



WASHINGTON STATE

Joint Aquatic Resources Permit Application (JARPA) Form^{1,2} [\[help\]](#)

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.



US Army Corps of Engineers®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith’s Dock or Seabrook Lane Development) [\[help\]](#)

Berwick Creek Flood Reduction and Restoration

Part 2–Applicant

The person and/or organization responsible for the project. [\[help\]](#)

2a. Name (Last, First, Middle)

Rouse, Rick – Senior Director of Operations

2b. Organization (If applicable)

Port of Chehalis

2c. Mailing Address (Street or PO Box)

321 Maurin Road

2d. City, State, Zip

Chehalis, Washington 98532

2e. Phone (1)

(360) 748-9365

2f. Phone (2)

(360) 520-6694

2g. Fax

2h. E-mail

rrouse@portofchehalis.com

¹Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

²To access an online JARPA form with [\[help\]](#) screens, go to

http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx.

For other help, contact the Governor’s Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.

Part 3—Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [\[help\]](#)

3a. Name (Last, First, Middle)			
McGrath, Mara or Hoffmann, Lacey			
3b. Organization (If applicable)			
Ecological Land Services, Inc.			
3c. Mailing Address (Street or PO Box)			
1157 3 rd Avenue, Suite 220A			
3d. City, State, Zip			
Longview, Washington 98632			
3e. Phone (1)	3f. Phone (2)	3g. Fax	3h. E-mail
(360) 578-1371		(360) 414-9305	mara@eco-land.com -or- lacey@eco-land.com

Part 4—Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [\[help\]](#)

- Same as applicant. (Skip to Part 5.)
- Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)
- There are multiple upland property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.
- Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete [JARPA Attachment E](#) to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)			
Roberts, Bruce			
4b. Organization (If applicable)			
Community Partners (Industrial Commission, Inc.)			
4c. Mailing Address (Street or PO Box)			
PO Box 1501			
4d. City, State, Zip			
Chehalis, WA 98532-0409			
4e. Phone (1)	4f. Phone (2)	4g. Fax	4h. E-mail
360-748-7661			

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [\[help\]](#)

- There are multiple project locations (e.g. linear projects). Complete the section below and use [JARPA Attachment B](#) for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]			
<input checked="" type="checkbox"/> Private <input type="checkbox"/> Federal <input checked="" type="checkbox"/> Publicly owned (state, county, city, special districts like schools, ports, etc.) <input type="checkbox"/> Tribal <input type="checkbox"/> Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)			
5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]			
See 5p below			
5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]			
Chehalis, Washington 98532			
5d. County [help]			
Lewis			
5e. Provide the section, township, and range for the project location. [help]			
¼ Section	Section	Township	Range
	10 &15	13N	2W
5f. Provide the latitude and longitude of the project location. [help]			
<ul style="list-style-type: none"> Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83) 			
46.619679 N lat. / -122.910645 W long.			
5g. List the tax parcel number(s) for the project location. [help]			
<ul style="list-style-type: none"> The local county assessor's office can provide this information. 			
017775001000, 017775002000, 017887002000, 017888002001, 017889002003, & 017889002002			
5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]			
Name	Mailing Address	Tax Parcel # (if known)	
Chehalis Land LLC	1302 Puyallup St	017894004006	
	Sumner, WA 98390		
Ahrens, Ernest	1477 Rush Rd	017894003000, 017885003000	
	Chehalis, WA 98532-8727		
Community Partners (Industrial Commission Inc.)	PO Box 1501	017889003000	
	Chehalis, WA 98532-0409		
Gilman, James and Tanya	PO Box 55	017888002002	
	Chehalis, WA 98532		

5i. List all wetlands on or adjacent to the project location. [\[help\]](#)

Wetland A is located south of Berwick Creek within the project area. Wetland A is a Category II riverine wetland with a habitat score of 5 and a locally regulated buffer width of 100 feet.

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [\[help\]](#)

Berwick Creek (Type F; fish-bearing, perennial)

5k. Is any part of the project area within a 100-year floodplain? [\[help\]](#)

Yes No Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [\[help\]](#)

The approximately 2.8-acre project area and its surroundings are low lying lands in the Chehalis River Basin and flood extensively during heavy rain events. Berwick Creek outlets to Dillenbaugh Creek, a tributary of the Chehalis River, approximately 1.8 miles downstream. The topography of the project area has a slight rise in elevation moving upstream from about 244 to 246 feet above sea level. A 14-inch PVC culvert is at the southeast corner of the project area, along Ditch A (a tributary to Berwick Creek). The culvert spans an old road crossing that provides access to the wetland. Other than the gravel road, culvert, and fencing, the project area lacks structures.

Berwick Creek In-water Habitat

In the restoration area, Berwick Creek averages 9.7-foot wide below the OHWM and has perennial flow. Stream flow during a two-year event totals approximately 104 cubic feet per second based on hydrologic modeling, and stream gradient is 0.6 percent on average. Water depth during the dry season ranges from inches deep to approximately 2 feet in depth. Stream substrate is mainly fine sediments and silt, in the northern portion of the project area. The southern stretch of the stream contains mainly riffles over small cobble and some gravels. A small rock dam has been placed in the southern portion of the project area. This small rock dam was likely placed by humans, and although it doesn't substantially block hydrology, it can impede the migration of adult salmonids. The stream is channelized, and has heavily downcut banks, especially at the southwest bend in the stream where winter flows achieve high velocities and subsequent overbank flows, resulting in bank erosion. Beavers have constructed several dams in the stream channel upstream of the southwest bend, which slow but do not significantly block water flow. Deciduous trees have fallen into the stream where the banks have substantially eroded. The trees provide minimal habitat and refugia for juvenile salmonids, or resting areas for adults. Some overhanging vegetation is present; however, this vegetation is mainly Himalayan blackberry. Berwick Creek does not have many pool or riffle complexes and lacks diversity for juvenile and adult salmonids.

Riparian Corridor along Berwick Creek

Vegetation

The riparian corridor is narrow and vegetated in patches with shrubs and trees. Overall, within the restoration area, the riparian corridor only has mature forest canopy immediately along the channel. The understory is a mix of native and non-native herbaceous species and is largely dominated by reed canarygrass. The shrub layer is also a mix of native and non-native species. Himalayan blackberry is prominent; red-osier dogwood and rose are common native shrubs. Where an overstory exists, it is primarily Oregon ash with a few Sitka spruce, Douglas-fir, and cherry.

Habitat

Deciduous trees have fallen into the stream where the banks have substantially eroded. Trees and native shrubs can provide habitat and feed for wildlife in the vicinity. Woody shrubs are not prevalent along the entire corridor to be eaten and used by beavers. The extensive presence of the non-native and invasive reed canarygrass has likely led to suppression of native vegetation growth, which greatly limits the use of wildlife.

Riverine Wetland South of Berwick Creek

Vegetation

The wetland south of Berwick Creek is dominated by the non-native and invasive reed canarygrass with patches of soft rush scattered throughout the wetland. There are very few shrubs or trees within the restoration area. The wetland receives overbank flows from Berwick Creek and substantial winter flow from the west flowing ditch (Ditch A).

Habitat

The wetland has a moderate potential to provide habitat because there are only two Cowardin classes, 3 hydroperiods, a moderately low richness of plant species, and a low interspersion of habitats. Special habitat features within the wetland include evidence of recent beaver activity, and there are at least on-quarter of an acre of thin-stemmed persistent plants or woody branches present in areas that are seasonally inundated. The surrounding landscape has a low potential to support habitat functions of the site. There is extremely limited undisturbed accessible habitat, and very low undisturbed habitat within one kilometer of the site. The habitat provided by the site is moderately valuable to society because there are two priority habitats within 100 meters of the wetland. These priority habitats as defined by the WDFW are riparian and in-stream habitat.

5m. Describe how the property is currently used. [\[help\]](#)

The project area is currently undeveloped and contains barbed-wire fencing along the stream and wetland field. The field is used for hay production.

5n. Describe how the adjacent properties are currently used. [\[help\]](#)

The adjacent properties have residential and industrial uses. The project area is bordered to the north by an undeveloped, industrially owned field and a privately owned single-family residence; to the south by a privately owned single-family residences and a residence owned by Community Partners; and to the east by Rush Road (Figure 2). Bishop Road is just south of the southern project area.

5o. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [\[help\]](#)

Several man-made structures are present along the stream channel, including a pedestrian bridge and a rock dam. Additionally, beavers have constructed several dams within the stream channel. A 14-inch PVC culvert is at the southern boundary of the wetland enhancement area, along Ditch A (a tributary to Berwick Creek). The culvert spans an old road crossing that formerly provided farming access to the wetland.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [\[help\]](#)

Heading south on Interstate 5, take Exit 72, Rush Road. Turn left onto Rush Road and after 0.1 miles turn left to stay on Rush Road. Turn left onto Bishop Road in 0.8 miles. The destination will be on your right in 0.2 miles.

Heading north on Interstate 5, take Exit 72, Rush Road. Turn right onto Rush Road and immediately turn left to stay on Rush Road. Turn left onto Bishop Road in 0.8 miles. The destination will be on your right in 0.2 miles.

Maps are attached.

Part 6–Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [\[help\]](#)

The Port of Chehalis (Port) has received grant funding from the Washington State Recreation and Conservation Office (RCO Project 18-2614P) for flood reduction and restoration and is proposing to restore approximately 1,000 linear feet of Berwick Creek to provide additional flood storage, stabilize the stream banks, reduce erosion, slow flow velocity, improve salmonid habitat and refugia, and enhance aquatic, riparian, and wetland habitat functions.

The goals of the proposed project are to provide an overall lift to in-water, riparian, and wetland habitat, as well as provide a lift to water quality and quantity functions for the Upper Chehalis watershed. Restoration measures to achieve these goals include:

a. Enhance Instream Habitat

- a. Install large woody material structures to provide refugia, feeding, and cover opportunities for juvenile salmonids, and resting areas for adults; and
- b. Remove rock dam to provide unimpeded passage for adult and juvenile salmonids.

b. Create Floodplain Terraces and Enhance Habitat

- a. Create the north floodplain terrace to provide additional flood storage and help slow flow velocity during high water events;
- b. Create the south floodplain terrace to provide additional flood storage and off channel habitat for juvenile salmonids and wetland habitat;
- c. Place large woody material on the north floodplain terrace to provide habitat and help slow flow velocity during high water events.
- d. Enhance floodplain terraces with native vegetation to improve riparian habitat.

c. Enhance Wetland Functions

- a. Meander Ditch A and fill existing channel to enhance hydrologic function of Wetland A;
- b. Install large woody material within Ditch A to provide habitat and deflect ditch flow;
- c. Remove existing roadbed fill and culvert as a part of Ditch A meander to improve water quality and quantity and provide off-channel habitat and create wetland habitat; and
- d. Enhance the Category II wetland with native vegetation to provide an overall lift of water quality, water quantity, and habitat functions of the wetland and stream shading and LWM recruitment in the long-term.

6b. Describe the purpose of the project and why you want or need to perform it. [\[help\]](#)

The purpose of this flood reduction and restoration project are to restore this portion of Berwick Creek to mimic the headwaters of Berwick Creek, a less impacted and more intact stream and riparian habitat within the Upper Chehalis Watershed. This project is designed to:

- Improve flood storage along a channelized section of Berwick Creek;
- Improve stream bank stability and reduce erosion;
- Slow flow velocity during high water events;
- Improve instream habitat to provide refugia, feeding and cover opportunities for juvenile salmonids and resting areas for adults;
- Enhance the riparian zone and riverine wetland to achieve greater plant species diversity, structure, and habitat complexity; and

- Improve water quality and quantity within the riverine wetland and provide off-channel habitat.
- Provide stream shading and LWM recruitment in the long-term.

6c. Indicate the project category. (Check all that apply) [\[help\]](#)

- Commercial
 Residential
 Institutional
 Transportation
 Recreational
 Maintenance
 Environmental Enhancement

6d. Indicate the major elements of your project. (Check all that apply) [\[help\]](#)

<input type="checkbox"/> Aquaculture	<input type="checkbox"/> Culvert	<input type="checkbox"/> Float	<input type="checkbox"/> Retaining Wall (upland)
<input checked="" type="checkbox"/> Bank Stabilization	<input type="checkbox"/> Dam / Weir	<input type="checkbox"/> Floating Home	<input type="checkbox"/> Road
<input type="checkbox"/> Boat House	<input type="checkbox"/> Dike / Levee / Jetty	<input type="checkbox"/> Geotechnical Survey	<input type="checkbox"/> Scientific Measurement Device
<input type="checkbox"/> Boat Launch	<input checked="" type="checkbox"/> Ditch	<input type="checkbox"/> Land Clearing	<input type="checkbox"/> Stairs
<input type="checkbox"/> Boat Lift	<input type="checkbox"/> Dock / Pier	<input type="checkbox"/> Marina / Moorage	<input type="checkbox"/> Stormwater facility
<input type="checkbox"/> Bridge	<input type="checkbox"/> Dredging	<input type="checkbox"/> Mining	<input type="checkbox"/> Swimming Pool
<input type="checkbox"/> Bulkhead	<input type="checkbox"/> Fence	<input type="checkbox"/> Outfall Structure	<input type="checkbox"/> Utility Line
<input type="checkbox"/> Buoy	<input type="checkbox"/> Ferry Terminal	<input type="checkbox"/> Piling/Dolphin	
<input type="checkbox"/> Channel Modification	<input type="checkbox"/> Fishway	<input type="checkbox"/> Raft	

1. Other: Large woody material structures, stream terraces, culvert removal, vegetation enhancement

6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [\[help\]](#)

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

The following details how each project element will be constructed. All activities will occur within the 100-year floodplain.

Enhance Instream Habitat

Place Large Woody Material

The stretch of Berwick Creek within the project area lacks large woody material and other habitat features. Four large woody material (LWM) structures will be placed within Berwick Creek (Sheets 3 and 4). The structures will be anchored landward of the ordinary high water mark (OHWM), with the treetops extending into Berwick Creek and contacting the streambed.

Remove Rock Dam

A small rock dam that was placed below the OHWM by humans will be removed (Sheet 3). These rocks are small enough to be removed by hand so as not to disturb any surrounding vegetation with equipment. The removed rocks will be replaced along the stream banks, where other rocks of the same type are located, to prevent blocking the stream channel. Removing the small rock dam will allow unimpeded passage for juvenile and adult salmonids.

Create Floodplain Terraces and Enhance Habitat

Create Floodplain Terraces

The banks of Berwick Creek are extremely downcut and provide little habitat or flood storage due to the stream being disconnected from its floodplain unless it is an extremely high water event. To provide the

stream with more bank stability, greater flood storage, and higher quality habitat, the north and south side of Berwick Creek will be terraced landward of the OHWM (Sheets 3, 5-7).

Create and Enhance North Floodplain Terrace

For the north floodplain terrace, 130 cubic yards of material over 0.10 acres will be cut to create a two-step terrace (Sheets 3, 5-7). The terracing will begin 5 feet landward from the OHWM and extend to the northwest. No soils below the OHWM will be impacted. Excavated material will be disposed of in an upland location at an offsite Port property. Following excavation, the terrace will be seeded with a native seed mix and enhanced with large woody material and native wetland vegetation following the specifications on Sheets 5-7, and 12. Any mature trees or standing snags present in this area will be avoided during excavation. Temporary construction fencing will be installed along the driplines of the existing Oregon white oaks to avoid impacting the trees during construction.

Create and Enhance South Floodplain Terrace

For the south floodplain terrace, 189 cubic yards of material over 0.17 acres will be cut to create a single terrace (Sheets 3, 5-7). The terracing will begin 5 feet landward of the OHWM and extend southeast. No soils below the OHWM will be impacted. A portion of the area to be included in the south floodplain terrace is an upland within the Category II riverine wetland. This upland was likely historic spoils from ditching of the stream. The upland will be excavated to be approximately 1 foot below elevation of the existing wetland, for a total of 0.06 acres of wetland creation (Sheets 5-7). Excavated material will be disposed of in an upland location at an offsite Port property. Bare soils will be seeded with a native wetland seed mix and enhanced with native wetland vegetation following the specifications on Sheets 5, 7, and 12. Any mature trees or standing snags present in this area will be avoided during excavation.

Place Large Woody Material

Four LWM logs with rootwads attached will be placed in the north floodplain terrace (Sheet 6). These logs will be laid across each other and cabled together to prevent them from moving downstream during high water events. The horizontal logs will provide habitat and will help slow flows during high water events.

Enhance Wetland Functions

Meander Ditch

The onsite ditch, identified as Ditch A, flows directly through the southern portion of the project area during highwater events. It provides little-to-no flood storage or off-channel refugia for juvenile salmonids. Ditch A will be meandered throughout Wetland A to create a more natural path and to slow flow and infiltration, thereby supporting wetland hydrology. The meandered ditch will also provide better off-channel refugia and habitat for juvenile salmonids during high water events (Sheets 8-10).

A total of 89 cubic yards of material will be excavated within Wetland A for 740 square feet to create the meandered channel for Ditch A. The new ditch alignment will be approximately 2 feet wide and will run for 370 linear feet and will match the existing Ditch A bed elevation (Sheets 8 and 10). The 0.02 acre (660 square foot) old footprint of Ditch A will be filled with excavated material from the new ditch alignment to match the existing wetland elevation. Bare soils in the filled footprint of Ditch A will be seeded with a native seed mix and planted with willow stakes at the junction between the old and new ditch alignment. These willow stakes will help deflect flow into the newly constructed ditch channel and stabilize the banks. The meandered ditch alignment will be seeded with a native seed mix and ditch banks will be stabilized with willow stakes following the specifications on Sheets 9, 10, and 12.

Overall, with the meandered ditch alignment, there will be no loss of existing wetland or ditch). The 740 square feet of excavation to meander Ditch A through the wetland will be offset by creating wetland through removing a 2,432 square foot upland along Berwick Creek and 431 square feet of roadbed fill in Wetland A. In addition, the old channel of Ditch A will be filled to match existing wetland elevation, resulting in the creation of 660 square feet of wetland from a functioning ditch.

Place Large Woody Material

Two horizontal logs with rootwads attached will be placed along Ditch A where the meandered ditch meets the existing ditch footprint (Sheet 8). The horizontal logs will help direct flow within Ditch A into Berwick Creek and provide habitat and cover for juvenile salmonids.

Remove Roadbed Fill and Culvert

After ditch meandering and all other project elements requiring equipment access into the project area are complete, the existing access road over the culvert will be removed (Sheet 11). A total of 10 cubic yards of roadbed material over 0.01 acres (431 square feet) will be excavated to match the existing wetland elevation. These spoils will either be transported to an offsite Port property or used to fill the old Ditch A channel. The 14-inch culvert will then be removed and disposed of at a licensed disposal facility. The ditch banks will be excavated at a 2:1 slope and the base ditch elevation beneath the culvert will be filled to match existing conditions. All bare soils will be seeded with a native seed mix and the banks will be stabilized with willow stakes to prevent erosion following the specifications on Sheets 11 and 12.

Enhance Wetland

After all project components have been completed or installed, 1.18 acres of Wetland A will be enhanced with native vegetation following the specifications on Sheets 9 and 12.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [\[help\]](#)

- If the project will be constructed in phases or stages, use [JARPA Attachment D](#) to list the start and end dates of each phase or stage.

Start Date: Beginning of in-water work
window summer 2021

End Date: End of in-water work
window summer 2021

See JARPA Attachment D

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [\[help\]](#)

\$410,629

6h. Will any portion of the project receive federal funding? [\[help\]](#)

- **If yes**, list each agency providing funds.

Yes No Don't know

Part 7–Wetlands: Impacts and Mitigation

- Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [\[help\]](#)

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [\[help\]](#)

Not applicable

One of the project elements is to enhance approximately 1.18 acres of wetland habitat. The wetland enhancement area is an herbaceous stratum only and almost exclusively reed canarygrass. To avoid impacts to Berwick Creek and Wetland A during the restoration, the following avoidance measures will be implemented:

- Restoration will take place during the dry season when stream flow is at its lowest volume (July 1 through September 30, or as dictated by the Hydraulic Project Approval) and when wetland conditions are driest.
- Stream channel below the OHWM and flow will remain undisturbed.
- Clearing limits for the floodplain terracing will be demarcated with straw wattles to prevent sediment laden water from potentially entering Berwick Creek.
- Construction access and staging and stockpile areas will avoid all critical areas onsite and will be located within uplands as reasonably feasible.
- Best management practices, including straw wattles or similar measures will be utilized to control sedimentation and general ground disturbance.
- If any inadvertent fill is placed within the stream, work will be ceased immediately until the situation is rectified.

In addition to the avoidance measures, the following minimization measures will further reduce impacts to Berwick Creek, its associated riparian buffer, and Wetland A, and minimize habitat disruption beyond the extent required to undertake the restoration activities. The minimization measures are as follows:

- Install temporary construction fencing around the driplines of the Oregon white oaks north of Berwick Creek and as needed around the project area boundary.
- Design site grading to limit equipment entry into Wetland A to every extent practicable within the critical areas.

7b. Will the project impact wetlands? [\[help\]](#)

Yes No Don't know

7c. Will the project impact wetland buffers? [\[help\]](#)

Yes No Don't know

7d. Has a wetland delineation report been prepared? [\[help\]](#)

- If Yes, submit the report, including data sheets, with the JARPA package.

Yes No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [\[help\]](#)

- If Yes, submit the wetland rating forms and figures with the JARPA package.

Yes No Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [\[help\]](#)

- **If Yes**, submit the plan with the JARPA package and answer 7g.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Don't know

The project will enhance wetlands and a mitigation plan is not required. A Restoration Plan has been completed that details work to be completed within the wetland.

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [\[help\]](#)

The restoration plan goals are to provide an overall lift to in-water, riparian, and wetland habitat, as well as provide a lift to water quality and quantity functions for the Upper Chehalis watershed. Restoration measures to achieve these goals include:

1. Enhance Instream Habitat

- Install large woody material structures to provide refugia, feeding, and cover opportunities for juvenile salmonids, and resting areas for adults; and
- Remove rock dam to provide unimpeded passage for adult and juvenile salmonids.

2. Create Floodplain Terraces and Enhance Habitat

- Create the north floodplain terrace to provide additional flood storage and help slow flow velocity during high water events;
- Create the south floodplain terrace to provide additional flood storage and off channel habitat for juvenile salmonids and wetland habitat;
- Place large woody material on the north floodplain terrace to provide habitat and help slow flow velocity during high water events.
- Enhance floodplain terraces with native vegetation to improve riparian habitat.

3. Enhance Wetland Functions

- Meander Ditch A and fill existing channel to enhance hydrologic function of Wetland A;
- Install large woody material within Ditch A to provide habitat and deflect ditch flow;
- Remove existing roadbed fill and culvert as a part of Ditch A meander to improve water quality and quantity and provide off-channel habitat and create wetland habitat; and
- Enhance the Category II wetland with native vegetation to provide an overall lift of water quality, water quantity, and habitat functions of the wetland and stream shading and LWM recruitment in the long-term.

The proposed project has been planned and designed to resemble an ecological reference, or reference site. The upper reaches of Berwick Creek exhibit more of an intact aquatic and riparian habitat within the Upper Chehalis Watershed. The upper reaches of Berwick Creek have large woody material in-water that add habitat complexity and provide food sources for many species that are eaten by juvenile salmonids. The substrate is more consistent with an undisturbed streambed, consisting of cobbles and small gravels that provide habitat and input of dissolved oxygen into the stream. Because of the presence of riparian vegetation, the streambanks are more stable and are not extremely downcut. This reduces the input of fine sediments into the stream. This riparian habitat has not been heavily impacted by agricultural practices or residential land uses; therefore, there is adequate canopy cover to shade the stream and provide water temperature control. The upper reaches of Berwick Creek also have many riverine wetlands that provide excellent water quality and water quantity functions. By designing this project with the reference site in mind, the Port is proposing to provide better water quality and water quantity functions and improve habitat for juvenile salmonids in the watershed (Cramer 2012).

7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [\[help\]](#)

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³	Proposed mitigation type ⁴	Wetland mitigation area (sq. ft. or acres)

¹ If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.

² Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.

³ Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.

⁴ Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: Please refer to the *Restoration Plan* completed by Ecological Land Services, Inc. in April 2020 for wetland restoration details. Specific details can be found on Pages 5, 20, and 23, as well as within Tables 1, 2, 5, and 8.

7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [\[help\]](#)

The 0.02 acre (660 square foot) old footprint of Ditch A will be filled with excavated material from the new ditch alignment to match the existing wetland elevation. Bare soils in the filled footprint of Ditch A will be seeded with a native seed mix and planted with willow stakes at the junction between the old and new ditch alignment. These willow stakes will help deflect flow into the newly constructed ditch channel and stabilize the banks.

Overall, with the meandered ditch alignment, there will be no loss of existing wetland or ditch area (**Error! Reference source not found.**). The 740 square feet of excavation to meander Ditch A through the wetland will be offset by creating wetland through removing a 2,432 square foot upland along Berwick Creek and 431 square feet of roadbed fill in Wetland A. In addition, the old channel of Ditch A will be filled to match existing wetland elevation, resulting in the creation of 660 square feet of wetland from a functioning ditch.

7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [\[help\]](#)

Ditch A

A total of 89 cubic yards of material will be excavated within Wetland A for 740 square feet to create the meandered channel for Ditch A. The new ditch alignment will be approximately 2 feet wide and will run for 370 linear feet and will match the existing Ditch A bed elevation (Sheets 8 and 10). The meandered ditch alignment will be seeded with a native seed mix and ditch banks will be stabilized with willow stakes following the specifications on Sheets 9, 10, and 12. Equipment used includes an excavator and hand tools. Any additional excavation spoils that will not be used to fill the existing Ditch A will be disposed of in an upland location at an offsite Port property.

South Terrace

For the south floodplain terrace, 189 cubic yards of material over 0.17 acres will be cut to create a single terrace (Sheets 3, 5-7). The terracing will begin 5 feet landward of the OHWM and extend southeast. No soils below the OHWM will be impacted. A portion of the area to be included in the south floodplain terrace is an upland within the Category II riverine wetland. This upland was likely historic spoils from ditching of the stream. The upland will be excavated to be approximately 1 foot below elevation of the existing wetland, for a total of 0.06 acres of wetland creation (Sheets 5-7). Excavated material will be disposed of in an upland location at an offsite Port property. Bare soils will be seeded with a native wetland seed mix and enhanced with native wetland vegetation following the specifications on Sheets 5, 7, and 12. Any mature trees or standing snags present in this area will be avoided during excavation.

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, “waterbodies” refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [\[help\]](#)

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [\[help\]](#)

Not applicable

See 7a for avoidance and minimization measures related to the aquatic environment.

8b. Will your project impact a waterbody or the area around a waterbody? [\[help\]](#)

Yes No

8c. Have you prepared a mitigation plan to compensate for the project’s adverse impacts to non-wetland waterbodies? [\[help\]](#)

- **If Yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Don’t know

The project will help restore in-stream physical and biological functions and a mitigation plan is not required.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [\[help\]](#)

The proposed project has been planned and designed to resemble an ecological reference, or reference site. The upper reaches of Berwick Creek exhibit more of an intact aquatic and riparian habitat within the Upper

Chehalis Watershed. The upper reaches of Berwick Creek have large woody material in-water that add habitat complexity and provide food sources for many species that are eaten by juvenile salmonids. The substrate is more consistent with an undisturbed streambed, consisting of cobbles and small gravels that provide habitat and input of dissolved oxygen into the stream. Because of the presence of riparian vegetation, the streambanks are more stable and are not extremely downcut. This reduces the input of fine sediments into the stream. This riparian habitat has not been heavily impacted by agricultural practices or residential land uses; therefore, there is adequate canopy cover to shade the stream and provide water temperature control. The upper reaches of Berwick Creek also have many riverine wetlands that provide excellent water quality and water quantity functions. By designing this project with the reference site in mind, the Port is proposing to provide better water quality and water quantity functions and improve habitat for juvenile salmonids in the watershed.

8e. Summarize impact(s) to each waterbody in the table below. [\[help\]](#)

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name ¹	Impact Restoration location ²	Duration of restoration impact ³	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Place LWM structures (pile drive)	Berwick Creek	Adjacent to and within floodplain	Permanent	No fill or excavation is proposed below the OHWM. Anchor logs will be installed landward of OHWM.	N/A
Remove rock dam	Berwick Creek	Adjacent to and within floodplain	Permanent	Approximately 2 cubic yards of rock will be moved and placed along streambanks	Approximately 24 square feet
Create floodplain terraces (clear & excavate)	Berwick Creek	Adjacent to and within floodplain	Permanent	131 cubic yards excavation above OHWM for the North Terrace	0.10 ac North Terrace
				189 cubic yards excavation above the OHWM for the South Terrace	0.17 ac South Terrace
Place LWM logs	Berwick Creek	Adjacent to and within floodplain	Permanent	N/A	N/A
Meander Ditch A and fill old ditch channel (clear & excavate)	Ditch A	Wetland A and within floodplain	Permanent	89 cubic yards excavation in Wetland A for new ditch channel	740 square feet
Remove roadbed fill and culvert (clear & excavate)	Ditch A	Wetland A and within floodplain	Permanent	10 cubic yards excavation of roadbed fill and remove culvert	431 square feet

¹ If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.

² Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.

³ Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [\[help\]](#)

The only material placed within the stream will be a portion of the LWM structures. The log specifications can be found in the *Restoration Plan*, and only locally sourced, native tree species will be used.

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [\[help\]](#)

No material will be excavated below the OHWM. All excavation activities are either adjacent to Berwick Creek, or within Wetland A for the meandering of Ditch A (outlets to Berwick Creek within the project area).

Create and Enhance North Floodplain Terrace

For the north floodplain terrace, 130 cubic yards of material over 0.10 acres will be cut to create a two-step terrace (Sheets 3, 5-7). The terracing will begin 5 feet landward from the OHWM and extend to the northwest. No soils below the OHWM will be impacted. Excavated material will be disposed of in an upland location at an offsite Port property. Following excavation, the terrace will be seeded with a native seed mix and enhanced with large woody material and native wetland vegetation following the specifications on Sheets 5-7, and 12. Any mature trees or standing snags present in this area will be avoided during excavation. Temporary construction fencing will be installed along the driplines of the existing Oregon white oaks to avoid impacting the trees during construction.

Create and Enhance South Floodplain Terrace

For the south floodplain terrace, 189 cubic yards of material over 0.17 acres will be cut to create a single terrace (Sheets 3, 5-7). The terracing will begin 5 feet landward of the OHWM and extend southeast. No soils below the OHWM will be impacted. A portion of the area to be included in the south floodplain terrace is an upland within the Category II riverine wetland. This upland was likely historic spoils from ditching of the stream. The upland will be excavated to be approximately 1 foot below elevation of the existing wetland, for a total of 0.06 acres of wetland creation (Sheets 5-7). Excavated material will be disposed of in an upland location at an offsite Port property. Bare soils will be seeded with a native wetland seed mix and enhanced with native wetland vegetation following the specifications on Sheets 5, 7, and 12. Any mature trees or standing snags present in this area will be avoided during excavation.

Meander Ditch

The onsite ditch, identified as Ditch A, flows directly through the southern portion of the project area during highwater events. It provides little-to-no flood storage or off-channel refugia for juvenile salmonids. Ditch A will be meandered throughout Wetland A to create a more natural path and to slow flow and infiltration, thereby supporting wetland hydrology. The meandered ditch will also provide better off-channel refugia and habitat for juvenile salmonids during high water events (Sheets 8-10).

A total of 89 cubic yards of material will be excavated within Wetland A for 740 square feet to create the meandered channel for Ditch A. The new ditch alignment will be approximately 2 feet wide and will run for 370 linear feet and will match the existing Ditch A bed elevation (Sheets 8 and 10). The 0.02 acre (660 square foot) old footprint of Ditch A will be filled with excavated material from the new ditch alignment to match the existing wetland elevation. Bare soils in the filled footprint of Ditch A will be seeded with a native seed mix and planted with willow stakes at the junction between the old and new ditch alignment. These willow stakes will help deflect flow into the newly constructed ditch channel and stabilize the banks. The meandered ditch alignment will be seeded with a native seed mix and ditch banks will be stabilized with willow stakes following the specifications on Sheets 9, 10, and 12.

Remove Roadbed Fill and Culvert

After ditch meandering and all other project elements requiring equipment access into the project area are complete, the existing access road over the culvert will be removed (Sheet 11). A total of 10 cubic yards of roadbed material over 0.01 acres (431 square feet) will be excavated to match the existing wetland elevation. These spoils will either be transported to an offsite Port property or used to fill the old Ditch A channel. The 14-inch culvert will then be removed and disposed of at a licensed disposal facility. The ditch banks will be excavated at a 2:1 slope and the base ditch elevation beneath the culvert will be filled to match existing conditions. All bare soils will be seeded with a native seed mix and the banks will be stabilized with willow stakes to prevent erosion following the specifications on Sheets 11 and 12.

Part 9—Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]			
Agency Name	Contact Name	Phone	Most Recent Date of Contact
Washington Department of Fish & Wildlife	Scott Brummer	(360) 520-6843	April 2020
US Army Corps of Engineers	Evan Carnes	(206) 316-3049	March 2020
Washington State Department of Ecology	Zachary Meyer	(360) 407-6167	June 2019
9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [help]			
<ul style="list-style-type: none"> If Yes, list the parameter(s) below. If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d. 			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]			
<ul style="list-style-type: none"> Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC. 			
HUC 171001030402			
9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]			
<ul style="list-style-type: none"> Go to https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Watershed-look-up to find the WRIA #. 			
WRIA 23 – Upper Chehalis			
9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]			
<ul style="list-style-type: none"> Go to https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards/Criteria for the standards. 			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable			
9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]			
<ul style="list-style-type: none"> If you don't know, contact the local planning department. For more information, go to: https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-laws-rules-and-cases. 			
<input type="checkbox"/> Urban <input type="checkbox"/> Natural <input type="checkbox"/> Aquatic <input type="checkbox"/> Conservancy <input type="checkbox"/> Other: Project is not in shoreline jurisdiction.			
9g. What is the Washington Department of Natural Resources Water Type? [help]			
<ul style="list-style-type: none"> Go to http://www.dnr.wa.gov/forest-practices-water-typing for the Forest Practices Water Typing System. 			
<input type="checkbox"/> Shoreline <input checked="" type="checkbox"/> Fish <input type="checkbox"/> Non-Fish Perennial <input type="checkbox"/> Non-Fish Seasonal			

<p>9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help]</p> <ul style="list-style-type: none"> • If No, provide the name of the manual your project is designed to meet.
<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Name of manual: <u>1992 Stormwater Management Manual for Puget Sound Basin</u></p>
<p>9i. Does the project site have known contaminated sediment? [help]</p> <ul style="list-style-type: none"> • If Yes, please describe below.
<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>9j. If you know what the property was used for in the past, describe below. [help]</p>
<p>The project area has been used for hay production in the past.</p>
<p>9k. Has a cultural resource (archaeological) survey been performed on the project area? [help]</p> <ul style="list-style-type: none"> • If Yes, attach it to your JARPA package.
<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>9l. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]</p>
<p>None. The coho salmon that access Berwick Creek are not listed under the ESA.</p>
<p>9m. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [help]</p>
<p>Species listed by the PHS that occur in the vicinity of the project include: Coho salmon (<i>Oncorhynchus kisutch</i>) Rainbow trout (<i>Oncorhynchus mykiss</i>) Resident coastal cutthroat (<i>Oncorhynchus clarki</i>) Big brown bat (<i>Eptesicus fuscus</i>)</p> <p>No impacts to these species are anticipated.</p>

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at <http://apps.oria.wa.gov/opas/>.
- Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.
- For a list of addresses to send your JARPA to, click on [agency addresses for completed JARPA](#).

<p>10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]</p> <ul style="list-style-type: none"> • For more information about SEPA, go to https://ecology.wa.gov/regulations-permits/SEPA-environmental-review.
<p><input type="checkbox"/> A copy of the SEPA determination or letter of exemption is included with this application.</p>
<p><input checked="" type="checkbox"/> A SEPA determination is pending with <u>City of Chehalis</u> (lead agency). The expected decision date is <u>June 2020</u>.</p>

Part 11—Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [\[help\]](#)

11a. Applicant Signature (required) [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. _____ (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. _____ (initial)

Applicant Printed Name

Applicant Signature

Date

11b. Authorized Agent Signature [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Lacey Hoffmann & Mara McGrath

 Mara McGrath

April 28, 2020

Authorized Agent Printed Name

Authorized Agent Signature

Date

11c. Property Owner Signature (if not applicant) [\[help\]](#)

Not required if project is on existing rights-of-way or easements (provide copy of easement with JARPA).

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name

Property Owner Signature

Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-011 rev. 09/2018