



2010

WASHINGTON STATE

Joint Aquatic Resources Permit Application (JARPA) Form<sup>1</sup>

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



US Army Corps of Engineers Seattle District

AGENCY USE ONLY

Date received:

10-19-2011

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]<sup>2</sup>

US 101 Bone River Bridge Replacement

Part 2-Applicant

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

2a. Name (Last, First, Middle) and Organization (if applicable)

Aberle, Barbara - Washington State Department of Transportation

2b. Mailing Address (Street or PO Box)

PO Box 1709

2c. City, State, Zip

Vancouver, WA 98668-1709

2d. Phone (1)

360-905-2186

2e. Phone (2)

( )

2f. Fax

360-905-2218

2g. E-mail

aberleb@wsdot.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) and Organization (if applicable)

Taylor, Jennifer

3b. Mailing Address (Street or PO Box)

PO Box 1709

3c. City, State, Zip

Vancouver, WA 98668-1709

3d. Phone (1)

360-905-2187

3e. Phone (2)

( )

3f. Fax

360-905-2218

3g. E-mail

taylorj@wsdot.wa.gov



## Part 4—Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. [\[help\]](#)

- 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 property owners. Complete the section below and fill out JARPA Attachment A for each additional property owner.

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

## 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.

<b>5a. Indicate the type of ownership of the property. (Check all that apply.) <a href="#">[help]</a></b>			
<input checked="" type="checkbox"/> State Owned Aquatic Land (If yes or maybe, contact the Department of Natural Resources (DNR) at (360) 902-1100)			
<input type="checkbox"/> Federal			
<input type="checkbox"/> Other publicly owned (state, county, city, special districts like schools, ports, etc.)			
<input type="checkbox"/> Tribal			
<input type="checkbox"/> Private			
<b>5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) <a href="#">[help]</a></b>			
The bridge replacement project is located on US 101 Milepost 45.08 to 45.32			
Stormwater Treatment locations are on US 101 Milepost 45.09 to 45.27 and 45.08 to 45.32			
<b>5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) <a href="#">[help]</a></b>			
South of South Bend WA			
<b>5d. County <a href="#">[help]</a></b>			
Pacific County			
<b>5e. Provide the section, township, and range for the project location. <a href="#">[help]</a></b>			
<b>¼ Section</b>	<b>Section</b>	<b>Township</b>	<b>Range</b>
	3	13N	10 W
	34	14N	10W
<b>5f. Provide the latitude and longitude of the project location. <a href="#">[help]</a></b>			

- Example: 47.03922 N lat. / -122.89142 W long. (NAD 83)

Begin Lat. Long. 46.648, -123.918; End Lat. Long 46.652, -123.919

**5g.** List the tax parcel number(s) for the project location. [\[help\]](#)

- The local county assessor's office can provide this information.

US 101 Right-of-way

**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)
Washington State Department of Natural Resources	PO Box 47014	
	Olympia, WA 47014	
Allen & Lisa Lebovitz	PO Box 1027	
	South Bend, WA 98586	
FIA Timber	15 Piedmont Center Ste 1250	
	Atlanta, GA 30305	
Harbor Rock Inc	PO Box 246	
	South Bend, WA 98586	
Rayonier Forest Resources LP	PO Box 728	
	Fernandina Beach, FL 32034	

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

Wetland A – Located at south end of project and East of US 101.

Wetland B – Follows the South side of Bone River and is West of US 101.

Wetland C – Follows the South side of Bone River and is East of US 101.

Wetland D – Located North of Bone River following US 101 on the East and West sides.

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

Bone River

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

Yes  No  Don't know

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

The project area includes river, wetland and upland terrestrial habitats. Bone River is tidally influenced by Willapa Bay and the water levels fluctuate significantly. The vegetation adjacent to river includes red cedar, alder and spruce trees along with roadside shrubs, weedy vegetation and grasses (sword fern, salal, Himalayan blackberry.)

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

The project property is currently US 101 State right-of-way.

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

Adjacent properties are large lot residential, timber property and lands managed by DNR.

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

Structures within the roadway prism include the bridge over Bone River built in 1935. It is a timber trestle structure with a concrete center span and measures 308' long and 30' wide. Other structures include embankment finishes, pavement, guardrail, signs, and access road approaches.

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

The project is approximately 9 miles southwest of South Bend on US 101.

## Part 6—Project Description

**6a.** Summarize the overall project. You can provide more detail in 6d. [\[help\]](#)

Bridge number 101/44, located on US 101 in Pacific County at the eastern edge of the Willapa Bay, spans the Bone River from MP 45.15 to MP 45.21. The existing bridge crosses the Bone River about 1500 feet upstream of its mouth in Willapa Bay over a 297-foot timber trestle bridge supported by 16 piers. Each pier is made up of multiple wooden pilings. The project replaces the existing Bone River bridge with a new three-span bridge on the same alignment, and builds a temporary, single-lane detour bridge just downstream (bay side) of the current alignment.

The proposed bridge replacement design will replace the existing bridge in its current location with a three span structure. The spans would likely be pre-stressed concrete girders, resting on upland fill on the north and south ends and on two piers below mean higher high water (MHHW). Once the shafts are completed, concrete forms will be constructed and the abutments will be cast in place. Both abutments will be constructed on top of the areas of ground improvement and are not expected to create significant increases in ground disturbance.

Adjacent properties with access to US 101 within the project limits need to continue to have access to US 101, as there are no other travel options provided by the local road system. This project will replace the bridge, while preserving existing access points. Traffic will be maintained on US 101 during all stages of construction. The temporary bridge will be used as a detour and removed when no longer needed.

Other activities at the bridge include: ground improvement, install temporary work platforms, install piers, install detour structure, demolish the existing bridge, and remove the temporary work platforms and detour structure.

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

- Commercial   
  Residential   
  Institutional   
  Transportation   
  Recreational  
 Maintenance   
  Environmental Enhancement

**6c.** 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 checked="" type="checkbox"/> Road                |
| <input checked="" type="checkbox"/> Bank Stabilization | <input type="checkbox"/> Dam / Weir           | <input type="checkbox"/> Geotechnical Survey      | <input type="checkbox"/> Scientific Measurement Device  |
| <input type="checkbox"/> Boat House                    | <input type="checkbox"/> Dike / Levee / Jetty | <input checked="" type="checkbox"/> Land Clearing | <input type="checkbox"/> Stairs                         |
| <input type="checkbox"/> Boat Launch                   | <input checked="" type="checkbox"/> Ditch     | <input type="checkbox"/> Marina / Moorage         | <input checked="" type="checkbox"/> Stormwater facility |
| <input type="checkbox"/> Boat Lift                     | <input type="checkbox"/> Dock / Pier          | <input type="checkbox"/> Mining                   | <input type="checkbox"/> Swimming Pool                  |
| <input checked="" type="checkbox"/> Bridge             | <input type="checkbox"/> Dredging             | <input type="checkbox"/> Outfall Structure        | <input type="checkbox"/> Utility Line                   |
| <input type="checkbox"/> Bulkhead                      | <input type="checkbox"/> Fence                | <input checked="" type="checkbox"/> Piling        |   |
| <input type="checkbox"/> Buoy                          | <input type="checkbox"/> Ferry Terminal       | <input type="checkbox"/> Retaining Wall (upland)  |   |
| <input type="checkbox"/> Channel Modification          | <input type="checkbox"/> Fishway              |   |   |

Other:

**6d.** Describe how you plan to construct each project element checked in 6c. 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 flood plain.

The entire project is within 200' of a water body or wetland and is within the shoreline jurisdiction. This area has not been mapped by FEMA to establish a 100-year floodplain.

Equipment likely used to perform the work described below will include impact and vibratory pile drivers, barge, auger drill, graders, dump trucks, scrapers, excavators with a thumb attachments, augers, vactors, cranes, compactors rollers, front end loader, guardrail punch truck, and paint sprayer.

#### **Identify and Protect Sensitive Areas:**

The first order of work will be to install high visibility fencing and Temporary Erosion and Sediment Control (TESC) Best Management Practices (BMPs) to protect wetlands and surface waters during construction. BMPs may include, but are not limited to silt fence, wattles, sediment traps, wheel washes, temporary detention/retention ponds, mulching, erosion control blanket, compost blanket, and wattles. Other BMPs not listed may be used as necessary to achieve full compliance with all applicable laws and regulations. BMPs will be installed before ground disturbing activities begin.

#### **Site Preparation and Mobilization:**

Mobilization and establishment of staging areas for equipment, materials and storage by WSDOT's contractor is expected to begin during the Spring of 2012. Staging areas will be selected by the contractor; however, due to sensitive areas WSDOT has proposed three staging areas. 1) A staging area may be established on an old logging road and turnarounds. 2) A flat graveled lot that is privately owned and previously used for construction approximately 2 miles from the project 3) A privately owned upland area that was previously disturbed, is relatively flat and requires vegetation removal less than 2 miles from the project and 4) A privately owned upland area that is relatively flat and requires minimal vegetation removal approximately 3 miles from the project area. Staging may also be on property selected by the contractor and approved by WSDOT.

#### **Ground Improvement to Mitigate Liquefaction Risk:**

The existing soil material in the project area is subject to liquefaction and movement. Ground improvements are required at the north and south abutments of the Bone River Bridge to reinforce the existing soil and relieve some of the lateral forces on the bridge abutments. Untreated timber piles will be installed to improve ground strength in order to resist seismic events and relieve the forces on the bridge abutments. Soil strength is improved by drilling, pounding, or vibrating, series of pile into the ground until the desired depth is reached. These piles are driven in on a regular grid pattern across the improvement area. This grid pattern is determined by the area of piles required to stabilize the soils and relieve the lateral force against the abutments from the soil.

This reinforced area is expected to consist of 1-ft piles at a 3-ft spacing across the US 101 roadway and extending in about a dozen rows from the abutments on both sides of the bridge. The improved area would be entirely under the roadway. This work is not expected to occur in water, but some work may occur below MHHW.

#### **In-Water BMPs:**

All in-water pile driving will occur during the WDFW designated in-water work window of June 16 through February 28. Due to the timing of low tides, impact pile driving activities may occur at night.

All pile driving and pile removal will be done only when the water is at or below the Mean Tide Line (half way between MHHW and Mean Lower Low Water (MLLW)). This maximizes the possible turbidity and aquatic noise reduction on the site without using physical barriers.

#### **Temporary Detour Bridge:**

The new Bone River Bridge will be constructed on the same horizontal/vertical alignment as the existing bridge; therefore, a temporary detour bridge is needed to maintain traffic flow during construction. The detour bridge will be built on the west (bay side) of the current bridge. It will likely be constructed across the river, from one

bank to the other, using what has been built as the platform for further construction. It is possible that a barge may be used for pile installation.

The detour bridge will be a 23-foot wide by 440-foot maximum length structure with a centerline offset of 38 feet from the existing bridge. The temporary bridge, with a foundation of precast concrete, cast in place concrete, or cast in place concrete on steel piles, will be placed, followed by temporary girders, temporary concrete barrier, bridge deck and rails. The temporary bridge deck may be concrete, wood, steel, or some combination of the three. Depending on the deck surface, crushed surface base course (CSBC) grading, paving and striping may be required. The detour will provide one 11-foot lane traffic across the bridge (a 23 feet wide bridge allows for shy distance, 4 feet from edge of travelled way to the pinned concrete barrier) controlled by temporary signals, operated on the power grid with back-up gas-powered generators, to be maintained throughout the project.

There will be roughly 77, 24-inch, hollow, steel or timber piles driven to support this structure. Of the total number of piles needed for the detour route, approximately 19 are anticipated to be driven completely above MHHW. Additionally, approximately 23 piles are anticipated to be driven at low tide in water less than 3-feet deep. All piles will be driven with vibration and then proofed with an impact hammer. All piles driven in water depths greater than three feet (approximately 35 piles) will use noise attenuation. Steel piles driven with an impact hammer in water depths greater than three feet will not be installed without a noise reduction device or combination of noise reduction devices (such as a bubble curtain, a hollow steel casing with a 2-inch closed cell foam liner, a wood pile cap, or other comparably effective method) to minimize underwater noise.

The detour bridge approaches will tie into US 101 approximately three hundred feet landward from the existing abutments. These approaches will be on temporary fill. Prior to fill placement, a visible barrier will be laid on the river ground to mark the elevation. Approximately 17,440 square feet (0.40 acre) of wetlands will be temporarily impacted to build the detour approaches –7,840 square feet (0.18 acre) on the south end and 9,600 square feet (0.22 acre) on the north end.

#### **Temporary Work Platforms:**

Two temporary, steel-plate work platforms will be built from both sides of the river out to the new pier locations, leaving the center of the stream channel open. These platforms will be built in the location of the new bridge alignment. At each pier the platforms will surround the pier. This will leave approximately 94 feet of the main channel open between the work platforms. There will be roughly 154, 24-inch, hollow, steel or timber piles driven to support these platforms. The platforms will be roughly 120 feet long by 50 feet wide. Of the total number of piles needed for the work platforms, approximately 55 are anticipated to be driven completely above MHHW. Additionally, approximately 55 piles are anticipated to be driven at low tide in water less than 3-feet deep, where sound energy levels are not propagated. All piles will be driven with vibration and then proofed with an impact hammer, and all piles driven in water depths greater than three feet (44 piles) will use noise attenuation.

#### **Bridge Construction In Water:**

WSDOT is considering two options for construction of the new bridge.

**Option 1** would consist of traditional bridge construction methods with piers and crossbeams constructed on site. Mitigation for impacts and risks described in this document and other environmental documents are based on this option to insure the worst case scenario is addressed. This is the option described in detail below.

The new bridge will be founded entirely on drilled piers. Both piers will have one 8-ft column or two 5-ft columns, depending on geotechnical recommendations, with a concrete cast-in-place cap. Pier construction will take place from temporary work platforms, described above. Rebar cages will be set in concrete within drilled shafts, approximately 100-foot deep. Prior to beginning pier construction work in the water, containment devices

may be installed in the water around the piers. Temporary 10 to 12-foot diameter, rigid, outer casings will then be placed with the use of a vibratory driver. The casings will consist of steel pipes that will be vibrated into the channel bottom. Pipe sections will be welded together during the driving process until the necessary length is achieved.

Once outer casings are installed, a clamshell bucket and/or rotary drill will be used to excavate soil material inside. Once the material is excavated, an inner 5 or 8-foot diameter casing will be installed with the vibratory driver. The rebar cage will be extended through the center of the casing and as concrete is being poured, the inner casing will be vibrated out. The casings will be set to a depth deep enough into the soil at the bottom of the body of water so that there is a seal to contain the concrete when it is poured to the top of the casing. Once the concrete has cured, the outer casings will be removed with the vibratory driver. The new piers are estimated to constitute approximately 79 to 101 square feet of stream bed coverage, which results in a reduction in total footprint below MHHW of 81 to 103 square feet, depending on the size of the new pier columns.

All sediment that cannot be reused on-site will be removed and disposed of off-site at a location to be determined by the Contractor and approved by the Project Engineer. The Contractor will also submit a plan for approval from the Project Engineer to treat and dispose of process water resulting from concrete curing activities. All BMPs for this activity will be monitored and adjusted as needed throughout the duration of the activity. Water quality monitoring will be done according to Ecology's Construction Stormwater General Permit and the CWA 401 certification.

This work will be done during an in-water work window, and is estimated to take 3 to 4 weeks to complete. Construction of the new bridge piers in water is expected to occur during the in-water work window immediately following temporary platform construction, and may occur during the first or second window, or both. This will involve vibratory driving of the pier casings for up to 12 hours a day, for a total of 6 consecutive working days for each pier. These 6-day periods will be spaced about 2 weeks apart for an estimated total of 2 to 3 months to complete.

**Option 2** is a construction method that WSDOT has used on 2 pilot projects and could have less environmental risks and impacts. This option has been named "Accelerated Bridge Construction" (ABC) and includes the preconstruction of the piers and crossbeams offsite. The piers and crossbeams are then moved onsite via truck or barge and placed at the planned locations. The ABC method includes the work described above, but, eliminates the need for placement of the inner casing, rebar placement, concrete pour and removal of the inner casing. The construction of the bridge by this method allows the contractor to be in the water for a shorter time period and would potentially decrease the overall construction time. The shorter construction time would allow earlier removal of work platforms and the detour structure. This is a new bridge construction technique and WSDOT is not positive that potential contractors will bid on the ABC method.

#### **Bridge Construction Above Water:**

At the bridge ends a concrete cap will be built to form the abutments, both of which will be located entirely above MHHW. The finish grade of the south bridge abutment is almost 20 feet above MHHW, and the North abutment is 13.25 feet above MHHW. Forms will be built on each column, and concrete poured to make the caps. Girders will then be set on the caps to form the spans of the new bridge. Forms will be built at each cap, and concrete poured to build the diaphragms. Superstructure elements like deck and traffic barrier will then be added. Option 2, the ABC method, could shorten the time needed to construct the bridge superstructure and decrease the quantity of concrete poured over water. See option 2 above for further details.

#### **Existing Bridge Demolition:**

It is anticipated that the concrete span in the center of the existing bridge will be cut and lifted out by cranes stationed on the existing bridge at either end of the bridge span. The remaining parts of the bridge will be pulled

apart using cranes working landward from the in-water ends of the existing bridge. BMPs will be in place to prevent debris from entering the water. Falling debris will be captured by either tarps or on platforms built into the nestle structure underneath the deck. Any pieces that fall into the water will be removed at low tide with the bucket of the excavator during the in-water work window.

Approximately 70 timber piles will be removed from Bone River as part of the demolition phase of this project. 58 of these piles are below MHHW and are estimated to constitute approximately 182 sq ft of stream bed coverage. This will be vibrated out of the river bed when possible, and pulled when necessary. Piles that break will be cut two feet below the mud line and the affected area capped with clean sand to prevent creosote from entering the river. This activity will be conducted in accordance with BMPs adapted for this specific project from WDNR's Puget Sound Initiative-Derelict Creosote Piling Removal BMPs (WDNR, 2008).

**Temporary Work Platform Removal:**

The temporary work platforms will be removed once the majority of the new bridge is complete (i.e. once the piers and caps are constructed). The piles will be vibrated out, in the fall, as practicable, when turbidity levels in the bay are naturally high. This work will be done during the second in-water work window, and is estimated to take 2 weeks to complete. This will involve pile removal for up to 8 hours a day, for an estimated total of 10 consecutive working days.

**Riprap/Scour Protection:**

The existing bridge has sackrete fill reinforcement on the north and no reinforcement on the south end. The south end of the bridge is not expected to require slope protection against scour based on the lack of previous protection. The abutment slopes on the north end (right bank) are armored with sackrete, presumably to resist erosion by overbank flows that are confined by the right bank approach fill. Because steeper embankments and vertical abutments will reduce fill and overbank flow confinement beneath the bridge, scour protection is not expected. However, temporary rip rap may be used to protect fills during construction to prevent scour. This work is estimated to take 1 day to complete, and will be done at low tide, if necessary. Temporary rip rap will be removed during the in-water work window prior to project completion.

**Permanent Stormwater BMPs:**

The equivalent areas that will be used to meet the required PGIS treatment areas per the Highway Runoff Manual are documented below.

**Equivalent Areas**

<u>Mile Post Vicinity</u>	<u>Total MFD Length (feet)</u>	<u>PGIS Treated (acres)</u>
41.55 - 41.64	<u>470</u>	<u>0.21</u>
41.68 - 41.71	<u>170</u>	<u>0.07</u>
42.01 - 42.05	<u>170</u>	<u>0.07</u>
42.11 - 42.16	<u>275</u>	<u>0.12</u>
Total	1,085	0.47

**Detour Bridge Removal**

The detour bridge will be removed once traffic is routed onto the new bridge. The piles will be vibrated or pulled out. This work will be done during the second in-water work window, and is estimated to take 1 week to complete. This will involve pile removal for up to 8 hours a day, for a total of 5 consecutive working days. The wetland areas at the temporary bridge approaches will be restored to pre-project grade and planted with riparian wetland vegetation following project completion.

**On Site Revegetation and Restoration:**

Permanent site stabilization and restoration, including but not limited to replanting disturbed areas with native vegetation in accordance with the Roadside Classification Plan, will be constructed by a WSDOT agent or the

contractor. All BMPs for temporary sediment control and temporary site stabilization will be removed by the contractor, once final site stabilization is achieved.

### **Site Maintenance and Monitoring:**

Paved roadway surfaces and safety appurtenances will require periodic maintenance and repair to remain effective. Drainage structures will require general maintenance, such as removal of sediments and debris that accumulate over time. Vegetated side slopes and other permanently restored areas may require mowing and other plant establishment activities during the growing season.

### **Wetland Mitigation:**

The Tarlatt Slough Mitigation Site is a 49-acre property being prepared by WSDOT for advanced mitigation. This will restore an estuary wetland in southern Willapa Bay. Due to ditching and berms, the wetlands on the property have been isolated from Willapa Bay and are classified as Category III depressional wetlands. WSDOT is physically altering the site by removing berms, filling ditches, and restoring intertidal channels. These changes will allow tides to naturally influence the area. This inundation pattern will rehabilitate wetlands present on the site to Category I estuarine wetlands. This project will also re-establish wetlands where the berm is removed.

This site will also be used for wetland mitigation on four other WSDOT projects adjacent to Willapa Bay. Because this is advanced mitigation, reduced mitigation ratios in the attached "Wetland Assessment and Advanced Mitigation Proposal, Tarlatt Slough Mitigation Site" document have been negotiated for projects using this site to satisfy compensatory wetland mitigation requirements.

### **6e. What are the 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.

Estimated Start date: Spring, 2012 Estimated End date: Fall, 2014

See JARPA Attachment D

### **6f. Describe the purpose of the project and why you want or need to perform it. [help]**

The purpose and need of this project is to improve safety to the travelling public by replacing a structurally deficient bridge and to bring this section of US101 up to current WSDOT design and safety standards.

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

Estimated \$15 million

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

- If yes, list each agency providing funds.

Yes  No  Don't know FHWA

## **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

#### **Avoidance:**

1. Keeping the bridge in same alignment as existing avoids permanent impacts to wetlands on the both sides of the existing bridge.
2. Equivalent areas off-site are being used for stormwater treatment to avoid further widening the road prism into adjacent wetlands.
3. Wetlands will be marked with high visibility fencing to make the contractor aware of them and prevent accidental impacts.

**Minimization:**

- 1. Steepened (up to 2:1) embankment slopes will tighten the roadway prism footprint to reduce wetland impacts.
- 2. The steep side slopes will be designed to prevent future degradation due to stormwater erosion on the steep embankment.
- 3. The method chosen for ground improvement is displacement piles, which have a more confined impact area than vibrated stone columns.
- 4. BMPs in the TESC plan will be installed to protect wetlands from stormwater impacts during construction.

**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    Not applicable

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

The Tarlatt Slough Mitigation Site credits will be used to mitigate wetland impacts resulting from this project. The goal of this mitigation site is to restore Category I estuarine wetlands in an existing Category III depressional wetland on the southern end of Willapa Bay. WSDOT will re-create an estuary that has been physically modified with ditches and a berm to disconnect it from Willapa Bay. At roughly 49 acres, this site is in a position to benefit the Willapa Bay ecosystem.

This is an appropriate mitigation strategy because it will benefit the same water body that is impacted by the project. The type of wetland being restored is comparable to the type being impacted. Additionally, the mitigation will be built prior to the project impacts, which will reduce temporal losses and increase the likely success rate for the mitigation site.

**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 <sup>1</sup>	Wetland type and rating category <sup>2</sup>	Impact area (sq. ft. or Acres)	Duration of impact <sup>3</sup>	Proposed mitigation type <sup>4</sup>	Wetland mitigation area (sq. ft. or acres)
TRC and Equipment Access, Temporary Detour Road Fill	B	Estuarine Category 1	435 sq. ft., .01 acres	Long-Term Temporary (> 1 growing season)	Reestablishment	0.27 acres on site (includes area for Wetland D)

Ground Improvement – Excavation and Fill, Riprap - Fill, New Road Embankment - Fill	D	Estuarine Category 1	4792 sq. ft., 0.11 acres	Permanent	Rehabilitated	1 acre off site At Tarlatt Slough
TESC and Equipment Access, Temporary Detour Road - Fill	D	Estuarine Category 1	11761 sq. ft., 0.27 acres	Long-Term Temporary (> 1 growing season)	Reestablishment	0.27 acres on site (includes area for Wetland B)

<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.

<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.

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

<sup>4</sup> 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: page ii and page 20

**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]

All fill used will be either from an approved material source or borrow from other areas of the project. Placement methods will be determined by the contractor. Embankment placement will likely include dump trucks and excavators. Riprap will likely be placed with an excavator using a hydraulic thumb. Concrete work will likely be done using a concrete pump truck and a tremie pipe.

**Wetland B Total Fill = 50 CY**

0 CY Permanent fill.

50 CY Long-term temporary fill will be road embankment for the temporary detour road.

**Wetland D Total Fill = 7,300 CY**

300 CY Permanent fill, new road embankment north of the bridge.

7,000 CY Long-term temporary fill will be road embankment for the temporary detour road.

**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]

There will be no excavation in wetlands.

## 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

### Avoidance:

1. Abutments set landward of MHHW to avoid in-water concrete work.
  2. Concrete work for drilled shafts will be entirely contained within casings.
  3. The method chosen for ground improvement is displacement piles, which have a more confined impact area than vibrated stone columns.
- Replacement bridge will be high enough and have wider spans to allow free passage of flows and debris.

### Minimization:

#### Work Timing

1. All in-water work waterward of the MHHW will be done inside the WDFW-approved work window,

between June 16 – February 28.

2. Impact pile driving will be timed around tides so that this it is only done when water is below the Mean Tide Line (half-way between MHHW and MLLW).
3. When practicable in-water work will be done when water level is below the Mean Tide Line.
4. Pile removal will be done to the maximum extent possible between October 16<sup>th</sup> and February 28<sup>th</sup>, when turbidity levels in Willapa Bay are naturally higher.

#### Erosion Prevention

1. A TESC plan will be implemented to minimize erosion and sedimentation.
2. All exposed soils will be stabilized within 7 days of project completion.
3. Disturbed areas will be planted with native vegetation as appropriate according to the WSDOT Roadside Classification Plan (WSDOT 1996).

#### Equipment Operation

1. Equipment drive mechanisms will not enter or operate on ground waterward of MHHW.
2. Equipment operating below the MHHW will use only vegetable-based oils in hydraulic lines.
3. Equipment will be checked daily for leaks, and inspected to ensure that it is clean and free of external petroleum-based products.
4. Stationary equipment, such as generators, within 50 feet of MHHW will be diapered or otherwise contained as approved by WSDOT
5. Temporary piles in water will be driven with vibratory hammer. An impact hammer will be used only to proof the pile to establish load bearing capacity.
6. All impact pile proofing in water deeper than three feet will use a noise attenuation device.
7. Barges shall not contact the riverbed.

#### In-Water Work BMPs

Turbidity curtain may be installed around the downstream side of work areas.

#### Material Handling

1. Equipment fueling and maintenance will occur at least 150 feet from MHHW.
2. Any water having direct contact with uncured concrete shall be contained and treated to prevent discharge of high pH water to surface waters and/or wetlands.
3. Concrete truck chute cleanout areas will be established to properly contain wet concrete and wash water.
4. A Spill Prevention, Control, and Countermeasures (SPCC) plan will be implemented to manage harmful materials and spill.

**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  Not applicable

**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. [\[help\]](#)

This project will remove a trestle bridge from Bone River that presently has several piers below the MHHW. All structures being removed from the water are supported by creosote-treated wood piling. These old piles continue to leach creosote into surrounding sediments and water. Removal of this contamination source will benefit the aquatic environment. This bridge will be replaced with a structure that has 2 piers below the MHHW. By drastically reducing the number of flow obstructions in the water, the hydraulic characteristics at the sites will be improved. This will benefit aquatic life by improving mobility through the affected reach. It will also reduce turbidity, which will improve water quality in the area.

The Tarlatt Slough Wetland Mitigation Site discussed in Section 7g also includes restoration of tidal channels on property. This work will remove ditches presently draining the land. In their place a network of tidal channels will be built that follow historic flow patterns to Willapa Bay and Tarlatt Slough. This will increase in-water habitat below MHHW in Willapa Bay. This habitat will be suitable for refuge and forage use by aquatic life in Willapa Bay.

**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 to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
New Bridge Piers – Fill (Concrete)	Bone River	River bottom	Permanent	600 CY	320 SF (10' diameter)
Work Platform – Pile driving and extraction	Bone River	River bottom and bank	Temporary 18 months	99 ea, 24" steel pile, 500 CY	320 SF
Existing Bridge Demolition – Timber pile removal	Bone River	River bottom and bank	Permanent	58 ea, 18" to 24" piles, 240 cy	182 SF
Timber Pile Removal BMP – Fill (sand)	Bone River	River bottom and bank	Permanent (if needed)	10 CY	70 SF, 40 piles estimated
Detour Bridge – Pile driving and extraction	Bone River	River bottom and bank	Temporary 18 months	58 ea, 24" steel pile, 240 cy	182 SF

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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]**

All fill materials will be from an approved source. Placement methods will be determined by the contractor, but will likely be done with an excavator using a hydraulic thumb. Concrete work will likely be done using a concrete pump truck and tremie pipe. Sand placement will likely be done with a crane. See Section 8e for quantities.

**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]**

600 CY of material will be excavated from shaft casings at Bone River to build the 2 intermediate piers. This will likely be done with an auger or a crane with clamshell attachment. All waste material generated will be hauled off-site by dump trucks to an approved disposal site.

**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
Washoe County	Mike Stevens	360-642-9382	3/30/2011
U.S. Army Corps of Engineers	Sandra Manning	206-764-7911	5/27/2011
U.S. Coast Guard	Austin Pratt	206-220-7282	3/30/2011

Washington Department of Ecology	Kerry Carroll	360-407-7503	3/17/2011
Washington Department of Ecology	Rick Mraz	360-404-6221	1/27/2011
Washington Department of Ecology	Bobb Nolan	425-697-8197	3/7/2011
Washington Department of Fish & Wildlife	Bill Rehe	360-249-1224	1/27/2011
Washington Department of Fish & Wildlife	Chris Moran	360-249-1224	5/31/2011
Washington Department of Fish & Wildlife	Steve Kalinowski	360-249-1227	5/31/2011

**9b.** Are any of the wetlands or waterbodies identified in Part 7 or Part 8 on the Washington Department of Ecology's 303(d) List? [\[help\]](#)

- If **yes**, list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: <http://www.ecy.wa.gov/programs/wq/303d/>.

Yes  No

**9c.** What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [\[help\]](#)

Go to <http://cfpub.epa.gov/surf/locate/index.cfm> to help identify the HUC.

170001060600 - Willapa Bay 171001060401 Palix River Frontal Willapa Bay

**9d.** What Water Resource Inventory Area Number (WRIA #) is the project in? [\[help\]](#)

- Go to <http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm> to find the WRIA #.

24 - Willapa

**9e.** Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [\[help\]](#)

- Go to <http://www.ecy.wa.gov/programs/wq/swqs/criteria.html> for the standards.

Yes  No  Not applicable

**9f.** If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [\[help\]](#)

- If you don't know, contact the local planning department.
- For more information, go to: [http://www.ecy.wa.gov/programs/sea/sma/laws\\_rules/173-26/211\\_designations.html](http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html).

Rural  Urban  Natural  Aquatic  Conservancy  Other \_\_\_\_\_

**9g.** What is the Washington Department of Natural Resources Water Type? [\[help\]](#)

- Go to [http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp\\_watertyping.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx) for the Forest Practices Water Typing System.

Shoreline  Fish  Non-Fish Perennial  Non-Fish Seasonal

**9h.** Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [\[help\]](#)

- If **no**, provide the name of the manual your project is designed to meet.

Yes  No

Name of manual: WSDOT Highway Runoff Manual

9i. If you know what the property was used for in the past, describe below. [\[help\]](#)

The bridge has been in place since 1935. Land adjacent to the bridges has been owned by various timber companies.

9j. Has a cultural resource (archaeological) survey been performed on the project area? [\[help\]](#)

- If yes, attach it to your JARPA package.

Yes  No

9k. 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. [\[help\]](#)

**Listed Species and Designated Critical Habitat Potentially Impacted**

Common Name	Scientific Name	Federal Status
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Threatened
Oregon Silverspot Butterfly	<i>Speyeria zerene hippolyta</i>	Threatened
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Threatened
Green Sturgeon (Southern DPS)	<i>Acipenser medirostris</i>	Threatened
Pacific Eulachon (Southern DPS)	<i>Thaleichthys pacificus</i>	Threatened

Critical habitat for green sturgeon N/A Designated

9l. 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. [\[help\]](#)

Same as 9K above

## 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.ecy.wa.gov/opas/>.
- Governor's Office of Regulatory Assistance at (800) 917-0043 or [help@ora.wa.gov](mailto:help@ora.wa.gov).
- For a list of agency addresses to send your application, click on the "where to send your completed JARPA" at <http://www.epermitting.wa.gov>.

### 10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [\[help\]](#)

- For more information about SEPA, go to [www.ecy.wa.gov/programs/sea/sepa/e-review.html](http://www.ecy.wa.gov/programs/sea/sepa/e-review.html).

- 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.) [\[help\]](#)
- This project is exempt (choose type of exemption below).
- Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?  
\_\_\_\_\_
- Other: \_\_\_\_\_
- 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): \_\_\_\_\_

##### 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

##### Washington Department of Ecology:

- Section 401 Water Quality Certification

##### Washington Department of Natural Resources:

- Aquatic Resources Use Authorization

#### FEDERAL GOVERNMENT

##### United States Department of the Army permits (U.S. Army Corps of Engineers):

- Section 404 (discharges into waters of the U.S.)     Section 10 (work in navigable waters)

##### United States Coast Guard permits:

- General Bridge Act Permit     Private Aids to Navigation (for non-bridge projects)

## 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. RKK (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. RKK (initial)

Rick K. Keniston  
Applicant Printed Name

Rick K Keniston 10/17/11  
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

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

Not required if project is on existing rights-of-way or easements.

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 of Regulatory Assistance (ORA). People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341.

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