

#### Request for Clean Water Act Section 401 Water Quality Certification Washington State Department of Ecology Phone: (360) 407-6076 or E-mail: ecyrefedpermits@ecy.wa.gov

This Section 401 Water Quality Certification (WQC) Request form identifies information needed in order to review and process a Section 401 WQC Request. Please see Department of Ecology's (Ecology) <u>webpage</u> for more information about the Section 401 WQC Request process.

Submit this Section 401 WQC Request form along with a <u>Joint Aquatic Resources Permit Application</u> (JARPA) and supporting information.<sup>1</sup> to <u>ecyrefedpermits@ecy.wa.gov</u> and copy the federal permitting agency.

A. Federal Permit or License Reference Number, if known:\_

 Department of Ecology (Ecology) Aquatics ID Number, if known:
 142853

 Project Name:
 IBR Program - Geotech Exploration

 County:
 Clark

- B. Project Proponent Name: WSDOT IBR Program Office c/o Chris Regan
- C. Documentation showing that the Pre-Filing Meeting Request was submitted at least 30 days prior to submitting this Section 401 WQC Request. Attach either of the following:
  - □ E-mail acknowledgement of receipt from Ecology
  - Copy of previously submitted Pre-Filing Meeting Request Form
- D. A completed, signed, and dated JARPA should be submitted with this form.

Did you attach a JARPA? 
Yes

E. The following is a list of documents needed for Ecology's WQC review, along with a brief explanation. Depending on the project, additional information may be requested.

Please let us know what information you are submitting with this WQC request form.

#### Required for all projects:

- 1. State Environmental Policy Act (SEPA) determination and/or checklist:
  - □ Final SEPA determination attached
  - □ SEPA determination pending
  - Exempt from SEPA (see <u>SEPA Guidance</u>)
  - □ SEPA is not required (e.g., federal agency projects)

Si necesita este formulario en español, por favor, llámenos a (360) 407-6076 o envíenos un correo electrónico a: <u>ecyrefedpermits@ecy.wa.gov</u>

<sup>&</sup>lt;sup>1</sup> To submit documents over 25MB, e-mail <u>ecyrefedpermits@ecy.wa.gov</u> to request a secure link.

To request an ADA accommodation, contact Ecology by phone at (360) 407-6076 or email at <u>ecyrefedpermits@ecy.wa.gov</u>, or visit <u>https://ecology.wa.gov/accessibility</u>. For Relay Service or TTY call 711 or 877-833-6341.

- 2. Project drawings attached:
  - Vicinity map
  - Plan view
  - Cross-section(s)
  - Plan set
  - Other:\_\_\_\_\_
- 3. Best management practices and construction methodology, provided in the attached:
  - JARPA
  - □ Water Quality Monitoring and Protection Plan (WQMPP)
  - Project drawings, sheets:
  - Mitigation Plan pages: \_\_\_\_\_
  - Other document(s): \_\_\_\_\_\_

#### Notes:

- This is needed for in-water work (below ordinary high water mark), including wetlands.
- Describe best management practices to be implemented to protect water quality.
- Describe construction sequencing and methodology.
- 4. Water quality monitoring, provided in the attached:
  - □ Water Quality Monitoring Plan (WQMP).
  - □ Water Quality Monitoring and Protection Plan (WQMPP is similar to WQMP, but includes best management practices).

Other (please identify location, such as JARPA, Part 8): JARPA

Notes:

- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- A plan is needed when conducting work in a waterbody (e.g., creek, ditch, river, lake, pond, marine, estuarine).
- Include water quality parameters such as turbidity, oil sheen, pH (e.g., poured in-place concrete, concrete demolition), etc.
- See State Water Quality Standards for Surface Waters (Chapter 173-201A-200 or -210 WAC)
- If needed, templates are available.

#### Required depending on the project type:

5. Erosion and sediment control for upland work (above ordinary high water mark) that addresses stormwater during construction and long-term:

This information is included in the attached:

- □ JARPA
- □ Project drawings, sheets:
- Stormwater Pollution Prevention Plan, pages:
- Mitigation Plan, pages: \_\_\_\_\_
- Other document(s): \_\_\_\_\_\_
- 6. Wetland report, including the attached:
  - □ Wetland delineation report
  - Delineation data sheets
  - □ Wetland rating forms

Notes:

- Needed when there is a discharge (dewatering, excavation or fill) to wetlands.
- Report needs to include both a wetland delineation and rating.
- Include delineation data sheets and rating forms.
- For more information see <u>wetland delineation resources</u> and <u>hiring a qualified wetland</u> <u>professional</u>.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- 7. Mitigation, avoidance and minimization
  - U Wetland avoidance and minimization checklist
  - Other aquatic resource avoidance and minimization demonstration
  - □ Mitigation Plan
  - Other:\_\_\_\_\_

#### Notes:

- Wetland <u>avoidance and minimization webpage</u>.
- 8. Mitigation plan, provided in the attached:
  - □ Riparian Planting and Monitoring Plan (Needed when riparian vegetation is removed or modified)
  - □ Wetland or stream/other aquatic resource Mitigation Plan
  - □ Wetland Mitigation Bank Use Plan (use when proposing mitigation bank use)
  - □ In-Lieu Fee (ILF) Use Plan (use when proposing ILF mitigation)
  - Project drawings, sheets:
  - Other:

#### Notes:

- Needed to offset impacts to wetland, stream, marine, or other aquatic habitat.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- For more information, see <u>wetland compensatory mitigation</u>.
- 9. Dredging
  - Dredging Plan attached
  - □ Suitability Determination attached

#### Notes:

- Needed when sediments will be dredged for maintenance, navigation, or other purposes.
- Covers in-water disposal and sediment anti-degradation.
- Dredging Plan should include dredge footprint and depth, dredge type, best management. practices, disposal plan, off-loading plan for upland disposal, etc.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- For informationon suitability determinations, see <u>Dredged Material Management Office</u>.
- 10. Dewatering
  - Dewatering Plan attached

#### Notes:

• Needed for complex in-water work or management of excavated/dredged material.

- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- May also be required for some excavation projects.

#### F. Required Certification Statements:

The project proponent hereby certifies that all information contained herein is true, accurate, and complete, to the best of my knowledge and belief.

Initial<u>CAR</u>

The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Initial <u>CAR</u>	Initial	CAR
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Signature: Chris Regan

Digitally signed by Chris Regan Date: 2023.09.11 10:58:29 -07'00' \_<sub>Date:</sub> 9/11/2023

Print Name: Chris Regan





**US Army Corps** of Engineers District

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received: Re	9/11/2023 edoc c'd w/ Section 401
y reference #: _	Request Form
arcel #(s):	

AGENCY USE ONLY

Joint Aquatic Resources Permit

Application (JARPA) Form<sup>1,2</sup> [help] USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.

# Part 1–Project Identification

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

Interstate Bridge Replacement Program – Geotechnical Exploration

### Part 2–Applicant

The person and/or organization responsible for the project. [help]

2a. Name (Last, First, Middle)				
Regan, Chris				
2b. Organization (If app	plicable)			
Washington State Dep	partment of Transportation	on – IBR Program Offic	e	
2c. Mailing Address (Street or PO Box)				
500 Broadway Street, Suite 200				
2d. City, State, Zip				
Vancouver, WA 98660				
<b>2e.</b> Phone (1)	ne (1) <b>2f.</b> Phone (2) <b>2g.</b> Fax <b>2h.</b> E-mail			
360-489-0960			chris.regan@interstatebridge.org	

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

<sup>&</sup>lt;sup>1</sup>Additional forms may be required for the following permits:

<sup>•</sup> 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.

<sup>·</sup> 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.

<sup>&</sup>lt;sup>2</sup>To 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.

# 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)			
Day, Dustin			
3b. Organization (If ap	plicable)		
WSP USA			
3c. Mailing Address (	3c. Mailing Address (Street or PO Box)		
1207 Washington Street, Suite 115			
3d. City, State, Zip			
Vancouver, WA 98660			
<b>3e.</b> Phone (1)	<b>3f.</b> Phone (2)	<b>3g.</b> Fax	<b>3h.</b> E-mail
360-823-6109			dustin.day@wsp.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]

- $\Box$  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 <u>JARPA Attachment A</u> 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 <u>JARPA Attachment E</u> to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)				
4b. Organization (If app	licable)			
4c. Mailing Address (St	4c. Mailing Address (Street or PO Box)			
4d. City, State, Zip				
<b>4e.</b> Phone (1)	<b>4f.</b> Phone (2)	<b>4g.</b> Fax	<b>4h.</b> E-mail	

# 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 <u>JARPA</u> <u>Attachment B</u> for each additional project location.

5a. Indicate the type of c	5a. Indicate the type of ownership of the property. (Check all that apply.) [help]			
Private				
Federal				
Publicly owned (state, or a state)	county, city, special districts like s	schools, ports, etc.)		
🗆 Tribal				
Department of Natura	l Resources (DNR) – mana	aged aquatic lands (Complete _	IARPA Attachment E)	
5b. Street Address (Cann	ot be a PO Box. If there is no ad	dress, provide other location informati	on in 5p.) [ <u>help]</u>	
5c. City, State, Zip (If the	project is not in a city or town, pr	ovide the name of the nearest city or t	own.) [ <u>help]</u>	
Vancouver, WA 98660				
5d. County [help]				
Clark				
<b>5e.</b> Provide the section, t	township, and range for the	e project location. [help]		
<sup>1</sup> ⁄ <sub>4</sub> Section	Section	Township	Range	
	34	02N	01E	
5f. Provide the latitude and longitude of the project location. [help]				
• Example: 47.03922 N	I lat. / -122.89142 W long. (Use	decimal degrees - NAD 83)		
45.619829 N lat/ -122.67	5071 W long.			
<b>5g.</b> List the tax parcel nu	imber(s) for the project loca	ation. [ <u>help]</u>		
I he local county asse	essor's office can provide this info	ormation.		
NA				
<b>5h.</b> Contact information f	for all adjoining property ov	VNERS. (If you need more space, use	JARPA Attachment C.) [help]	
Name	r	Mailing Address Tax Parcel # (if known)		
Port of Vancouver	3103 NW Lowe	er River Road	502250000	
	Vancouver, WA	Vancouver, WA 98660		

5i. List all wetlands o	n or adjacent to	the project locat	on. [ <mark>help</mark> ]
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#### None

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

Columbia River

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

 $\boxtimes$  Yes  $\Box$  No  $\Box$  Don't know

51. Briefly describe the vegetation and habitat conditions on the property. [help]

The project area is located in the Columbia River, there is no vegetation. The Columbia River provides suitable habitat for numerous aquatic species, birds, marine mammals, etc.

5m. Describe how the property is currently used. [help]

The Columbia River is used for transportation, shipping, and recreational uses.

5n. Describe how the adjacent properties are currently used. [help]

The north bank of the Columbia River in the vicinity of the proposed project is a site owned by the Port of Vancouver and is referred to as Terminal 1. Terminal 1 is currently being redeveloped. The eastern portion is currently under construction. The western portion was redeveloped and is used as recreational outdoor open space.

**50.** Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [help]

The existing Interstate Bridge is located approximately 100-feet upstream of the project location. There are no structures above or below ground in the vicinity of the proposed project.

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

Take I-5 south to Exit1C. Head east on 15<sup>th</sup> Street. Turn south (left) on Columbia Street. Head west (right) on W Columbia Way.

# Part 6–Project Description

6a. Briefly summarize the ov	verall project. You can provid	e more detail in 6b. [help]			
The Interstate Bridge Replace Program and an aquatic use activities associated with the Washington.	cement Program (IBR Progra authorization from the Wash replacement of the Interstat	m) seeks coverage under the nington Department of Natura e Bridge between Portland, (	e Nationwide Permit al Resources for Dregon and Vancouver,		
Washington. The proposed geotechnical investigation will evaluate subsurface conditions and is needed to support the design of the proposed future replacement bridge. The project will consist of drilling and collecting approximately eight (8) subsurface samples for geotechnical analysis in the vicinity of the replacement bridge. The eight (8) borings will be advanced below the ordinary high-water mark (OHWM) of the Columbia River. The overwater soil borings will be installed to depths that range from 150 to 300 feet below mudline and will be advanced within a casing to isolate the drilling operation from the aquatic environment. Five (5) of the borings will occur in Oregon and three (3) will occur in Washington. The boring locations are shown on Figure 2. The borings will be completed by a truck mounted drill rig, track mounted drill rig or tracked sonic rig mounted to a floating barge. The borings will consist of four borings using the mud rotary technique and four borings using the sonic rotary technique. It is anticipated that the geotechnical and geophysical fieldwork will require up to 57 working days. According to the 2021 Nationwide Permit User's Guide, 401 water quality certifications are pre-certified for Nationwide Permit 6 - and individual water quality certifications will not be required by the Oregon Department of Environmental Quality (DEQ) or but the Washington State Department of Enalegy.					
6b. Describe the purpose of	the project and why you war	nt or need to perform it. [help	]		
The proposed project is a geotechnical investigation that will evaluate the subsurface conditions for the design of a proposed replacement bridge. The purpose of the proposed geotechnical investigations is to collect geotechnical information to evaluate subsurface conditions. The project is needed to support the design, planning, and environmental review of the proposed replacement bridge.					
6c. Indicate the project cate	gory. (Check all that apply) [help]				
□ Commercial □ R □ Maintenance □ E	□ Commercial       □ Residential       □ Institutional       ⊠ Transportation       □ Recreational         □ Maintenance       □ Environmental Enhancement				
6d. Indicate the major element	ents of your project. (Check all	that apply) [help]			
<ul> <li>Aquaculture</li> <li>Bank Stabilization</li> <li>Boat House</li> <li>Boat Launch</li> <li>Boat Lift</li> <li>Bridge</li> <li>Bulkhead</li> <li>Buoy</li> <li>Channel Modification</li> </ul>	<ul> <li>Culvert</li> <li>Dam / Weir</li> <li>Dike / Levee / Jetty</li> <li>Ditch</li> <li>Dock / Pier</li> <li>Dredging</li> <li>Fence</li> <li>Ferry Terminal</li> <li>Fishway</li> </ul>	<ul> <li>Float</li> <li>Floating Home</li> <li>Geotechnical Survey</li> <li>Land Clearing</li> <li>Marina / Moorage</li> <li>Mining</li> <li>Outfall Structure</li> <li>Piling/Dolphin</li> <li>Raft</li> </ul>	<ul> <li>Retaining Wall (upland)</li> <li>Road</li> <li>Scientific Measurement Device</li> <li>Stairs</li> <li>Stormwater facility</li> <li>Swimming Pool</li> <li>Utility Line</li> </ul>		
□ Other:		1			

- **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.

All borings will be aligned with the proposed preferred bridge alternative pier locations, which is downstream and approximately parallel to the existing bridge. Because of the dynamic environment in the Columbia River, the actual locations of the overwater borings may deviate slightly from the planned locations. The actual location of each boring will be determined in the field using a hand-held GPS device. Geotechnical drilling of all borings will be conducted during daylight hours.

The eight borings will be completed in-water, ranging in depth from 150 ft to 300 feet below the mudline, and advanced with a truck mounted drill rig, track mounted drill rig or tracked sonic rig mounted to a floating barge. The barge is approximately 110 feet by 35 feet and has an approximate work area of 3,850 square feet. The four mud rotary borings are 6-inches in diameter and will have approximately 7.3 cubic yards of material excavated. The four sonic rotary borings are 8-inches in diameter and will have approximately 13 cubic yards excavated. In total, the project anticipates 20.3 cubic yards of material excavated from the Columbia River aquatic lands.

Barges used for this type of work are usually equipped with a loading ramp which can be raised and lowered, allowing a drill rig to drive aboard at a local boat ramp. Once the drill rig and tooling are onboard and secured, the barge is then typically maneuvered into the desired location using a tugboat, guided by GPS and/or survey equipment. Once over the borehole location, the barge is made stationary using long steel pipe piles (known as spuds), which are dropped vertically through holes in the barge deck and into the river bottom, the barge will generally incorporate four spuds at each corner of the barge.

For drilling, barges are typically configured with a hole in the deck or "moon pool" through which the borehole is drilled. Before the borehole is started, a steel circulation casing is pushed and/or driven to a depth of approximately 10 to 15 feet below the mud line, sealing off any circulating drill fluids from the river. Often, the casing is pushed to refusal using the drill rig hydraulic system and then driven with a casing hammer. Once the casing is sealed below the mud line, drilling will be initiated using mud rotary or casing-advancer techniques through the circulation casing. All drill cuttings and drilling fluids will be contained within the borehole, the circulation casing, and the re-circulation (or "mud") tub on the barge deck.

#### Mud Rotary Drilling

Mud-rotary borings are typically advanced using a tri-cone bit and a string of hollow drill rods (narrower than the bit) through which bentonite drilling mud is pumped. The mud is mixed on site using water and powdered bentonite. The drilling mud serves to cool the bit, keep the hole open, and flush the cuttings to the surface. Returning drill mud is typically passed through a screen and into a tub over the hole. The screen collects the cuttings, and the tub collects the mud for recirculation back into the hole. If fine-grained, cohesive soils are encountered, other styles of drill bits may also be used with the mud-rotary method, such as scraper or drag bits.

#### **Casing Advancer Drilling**

The casing advancer system is comprised of three parts, the outer tube, the loading tube, and the inner assembly. The outer tube is connected to the bottom of the casing column with a casing shoe attached. The inner assembly, including the tri-cone drilling bit, is suspended by wire line into the outer tube and latches into place with the tri-cone bit protruding slightly beyond the edge of the shoe. The inner tube is used to insert the inner assembly into the outer tube during retraction and sampling. During drilling, the casing spins and water is circulated down through the inside of the casing to the tri-cone bit. As the tri-cone bit spins within the casing, it cuts material which is then circulated up the borehole in the drilling fluid return. The inner assembly is retracted during sampling which is usually done by a cathead hammer.

#### Sonic Rotary Drilling

During sonic rotary drilling, also referred to as rotosonic drilling, a 6-inch core barrel is rotated while an oscillator in the drill head imposes a high frequency vibration into the drill rods and core barrel. This forces the core barrel and drill bit to be physically vibrating up and down in addition to being forced down and rotating.

These three forces, vibration, rotation, and downward force combine to advance the core barrel through soil or bedrock. As the core barrel is advanced, the center fills with the soil or rock it is being advanced through. When the core barrel is advanced a certain distance determined by the length of the core barrel it is stopped. An over-casing is advanced over the outside of the core barrel to the same depth as the core barrel tip using the same sonic vibration, rotation and downward force. The over casing protects the borehole integrity and prevents the borehole from collapsing as the core barrel is retrieved. The inner core barrel is retracted to the surface where it is emptied into long cylindrical bags as a long soil core or rock core sample. This alternating process of core barrel and over casing advancement with core barrel retrieval is continued to the terminal depth of the borehole.

#### **Borehole Abandonment**

After drilling, sampling, and in situ testing of the boreholes are completed, the holes will be abandoned by filling them with a high-solids bentonite-cement grout, in accordance with Oregon Water Resource Department regulations. A tremie pipe will be placed through the circulation casing and into the borehole. Grout will be mixed on the barge deck and pumped, through the tremie pipe, into the bottom of the borehole. The tremie pipe will be pulled back out of the hole in stages as the borehole is filled with grout. Borehole and grout volumes will be calculated to avoid over-filling. As the borehole is backfilled, the grout will displace drilling mud remaining in the hole. The drilling mud will rise through the conductor casing and into the mud tub, where it will then be pumped into 55-gallon drums for disposal. No instrumentation of any kind will be permanently installed in the boreholes.

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 <u>JARPA Attachment D</u> to list the start and end dates of each phase or stage.

Start Date: November 2023	End Date: February 2024	🗆 Se

□ See JARPA Attachment D

6g.	Fair market	value of the	project,	including	materials,	labor, machine ren	tals, etc.	[help
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\$400,000

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

• If yes, list each agency providing funds.

 $\boxtimes$  Yes  $\square$  No  $\square$  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				
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						
<ul> <li>7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [help]</li> <li>If Yes, submit the wetland rating forms and figures with the JARPA package.</li> </ul>						
□ Yes □ No	Don't know	<u> </u>				
<ul> <li>7f. Have you prepare</li> <li>If Yes, submit t</li> <li>If No, or Not appendix</li> </ul>	<ul> <li>7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [help]</li> <li>If Yes, submit the plan with the JARPA package and answer 7g.</li> <li>If No, or Not applicable, explain below why a mitigation plan should not be required.</li> </ul>					
🗆 Yes 🗆 No	🗆 Don't know	1				
<ul> <li>7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [help]</li> <li>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 submitting a</li></ul>						
similar table, yo	ou can state (belo	w) where we ca	In find this inf	ormation in the	e plan. [ <u>help]</u> Proposod	Wotland
drain, excavate, flood, etc.)	Name <sup>1</sup>	type and rating category <sup>2</sup>	area (sq. ft. or Acres)	of impact <sup>3</sup>	mitigation type⁴	mitigation area (sq. ft. or acres)
<ul> <li><sup>1</sup> 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.</li> <li><sup>2</sup> Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.</li> <li><sup>3</sup> Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.</li> <li><sup>4</sup> Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)</li> </ul>						
7i. For all filling acting that	vities identified in	7h, describe th	e source and	nature of the	fill material, th	e amount in
	will be used, and	a now and where	e it will be plac	cea into the w	eliano. [ <u>neip</u> ]	
<b>7j.</b> 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]						

### 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

Because of the nature of the proposed activities, work within the river cannot be avoided. However, the inwater geotechnical activities will be fully contained within a steel outer casing which will extend from the boat to below the mud line, avoiding any adverse impact to the river.

The impact minimization measures and BMPs described below and implemented during the investigation will reduce the potential for any measurable temporary increase in sedimentation or turbidity as well as any short-or long-term impacts to water quality.

Temporarily elevated underwater noise levels associated with drilling for borehole advancement and driving of penetration test sample tubes will likely be imperceptible above background noise levels or attenuate to background levels within a short distance.

All exploration activities will adhere to project-specific minimization measures and BMPs described below.

#### **MINIMIZATION MEASURES**

- The number of borings is the minimum necessary for obtaining geotechnical information for this phase of the replacement bridge planning and design process.
- For all borings, the drill string will be cased from the barge deck through the overlying alluvial deposits and into bedrock to eliminate loss of drill fluids.
- All materials extracted from the subsurface and all drill fluid will be drummed and disposed of off-site by the driller. During drilling activities, drill fluids will be fully contained within a steel outer casing that will extend below the mud line. Prior to advancing explorations into basalt bedrock, a second, smaller-diameter casing will be placed within the outer casing.
- The overwater casings will typically be oscillated or vibrated into the subsurface materials, with little to
  no use of a hammer required. The sound levels during casing and/or sampler advancement will be far
  below those of a typical vibratory or impact hammer used for pile driving. Underwater noise levels
  generated during drilling and driving operations are not expected to be elevated above the threshold
  disturbance levels published by NOAA Fisheries, minimizing the potential for underwater noise-related
  injury or disturbance to any ESA-listed species.

#### **BEST MANAGEMENT PRACTICES**

- The contractor will provide a site-specific spill prevention, containment, and countermeasures plan for the project. The plan will include proactive measures for spill prevention as well as spill response methodologies.
- The project will comply fully with state water quality standards by:
  - using a steel outer casing that will extend from the boat to below the mud line, avoiding any adverse water quality impact to the river.
  - employ primary and secondary containment measures, as well as response-ready action plans (e.g., retaining absorbent pads and spill kits at any active work site)
- Equipment will be inspected daily for leaks and proper function and to ensure that equipment is clean and free of external petroleum-based products.

<ul> <li>Initial equipment refueling and hydraulic system maintenance will take place far enough away from the Columbia River to ensure that no spills or leaks enter the waterway.</li> <li>All equipment will be refueled using secondary containment on the barge to ensure that no spills or</li> </ul>					
<ul> <li>Any waste resulting from the project will be disposed of on land at a properly permitted site.</li> </ul>					
8b. Will your project	ct impact a water	body or the are	ea around a wa	aterbody? [help]	
🛛 Yes 🗆 No					
<ul> <li>8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [help]</li> <li>If Yes, submit the plan with the JARPA package and answer 8d.</li> <li>If No, or Not applicable, explain below why a mitigation plan should not be required.</li> </ul>					
		V			
permanent impacts	no mitigation is	proposed or ne	extent and ten	nporary in nature. Becaus project.	e there are no
<ul><li>8d. Summarize wh used to design</li><li>If you already of the second se</li></ul>	at the mitigation the plan. completed 7g you do	plan is meant to not need to resta	to accomplish. Ite your answer he	Describe how a watershe	d approach was
NA					
8e. Summarize impact(s) to each waterbody in the table below. [help]					
Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name <sup>1</sup>	Impact location <sup>2</sup>	Duration of impact <sup>3</sup>	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings	Waterbody name <sup>1</sup> Columbia River	Impact Iocation <sup>2</sup>	Duration of impact <sup>3</sup> 56 Days	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft.
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings Backfill 8 borings	Waterbody name <sup>1</sup> Columbia River Columbia River	Impact Iocation <sup>2</sup> In-Water In-Water	Duration of impact356 DaysPermanent	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards 20.3 cubic yards	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft. Approximately 2 sq. ft.
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings Backfill 8 borings	Waterbody name <sup>1</sup> Columbia River Columbia River	Impact Iocation <sup>2</sup> In-Water In-Water	Duration of impact356 DaysPermanent	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards 20.3 cubic yards	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft. Approximately 2 sq. ft.
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings Backfill 8 borings	Waterbody name <sup>1</sup> Columbia River Columbia River waterbody exists, creat act will occur in or adjact act will occur within the s or years the waterbody	Impact Iocation <sup>2</sup> In-Water In-Water te a unique name (s cent to the waterbod 100-year flood plair y will be measurably	Duration of impact <sup>3</sup> 56 Days Permanent uch as "Stream 1") <sup>-</sup>	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards 20.3 cubic yards The name should be consistent with de the distance between the impact ork. Enter "permanent" if applicable	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft. Approximately 2 sq. ft.
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings Backfill 8 borings <sup>1</sup> If no official name for the provided. <sup>2</sup> Indicate whether the impa- indicate whether the impa- <sup>3</sup> Indicate the days, months <b>8f.</b> For all activities you will use, and	Waterbody name <sup>1</sup> Columbia River Columbia River waterbody exists, creat act will occur in or adjact act will occur within the s or years the waterbod identified in 8e, of d how and where	Impact Iocation <sup>2</sup> In-Water In-Water In-Water te a unique name (s cent to the waterbod 100-year flood plair y will be measurably describe the so	Duration of impact <sup>3</sup> 56 Days Permanent uch as "Stream 1") <sup>-</sup> ly. If adjacent, provi y impacted by the w purce and natu	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards 20.3 cubic yards 20.3 cubic yards The name should be consistent with de the distance between the impact ork. Enter "permanent" if applicable ire of the fill material, amo erbody. [help]	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft. Approximately 2 sq. ft.
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings Backfill 8 borings <sup>1</sup> If no official name for the provided. <sup>2</sup> Indicate whether the impa indicate whether the impa <sup>3</sup> Indicate the days, months <b>8f.</b> For all activities you will use, and The only placement approximately 20.3 grout or cement-be	Waterbody name <sup>1</sup> Columbia River Columbia River act will occur in or adjact act will occur in or adjact act will occur within the sor years the waterbodd identified in 8e, of d how and where t of materials is the cubic yards in action ntonite grout.	Impact Iocation <sup>2</sup> In-Water In-Water In-Water In-Water (second to the waterbood 100-year flood plain y will be measurably describe the so the backfilling co coordance with	Duration of impact <sup>3</sup> 56 Days Permanent uch as "Stream 1") <sup>-1</sup> y. If adjacent, provi y impacted by the w purce and natu ed into the wate of the drill holes in regulatory age	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards 20.3 cubic yards 20.3 cubic yards The name should be consistent with de the distance between the impact ork. Enter "permanent" if applicable ire of the fill material, amo erbody. [help] s. Drill holes will be backfil ency requirements, typica	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft. Approximately 2 sq. ft. sq. ft. other documents t and the waterbody and a. unt (in cubic yards) led with lly with cement
Activity (clear, dredge, fill, pile drive, etc.) 8 Geotechnical Borings Backfill 8 borings <sup>1</sup> If no official name for the provided. <sup>2</sup> Indicate whether the impa indicate whether the impa <sup>3</sup> Indicate the days, months <b>8f.</b> For all activities you will use, and The only placement approximately 20.3 grout or cement-be <b>8g.</b> For all excavati type and amou	Waterbody name <sup>1</sup> Columbia River Columbia River act will occur in or adjac act will occur within the s or years the waterbod identified in 8e, of d how and where t of materials is the cubic yards in act ntonite grout.	Impact Iocation <sup>2</sup> In-Water In	Duration of impact <sup>3</sup> 56 Days Permanent Unchas "Stream 1") <sup>-</sup> by If adjacent, proving y impacted by the w pource and natured of the drill holes in regulatory age ied in 8e, desc and where the	Amount of material (cubic yards) to be placed in or removed from waterbody 20.3 cubic yards 20.3 cubic yards 20.3 cubic yards 20.3 cubic yards 20.3 cubic yards 20.4 cubic yards 20.5 cubic yards 20.5 cubic yards 20.6 cubic yards 20.7 cubic yards	Area (sq. ft. or linear ft.) of waterbody directly affected Approximately 2 sq. ft. Approximately 2 sq. ft. add the waterbody and add the waterbody add the waterbody

All 8 borings will be drilled below the ordinary high-water mark of the Columbia River. Each boring will be advanced using rotary wash and HQ coring methods and will be excavated to a depth of approximately 300 feet. Assuming a 300-foot depth for all borings, a maximum of 20.3 cubic yards of material will be excavated and disposed of at an appropriate off-site upland location. All materials extracted from the subsurface and all drill fluid will be drummed and disposed at an appropriate off-site disposal location by the driller.

**8h**. Have you prepared a Water Quality Monitoring Plan (WQMP) for all in-water work (below ordinary high water), over water work or discharges to waters of the state?

🗆 Yes 🛛 🖾 No

If NO describe the monitoring that you will be conducting including parameters, equipment and locations, or explain why monitoring will not be necessary. [help]

For all overwater borings, the drill string will be cased from the barge deck through the overlying alluvial deposits and into bedrock to eliminate loss of drill fluids and would not result in a discharge to waters of the state.

All materials extracted from the subsurface and all drill fluid will be drummed and disposed of off-site by the driller. During drilling activities, drill fluids will be fully contained within a steel outer casing that will extend below the mud line. Prior to advancing explorations into basalt bedrock, a second, smaller-diameter casing will be placed within the outer casing.

## 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.

<b>9a.</b> 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		
USACE	Benny Dean	541-465-6769	August 17, 2023		
<b>9b.</b> 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]					
• If Yes, list the parame	eter(s) below.				
<ul> <li>If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: <u>https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d</u>.</li> </ul>					
🛛 Yes 🛛 No					
Vinyl Chloride					
9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]					
<ul> <li>Go to <u>http://cfpub.epa.gov/surf/locate/index.cfm</u> to help identify the HUC.</li> </ul>					
Lower Columbia - 170800					
9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]					

• Go to https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Watershed-look-up to find the WRIA #.

WRIA 28 – Salmon-Washougal Watershed				
<b>9e.</b> Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]				
<ul> <li>Go to <u>https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards/Criteria</u> for the standards.</li> </ul>				
⊠ Yes □ No □ Not applicable				
<b>9f.</b> If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]				
<ul> <li>If you don't know, contact the local planning department.</li> <li>For more information, go to: <u>https://ecology.wa.gov/Water-Shoreline-coastal-management/Shoreline-coastal-</u>planning/Shoreline-laws-rules-and-cases.</li> </ul>				
□ Urban □ Natural □ Aquatic □ Conservancy ⊠ Other: <u>High Intensity</u>				
<ul> <li>9g. What is the Washington Department of Natural Resources Water Type? [help]</li> <li>Go to <a href="http://www.dnr.wa.gov/forest-practices-water-typing">http://www.dnr.wa.gov/forest-practices-water-typing</a> for the Forest Practices Water Typing System.</li> </ul>				
🛛 Shoreline 🛛 Fish 🗌 Non-Fish Perennial 🗌 Non-Fish Seasonal				
<ul> <li>9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help]</li> <li>If No, provide the name of the manual your project is designed to meet.</li> </ul>				
Name of manual: NA				
<ul> <li>9i. Does the project site have known contaminated sediment? [help]</li> <li>If Yes, please describe below.</li> </ul>				
<b>9j.</b> If you know what the property was used for in the past, describe below. [help]				
The in-water borings are located in the Columbia River, which historically and currently supports recreational activities, commercial and industrial shipping and cargo movement, and transportation.				
<ul> <li>9k. Has a cultural resource (archaeological) survey been performed on the project area? [help]</li> <li>If Yes, attach it to your JARPA package.</li> </ul>				
91. 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]

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation and NOAA Fisheries, the following species do or may occur in the vicinity of the project area.

Species Name				
Common Name	Scientific Name	ESU or DPS*	ESA Listing Status	Critical Habitat
Chinook Salmon	Oncorhynchus tshawytscha	Lower Columbia River ESU	Threatened	Designated
		Upper Columbia River spring-run ESU	Endangered	Designated
		Snake River spring/ summer-run ESU	Threatened	Designated
		Snake River fall-run ESU	Threatened	Designated
		Upper Willamette River ESU	Threatened	Designated
Chum Salmon	Oncorhynchus keta	Columbia River ESU	Threatened	Designated
Coho Salmon	Oncorhynchus kisutch	Lower Columbia River ESU	Threatened	Designated
Sockeye Salmon	Oncorhynchus nerka	Snake River ESU	Endangered	Designated
Steelhead	Oncorhynchus mykiss	Lower Columbia River DPS	Threatened	Designated
		Middle Columbia River DPS	Threatened	Designated
		Upper Columbia River DPS	Endangered	Designated
		Snake River Basin DPS	Threatened	Designated
		Upper Willamette River DPS	Threatened	Designated
Bull Trout	Salvelinus confluentus	Columbia River DPS	Threatened	Designated
Pacific Eulachon (Smelt)	Thaleichthys pacificus	Southern DPS	Threatened	Designated
North American Green Sturgeon	Acipenser medirostris	Western DPS	Threatened	Designated
Yellow Billed Cuckoo	Coccyzus americanus	NA	Threatened	Designated
Northern spotted owl	Strix occidentailis caurina	NA	Threatened	Designated
Streaked Horned Lark	Eremophila alpestris strigata	NA	Threatened	Designated
Columbia white- tailed deer	Odocoileus virginianus leucurus	Columbia DPS	Threatened	Designated
Golden paintbrush	Castilleja levisecta	NA	Threatened	None
Nelson's Checker- mallow	Sidalcea nelsoniana	NA	Threatened	None

\*ESU = Evolutionarily Significant Unit and DPS = Distinct Population Segment

**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]

The Columbia River, a Type 1 water/Type S shoreline of the state, supports resident and anadromous fish species. Within the project vicinity, the WDFW has designated riparian priority habitat under its Priority Habitat and Species (PHS) program. The designated area includes the Columbia River and land adjacent to the river.

The WDFW recognizes priority habitats as having unique or significant value to many species requiring protective measures and/or management guidelines to ensure their perpetuation (Knutson and Naef 1997). Federal listed, proposed for listed, and/or WDFW priority fish that occur in the Columbia River include Chinook, chum, coho, sockeye salmon, eulachon/smelt, bull trout, steelhead trout, resident/searun cutthroat trout (*O. clarki clarki*), white (*Acipenser transmontanus*) and green sturgeon, and Pacific (*Lampetra tridentata*) and river lamprey (*L. ayresi*). Priority mammals that occur in the river include Steller sea lions (*Eumatopius jubatus*), California sea lions (*Zalophus californianus*), and harbor seals (*Phoca vitulina*).

# Part 10–SEPA Compliance and Permits

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

- Online Project Questionnaire at <u>http://apps.oria.wa.gov/opas/</u>.
- 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.

<ul> <li>10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]</li> <li>For more information about SEPA, go to https://ecology.wa.gov/regulations-permits/SEPA-environmental-review.</li> </ul>				
□ A copy of the SEPA determination or letter of exemption is included with this application.				
□ A SEPA determination is pending with (lead agency). The expected decision date is				
□ I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]				
<ul> <li>This project is exempt (choose type of exemption below).</li> <li>Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt? <u>WAC 197-11-800(17) and WAC 468-12-800(3)</u></li> <li>Other:</li> </ul>				
□ SEPA is pre-empted by federal law.				
10b. Indicate the permits you are applying for. (Check all that apply.) [help]				
LOCAL GOVERNMENT				
Local Government Shoreline permits:				
Substantial Development Conditional Use Variance				
Shoreline Exemption Type (explain): <u>RCW 90.58.030(3)(e)(xi) exempts geotechnical borings</u>				
Other City/County permits:				
Floodplain Development Permit  Critical Areas Ordinance				
STATE GOVERNMENT				
Washington Department of Fish and Wildlife:				
⊠ Hydraulic Project Approval (HPA) □ Fish Habitat Enhancement Exemption – <u>Attach Exemption Form</u>				
Washington Department of Natural Resources:				
Aquatic Use Authorization Complete <u>JARPA Attachment E</u> and submit a check for \$25 payable to the Washington Department of Natural Resources. <u>Do not send cash.</u>				
Washington Department of Ecology:				
⊠ Section 401 Water Quality Certification				
□ Authorization to impact waters of the state, including wetlands (Check this box if the proposed impacts are to waters not subject to the federal Clean Water Act)				

FEDERAL AND TRIBAL GOVERNMENT		
United States Department of the Army (U.S. Army Corps of Engineers):		
$\boxtimes$ Section 404 (discharges into waters of the U.S.) $\boxtimes$ Section 10 (work in navigable waters)		
United States Coast Guard: For projects or bridges over waters of the United States, contact the U.S. Coast Guard at:		
Bridge Permit: D13-SMB-D13-BRIDGES@uscg.mil		
□ Private Aids to Navigation (or other non-bridge permits): D13-SMB-D13-PATON@uscg.mil		
United States Environmental Protection Agency:		
□ Section 401 Water Quality Certification (discharges into waters of the U.S.) on tribal lands where tribes do not have treatment as a state (TAS)		
<b>Tribal Permits:</b> (Check with the tribe to see if there are other tribal permits, e.g., Tribal Environmental Protection Act, Shoreline Permits, Hydraulic Project Permits, or other in addition to CWA Section 401 WQC)		
□ Section 401 Water Quality Certification (discharges into waters of the U.S.) where the tribe has treatment as a state (TAS).		

### 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)

Chris Regan		8/31/2023
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.

Authorized Agent Printed Name	Authorized Agent Signature	Date	
Dustin Day	i justin j	8/31/2023	

#### 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



Date: 7/24/2023 Path: \\parametrix.com\pmx\Port\Projects\Clients\1585-WSP\274-1585-058 IBR Program\99Svcs\GIS\mapdocs\Ph\_Geology\Fig\_X\_Geotech\_Figures.apr



Date: 8/17/2023 Path: U:\Port\Projects\Clients\1585-WSP\274-1585-058 IBR Program\99Svcs\GIS\mapdocs\Ph\_Geology\Fig\_X\_Geotech\_Figures.aprx



Example of portable wheeled drilling rigs for borings over water.

Following completion of the sampling within each borehole, the holes will be sealed using cement grout or cement-bentonite grout. Excess soil will be disposed

# outside wetlands and waters.

Proposed Project: Geotechnical Exploration In: Columbia River	Interstate Bridge Replacement Program	FIGURE 3: DRILLING OPERATION Latitude: 45°36'56"N	
Near/At: Portland		Longitude: 122°40'39"W	
State: OR	V Interstate	Datum: NAD 83	-
Location: Along Existing Bridge		Adjacent Property Owners: See JARPA	
Reference No		July 2023	

Date: 7/24/2023 Path: \\parametrix.com\pmx\Port\Projects\Clients\1585-WSP\274-1585-058 IBR Program\99Svcs\GIS\mapdocs\Ph\_Geology\Fig\_X\_Geotech\_Figures.aprx