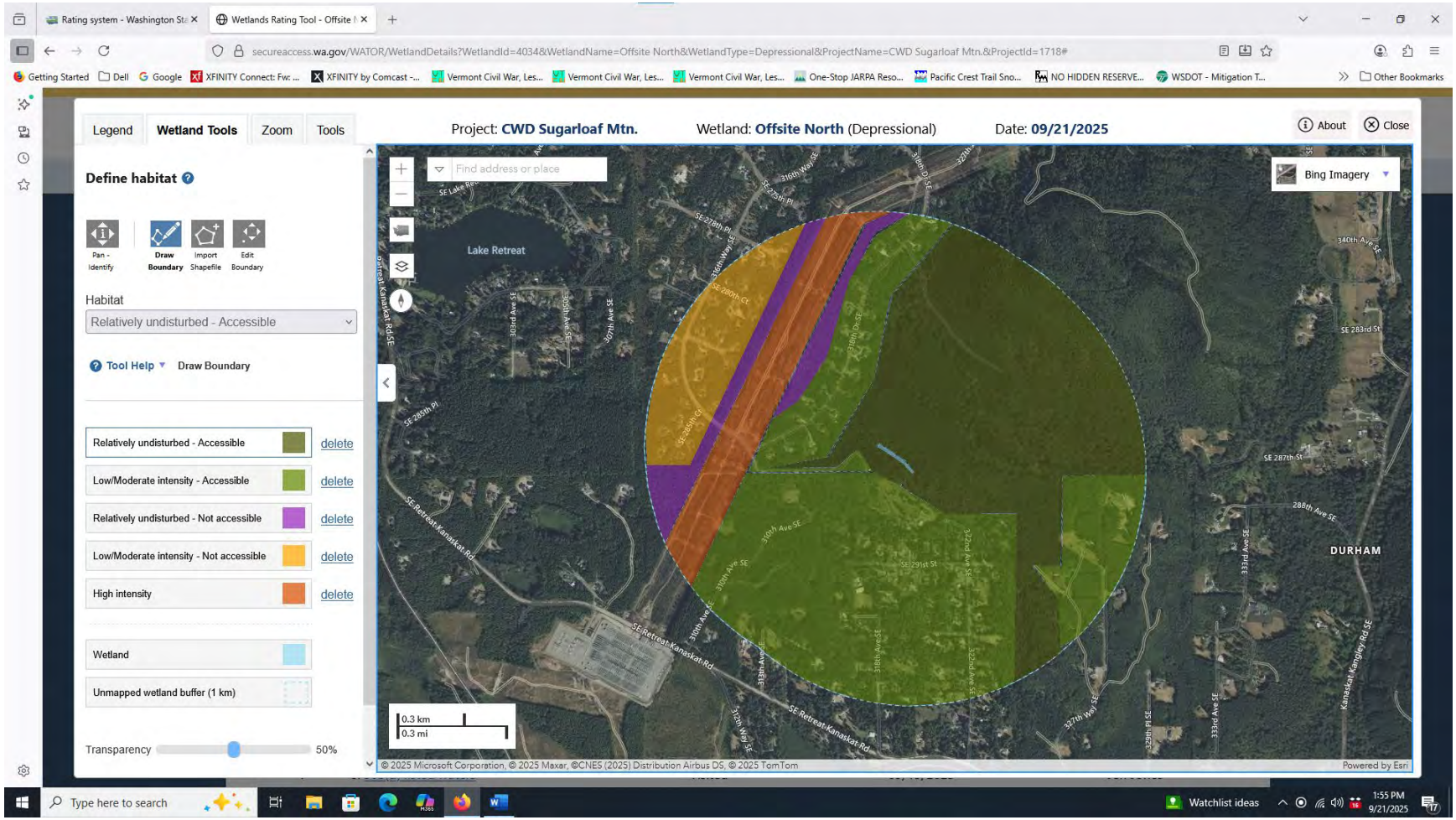


Figure 7 – Habitat

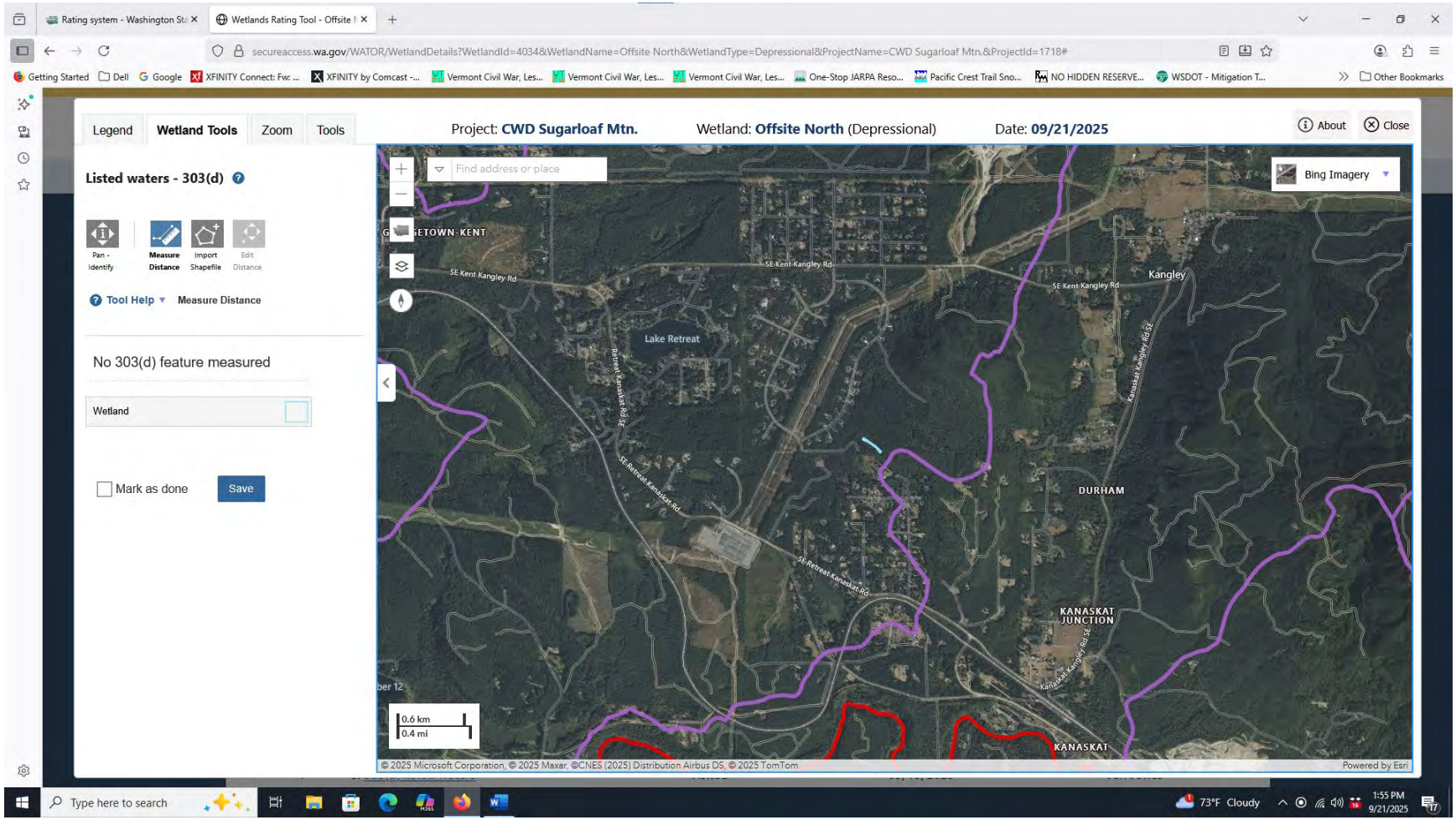


Figure 8 – 303(d) Listed Waters

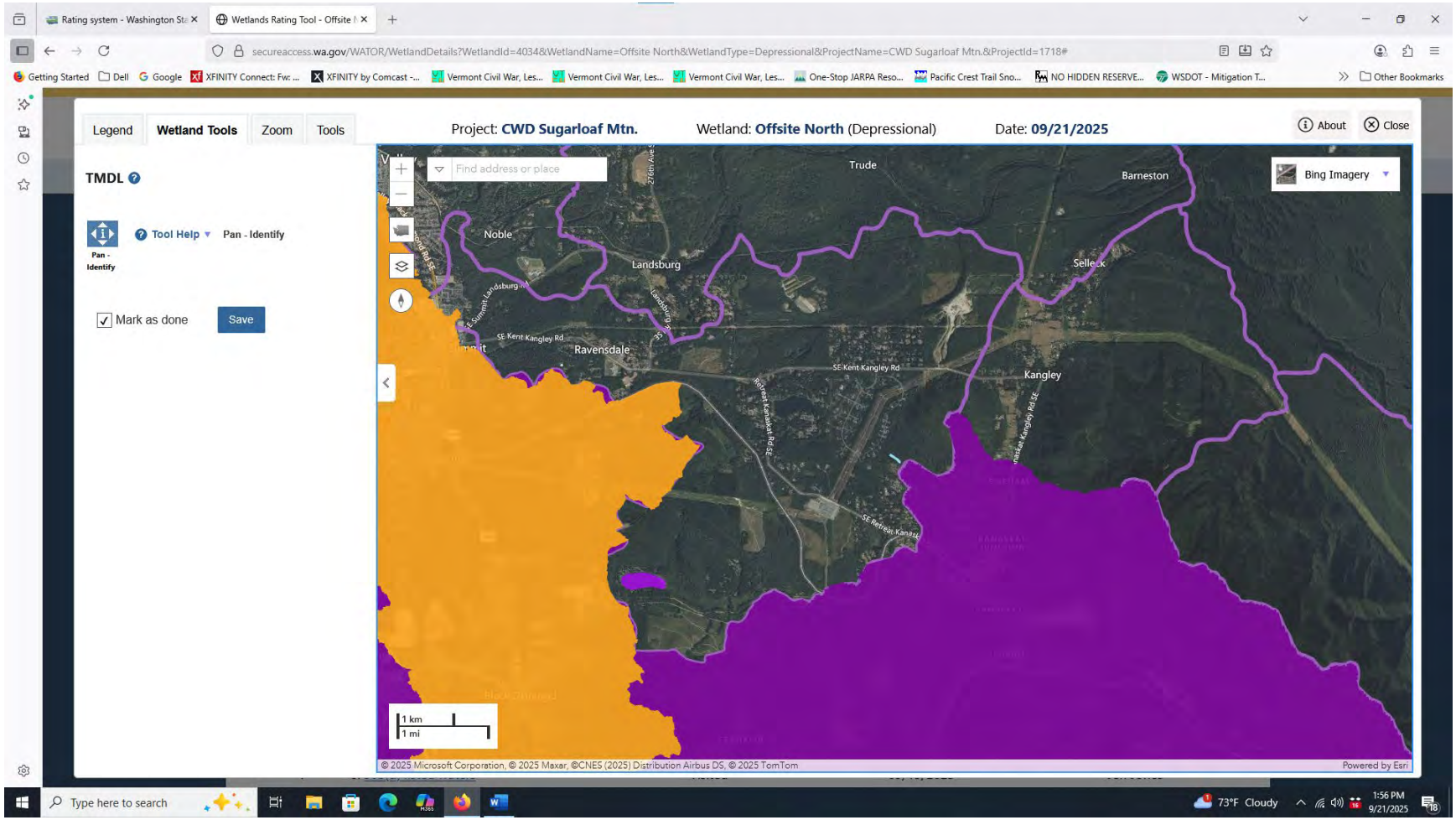


Figure 9 – TMDL

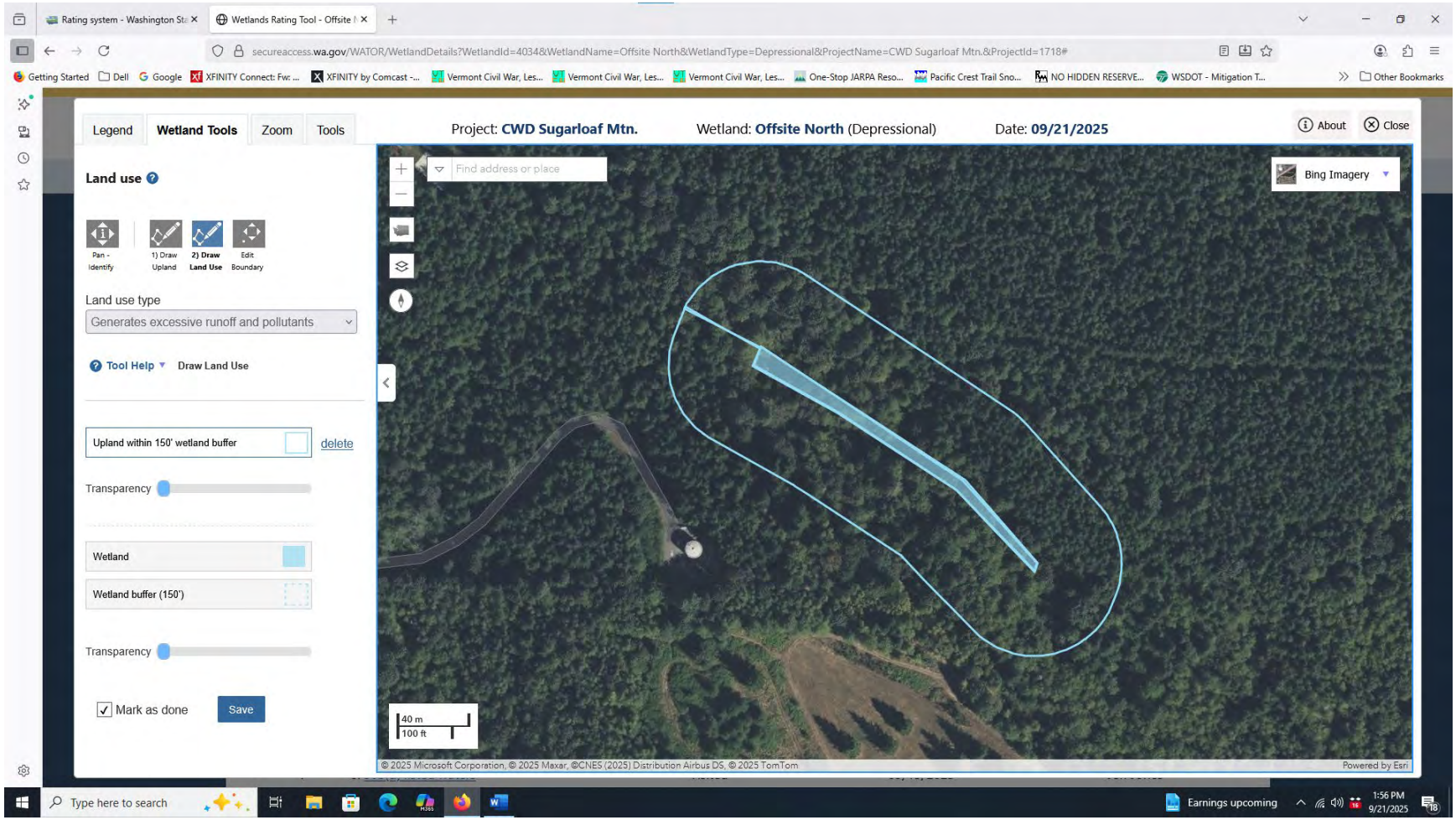
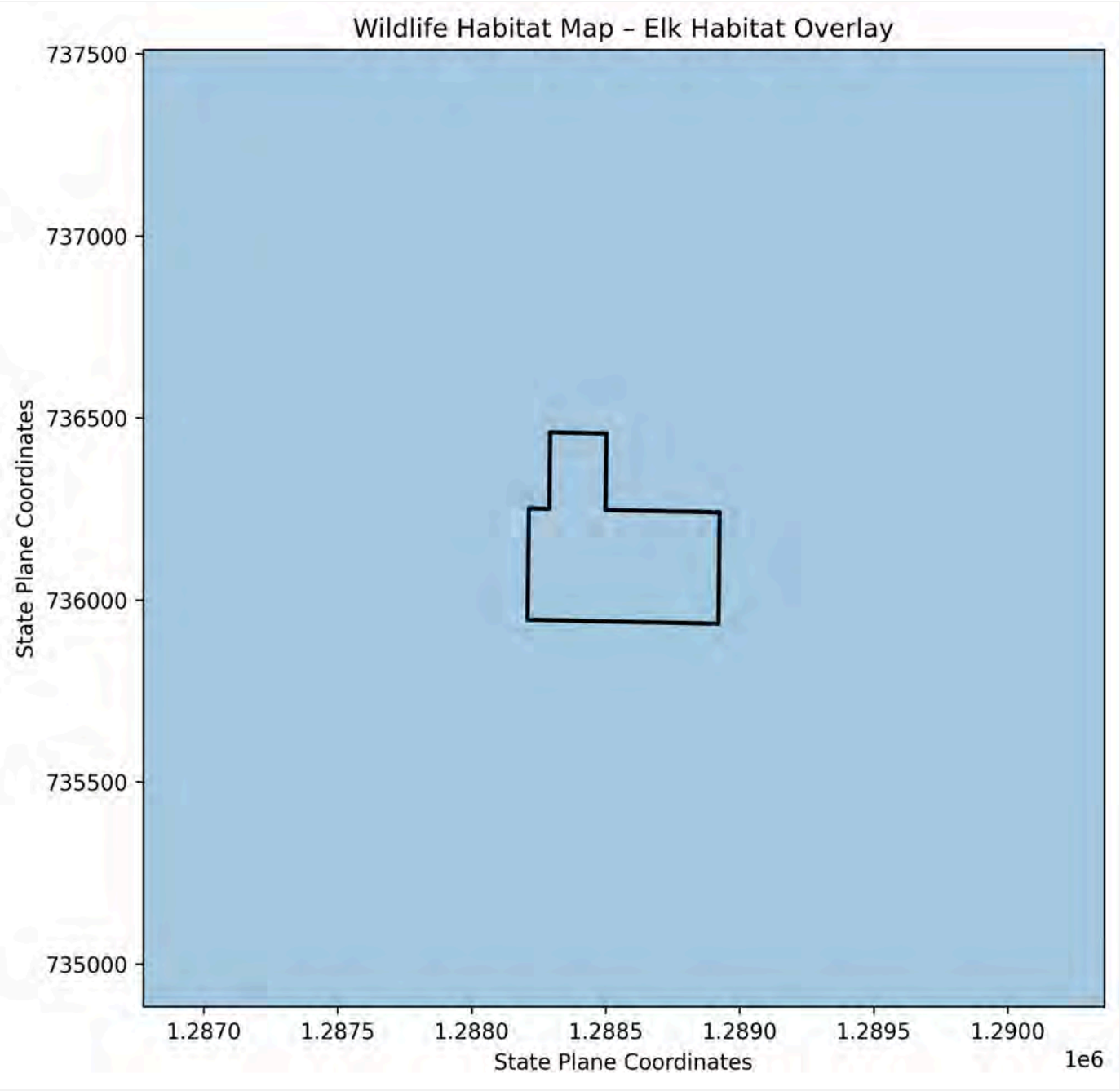


Figure 10 – Land Use


Wildlife Habitat Map – Elk Habitat Overlay
737500
737000
736500
736000
735500
735000
State Plane Coordinates
1.2870
1.2875
1.2880
1.2885
1.2890
1.2895
1.2900
State Plane Coordinates
1e6