



**U.S. ARMY CORPS OF ENGINEERS  
REGULATORY PROGRAM  
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)  
NAVIGABLE WATERS PROTECTION RULE**

**I. ADMINISTRATIVE INFORMATION**

Completion Date of Approved Jurisdictional Determination (AJD): 9/22/2020

ORM Number: NWP-2019-342

Associated JDs: A Preliminary Jurisdictional Determination was issued on 30 May, 2020.

Review Area Location<sup>1</sup>: State/Territory: Oregon City: St. Helens County/Parish/Borough: Columbia

Center Coordinates of Review Area: Latitude 45.872781 Longitude 122.810171

**II. FINDINGS**

**A. Summary:** Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

**B. Rivers and Harbors Act of 1899 Section 10 (§ 10)<sup>2</sup>**

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

**C. Clean Water Act Section 404**

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): <sup>3</sup>			
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):			
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
Drainage 2	0.02 acre(s)	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	Drainage 2 is characterized by a rocky cobble substrate lacking vegetation within the channel. Channel width is approximately 2-5 feet wide and originates at the northern end of wetland 4 and flows northeast for approximately 0.02 acre until the channel loses a defined bed and bank in a shallow depressional feature with an impermeable rock layer at 6-8 inches. Soil surface cracking was observed throughout this area, indicating that water flows through the area at a frequency and duration long enough to accumulate and cause soil cracking. The

<sup>1</sup> Map(s)/figure(s) are attached to the AJD provided to the requestor.

<sup>2</sup> If the navigable water is not subject to the ebb and flow of the tide or included on the District’s list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

<sup>3</sup> A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



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Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination	
				<p>channel bed and bank reestablish about 250 feet from the end of drainage 2 at the southern end of drainage 3. Flowing surface water was observed in the channel during the 2 February 2019 field visit by Schott &amp; Associates and documented in the site photos. The antecedent precipitation tool for 2 February 2019 indicated that conditions were drier than normal during the wet season. Ground level photos submitted by the requestor showing surface water in drainage 2 when conditions were drier than normal during the wet season indicates that the channel's function is more than an ephemeral feature. The National Wetlands Inventory encompasses drainage 2 as a contiguous aquatic resource mapped as a palustrine, unconsolidated bottom, semi-permanently flooded habitat. Google Earth imagery dated 14 July 2016, provided in the Schott &amp; Associates Wetland Delineation Report, documents a distinct change in vegetation in the area mapped as drainage 2. Oregon Department of Geology and Mineral Industries (DOGAMI) lidar imagery shows drainage 2 as a contiguous feature within the study area connected to wetlands 3 and 4 and drainage 4 to the south and southwest, as well as connected to drainage 3 and wetland 2 to the north.</p> <p>The requestor utilized field indicators to determine the boundaries of the ordinary high water mark of drainage 2.</p> <p>Drainage 2 maintains a hydrologic surface water connection with Dalton Lake approximately 0.16 mile away from the study area. Dalton Lake is adjacent to the Columbia River and is within the FEMA mapped floodway of the Columbia River. Dalton Lake is recognized as an (a)(3) water and the Columbia River is recognized as an (a)(1) water. The Columbia River is a navigable water of the U.S. pursuant to the Corps 1993 list of Navigable Riverways within the State of Oregon. Since drainage 2 contributes surface water flow directly or indirectly to an (a)(1) water in a typical year, drainage 2 meets the criteria to be recognized as a water of the U.S. pursuant to (a)(2).</p>
Drainage 3	0.003	acre(s)	(a)(2) Intermittent tributary	Drainage 3 is similarly characterized to drainage 2 with a rocky cobble substrate lacking vegetation



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(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
		<p>contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.</p>	<p>within the channel. Blackberry vines reach over the channel making it difficult to access. Channel width is approximately 2-4 feet wide and flows northeast approximately 0.003 acre into wetland 2. The delineation map dated 9 July 2020, shows a 2-3 foot break from wetland 2 on the northern point of drainage 3. It is unclear why the map does not show drainage 3 flowing into wetland 2 as remote sensing and lidar support the connection.</p> <p>The field work conducted by Schott &amp; Associates during their second site visit on 10 September 2019, was conducted during the dry season and the antecedent precipitation tool indicated conditions were wetter than normal. Remote sensing using Google Earth imagery shows drainage 3 as a bright green color, distinctly different than the surrounding dark green vegetation. DOGAMI lidar imagery shows drainage 3 as a distinct contour in the landscape with a continuous connection to wetland 2 (to the north) and drainage 3 (to the south). Lidar imagery, coupled with remote sensing using Google Earth imagery and the National Wetlands Inventory, illustrate this contiguous connection between wetland 2, drainage 3, drainage 2, wetland 4, and wetland 5.</p> <p>The Corps conducted a site visit on 13 August 2020 to examine the conditions on the ground, but was unable to access the entire length of the channel due to dense blackberry vines growing over the channel. The southern end of drainage 3 connects to the feature described in drainage 2, a shallow depressional area with an impermeable rock layer at 6-8 inches and soil surface cracking throughout the 250-foot stretch until the northern point of drainage 2.</p> <p>The requestor utilized field indicators to determine the boundaries of the ordinary high water mark of drainage 3.</p> <p>Drainage 3 maintains a hydrologic surface water connection with Dalton Lake approximately 0.16 mile away from the study area. Dalton Lake is adjacent to the Columbia River and is within the FEMA mapped floodway of the Columbia River. Dalton Lake is recognized as an (a)(3) water and the Columbia</p>



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Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination	
				<p>River is recognized as an (a)(1) water. The Columbia River is a navigable water of the U.S. pursuant to the Corps 1993 list of Navigable Riverways within the State of Oregon. Since drainage 3 contributes surface water flow directly or indirectly to an (a)(1) water in a typical year, drainage 3 meets the criteria to be recognized as a water of the U.S. pursuant to (a)(2).</p>
Drainage 4	0.05	acre(s)	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	<p>Drainage 4 was initially not documented in the 2 February 2019 delineation. Photo point 9 in the delineation report showed visible surface water during drier than normal conditions in the wet season. The Corps requested additional field work from the requestor to determine the extent of the feature. Drainage 4 is characterized by a rocky cobble substrate, lacking vegetation in the channel and is approximately 2-4 feet in width. Drainage 4 flows between the two mapped boundaries of wetland 4 and has a disturbed wetland area directly adjacent to the channel boundary. The Corps observed flowing surface water from wetland 4 into drainage 4 and drainage 2 during the 13 November 2019 site visit. Conditions on-site during this visit were considered normal during the wet season. The Corps observed significant amounts of iron deposits in the surface water of drainage 4.</p> <p>The requestor utilized field indicators to determine the boundaries of the ordinary high water mark of drainage 4.</p> <p>Drainage 4 maintains a hydrologic surface water connection with Dalton Lake approximately 0.16 mile away from the study area. Dalton Lake is adjacent to the Columbia River and is within the FEMA mapped floodway of the Columbia River. Dalton Lake is recognized as an (a)(3) water and the Columbia River is recognized as an (a)(1) water. The Columbia River is a navigable water of the U.S. pursuant to the Corps 1993 list of Navigable Riverways within the State of Oregon. Since drainage 4 contributes surface water flow directly or indirectly to an (a)(1) water in a typical year, drainage 4 meets the criteria to be recognized as a water of the U.S. pursuant to (a)(2).</p>



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Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):			
(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
Wetland 2	0.41 acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	<p>Wetland 2 is identified in the National Wetlands Inventory (NWI) as a PUBF; Palustrine, unconsolidated bottom, semi-permanently flooded habitat. The delineation submitted by Schott &amp; Associated extended the boundaries of the wetland mapped on the NWI using the methods described in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement - the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region to determine the boundaries of Wetland 2.</p> <p>Wetland 2 is in the northeastern portion of the study area and extends off-site to the northeast towards a culvert under Madrona Court. Remote sensing using Google Earth imagery and DOGAMI lidar support the presence of the wetland as a contiguous feature with drainage 2, drainage 3, drainage 4, wetland 3, and wetland 4. The continuous direction of flow off-site is indicated on the 9 July 2020 wetland delineation map and was verified by the Corps during the 13 August 2020 site visit. The culvert under Madrona Court is located outside of the study area and the channel/wetland complex connecting into Dalton Lake would be recognized as an (a)(2) tributary into an (a)(3) water if subject to a Corps Approved Jurisdictional Determination. Wetland 2 is contiguous with the (a)(2) tributary outside of the study area that connects into Dalton Lake and therefore meets the criteria recognized as a water of the U.S. pursuant to (a)(4).</p>
Wetland 3	1.41 acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	<p>Wetland 3 is identified in the National Wetlands Inventory (NWI) as a PUBF; Palustrine, unconsolidated bottom, semi-permanently flooded habitat. The delineation submitted by Schott &amp; Associated extended the boundaries of the wetland mapped on the NWI using the methods described in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland</p>



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Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
			<p>Delineation Manual: Western Mountains, Valleys, and Coast Region to determine the boundaries of Wetland 3.</p> <p>The delineation report from Schott &amp; Associates documents a beaver dam in the southeastern area of the site, in Wetland 3. It is unclear if this is a beaver dam as the only observations are in site photos, which show debris piled up but no indication of beaver activity for the debris piling. A levee is documented in the report in the beaver dam location, which is characterized by the piling of small-medium sized boulders with large wood debris piled throughout the area. The width of the levee/beaver dam area is approximately 50 feet. The delineation report indicates that the levee has a breach at the north end and a narrow channel connects the eastern and western portions of the wetland.</p> <p>Wetland 3 is in the southeastern portion of the study area and extends off-site to the south. Remote sensing of Wetland 3 reveals surface water is visible throughout the year. The bright green vegetation in contrast to the dark green forested areas show this wetland connecting into Drainage 3 and Wetland 2. This connection is supported in DOGAMI lidar imagery. No field work was conducted in this area by the requestor, presumably due to difficulty accessing the area. As such, the connection of Wetland 3 to Wetland 2 relies on the best available information using remote sensing tools and the NWI. Historic aerials do not provide useful evidence to support the determination as the photos are in black and white.</p> <p>The unmapped connection from Wetland 3 into Drainage 3 and Wetland 2 is approximately 250 feet. Wetland 3 is contiguous with the (a)(2) tributary outside of the study area that connects into Dalton Lake and therefore meets the criteria recognized as a water of the U.S. pursuant to (a)(4).</p>



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Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
Wetland 4	0.95	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	<p>Wetland 4 is identified in the National Wetlands Inventory (NWI) as a PUBF; Palustrine, unconsolidated bottom, semi-permanently flooded habitat. The delineation submitted by Schott &amp; Associated extended the boundaries of the wetland mapped on the NWI using the methods described in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region to determine the boundaries of wetland 4.</p> <p>Parts of Wetland 4 have been disturbed from mechanized land clearing activities and the boundaries of the disturbed sections are based on best professional judgement by the requestor. During the 13 November 2019 field visit by the Corps, several feet of water was observed in Wetland 4 flowing into Drainage 4 towards Drainage 2. Site conditions during the field visit were normal during the wet season. During the 13 August 2020 field visit, several feet of water was observed in the wetland and the channels were dry. Site conditions during the field visit were normal during the dry season. The amount of water observed in Wetland 4 during the dry season with normal conditions indicates that the hydrology of Wetland 4 is driven by groundwater.</p> <p>Remote sensing using Google Earth imagery and DOGAMI lidar support the presence of the wetland as a contiguous feature with Drainage 2, Drainage 3, Drainage 4, Wetland 2, and Wetland 3.</p> <p>Wetland 4 is in the southern portion of the study area and has a continuous surface water connection to Drainage 2 which flows into Drainage 3 to Wetland 2, and off-site under Madrona Court towards Dalton Lake. Wetland 4 is contiguous with the (a)(2) tributary outside of the study area that connects into Dalton Lake and therefore meets the criteria recognized as a water of the U.S. pursuant to (a)(4).</p>



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**D. Excluded Waters or Features**

Excluded waters ((b)(1) – (b)(12)): <sup>4</sup>			
Exclusion Name	Exclusion Size	Exclusion <sup>5</sup>	Rationale for Exclusion Determination
Wetland 1	0.57 acre(s)	(b)(1) Non-adjacent wetland.	<p>Wetland 1 is not identified on the NWI but is visible in Google Earth imagery and DOGAMI lidar. The wetland boundaries were delineated by Schott &amp; Associates using the methods described in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region to determine the boundaries of Wetland 1.</p> <p>Wetland 1 does not appear to have a continuous surface water connection to similarly situated wetlands within the study area and as such does not meet the criteria to be recognized as an adjacent (a)(4) water. Wetland 1 is an excluded water (b)(1) under the Navigable Waters Protection Rule.</p>
Wetland 5	0.09 acre(s)	(b)(1) Non-adjacent wetland.	<p>Wetland 5 is not identified on the NWI. The wetland area was disturbed and partially filled prior to the delineation conducted by Schott &amp; Associates. The wetland boundaries were delineated following Section G, Problem Areas, of the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual. The 0.09 acre wetland does not meet the criteria of an (a)(4) water and is an excluded water (b)(1) under the Navigable Waters Protection Rule.</p>
Wetland 6	0.03 acre(s)	(b)(1) Non-adjacent wetland.	<p>Wetland 6 is not identified on the NWI. The wetland area was disturbed prior to the delineation conducted by Schott &amp; Associates. The wetland boundaries were delineated following Section G, Problem Areas, of the U.S. Army Corps of Engineers 1987 wetland delineation manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual. The 0.03 acre wetland is connected to Drainage 5; however, Drainage 5 is an ephemeral stream and therefore the wetland does not meet the criteria of an (a)(4) water and</p>

<sup>4</sup> Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

<sup>5</sup> Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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Excluded waters ((b)(1) – (b)(12)): <sup>4</sup>				
Exclusion Name	Exclusion Size	Exclusion <sup>5</sup>	Rationale for Exclusion Determination	
				is an excluded water (b)(1) under the Navigable Waters Protection Rule.
Wetland 7	0.01	acre(s)	(b)(1) Non-adjacent wetland.	Wetland 7 is not identified on the NWI. The wetland area was disturbed prior to the delineation conducted by Schott & Associates. The wetland boundaries were delineated following Section G, Problem Areas, of the U.S. Army Corps of Engineers 1987 wetland delineation manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual. The 0.01 acre wetland does not meet the criteria of an (a)(4) water and is an excluded water (b)(1) under the Navigable Waters Protection Rule.
Wetland 8	0.004	acre(s)	(b)(1) Non-adjacent wetland.	Wetland 8 is not identified on the NWI. The wetland area was disturbed prior to the delineation conducted by Schott & Associates. The wetland boundaries were delineated following Section G, Problem Areas, of the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual. The 0.004 acre wetland does not meet the criteria of an (a)(4) water and is an excluded water (b)(1) under the Navigable Waters Protection Rule.
Wetland 9	0.05	acre(s)	(b)(1) Non-adjacent wetland.	Wetland 9 is not identified on the NWI. The wetland area was disturbed prior to the delineation conducted by Schott & Associates. The wetland boundaries were delineated following Section G, Problem Areas, of the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual. The 0.05 acre wetland does not meet the criteria of an (a)(4) water and is an excluded water (b)(1) under the Navigable Waters Protection Rule.
Wetland 10	0.13	acre(s)	(b)(1) Non-adjacent wetland.	Wetland 10 is not identified on the NWI. The wetland area was disturbed prior to the delineation conducted by Schott & Associates. The wetland boundaries were delineated following Section G, Problem Areas, of the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual. The 0.13 acre wetland does not meet the criteria of an (a)(4) water and is an excluded



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Excluded waters ((b)(1) – (b)(12)): <sup>4</sup>			
Exclusion Name	Exclusion Size	Exclusion <sup>5</sup>	Rationale for Exclusion Determination
			water (b)(1) under the Navigable Waters Protection Rule.
Drainage 1	0.02	acre(s)	(b)(1) Water or water feature that is not identified in (a)(1)-(a)(4) and does not meet the other (b)(1) subcategories. Drainage 1 connects to Wetland 1 in the northern portion of the study area. Two outfalls discharge into Drainage 1 from the residential development to the north of the study area. The channel is characterized by a rocky cobble substrate lacking vegetation within the channel. There is no known surface water connection from Wetland 1 into Wetland 2, therefore, the channel does not contribute water to a downstream water of the U.S. and is an excluded water (b)(1) under the Navigable Waters Protection Rule.
Drainage 5	0.003	acre(s)	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool. Drainage 5 connects to the disturbed areas of Wetland 6 and Wetland 4 in the southwestern portion of the study area. This region was significantly altered by mechanized land clearing activities and as such the drainage is presumed to be an ephemeral connection, flowing only in response to significant precipitation events. There was no indication that Drainage 5 had groundwater interactions or functioned as an intermittent tributary to Wetland 4. Drainage 5 is an excluded water (b)(3) under the Navigable Waters Protection Rule.

**III. SUPPORTING INFORMATION**

**A. Select/enter all resources** that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

Information submitted by, or on behalf of, the applicant/consultant: [Schott & Associates Wetland Delineation Report, May 2019. Wetland delineation maps and the associated data sheets dated: 18 February 2019; 21 January 2020; and 9 July 2020.](#)

This information is and is not sufficient for purposes of this AJD.

Rationale: [Partial insufficiency is due to the difficulty accessing the eastern portion of the study area.](#)

[Remote sensing has been utilized to complete the review.](#)

Data sheets prepared by the Corps: [N/A](#)

Photographs: [Aerial and Other: Historic aerial imagery from the University of Oregon Map and Aerial Library: imagery dated 1936 and 1963. Google Earth: available imagery dated 14 July 1990 to 8 May 2019. Ground level photographs submitted by requestor: 2 February 2019 and 10 September 2019. Ground level photographs taken by the Corps during the 13 November 2019 and 13 August 2020 site visits.](#)

Corps site visit(s) conducted on: [13 November, 2019 and 13 August, 2020.](#)

Previous Jurisdictional Determinations (AJDs or PJDs): [PJD issued on 30 May, 2020.](#)

Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)

USDA NRCS Soil Survey: [USDA/NRCS Soil Survey Map of Columbia County, 12 February 2019.](#)



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- USFWS NWI maps: [National Wetlands Inventory, 12 February 2019.](#)
- USGS topographic maps: [N/A](#)

**Other data sources used to aid in this determination:**

Data Source (select)	Name and/or date and other relevant information
USGS Sources	<a href="#">USGS Stream Stats review, last accessed on 11 November 2019.</a> <a href="#">Mineral Resources Online Spatial Data, last accessed on 2 September 2020.</a>
USDA Sources	<a href="#">USDA Web Soil Survey review, last accessed on 11 November 2019.</a>
NOAA Sources	<a href="#">N/A.</a>
USACE Sources	<a href="#">USACE eGIS review, last accessed on 28 August 2020.</a>
State/Local/Tribal Sources	<a href="#">Oregon Department of State Lands Statewide Wetlands Inventory review, last accessed on 28 August 2020.</a>
Other information (specify)	<a href="#">Oregon Department of Geology and Mineral Industries (DOGAMI) lidar imagery review, last accessed on 28 August 2020.</a>

**B. Typical year assessment(s):** The Corps utilized the Antecedent Precipitation Tool (APT) to evaluate the study area via a single point method for four distinct time periods as discussed in the jurisdictional determination form and below. The APT was generated for dates that correlate with field work conducted by the requestor and the site visits conducted by the Corps. The APT analysis determines if the date-specific observation falls within the normal periodic range for the geographic area based on a rolling thirty-year period. A single point method using the latitude and longitude coordinates identified in Section (1) above were utilized because the single point method adequately represents the data sources available via the APT to conduct an analysis of climatic conditions within the study area.

1) February 2, 2019: Date of the initial delineation conducted by the requestor. The APT indicated the date was during the wet season with drier than normal conditions. Mapped aquatic resources onsite totaled approximately 2.88 acres.

2) September 10, 2019: Date of the second field visit for mapping efforts conducted by the requestor. The APT indicated the date was during the dry season with wetter than normal conditions. Mapped aquatic resources after this site visit by the requestor totaled approximately 2.98 acres.

3) November 13, 2019: Date of the first field visit by the Corps with the requestor. The APT indicated the date was during the wet season with normal conditions. The Corps observed several unmapped areas in the study area and requested additional field work from the requestor. Mapped aquatic resources after this site visit by the requestor, which is the map used for this AJD request, totals approximately 3.82 acres.

4) August 13, 2020: Date of the second field visit by the Corps in an attempt to access the eastern side of the study area. The APT indicated the date was during the dry season with normal conditions.

**C. Additional comments to support AJD:** The aquatic resources within the study area are geomorphically positioned in depressional landform features that drain towards the northeast. The underlying geology is comprised of igneous volcanic rock (USGS Mineral Resources Online Spatial Data, 2 September 2020). Elevation shifts from 86 feet to 132 feet in the North American Vertical Datum of 1988. The wetlands within the study area are predominantly groundwater-fed. Additionally, the study area collects precipitation and stormwater runoff from the surrounding impervious surface areas and directs flow outside of the study area towards Dalton Lake. Hydric soils were primarily identified by a positive alpha-alpha-Dipyridyl test due to



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problematic conditions from mechanized land clearing activities. The study area was forested prior to mechanized land clearing activities that occurred on the western portion of the study area during 2019. Dominant overstory species in areas unaffected by the site modifications are Oregon Ash (*Fraxinus latifolia*), Oregon White Oak (*Quercus garryana*), and Douglas Fir (*Pseudotsuga menziesii*).

Lidar imagery for the study area depicts the concave areas with lower elevation as a contiguous connection and is supported by distinct vegetation changes using remote sensing tools. Where a depressional feature occurs in lidar imagery a bright green vegetation footprint is distinct in Google Earth imagery. Bright green vegetation indicates that the ground is saturated at a frequency and duration to influence vegetation growth and are associated with areas that have aquatic resources and/or agricultural areas. Each mapped wetland in the requestor's delineation was cross referenced with Google Earth imagery and DOGAMI lidar. In each case, the mapped wetland was an area where the vegetation changes from dark green to bright green within a depressional contour. However, not all features shown in lidar imagery and Google Earth imagery were captured in the delineation. The Corps conducted two site visits to ground truth the observations made using remote sensing tools on 13 November 2019 and 13 August 2020. Access to the eastern side of the property was limited due to steep cliff sides, poison oak, and dense blackberry populations growing along the hillslopes with vines reaching over the lower elevation channel. As a result, the Corps utilized remote sensing tools for the difficult to reach areas with best professional judgement to evaluate the extent of aquatic resources within the study area for this request.