FLORENCE · · OREGON · · 1893		City of Florence Community Development Department 250 Highway 101 Florence, OR 97439 Phone: (541) 997 - 8237 Fax: (541) 997 - 4109 www.ci.florence.or.us
	Type of Request	Schiefe Denies
Design Review (DR) (See FCC	C10-6) Conditional Us	e Permit (CUP) (See FCC 10-4)
	Applicant Information	
Name: Steve Jacobsor	7	Phone 1: 503-986-2857
E-mail Address: stephenelicae	obsince adot. state	Phone 2:
Address: 455 Alroand Rd SE	Blag B, Solem, O	R 97301-5395
Signature: Store Acceloge	~	Date: 10/16/2014
Applicant's Representative (if any):		
	Property Owner Information	
Name: DDOT		Phone 1:
E-mail Address:	t granget. Fight the u	Phone 2:
Address: Same about	2	
Signature://A <		_ Date:
Applicant's Representative (if any):	in no strange i si si	and a shada ina mina
NOTE: If applicant and property owner are not the so the applicant to act as the agent for the property ow agrees to allow the Planning Staff and the Planning ( special arrangements are necessary.	me individual, a signed letter of author ner must be submitted to the City along Commission onto the property. Please ir	ization from the property owner which allows with this application. The property owner form Planning Staff if prior notification or
	For Office Use Only:	
RECEIVED City of Florence	Approved	Exhibit
OCT 1 6 2014		
By:	301 °	Arjun or manage
Form Revised 7/23/14		EXHIBIT B

Property Description	
Site Address: <u>n/a</u>	10/
General Description: U.S. 101, Milepoint 190.87	-191.15
Assessor's Map No.: <u>(85</u> - <u>(6)</u> - <u>32</u> - <u>-</u> Tax lot(s):	
Zoning District:	
Conditions & land uses within 300 feet of the proposed site that is on	e-acre or larger and within 100
feet of the site that is less than an acre OR add this information to the	e off-site conditions map
(FCC 10-1-1-4-B-3):	
	*
A second and a second and the second	patrongets a month
Project Description	AS Provide 2 Printer Per
Square feet of new: $527 f 4^2$ Square feet of	existing: <u>none</u>
Hours of operation: Existing parkir	ng spaces:
Is any project phasing anticipated? (Check One):	
Timetable of proposed improvements:	2018
Will there be impacts such as noise, dust, or outdoor storage?	Yes 🗆 No
If yes, please describe: pibe librating tapping, truck	& motor noises, back-up
alains, pageding, talking	and the second sec
	변화 요구에는 내용 다시에 다니지 않는 것이다.
Proposal: (Describe the project in detail, what is being proposed,	size, objectives, and what is
Tristell a cathodic protection system seismic rehabi	litation, pedestrian ADA
improvements and wail upgrade. Installation	of work platforms
to diarout to the boidre to accommodate t	here activities temperary
Work lights pointed at the prida & ce	oork bridge -
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Date Submitted: 10 16 14 Fee: 400	と 001 1 7-2014 リ
Received by:	BY: Ous

#### **Other Information Required**

Below is a check list of the required information to determine if an application is complete. The Florence City Code is available at City Hall or online at www.ci.florence.or.us (click on "City Code" which is located on the main menu). You will also find the *Florence Transportation Plan, Downtown Architectural Guidelines, Highway 101 Access Management Plans, Stormwater Design Manual,* and *Stormwater Management Plan* available on the City's website or at the City Hall for review or purchase.

Site Plan existing and proposed drawn to scale, showing the following:

Existing and proposed site boundaries and proposed lot boundaries

Existing and proposed structures

Existing and proposed roads, streets, rights-of-way, pedestrian walks (widths and types), names, grades, radii

Existing and proposed utility services – location of water and sewer lines, drainage routes and facilities, manholes, meters, fire hydrants, etc...

Areas of scenic value, wildlife habitat, potential hazard areas (floodplains, geologic instability), wetlands, or other areas of special significance

Note: Please submit an electronic copy of any plans submitted larger than 11" x 17"

A title report from a title company showing:

Existing liens Access and/or utility easements Legal description

## Utility Plan:

List all utilities currently available to the site AND add this information to a utility plan map (See FCC 10-1-1-4-B-2).

Note: For help identifying the location of utilities, please call Dig Safely Oregon at 1-800-332-2344 or dial 811. Call Public Works (541-997-4106) to determine the size of utility lines. Call the Fire Marshal (541-997-3212) to determine fire flows.

Water Supply:	<ul> <li>inch line available from</li> </ul>	(Stroot)
Sanitary Sewer:	- inch line available from	(Street)
Storm Sewer:	- inch line available from	(Street)
Charle if available T		

Check if available: Telephone Cable TV Electrical Other (Such as fiber optics) Please provide a plan drawn to common scale showing the location of existing and proposed buildings, existing and proposed utility services, location and size of water and sewer lines, drainage routes, manholes, meters, fire hydrants, fire flows, and 2' contours.

## Lighting Plan:

Show location of each light fixture, diagram illustrating foot-candle distribution, and elevation drawing of each light fixture in conformance to FCC 10-3-8-G.

## Access Permits:

For properties along State or County roads (see FCC 10-35-2-4), a state or county access permit or application is required. For properties on Highway 101 located between Highway 126 and the Siuslaw River Bridge, please also refer to the *Highway 101 Access Management Plan.* 

## Proposed:

Are new streets planned or needed? (Please refer to the Transportation System Plan)

Are utility upgrades or extensions planned or needed?

☐ Yes ☐ No If yes, please describe:

If you answered yes to either question above, how will these improvements be funded?

#### Stormwater Plan:

Per FCC 9-5-2-4, a drainage plan is required for projects which add **500 SQUARE FEET OR GREATER** of impervious surface area or clearing vegetation from **10,000 SQUARE FEET OR GREATER** (single family homes are excluded). Please refer to FCC 9-5 and the Florence Stormwater Design Manual for requirements.

#### □ Traffic Impact Study:

Per FCC 10-1-1-4-D, larger projects may require a Traffic Impact Study. Please attach a TIA if needed.

#### Design & Architectural Drawings:

Per FCC 10-6-6-C, if applying for a design review, please attach or describe colors and materials being used as well as elevations of the proposed building.

## Landscaping Plan:

Per FCC 10-34-3-2, the location, size and species of newly proposed plant materials, location(s) of area where existing vegetation will be cleared and/or preserved, irrigation and anticipated planting schedule, and location of existing and proposed fences and walls including buffering and screening materials.

#### Erosion Control:

Projects of over 1 acre of land disturbance over a period of time (please see FCC 10-36-4) are required to obtain a National Pollution Discharge Elimination System permit from the Department of Environmental Quality prior to the issuance of a development permit or land use permit based on appropriate criteria.

#### Site Investigation Report:

Refer to FCC 10-7-3 for the list of hazard areas within the City Limits which will require a SIR.

## Old Town District:

<u>Survey:</u> Properties within the Old Town District require a recent survey per FCC 10-17 for all new development, redevelopment, and additions which show property lines, easements, 2' contours, existing structures, floodplain, and highest observed tide.

Visual Aids: New construction or story additions require visual aids. Please refer to FCC 10-17.

# **City of Florence Code, Title 10**

## CITY OF FLORENCE CONDITIONAL USE APPLICATION NO.

# **ODOT PROJECT TITLE: US-101: Siuslaw River Bridge (Florence)**

# PROJECT LOCATION: T18S, R11W, W.M., Sect. 32 US-101, , Mile Point 190.84-191.15

**PROJECT PURPOSE AND NEED:** The bridge is in need of a cathodic protection system, seismic rehabilitation, pedestrian ADA improvements and rail upgrade. This will ensure the preservation of the bridge in its corrosive environment as well as earth quake protection. These activities require freestanding staging and access to work platforms to be constructed adjacent to the bridge. It should be noted that in this application, work bridge and work platform are used interchangeably. While ODOT prefers the term work bridge, it should be noted that this "bridge" does not span the river as the term infers.

## 10-19-3; DEVELOPMENT ESTUARY DISTRICT (DE):

A. <u>Purpose:</u> The primary purpose of the Development Estuary District (DE) is to provide for navigational needs and public, commercial, and industrial water dependent uses which require an estuarine location. Uses which are not water dependent which do not damage the overall integrity or estuarine resources and values should be considered provided they do not conflict with the primary purpose of the district.

The US-101 bridge over the Siuslaw River, in Florence, is not a water dependent use in the usual definition. However, it is a long-term use that has not appreciably impacted the river and is key to providing access to the river area as well as other employment, commercial, and recreational uses, that are water dependent, as well as non-water dependent, activities in the area.

- *B.* <u>Permitted Uses:</u> In the DE District, the following types of uses are permitted as hereinafter specifically provided for by this Section, subject to the general provisions and exceptions set forth in this section: provided, that no such use may be permitted which involves dredging or filling of the estuary.
- 1. The following waterborne transportation and associated water depend activities and uses:

City of Florence

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a. Navigational Aids

b. Maintenance Dredging

*N/A*, no navigational aids will be affected. No dredging is planned.

- 2. The following commercial activities and uses are water-dependent:
  - a. Marine fueling facilities
  - b. Marinas
  - c. Loading and unloading facilities such as piers and docks.

The work bridges/platforms might be construed as "piers".

- C. Special Uses Approved By Administrative Review: The following specified uses and no others are permitted only with a Special Use Permit. A Special Use Permit may be approved according to the procedure set forth in Section 10-19-17 upon satisfaction of the acceptable criteria. A resource capability determination is required as set forth in subsection 10-19-6B, except for major projects requiring an impact assessment as set forth in subsection 10-19-6C.
  - 1. Uses:
    - a. Any water-dependent use not specifically permitted in subsection B herein which involves dredging or filling of the estuary.

#### Criteria:

a. The use is water dependent.

N/A, the use is not water dependent. It is also temporary.

b. Applicable mitigation requirements can be met.

ODOT will use the Wilbur Mitigation Bank for any required mitigation..

- D. <u>\*Conditional Uses:</u> The Planning Commission, subject to the procedures and conditions set forth in Chapter 4 of this Title, may grant a Conditional Use Permit for the following uses, upon satisfaction of the applicable criteria. A resource capability determination is required as set forth in subsection 10-19-6B, except for major projects requiring an impact assessment as set forth in subsection 10-19-6C.
  - 1. Uses:

Flood and erosion control structures, including, but not limited to; jetties, seawalls, groins and bulkheads.

N/A, none of these types of structures are part of this project.

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Criteria and Conditions:

- a. The criteria required for projects involving dredge or fill material herein are met
- b. The structures are designed and sited to minimize erosion and man-induced sedimentation in adjacent areas.
- c. The structures are designed and sited to minimize adverse impacts on water currents, water quality and fish and wildlife habitat.

d. The use or uses to be protected by the proposed structures are water-dependent, *public* or private roads, *bridges* or railways, or public access. (Ord.3,1988)

There is no dredge or fill material, other than the piling for the work platform. This project involves preservation of a bridge on a public state highway.

2. Uses:

Rip-rap and associated minor fills to protect man-made structures existing prior to October 7, 1977, public or private roads, bridges, or public access. (Ord.3. 1988)

This bridge has been in-place and serving Florence and the surrounding coastal areas since approximately **1935**. Although there will be some minor earthwork on the land side, the "fill" represented by the piling needed to support the work bridges are what will affect the in-water-work. Access to the southerly work area will be via an abandoned state-owned spur of US-101 southwest of the bridge; a temporary bridge will connect this access point to the work platform (see attachment A). The northerly work platform will connect the north shore above the highest measured tide line east of the permanent bridge. In-water work consists orly of constructing and dismantling work platforms. Their installation, including vibrctory pile-driving, will began after 1 November 2015. The Southern work bridge will remain in place about 27 months; the northern portion will be dismantled after about 15 months. All installation and removal is expected to occur during approved in-water work windows (November 1-February 15). The volume of the piles has been estimated to be approximately 1647 cubic yards on the north end and 634 cubic yards on the south end These amounts are calculated as below the HIGHEST measured tide.

Criteria and Conditions:

a. Natural bank stabilization measures are inadequate.

N/A, this proposal is associated only with the existing man-made structure.

*3.* Uses:

a. Other uses that do not require dredging or filling.

*N/A*, some material will be temporarily placed (piling).

Criteria:

a. The use will nor irrevocably limit future use of the area for water dependent commercial, industrial, or public facilities.

This project does not introduce any new or additional activity or structure into the area. It only proposes a preventive maintenance procedure utilizing temporary piling to maintain the useful life of the existing bridge.

b. The use will have a minimal impact on resources, as identified in the Florence Comprehensive Plan, in the area affected by the proposed use. This project will maintain existing use. It will not change anything in the river. It will not enlarge the facility. In addition, ODOT will adhere to the Endangered Species Act-Section & Programmatic Biological Opinion & Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation to limit the impact to the river. It will also follow requirements for the "In-water work period" (2009/Nov.1-Feb. 15). All work within the active channel will be completed in accordance with Oregon Guidelines for timing of in-water work to protect fish and wildlife resources and hydraulic and topographic measurements may be completed at anytime, if a fish biologist determines that the affected area is not occupied by adult fish congregating for spawning or in an area where redds are occupied or preemergent alvins.

- 4. Uses:
  - a. Low-intensity recreation which is water-dependent.
  - b. Scientific and Educational observation
  - c. Active estuarine restoration
  - d. Aquaculture
  - e. Commercial facilities
  - f. Bridge crossing support structures

This proposal is for a conditional use permit to allow for the temporary placement of piling to facilitate preventative maintenance on the existing bridge crossing structure. The piling will have minimal impact on other activities in the area. The project will protect fishery by utilizing the in-water work period prescribed by the Endangered Species Act.

#### Criteria and Conditions:

a. The criteria specified herein are met for any use or activity requiring dredge or fill.

The project has been designed to use the smallest number of piling feasible to accomplish the desired result in a manner to have as little intrusion on the estuary as possible.

- **5.** Uses:
  - a. Any uses specified herein which involve dredging or filling of the estuary, except those listed in paragraph C herein which are reviewed administratively.

This proposal is not listed or subject to a Special Use Permit.

Criteria and Conditions:

a. The criteria required for projects involving dredge or fill in subsection E herein.

This project meets criteria for fill in subsection E. See pages 5-6.

Uses: (Ord 9. 1991)

a. Temporary alterations.

This project proposes permanent solutions to cathodic action and some ADA and safety improvements. However, the portion of the project that may have some impact on the river are the piling for the work structure. This feature will be temporary.

Criteria:

A resource capabilities test shall be applied to temporary alteration proposals to ensure:

a. That the short-term damage to resource is consistent with resource capabilities of the area.

A number of fish species with EFH may be affected by this Siuslaw River Bridge preservation project. These effects will be short-term, consisting of some turbidity caused by the placement and removal of the work bridge piling. Any equipment will be maintained and protected as necessary to prevent leaks and spills from entering the river.

b. That the area and the affected resources can be restored to their original condition.

This turbidity would be expected to be almost immediately flushed away by the river action. The placement of the piling is necessary to extend the life of the bridge and to delay the need for more intrusive actions.

- E. Additional Criteria Required for Projects Involving Dredging or Fill: Any use or activity permitted herein above which requires dredging or filling must meet the following criteria:
  - 1. The use is required for navigation or is otherwise water-dependent, and requires an estuarine location, or is specifically allowed by the applicable Management Unit requirements of Goal 16 (Ord. 9, 1991).

Bridge crossings existing as of October 7, 1977 are permissible uses under Goal 16.

2. A need (i.e., a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights. (Ord. 9, 1991)

US-101 is of citywide, as well as statewide, importance as the main access route to the Oregon coast for tourism and commerce. The Siuslaw River Bridge must be preserved because its forced closure would seriously disrupt the economy of coastal Lane County. The ultimate loss of this facility would result in loss of jobs, increased cost of goods due to longer delivery routes, and disruption of school access, among disruptions of other activities of daily life. River access may be limited, at times, for safety purposes during construction. Upon completion of the project, access to the river will be unchanged from its existing condition.

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3. No feasible alternative upland locations exist. (Ord.9, 1991)

The highway in question is currently an existing approved use which pre-dates 1970's land use regulations. The purpose of this project is to install an impressed cathodic protection system, seismic rehabilitation, pedestrian ADA improvements and rail upgrade. There is no other option that would allow the continuation of this option for people in the area as well as major statewide travel and delivery of goods. There is no other alternatives that would not also require a similar or greater intrusion into the estuary. Without this estuarine development approval the existing highway bridge would deteriorate at some point to be unusable, causing the traveling public to make a long detour which would disrupt travel and commerce in the area.

4. Adverse impacts on identified estuarine values are minimized.

There are few alternatives available because the location of US-101 is a fixed longtime use. A no-build alternative would eventually result in this vital north-south transportation link being impassable due to increasing deterioration. Any alternative of the project being located on another near-by alignment would result in more environmental impacts than the selected alternative, and there are no other state or local facilities which could be substituted for this use.

5. Mitigation requirements of ORS 541.605 to 541.695 are met.

A permit is being sought from the Oregon Department of State Lands. ODOT will include any mitigation, required by the director, in this project.

E. Applicable Physical, Geographical or Natural Features: The DE District is designed to apply to navigation channels, sub-tidal areas for in-water disposal of dredged material, major navigational appurtenances, deep-water areas adjacent to the shoreline and areas of menimal biological significance needed for uses requiring alteration of the estuary. These are as defined on the City zoning maps as specified by this Title.

This proposal is expected to result in minimal biological impact. It will take place in an area previously altered and does not include any new or additional permanent changes. It will only involve the temporary placement of piling to facilitate a work platform for bridge preservation.

#### **10-19-6: GENERAL PROVISIONS:**

B. **Resource Capability Determination:** Special Uses or conditional uses in the Natural Estuary (NE), Conservation Estuary (CE) and *Development Estuary (DE)* Districts are allowed only if determined to meet the resource capability and purpose of the management unit in which the use or activity occurs. The purpose of this subsection is to establish a procedure for making a resource capability determination. Major activities or uses in the estuary may require an estuarine impact assessment. Those uses do not also require this resource capability determination.

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- 1. **Definition of Resource Capability:** Resource capability is defined as the degree to which the natural resource can be physically, chemically or biologically altered, or otherwise assimilate an external use and still function to achieve the purpose of the zone in which it is located.
- 2. **Identification of Resources and Impacts:** The application for a proposed use or activity in which a resource capability determination must be made shall submit the following:
  - a. *Information on the resources present*. The type of resources likely to be affected by the proposed action shall be inventoried. The City shall assist the applicant in location sources of information. Sources which can be used include: Lane County Coastal Resources Inventory, environmental impact statements for the Siuslaw River, or other published information concerning the Siuslaw estuary, or more current resource information. (Ord.9,1991)

A number of fish species with EFH may be affected by this Siuslaw River Bridge preservation project. These effects will be short-term, consisting of some minor turbidity caused by the placement and extraction of the temporary piling. Any equipment used will be maintained and protected as necessary to prevent leaks and spills from entering the river.

b. Information on impacts to be expected if the proposed use or activity is carried out. This is not intended to be a full impact assessment as specified in subsection 10-19-6C, but a presentation of the major effects on water circulation and flushing patterns, water quality significant adverse impacts which may occur, and impacts on the aquatic and shore land life-forms. Where appropriate to the proposed action, impacts on recreational and aesthetic use, navigation, and other existing and potential uses of the estuary shall be identified as well. (Ord.9,1991)

This project does not anticipate any but minor effects on water circulation and flushing patterns. Water quality impacts will be confined to some turbidity upon placement and removal of the piling. This is expected to be almost immediately flushed by the natural action of the river.

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c. *Mitigation of Impacts.* Where measurable adverse or negative impacts on the resource factors defined in (b) above have been or can be identified, information shall be provided on reasonable methods which could be employed to avoid or minimize adverse impacts. (Ord. 9,1991)

The project anticipates that impacts to the estuarine environment will be too small to be measurable. The in-water work will be the minimum required to accomplish the task and will be done utilizing "best practices". Both ODFW and NMFS have indicated they would grant an in-water work variance to accomplish pile removal.

3. **Resource Capability Determination.** Information on resources present and impacts to be expected will be evaluated as part of the special use permit procedure, based on the requirement that the estuary can still function to achieve the purpose of the zone in which the activity will be located. Information developed by resource agencies and information submitted by the applicant may be used in the determination, and will be used whenever possible to reduce duplication between agencies.

The project has been coordinated with the National Marine Fisheries Service resulting in approval for ESA under the Federal Aid Highway Programmatic (FAHP). A DSL permit is in process, ODOT will be buying a small amount of mitigation credit from the Wilbur bank to offset impacts from work bridge pile. No Corps of Engineers permit is necessary as they have deemed the project, and all associated items, such as the work bridge pile, as exempt maintenance. We have also applied to Lane County for a Land Use Compatibility determination for this project.

- 4. **Resource Capability Findings:** Based on analysis of resources and impacts, one of the following findings shall be concluded in approving or disapproving the use permit.
  - a. The proposed use of activity does not represent a potential significant adverse impact or reduction of significant fish and wildlife habitats or essential properties of the estuarine resource. It is '(is not) consistent with the resource capabilities and existing and potential uses of the management unit and corresponding zoning district. (Ord.9,1991)

The proposed use of activity does not represent a potential significant adverse impact or reduction of significant fish and wildlife habitats or essential properties of the estuarine resource. Any impact to the river will be mitigated. It is consistent with the resource capabilities and existing and potential uses, of the management unit and corresponding zoning district as evidenced by the level of review required by the state and federal regulating agencies.

b. The proposed use or activity presents a potential significant impact or reduction of significant fish and wildlife habitats or essential properties of the estuarine resource, but reasonable alternatives or mitigating measures are proposed which will eliminate, or minimize to an acceptable level, adverse environmental impact or mitigation requirements of ORS 541.626 have been met. It is (is not) consistent with the resource capabilities and existing and potential uses, of the management unit and corresponding zoning district. (Ord.9,1991)

c. The proposed use or activity will result in unacceptable loss, considering the purpose of the management unit in which the use is proposed. The proposed use or activity represents irreversible changes and actions and unacceptable significant adverse impact or reduction of significant estuarine fish and wildlife habitat or essential properties of the estuary will result; or that adverse consequences of the proposed use or activity would be likely to result in irreversible trends or changes in resource properties and functions. It is (is not) consistent with the resource capabilities and existing and potential uses, of the management unit and corresponding zoning district. (Ord.9,1991)

## N/A

C. Estuarine Impact Assessment: The purpose of this subsection is to provide a procedure for evaluation of uses or activities which are major in nature and which could potentially alter the integrity of the estuarine ecosystem. Activities which require am impact assessment do not also require a resource capability determination. Uses which are permitted outright do not require an impact assessment. Uses requiring a special use permit or a conditional use permit will require an impact assessment only when an environmental impact statement (EIS) is required through the Corps of Engineers Section 10/404 permit process.

This use does not appear to be permitted outright. It also does not appear to require an impact assessment. The Corps of Engineers are not requiring a permit as they have deemed this project as exempt maintenance. Therefore it would not require an EIS.

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 CP--Zene Descriptions - Zenes 1 thru 11
 CP--Zene Descriptions - Zenes 12 thru 22
 CP-Zene Descriptions - Zenes 12 thru 22
 CP-Zene Descriptions - Zenes 23 thru 27
 CP-CC Frower Distribution RCOG Nerth Appr.Spans 5-8
 CP-CC Frower Distribution RCOG Nerth Ted Arch Spen 1
 CP-CC Frower Distribution RCOG Seath Appr.Spans 12-1
 CP-CC Frower Distribution RCOG Seath Appr.Spans 12-19
 CP-CC Frower Distribution RCOG Seath Appr.Spans 20-23
 CP-CC Frower Distribution RCOG Seath Appr.Spans 20-23 Bearing Replacement Seismic Restraint Layout Seismic Restraint Details – B Seismic Restraint Details – P Traffic Control Details Traffic Control Plans Pipe Data Reinforcing Bar Repair Ornamental Rail - Concrete Ornamental Rail - Steel Frame CP-Zane Wiring CP-Cakinet CP5 Data Aquisition Channel Schedula CP-Cakinet CP5 Data Aquisition Channel Schedule CP-Cabinet CP7 Data Aquisition Channel Schedule CP-Cabinet CP8 Data Aquisition Channel Schedule Dect Droin south Approach Work Platform Concept Stage Construction North Approach Index, General Notes & Location map Plan, Elevation & work Items General Construction Profile General Construction Rail End Post At Arch Deck Droin Replacement - Approach Spans Deck Drain Replacement - Tied Arch Spans DIBZIE BRIDGE Typical Sections Sign Support Structure & Details CP Plan & Elevation CP-Cabinet & Riser Installation Details Seismic Restraint Details - Bent 14 Seismic Restraint Details - Bent 17 CP-Manual Ctri Box CP-Cabinet Terminal Block Details CP-Electronic Layout And Mounting Detail CP-AC Power Distribution Wiring Diagram CP-Ceneral Cathodic Protection Details CP-Reinforcement Continuity Details **CP-Electronic Equipment Schedule** Joint Repair Concrete Repair INDEX OF SHEETS, CONT. DESCRIPTION DESCRIPTION - Bents 4,5 & 11 - Piers 1 & 4 5/12/2014 1:57:53 PM 54 52 S SHEET NO. DRAWING NO. НЖХСОВР Signing Plan Signing Plan Signing Plan Signing Details Striping Plan PERMANENT INDEX OF SIGNING SHEETS, CONT. DESCRIPTION Standard Drawings located on the web dt: http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/standard\_drawings\_bane.aspx TM821 TM800 TM670 TM676 TM200 TM201 TM206 R0720 R0756 R0415 RD388 RD300 RD302 RD364 Standard Drg. Nas. TW820 TM678 TM500 RD757 R0700 R0500 RD390 RD386 RD384 RD382 RD380 RD370 R/W Map Nos. 18-26-26, 28-20-5, 48-13-7 TM841 TM844 TM850 Temporary Sign Supparts
 Temporary Impod Attenuations
 Intersection Work Zone Details
 Temporary Pedestrian Access Routing
 2-Lane, 2-Way Roadways Trench Bockfill, Bedding, Plpe Zana And Wult, Installations Street Cut Miscellaneous Sign Placement Details Sign Bracing Detail Sidewalk Ramp Placement Options Curb Radii 15' Sidewalk Ramp Placement Options Curb Radii >15' Curbs Precast Concrete Barrier Pin And Loop Assembly Fill Height Tables For Aluminum & Steel Corrugated Pipe Fill Height Tables For Aluminum & Steel Arch Pipe Fill Height Tables For Aluminum & Steel Spiral Rib Pipe Wood Post Sign Supports Sign Attochments Sign Installation Details Sidewolks Fill Height Tables Far Palyprapylene Pipe Guardrail And Metal Median Barrier Parts Ditch Inlet Type D Secondary Sign Mounting Details Fill Height Tables For Corrugated HDPE Pipe Fill Height Tables For PVC Pipe Concrete Inlets Type G-1.G-2.G-2W & G-2MA **Temporary Barricodes** Tables, Abrupt Edge And PCMS Details Pavement Marking Standard Detail Blocks Fill Height Tables For Circular Concrete Pipe US101: SUSLAW RIVER BRIDGE (FLORENCE) SEC. Oregon Coast Highway Lake County ADMINISTRATION DIVISION PROJECT NUMBER ADVANCE COPY avelaget to CHANNE 1:1200 -SHEET NO. Ā 002



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ACCOMPANED BY DWCS, Sep. gingel SI. for. IN;s. situktivid occum. Roy D. Bottenberg		<u>MOTES</u> : See Special Provisions for criteria required to add bar section. Where existing bar is didiricint splice a grade 60 round bar with area expand to existen a existing bar or as otherwise called for in Subsection 01220.41.	REBAR IN SECTION OF BLAM	Solice bor w/	30 stirrup diameters of ea, end of dericent of dericent (sec. loss 2 500) Existing (modil, bors		Wire together as per REINFORCED								
BRIDGE ENG 4040 Fairview Salem, OR S (503) 986-420	MONE			s					*10	8	2# 9#	* 01	**	Splice Bar Size	MINIM
	30N DEPARTMENT	Hiningam s The bars is for the full of 5" ofts. « d = norts. REINFO			Part of ba than 10% s		= reinforcing bor di FLARE V-GROOVE (ROUND REBA	<sup>1</sup> / <sup>2</sup> / <sub>2</sub> ( <sup>4</sup> / <sub>3</sub> ) ∕ L1 <sup>2</sup> / <sub>2</sub> Splice Bar	81/2" 0	7"	סי שי	41/2"	3"/2"	Single Flore V-Groove Weld L) (inches)	UM WELD LENGTHS
HS LELIT	OF TRANSPORTATION	phice length = 32d* be wired together Length length of the splice of be and diameter of added bar 4 r noted otherwise. <u>TIED SPLICE</u> <u>RCEMENT LAPPE[</u> NO 500	WELDED SPLICE (	ingth length Details Tabl	r with less	WELDED SP	iometer. Bar WELDS RSI_	1 (g) XI	5"	4" Alt."	31/2*	2%"	21/4"	Double Flare V-Groove Weld LZ (Inches)	(Round Bars)
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	USIOI: SI	plice length • <u>32</u> d * ba wired logather length of the splice Subsection 00550		HOTES: Rein ta confi Assu and pre	pecifications with <u>less</u> clion loss	ILS	d = reinforcing b LARE BEVEL GRU (SOUARE & ROU)	(d) (L)	141/2"	111/2"	10"	7"	4%2"	Single Flore evel Groove We L3 (inches)	WELD LENCTHS
REINFORCING BAR REPAIR	USLAW RIVER (FLORENCE BR.) F USLAW R. BR. (FLORENCE) CATHODIC OREGON COAST HWY. M.P. 190. LANE COUNTY		1	(racing splice welds ran to AVS D1.4. me high carbon content sheat accordingly.			bar diameter. Splice 00VE WELDS ND REBARS)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8"		5%"	41/4" .	31/1"	eld Bevel Groove Weld L4 (Inches)	(Round/Square Bors)
Scole: 3/4"=1'-0	HWY, 9 PROTECTION 5/4 98 - 5/4 06 - 5/4 07	ADVANCE COPY SUBJECT TO CHANGE NAMOS ENAUERANNA SCALE WARNING Control for the proving drowing is and to scale					,	0	1						

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section wall & w	BRIDGE ENGINEERING HE-BOOLARTERS State State of State 1998 State State State State 1998 State State State 1998 State State State 1998 State State State 1998 State State State State 1998 State State State 1998 State State State State 1998 State State State State State 1998 State State State State State State 1998 State State St	COREGON DEPARTMENT OF TRANSPORTATION DATE OREGON DEPARTMENT OF TRANSPORTATION DATE OREGON.		From intersection with plot 3 (Sia 54+79:50) to $2^n$ north of $\mathfrak{E}$ plot 4 (Sia 56+33:50) to Atterior). $2^n$ from intersection with plot 3 (Sia 54+79:50) to $2^n$ north of $\mathfrak{E}$ plot 4 (Sia 56+33:50) to $2^n$ of $\mathfrak{E}$ and \mathfrak{E} and $\mathfrak{E}$ and $E$	2 south of £ piler 1 (Sto. 51+14.75.) to intersection with piler 2 (Sto. 52+68.75) (exterior). 2" from intersection with piler 2 (interior). 2" below cold joint between sidewalk and bridge roll.	$2^{\prime\prime}$ south of $\pounds$ bent 8 (Sta.50+56) to $2^{\prime\prime}$ north of $\pounds$ pler 1 (Sta.51+12) (exterior). $2^{\prime\prime}$ from intersection with well bent 9 & pler 1 (interior). $2^{\prime\prime}$ below cold joint between sloweak and bridge (all.	2" south of E bant 7 (Sta. 49+86) to 2" north of E bant 8 (Sta. 50+56) toxterlor). 2" from Intersection with web bant 7 & bant 8 Unterlor). 2" bollow cold joint between sidewalk and bridge rail.	Bents 7 and 8, and plot 1 fram 8" above high water fine to 2" below deck and 2" around beams.	2" south of $\pounds$ bent 6 (Sta. 49+29.50) to 2" north of $\pounds$ bent 7 (Sta. 49+86) texteriort. 2" from intersection with the bent 6 k bent 7 (Interiort. 2" below cald joint between sidewalk and bridge roll.	2" south of E bant 5 (Sic.48+73) to 2" north of E bant 6 (Sic.49+29,50) (exterior). 2" from intersection with w bent 5 & bent 6 (Interior). 2" balaw cold joint between sidewalk and bridge rail.	2" south of £ bent 4 (Sta. 48+16.5) to 2" north of £ bent 5 (Sta. 48+73)(exterior), 2" from intersection with we bent 4 & bent 5 (interior). 2" below cold joint between sidewalk and bridge rail.	2" south of E bent 3 (Sta 47+60) to 2" north of E bent 4 (Sta 48+16.50) (avterior). 2" from intersection with web bent 3 & bent 4 (interler). 2" below cold joint between sidewalk and bridge rail.	2" south of £ bent 2 (Site 45+90) to 2" north of £ bent 3 (Site 47+60) textarlor), 2" from intersection with web we bent 2 & bent 3 (Interior), 2" below cold joint between sidewalk and bridge rail.	Bents 2.3.4.5 and 6 from 8" above ground line or 8" above high water line to 2" below dect and 2" around beam	Boundaries 2" south of E beni 1 (Sia, 46+34) to 2" north of web wall & beni 2 (interior) and 2" North of E beni 2 (Sia, 46+90) (axterior), 2" below cold joint between sidewalk and bridge roll, 8" above ground line & beni 1.	

Þ PROTECTION : THIS ACCOMPANIED BY DWGS. Spe. shapt. 51. for this structure Protection Zone Calhadic 13 DATE 14 16 3 17 18 IS THE FILENAME LOCATION NORONOLOGICATION NORONOLOGICATION 20 19 21 R 12 C Span 12 Span 13 Spans Span 14 Span Span 17 Span 16 Span 18 Span Span 5 Bent 9 Bent 10 Bents 19 thru Bent 14 20 Bent 11 ZONES REVISION thru Bent 19 Bent 15 Pier 4 Piers . . . • . • . 8 • . . Side . . . . Tom Ohren DESIGNER DISCOU . . Blockers REVIEWER Ballon & Ded . . . • . . • . . . . . James D. Garrard Jr • . . . . 1101 Benjamin M. Tang . . Dect Gilbers . . • . . NURS Se. Co . CP-3 Cabin \$ CP-4 CP-3 CP-4 Pier 4, and bents 9 and 10 from 8" above high water line to 2" below deek and 2" around beams. 2" south of £ pler 4 (Sta 56+33,50) to 2" north of £ bent 9 (Sta 56+92,25) texterior). 2" from intersection with web wall © pler 4 & bent 9 finterior). 2" below cold joint between sidewalk and bridge rail. 2" south of  $\pounds$  bant 9 (Sta.56+92.25) to 2" north of  $\pounds$  bant 10 (Sta.57+62.25) toxtartor). 2" from wall  $\oplus$  bant 9 & bant 10 (interior). 2" below cold joint between sidework and bridge rail. 2″ south of € bent 10 (Sta.57+62.25)to 2″ north of € bent 11 (Sta.58+18.75)(exterior). 2″ from intersection with web woll@ bent 10 & bent 11 (interior). 2″ below cold jaint belween sidewalk and bridge roll. Bonts 11, 12, 13 and 14 from 8" above high water line to 2" below dect and 2" around beams  $2^{\prime\prime}$  south of E bent 11 (Sta.58+18.75) to 2<sup>''</sup> north of E bent 12 (Sta.58+75.25) (extarlor). 2<sup>''</sup> from Intersection with web work bent 11 & bent 12 (interior). 2<sup>''</sup> below cold joint between sidewark and bridge roll. 2" south of § bent 13 (Sta.59+45.25) to 2" north of § bent 14 (Sta.60+01.75) (exterior). 2" from wall  $\oplus$  bent 13 & bent 14 (interior). 2" below cold joint between sidewalk and bridge rall. 2" south of £ bent 12 (Sta.58+75.25) to 2" north of £ bent 13 (Sta.59+45.25) (exterior). 2" from intersection with web wall® bent 12 & bent 13 (interior). 2" below cold joint between sidewalk and bridge rail. Boundaries  $2^{\prime\prime}$  south of  $\pounds$  bont 14 (Sta.60+01.75) to  $2^{\prime\prime}$  north of  $\pounds$  banl 15 (Sta.60+44.25) (extertor).  $2^{\prime\prime}$  from wall to bent 14 & bent 15 linkerlar).  $2^{\prime\prime}$  below cold joint between sidewalk and bridge rail. Bents 15, 16, 17, 18 and 19 from 8" above ground line or 8" above high water line to 2" below deck and 2" around beams. 2″ south of € bant 15 (Sta.60+44.25) to 2″ north of € bant 16 (Sta.61+00.25) (exterior). 2″ from intersection with web woll® bant 15 & bant 15 (interior). 2″ below cold joint between sidewalk and bridge rail. z" south of € bant 16 (Sto.6t+00.25) to 2″ north of € bant 17 (Sta.6t+42.75)(astorior). 2″ from intersection with web woll⊕ bant 16 k bant 17 (interior). 2″ below cold joint between sidewolk and bridge roll. BRIDGE ENGINEERING HEADOUARTERS SE DD-MMM-YYYY HH:MM OREGON DEPARTMENT OF TRANSPORTATION USERNAME THINK! OI821E Month Year. CALC. BOOK DATE SJUSLAW RIVER (FLORENCE BR.) HWY. 9 USIDI: SJUSLAW R. BR. (FLORENCE) CATHODIC PROTECTION OREGON COAST HWY. M.P. 190.98 LANE COUNTY CP Intersection 1 intersection with web ZONE DESCRIPTIONS - ZONES 13 thru intersection with web with web Rotation: 0° Scole: 1/4"=1'-0" ADVANCE COPY SUBJECT TO CHANGE If scale bar doesn't measure one inch then drawing is not to scale SCALE WARNING 24 00000 CP6 OF SHEET DRAWING NO.

THIS Þ ACCOMPANIED BY DWDS. SPP. Shoot . SJ. for this structure PROTECTION Cathodic Protection Zone DATE 3 26 27 IS Span 21 
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 обътрани Span 22 Spans Span 23 Bents NOISIAB ZONES Plers . . • BY . . • Tom Ohren CHECKER DESIGNER . . Block . • . . Jomes D. Corrord Jr . . . ...... ç CP-4 CP-4 Cabinet A Constant of the second secon 2″ south of € bent 17 (Sla.61+42.75) to 2″ north of € bent 18 (Sla.61+85.25) texterior). 2″ (rom intersection with web wall⊕ bent 17 & bent 18 (interior), 2″ below cold joint belween sidewalk and bridge rail. 2″ south of web well® bant 19 (Interlor) and 2″ south of € bant 19 (Sto.62+41,25) texterior) to 2″ north of € bant 20 (Sto.62+43,25) (Interlor). 2″ balow cold joint between sidewalk and bridge roll, 8″ above ground line @ bent 20. 2″ south of £ bent 18 (Sto.51+85.25) to 2″ north of £ bent 19 (Sto.62+41.25) texterior). 2″ from intersection with web wall @ bent 18 & bent 19 finiarior). 2″ below cold joint between sidewalk and bridge rail. Baundaries OREGON DEPARTMENT OF TRANSPORTATION BRIDGE ENGINEERING HEADQUARTERS DD-MMM-YYYY HH:MM - I Salar USERNAME STRUCTURE NO. 01821E Honth Year. CALC. BOOK DATE SIUSLAW RIVER (FLORENCE BR.) HWY. 9 USIOI: SIUSLAW R. BR. (FLORENCE) CATHODIC PROTECTION OREGON COAST HWY. M.P. 190.98 LANE COUNTY CP ı ZONE DESCRIPTIONS - ZONES 25 thru 27 Rotation: 0° . Scale: 1/4"=1'-0" ADVANCE COPY SUBJECT TO CHANGE If scale bar doesn't measure one lach than drowing is not to scale SCALE WARNING BRIDGE ENGINEERING 00000 DRAWING NO. CP7 OF



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![](_page_59_Figure_0.jpeg)

CONDUIT C100 C200 D C301\* 0053 ACCOMPANIED BY DWGS. See sheet SI. for this structure. C202 C201 C302\* C203 C204 C303\* C205 C304\* C207 C206 C208 C305\* C210 C209 DATE C306+ C211 C212 C213 SIZE 21/2" 21/2" Ņ 34" 24" \* 3/4" 34" \* \*\* 34" \* 12: 34" \*\*\* N/n Z' ×. \*\* 34 .. \*\* ×. Harth CP Cabinel Risers North Service Neter Cabinet North CP Cabinet Risers JB-201 Span 1 JB-202 Span I JB-301 Span 1 JB-204 Span 2 JB-203 @ Bent 2 FROM JB-302 Span 2 JB-303 @ Ban! 3 JB-205 Span 2 18-207 Span 3 JB-206 € Bent 3 JB-304 Span 3 JB-208 Span 3 JB-209 Bent 4 JB-210 Span 4 JB-211 Span 4 JB-305 Span 4 JB-212 Bont 5 REVISION JB-306 Spon 3 JB-213 Span 5 CONDUIT Zone 1 King Bar (1) Anade Plates (2) North CP Cabinet Risers Zone 1 Reference Calls (2) Zone 2 King Bor (1) Anade Plates (2) Zonė I Anode Plates (2) Zono 3 King Bar (1) Anode Plates (2) Zones 1-11 West Utility Holes) Zone 3 Anode Plates (2) Zone 3 Reference Cells (2) Zones 1-11 (East Utility Holes) Zone 2 Reference Cells (2) Zone 2 King Bar (1) Anode Plates (2) Zone 4 Reference Calls (2) Zons 4 King Bor (J) Anode Plates (2) Zone 4 Anode Plales (2) Zone 2 King Bar (1) Anode Plates (2) Zano 5 King Bar (1) Anode Plates (2) Zona 5 Reference Cells (2) Zone 6 King Bar (1) Anode Plates (2) Zant 2 King Bar (1) Anode Plates (2) Zone 5 Anode Plates (2) Zone 6 Raferance Calls (2) SCHEDULE 10 BY DAMALON NEVIENDA. DECKER DESIGNER Power Conductors 8-#10 (including ground) 1-#10 King Bar 4-#10 Anode Terminal Plates 22-#16 Shisidad Twisted Pair Reference Calls 11-#10 King Bar 22-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 2-#10 King Bar 4-#10 Anode Terminal Plates 2-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 1-#10 King Bar 4-#10 Anade Terminal Plates 2-\*16 Shielded Twisted Pair Reference Cell 2-#10 Anode Terminal Plates 2-#10 King Bar 4-#10 Anode Terminal Plates 2-#16 Shielded Twisted Poir Referance Cell 1-#10 King Bar 4-#10 Anode Terminal Plates 2-#10 King Bar 4-#10 Anode Terminal Plates 2-#10 Anode Terminal Plates 1-#10 King Bar 4-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 2-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 1-#10 King Bar 4-#10 Anode Terminal Plates 2-#10 King Bar 4-#10 Anode Terminal Plates Andrew Blower Andrew S. Blower CIRCUIT Benjamin M. Tang NDENS. A LAND CONTRACT OF A LAND CONTRA CONDUIT C307\* C214 C216 C215 C217 C218 C308\* C219 C309= C220 C310= C221 C222 C223 C311. C224 C226 C225 SIZE 34" 34. 34" \*\* 34 ... 34." 34" \*" 2. 1. 3/4" 24" ¥." 34." 3/4 " BRIDGE ENGINEERING HEADQUARTERS 34" 34" 34." DD-MMM-YYYY HH:MM JB-215 @ Bent 6 JB-214 Span 5 JB-307 Span 6 JB-216 Span 6 OREGON DEPARTMENT OF TRANSPORTATION JB-218 @ Bent 7 JB-217 Span 6 JB-219 Span 7 FROM JB-308 Span 7 JB-309 @ Bent B JB-220 Span 7 JB-222 Span 8 JB-310 Span. B JB-223 Span B JB-224A&B @ Plar I JB-225 Span 9 JB-226 Span 9 JB-311 Span 9 Zone 2 King Bar (1) Anode Plates (2) Zone 6 Anode Plates (2) Zone 7 King Bar (1) Anode Plates (2) Zone 7 Referance Calls (2) Zone T Anode Plates (2) Zone B King Bar (1) Anode Plates (2) Zone 9 King Bar (1) Anode Plates (2) Zone 9 Reference Cells (Z) Zone 9 Anode Plates (2) Zone B King Bar (1) Anode Plates (2) Zona 8 Reference Cells (2) Zana 10 King Bar (1) Anodo Plates (2) Zone 10 Anode Plates (2) Zone 10 Reference Cells (2) Zone 11 King Bor (1) Anada Plates (2) Zone B King Bar (1) Anode Plates (2) Zane 11 Reference Cells (2) Zone 11 Anode Plates (2) 70 USERNAME 1-#10 King Bor 4-#10 Anode Terminal Plates 2-#10 Anode Terminal Plates 2-\*16 Shielded Twisted Pair Reference Cell 1-#10 King Bar 2-#10 Anode Terminal Plates 2-#10 King Bar 4-#10 Anode Terminal Plates 2-#10 Anode Terminal Plates 1-#10 King Bar 4-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 2-#10 Anode Terminal Plates 1-#10 King Bar 4-#10 Anode Terminal Plates 2-#10 King Bar 4-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 2-#16 Shielded Twisted Pair Reference Cell 2-#10 Anode Terminal Plates 1-#10 King Bar 2-#10 Anade Terminal Plates 1-#10 King Bar 4-#10 Anode Terminal Plates Reference Cell 2-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair CIRCUIT STRUCTURE NO. CALC. BOOK Wonth Year 01821E DATE USIOI: SIUSLAW RIVER (FLORENCE BR.) HWY. 9 USIOI: SIUSLAW R. BR. (FLORENCE) CATHODIC PROTECTION OREGON COAST HWY. M.P. 190.98 LANE COUNTY CP-CONDULT SCHEDULE - NORTH SPANS Rute conduits C200, C300, C227, and C312 through utility holes in Stawnik throates. Support these major runs with all thread rad and adjustable-clevis style pipe hangers constructed of 316L stainless steel. Support surface mounted conduit using approved one-hole, non-conducting, non-corroding conduit staps as defined in Special provision Section 01265. Provide condult supports of intervals less than or equal to the maximum spacing for rigid PVC as defined in the NEC. Fill far reference ceil conduit is based on a shidded hwisted pair cable with diameter of 0.255", Adjust conduit size if necessory based on cable diameter. Hunbers of conductors are listed to Indicate conduit fill and do not denote conductor termination points. Reference dwg. 000001; Do not splice reference call cables. They must be continuous between the CP cabinels and the reference call. #10 AWG DC conductors may only be spliced in junction baxes in a manner approved by the Engineer. - 300 series junction bax and conduit locations will be based upon the polential survey as defined in Special Provisions Section 01240, Localians are shown in the plans for reference purposes on the plane for reference purposes The Contractor may add, remove, or combine conduit runs and Junction bases with Engineer optroval. Submit any revisions to the conduit schedule to the Engineer prior to beginning work and provide on as-buit conduit schedule upon completion. only. Install anode plates and king bar connection points near the locations shown while meeting the requirements of Special Pravisions Section (1265. 4 anode plates and 2 king bar provisions Section (1265. 4 anode plates at 1 king bar will be mode in each deak zone. 2 anode plates at 1 king bar connection will be made on each beni or pier regardless of how many bents ar piers belong to a particular zone. The Contractor is responsible for installing approved conduit badies to route the conduit efficiently in a way that has minimal visual Provide bends and expansion joints according to the NEC and Special Provisions Section 01265. Impact on the bridge. ADVANCE COPY SUBJECT TO CHANGE BRIDGE ENGINEERING 13 1:0008\_DL -If scale bar doesn't measure and inch then drawing is not to scale SCALE WARNING DRAWING ND. CP16. 00000 X

Notes: All conduits are to be Schedule 40 rigid PVC unless otherwise noted

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A CONTRACTOR	R	C32	625	C25	C323	C252	C251	0367	C322*	C249	1541	C321*	C246	C245	C244	C320*	C243	1216	C101	C219		CONDUIT	
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USIOI: SIUSLAW R. BR. (FLORENCE) CATHODIC PROTECTI ORECON COAST HWY. M.P. 190.98 LANE COUNTY CP-CONDUIT SCHEDULE SOUTH SPANS (1 OF 2)	SUBJECT TO CHANGE I/ SOU ANNOE ENGANEENING CONTRACT OF A C	ADVANCE COPY SCAL	55 .		2															L			

D DATE ACCOMPANIED BY DWGS. 599 shapt St. for this structure. CONDUIT C325\* C326\* C257 C258 C327+ C259 C261 C260 C328\* C263 C262 C264 C265 SIZE \*\* REVISION 34." 34" ž \*\* \*\*\* \* 34" \*\* ×4." \*\* \*\*\* \*\* JB-324 Bent 17 JB-256 Bent 17 JB-257 Spon 21 JB-325 Span 21 JB-258 Span 21 JB-259 @ Bent 18 FROM JB-262 Span 22 JB-326 Span 22 JB-261 Span 22 JB-327 Span 23 . JB-263 Span 23 JB-262 Bant 19 JB-264 Span 23 CONDUIT SCHEDULE BY Zone 22 King Bar (1), 2-#10 King Bar Anode Piates (2) 4-#10 Anode Terminal Plates Zone 22 . Reference Cells (2) Zona 25 Reference Cells (2) Zone 25 King Bar (1) 1-#10 King Bar Anode Plates (2) 2-#10 Anade Terminal Plates DIGNE TERM DESIGNER Zane 22 King Bar (1) Anada Plates (2) Zone 25 Anode Plates (2) Benjamin M. Tang CHECKDA Zone 25 King Bar (1) I-#10 King Bar Anode Piates (2) Z-#10 Anode Terminol Plates Zone 26 Anode Piates (2) Zona 26 Reference Cells (2) Zone 27 Anode Plates (2) Zone 27 King Bar (1) Anode Plates (2) Zone 22 King Bor (1) 2-\*10 King Bar Anode Plates (2) 4-\*10 Anode Terminal Plates Zone 27 Reference Cells (2) 70 Andrew Blower Andrew S. Blower 2-#16 Shielded Twisted Pair Reference Cell 2-#16 Shielded Twisted Pair Reference Cell 11 2-#10 King Bar 2-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 2-#10 King Bar 4-#10 Anode Terminal Plates 4-#10 Anode Terminal Plates 2-#16 Shielded Twisted Pair Reference Cell 4-#10 Anode Terminal Plates 4-#10 Anode Terminal Plates CIRCUIT RENEWSA. All Barris 1 BRIDGE ENGINEERING HEADQUARTERS L 1 DD-MMM-YYYY HH:MM OREGON DEPARTMENT OF TRANSPORTATION INTE USERNAME STRUCTURE NO. 01821E CALC. BOOK Month Year DATE USIO1: SIUSLAW RIVER (FLORENCE BR.) HWY, 9 USIO1: SIUSLAW R. BR. (FLORENCE) CATHODIC PROTECTION OREGON COAST HWY, M.P. 190.98 LANE COUNTY CP-CONDUIT SCHEDULE SOUTH SPANS (2 OF 2) SUBJECT TO CHANGE ADVANCE COPY BRIDGE ENGLACERING 15 1:0008\_DL - 015 If scale bar doesn't measure ane inch then drawing is not to scale SCALE WARNING DRAWING ND. CP 18. 00000

A   ANE   AND.   AND.   And.rev. Blover.   More aver.   More aver	X Fused terminal blocks   Y Standard terminal blocks   ADDITIONAL EQUIPMENT   Z Composil Scientific HMP-45C temperature/relative tumidity sensor with monufacturer supplied shielded sensor cable and 13 gill radiation shield	R   Oside 1//4937   Alloy 6   Other 1//4937   Alloy 6   Alloy 6   Other 1//4937   Alloy 6   Alloy	K   Shuh rasistor 0.01 ohm   Accord   Ac	A   Power supply   Composition   5     B   Composition   Composition   6     C   Composition   6   6     D   Composition   F   12 VDC high-strand within the power supply   Notating the power supply   6     F   GF J apple suppressor   6   6   6     H   Circuit breaker - 20 amp. d-Irlp   5   5     I   Header.200 wdti   -   51     6   51   51   51   51     6   51   51   51   51     6   51   51   51   51     7   GF J apple a suppressor   6   6     6   51   51   51   51     7   Hader.200 wdt   51   51   51     6   51   51   51   51   51     7   Hader.200 wdt   51   51   51   51     6   51   51   51   51   51   51     7   51   51   51   51   51	CP CABINET ELECTRONIC EQUIPMENT SCHEDULE QUANTITY ITEM DESCRIPTION 4 12
SUSLAW RIVER (FLOKENCE) CATHOOIC PROTECTION XX ORECON COAST HWY, M.P. 190.98 ORAMING LANE COUNTY 190.98 ORAMING CP - ELECTRONIC EQUIPMENT SCHEDULE 0000 25 1:8 Equipment Sched	ADVANCE COPY SUBJECT TO CHANGE IT SCALE WARNING NUBJECT TO CHANGE IT SCALE OF ON INGO MISSING OF ON INGO SCALE (1000/101/10/10/10/10/10/10/10/10/10/10/1	500 			Notes: This sheet is provided for reference purposes only. Any design specifications called out in these places is superceded by the specifications interes places is superceded by the specifications and special providens. Ref et in the speci- and special providens. Ref et in the speci- and special providens. Ref et in the speci- tion of the special providens and ordering of equipment/ providentials and ordering of equipment/

![](_page_64_Figure_0.jpeg)

![](_page_65_Figure_0.jpeg)

![](_page_66_Figure_0.jpeg)

![](_page_67_Picture_0.jpeg)

![](_page_69_Figure_0.jpeg)

![](_page_70_Figure_0.jpeg)

![](_page_71_Figure_0.jpeg)










# **ENVIRONMENTAL DATA**

### Division of State Lands/ Army Corps of Engineers Combination Permit Data



### U.S. Arr Portland

### U.S. Army Corps of Engineers Portland District



## Oregon Department of State Lands

Corps Action ID Number

DSL Number

#### (1) APPLICANT AND LANDOWNER CONTACT INFORMATION Authorized Agent (if applicable) Applicant Property Owner (if different) Consultant Contractor Cory Engel **Contact Name** Permit Coordinator **Business Name ODOT Region 2** 455 Airport Rd SE Bldg B Mailing Address 1 Mailing Address 2 City, State, Zip Salem OR 97301 **Business** Phone 503-986-2933 Cell Phone Fax Email Cory.C.Engel@odot.state.or.us (2) DRO JECT INCODMATION

	ATION					
A. Provide the project locat	ion.					
Project Name K17526 US101 Siuslaw R Br Cathodic Protection EA: PE002175 / SJ: 000 / Activity: J17		Tax Lot # US 101 Riç	ght of way	Latitude & Longitude* 43.9648 / -124.1086 (bridge centroid)		
Project Address / Location US101 Siuslaw River Bridge	3	City (neare Florence	èst)	County Lane		
Township 18 South	Range 12 West	st Section 34			Quarter/Quarter SW ¼ NE ¼	
Brief Directions to the Site From the Willamette Valley, take I-5 to exit 195B. Proceed west on OR 569 (Randy Pape Beltline) 9.5 miles to OR 126 (11 <sup>th</sup> Ave). Turn right and continue 55.7 miles to US 101. Turn left and go south 0.9 mile to the parking area in the southwest quadrant of the bridge.						
B. What types of waterbodie	es or wetlands a	re present in	your project are	a? (Check	all that apply.)	
River / Stream		on-Tidal Wetl	and	🗖 Lake	/ Reservoir / Pond	
Estuary or Tidal Wetland	I Dot	her	🗖 Pacific Ocean		fic Ocean	
Waterbody or Wetland Nam Siuslaw River	aterbody or Wetland Name** River N slaw River 4.14		6 <sup>th</sup> Field HUC N Bernhardt Cree Siuslaw River	<u>SName</u> eek – <u>6<sup>th</sup> Field HUC (12</u> ) 171002060804 r		
C. Indicate the project categ	ory. (Check all f	that apply.)				
Commercial Development	nt 🔲 Indi	ustrial Develo	opment	nent 🔲 Residential Development		
Institutional Development	t 🗖 Agr	ricultural		Recre	creational	
Transportation	🗖 Re	storation		Bank :	nk Stabilization	
Dredging	🔲 Util	ity lines		Surve	y or Sampling	
In- or Over-Water Structure	ure 🗖 Mai	ntenance		Other:		

In decimal format (e.g., 44.9399, -123.0283)

### (2) PROJECT INFORMATION

\*\* If there is no official name for the wetland or waterway, create a unique name (such as "Wetland 1" or "Tributary A").

### (3) PROJECT PURPOSE AND NEED

Provide a statement of the purpose and need for the overall project.

The bridge is in need of installation of an impressed current cathodic protection system, seismic rehabilitation, pedestrian ADA improvements and rail upgrade. This will ensure the preservation of the bridge in a corrosive marine environment and protection against earthquakes; these activities require freestanding staging and access work platforms to be constructed adjacent to the bridge.

The project, including construction of the work bridge<sup>(\*)</sup>, is necessary to ensure the preservation of the Siuslaw River Bridge and its ability to carry roadway traffic across the estuary. The project is therefore for a water-dependent use.

(\*) Note that throughout this JPA "work bridge" and "work platform" are used interchangeably. Although "work bridge" is the preferred term within ODOT, it should be noted that the "bridge" does not span the entire river, as could be erroneously inferred from the term "bridge."

### (4) DESCRIPTION OF RESOURCES IN PROJECT AREA

A. Describe the existing physical and biological characteristics of each wetland or waterway. Reference the wetland and waters delineation report if one is available. Include the list of items provided in the instructions.

See Attachment 7 (Explanation of Effects of Installation and Removal of Temporary Work Bridge Pile) and Attachment 8 (Federal Aid Highway Programmatic ESA-MSA Programmatic Notification) for a description of resources in the project area, including listed species, critical habitat designation, and effects below the 100-year floodplain elevation.

### B. Describe the existing navigation, fishing and recreational use of the waterway or wetland.

The lower Siuslaw river is used extensively for commercial, recreational, and military navigation. The lower Siuslaw river and bay are fished for a variety of species including shellfish. ODOT will coordinate with the US Coast Guard to ensure that the reasonable needs of navigation are met and that information regarding the timing and extent of temporary in-water structures are communicated to mariners.

### (5) PROJECT SPECIFIC CRITERIA AND ALTERNATIVES ANALYSIS

Describe project-specific criteria necessary to achieve the project purpose. Describe alternative sites and project designs that were considered to avoid or minimize impacts to the waterway or wetland. The nature of the project and its location dictates that there are very few alternatives with regard to location or design. ODOT considered these options:

Staging from barges: This was determined to likely be a more expensive option which carries its own liabilities (such as increased distance from the bridge deck, navigational hazards, a reduced contractor bidder pool due to lack of equipment, potential shading of sensitive areas, and low-tide grounding). Although work platforms are expected to be the preferred solution, ODOT will consider alternatives proposed by the contractor which would reduce costs and impacts.

Alternative "hands-off" design methodology: Ordinarily ODOT does not specify the design of temporary structures used to accomplish the primary goals of a project. However, because leaving the design of work platforms for this project open-ended could result in avoidable eelgrass impacts, ODOT will specify that if work platforms are used, their piles must avoid "no-work" zones specified around eelgrass beds. See no-work zone depicted in Attachment 4b.

### (6) PROJECT DESCRIPTION

**A.** Briefly summarize the overall project including work in areas both in and outside of waters or wetlands. This project is located on the Siuslaw River Bridge No 01821E in the City of Florence, Lane County. Built in 1936, it is 1568' long (including its center lift span). This is a maintenance project that will rehabilitate the structure and install an impressed current cathodic protection system. There will be no changes to the appearance, dimensions, horizontal or vertical alignment of the bridge. Temporary work platforms and containment structures will be placed during construction. The sidewalks in the area beyond the end of the bridge will be upgraded with ADA ramps built to current ODOT standards. Access to the southerly work area will be via an abandoned state-owned spur of US 101 southwest of the bridge; a temporary bridge will connect this access point to the work platform to the east (see Attachment 4b). The northerly work platform will connect to the north shore above the highest measured tide line just east of the permanent bridge.

Upland work will begin in the first half of 2015.

### B. Describe work within waters and wetlands.

In-water work consists only of constructing and dismantling work platforms. Their installation, including vibratory pile driving, will begin after November 1, 2015. The southern work bridge will remain in place for about 27 months; the northern portion will be dismantled after about 15 months. All installation and removal is expected to occur during approved in-water work windows (November 1 – February 15).

### C. Construction Methods. Describe how the removal and/or fill activities will be accomplished to minimize impacts to waters and wetlands.

For a description of in-water work, its impacts, and minimization efforts, please see Attachment 7.

In uplands, typical road building methods and machinery will be used during development of this project. Equipment likely to be used includes but is not limited to trackhoes, backhoes, loaders, graders, dump trucks, and compactors. Earthwork will include the placement, grading, filling, and compaction of new and existing roadbed material. Standard best management practices (BMPs) will be used for erosion and sediment control. Erosion control measures will be inspected and maintained daily to ensure their continued effectiveness. The contractor will be required to submit an adequate Erosion & Sediment Control Plan and Pollution Control Plan prior to beginning construction. Construction limits will be delineated with a sediment fence or similar devices to prevent discharge into wetlands and waterways and comply with Oregon's turbidity standard. At the earliest possible time after completion of each terrestrial disturbance due to construction, the area disturbed will be permanently stabilized using methods such as seeding, mulching, structural surface coverings, and vegetative stabilization.

A pollution control plan will be implemented by the contractor to reduce the risk of spills and leaks into wetlands and waterways. Clean-up kits will be on hand in the event of a spill. All equipment will be checked for fluid leaks, inspected and cleaned prior to operating within 150 feet of the regulated work area. Untreated wash and rinse water will not be discharged into the regulated work area.

ODOT's contractor will comply with Standard Specifications Section 00280 (Erosion and Sediment Control) and related sections of ODOT's standard contract specifications, as well as project-specific specifications to be developed prior to the bid let phase of project development.

Other BMPs to be utilized during this project will include:

- Limiting regulated work within jurisdictional waters to the ODFW-recommended in-water work window unless a variance is granted by ODFW and/or NMFS, as applicable.
- Designating fueling and greasing stations with spill kits away from protected resources or in isolation.
- Following all conditions of the FHWA programmatic BO.

### (6) PROJECT DESCRIPTION

- Minimizing vegetation removal to the maximum extent practicable.
- Having additional BMP materials (such as matting, biofilter bags, straw bales, etc.) available on site to accommodate ground conditions as they arise.
- Applying the principles outlined in the ODOT Erosion Control Manual.

This project does not require installing, replacing, or abandoning any potential obstruction to fish passage.

#### D. Describe source of fill material and disposal locations if known.

Specific fill material sources and disposal locations have not been specified. ODOT and contractors will source materials from commercial providers obtaining materials either from upland locations, or in accordance with applicable laws. ODOT's contractors will be required to use only upland disposal sites.

Spring 2015

Early 2019

No No

Yes

### (6) PROJECT DESCRIPTION

E. Construction timeline.

What is the estimated project start date?

What is the estimated project completion date?

Is any of the work underway or already complete? If yes, describe.

mensions	(if more	than 4 imp	act sites, includ	e a summa	ary table as a	in attachment)	
		Fill Dime	nsions		Duration of		
Length (ft.)	Width (ft.)	Depth (ft.)	Area (sq.ft. or ac.)	Volume (c.y.)	Impact**	Material***	
Up to 13 smaller of	30 24″ or dia. piles	109 max	408 ft <sup>2</sup> total	1,647	15 months	Steel or untreated woo	
Up to 50 smaller of	0 24″ or dia. piles	109 max	157 ft <sup>2</sup> total	634	27 months		
nd Dimer	nsions						
			Lengt	n (ft.)	Area (sq. ft o	r ac.) Volume (c.y.)	
High Wate	er						
leasured 1	<u>Fide</u>		109 r	nax	565	2281	
Line		11					
h Water Ti	idal Elevat	tion					
nd Dimer	nsions (if	more than	4 impact sites,	include a s	ummary tabl	e as an attachment)	
	R	emoval Dir	nensions		Duration of		
Length (ft.)	Width (ft.)	Depth (ft.)	Area (sq. ft. or ac.)	Volume (c.y.)	Impact**	Material***	
Strate Strate		States and the			And the second second		
	Length (ft.) Up to 13 smaller of Smaller of smaller of nd Dimen High Water Line h Water Ti nd Dimer Length (ft.)	Length (ft.)       Width (ft.)         Up to 130 24" or smaller dia. piles         Up to 50 24" or smaller dia. piles         nd Dimensions         High Water         leasured Tide         Line         h Water Tidal Elevat         nd Dimensions (if         R         Length (ft.)       Width (ft.)	nensions (if more than 4 imp         Fill Dimer         Length       Width (ft.)       Depth (ft.)         Up to 130 24" or smaller dia. piles       109 max         Up to 50 24" or smaller dia. piles       109 max         nd Dimensions       109 max         High Water       109 max         Heasured Tide       109 max         Line       109 max         h Water Tidal Elevation       109 max         nd Dimensions (if more than       109 max         Line       109 max         h Water Tidal Elevation       109 max         nd Dimensions (if more than       109 max         Note: Tidal Elevation       109 max         nd Dimensions (if more than       109 max         Removal Dimensions       109 max	mensions (if more than 4 impact sites, includ         Fill Dimensions         Length (ft.)       Width (ft.)       Depth (sq.ft. or ac.)         Up to 130 24" or smaller dia. piles       109 max       408 ft² total         Up to 50 24" or smaller dia. piles       109 max       157 ft² total         Ind Dimensions       Length       Length         High Water       Image: state s	mensions (if more than 4 impact sites, include a summa         Fill Dimensions         Length       Width       Depth (ft.)       Area (sq.ft. or ac.)       Volume (c.y.)         Up to 130 24" or smaller dia. piles       109 max       408 ft² total       1,647         Up to 50 24" or smaller dia. piles       109 max       157 ft² total       634         nd Dimensions       Length (ft.)       634         Length (ft.)         High Water       109 max       157 ft² total       634         Muster Tide       109 max       109 max       157 ft² total       634         nd Dimensions       Image: state sta	nensions (if more than 4 impact sites, include a summary table as a         Fill Dimensions       Duration of Impact**         Length       Width (ft.)       Depth (ft.)       Area (sq.ft. or ac.)       Duration of (c.y.)         Up to 130 24" or smaller dia. piles       109 max       408 ft² total       1,647       15 months         Up to 50 24" or smaller dia. piles       109 max       157 ft² total       634       27 months         nd Dimensions       Length (ft.)       Area (sq. ft o       109 max       565         Line       109 max       109 max       565         Line       109 max       109 max       565         Mater Tidal Elevation       Duration of Impact**       Duration of Impact**         Removal Dimensions       Ouration of Impact**       Duration of Impact**	

Removal Impacts to Waters	Length (ft.)	Area (sq. ft or ac.)	Volume (c.y.)
Total Removal to Wetlands			
Total Removal Below Ordinary High Water			
Total Removal Below <u>Highest Measured Tide</u>			C. C. P. P. C. L. P.
Total Removal Below <u>High Tide Line</u>			
Total Removal Below Mean High Water Tidal Elevation	Contractor and the		

(7) ADDITIONAL INFOR	RMATION		Sector Sector				
Are there any state or feder	rally listed species on the pr	oject site?	Ves Yes	No No	🔲 Unknown		
Is the project site within de	signated or proposed critica	I habitat?	Yes	🗖 No	🔲 Unknown		
Is the project site within a n	ational <u>Wild and Scenic Rive</u>	<u>ər</u> ?	Yes	V No	🔲 Unknown		
Is the project site within the	<u>100-year floodplain</u> ?		✓ Yes	🗖 No	🔲 Unknown		
* If yes to any of the above, exp Block 5.	plain in Block 4 and describe me	easures to minir	nize adverse e	ffects to these	resources in		
Is the project site within the	Territorial Sea Plan (TSP)	Area?	Yes	✓ No	Unknown		
* If yes, attach TSP review as a	separate document for DSL.						
Is the project site within a d	esignated Marine Reserve?		Yes	No No	🔲 Unknown		
* If yes, certain additional DSL	restrictions will apply.						
Will the overall project invol disturbance of one acre or r	ve construction dewatering more?	or ground	Yes	V No	Unknown		
* If yes, you may need a 1200-C	permit from the Oregon Depart	tment of Enviror	nmental Qualit	y (DEQ).			
or off- site spills?	al a carrier of contaminants	from on-site	Yes	V No	Unknown		
Has the fill or dredged mate tested?	erial been physically and/or	chemically	Yes	✓ No	🔲 Unknown		
*If yes, explain in Block 4 and p	rovide references to any physic	al/chemical tes	ting report(s).				
Has a cultural resource (arc the project area?	haeological) survey been p	erformed on	✓ Yes	No No	Unknown		
* If yes, provide a copy of the su	urvey with this application. Do	not describe an	y resources in	this document	t.		
NOTE: Although a survey has been completed by the Oregon Museum of Anthropology, at the time of this submittal a report has not yet been completed. See Attachment 9 (Documentation of Cultural Resource Clearances and Tribal Coordination).							
Identify any other federal ag	ency that is funding, authori	zing or implen	nenting the p	roject.			
Agency Name	Contact Name	Phone Numb	ber	Most Recen	t Date of		
FHWA	Mike Morrow	503-316-255	2	Contact			
List other certificates or app	rovals/denials required or re	eceived from a	other federal	state or loca	agencies		
for work described in this ap	plication. For example, cert	ain activities t	hat require a	Corps permi	t also		
equire <u>401 Water Quality Certification</u> from Oregon DEQ.							

(7) ADDITIONAL INFORMATION						
Approving Agency	Certificate/ approv	Certificate/ approval / denial description				
Lane County Land Management Division &	Lane County: TBD		Concurrent with IDA			
City of Florence	Florence: Conditional Us	e Permit				
Planning Department						
Other DSL and/or Corps Ac	tions Associated with this	Site (Check all that apply.)				
Work proposed on or over	Work proposed on or over lands owned by or leased from the Corps					
State owned waterway DSL Waterway Lease #			7685001 (easement)			
Other Corps or DSL Permits		Corps #	DSL# 56735			
Violation for Unauthorized Activity		Corps #	DSL#			
Wetland and Waters Delivered	DSL#					
A wetland / waters delineation has been completed (if so, provide a copy with the application)						
The Corps has appr	oved the wetland / waters	delineation within the last 5	years			
DSL has approved t	he wetland / waters deline	ation within the last 5 years				

### (8) IMPACTS, RESTORATION/REHABILITATION, COMPENSATORY MITIGATION

A. Describe unavoidable environmental impacts that are likely to result from the proposed project. Include permanent, temporary, direct, and indirect impacts.

Please see Attachment 7 for a complete description of the project's permanent, temporary, direct, and indirect impacts. ODOT proposes to mitigate for 157 ft<sup>2</sup> (0.0036 acre) of permanent direct impacts through purchase of habitat-appropriate credits from Wilbur Island Wetland Mitigation Bank.

B. For temporary removal or fill or disturbance of vegetation in waterways, wetlands or riparian (i.e., streamside) areas, discuss how the site will be restored after construction.

Temporary "fill" within jurisdictional waters (being piles that will be installed for a period of less than 24 months) will be restored through vibratory removal of the piles. The soft stream substrate will naturally backfill the holes. It is expected that no residual impact will be detectible, and that even minor localized changes to the streambed contours will self-correct through bed load shifting within a short period of time, the length of which will depend on streamflows, tidal cycles, and natural turbidity during the time following completion of the project. It should be noted that this condition—the lack of ongoing effects to habitat—will be identical for those piles considered "permanent" by DSL by virtue of the fact that they will be in place *slightly* longer than 24 months; they will be removed by the same method, and no truly permanent impact will result.

To restore temporarily disturbed soils in the riparian area, ODOT's contractor will, to the maximum extent practicable, restore disturbed areas to preconstruction ground contours and establish appropriate vegetative ground cover through seeding and mulching, and planting where appropriate. This will be accomplished using industry-standard methods pursuant to ODOT construction contract Standard Specifications Section 00280 (Erosion and Sediment Control), 00290 (Environmental Protection), 01030 (Seeding), and 01040 (Planting).

(8) IMP	ACTS, RESTO	RATION/REHABILITATION	, COMPENSATORY	MITIGATION
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### **Compensatory Mitigation**

C. Proposed mitigation approach. Check all that apply:

Permittee- ☐ responsible Onsite Mitigation	Per Per resp mitig	mittee- consible Offsite gation	Mitigation Bar ☑ in-lieu fee pro	nk or ogram	Payment to Provide (not approved for use with Corps permits)	
D. Provide a brief descrip believe mitigation should	tion of mi not be re	tigation approach a quired, explain why	and the rationale for	r choosin	g that approach. If you	
<ul> <li>ODOT proposes to mitigate through the purchase of credits from Wilbur Island Wetland Mitigation Bank. This provides a low-cost option commensurate with the scope of the impacts. Impacts at the project site will self-restore very quickly after the project is complete; mitigation is required only because compliance with the in-water work window—itself an impact minimization measure—requires that removal of some piles takes place slightly more than 24 months after they are installed. With regard to the principal mitigation objectives: <ul> <li>(A) <i>Replace functions and values lost at the removal-fill site</i>: No functions or values will be lost at the mitigation site after the aforesaid self-restoration, whereas the proposed mitigation is permanent. The bank has assured ODOT that they have mud flat credits available comparable to the project site.</li> <li>(B) <i>Provide local replacement for locally important functions and values, where appropriate</i>: The mitigation bank is on Siuslaw River about 3 miles from the project site.</li> <li>(C) <i>Enhance, restore, create or preserve wetlands or tidal areas that are self-sustaining and minimize long-term maintenance needs</i>: The mitigation site has been established through the restoration of natural tidal hydrology to formerly diked grazing lands. This hydrologic restoration has returned the site to a self-sustaining state.</li> <li>(D) <i>Ensure the siting of CWM in ecologically suitable locations considering: local watershed needs and priorities; appropriate landscape position for the wetland types, functions and values sought; connectivity to other habitats and protected resources; and the absence of contaminants or conflicting adjacent land uses that would compromise wetland functions: CWM citing was accomplished through the bank establishem th process approved by DSL, which presumably accounted for these priorities. The habitat at the mitigation site is comparable to the impact site.</i></li> </ul></li></ul>						
Name of mitigation bank (	ee Inform or in-lieu f	ation: ee project: Wilbur I	sland Wetland Miti	igation Br	ank	
Type of credits to be purc	hased: Su	ubtidal mud flats		Igation Da		
If you are proposing perm	ittee-resp	onsible mitigation,	have you prepared	d a comp	ensatory mitigation plan?	
Yes. Submit the plan w	ith this ap	plication and comp	olete the remainder	of this se	ection.	
No. A mitigation plan w	ill need to	be submitted (for I	OSL, this plan is re	quired for	a complete application).	
<b>Mitigation Location Inform</b>	ation (Fill	out only if permitte	e-responsible mitig	gation is p	proposed)	
Mitigation Site Name/Lega	al	Mitigation Site Ac	dress	Tax Lot	#	
Description						
County		City		Latitude & Longitude (in DD.DDDD format)		
Township	Range		Section		Quarter/Quarter	

(10) CITY/COUNTY PLANNING DEPARTMENT LAND USE AFFIDAVIT
I have reviewed the project described in this application and have determined that:
This project is not regulated by the comprehensive plan and land use regulations
This project is consistent with the comprehensive plan and land use regulations.
This project will be consistent with the comprehensive plan and land use regulations when the following local approval(s) are obtained:
🖾 Conditional Use Approval
Development Permit
Other Permit (see comment section)
This project is not consistent with the comprehensive plan. Consistency requires:
Plan Amendment
Zone Change
Other Approval or Review (see comment section)
An application 🔲 has 🗇 has not been filed for local approvals checked above.
Local planning official name (print) Title (City) County (circle one)
WENDY FARLEY CAMPBELL PLANNING DIRECTOR FLORENCE
Signature N. J. Fach Cambell Date 28 Aug 14
Comments:
CUP W/o Design Review required puscout to Title 10 Chapter 19 Section 4. F. 8 &
Located in Dev. Est. MU & Mixed Dev. MU overlay areas F. 2 & #4 respectively 4-F.9

### (11) COASTAL ZONE CERTIFICATION

If the proposed activity described in your permit application is within the <u>Oregon coastal zone</u>, the following certification is required before your application can be processed. A public notice will be issued with the certification statement, which will be forwarded to the Oregon Department of Land Conservation and Development (DLCD) for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program, contact DLCD at 635 Capitol Street NE, Suite 150, Salem, Oregon 97301 or call 503-373-0050.

### CERTIFICATION STATEMENT

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program.

Print /Type Name	Title
Cory Engel	Environmental Permit Coordinator & Water Resource Specialist
Signature	Date
Confingel	August 25, 2014

### (12) SIGNATURES

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities. By signing this application I consent to allow Corps or DSL staff to enter into the above-described property to inspect the project location and to determine compliance with an authorization, if granted. I hereby authorize the person identified in the authorized agent block below to act in my behalf as my agent in the processing of this application and to furnish supplemental information in support of this permit application. I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirement of obtaining the permits requested before commencing the project. I understand that payment of the required state processing fee does not guarantee permit issuance. **To be considered complete, the fee must accompany the application to DSL.** The fee is not required for submittal of an **application to the Corps.** 

Fee Amount Enclosed	\$843	
Applicant Signature		
Print Name		Title
Cory Engel		Environmental Permit Coordinator & Water Resource Specialist
Signature		Date
ConpEngel		August 25, 2014
Authorized Agent Signature	e	
Print Name		Title
Signature	×	Date
Landowner Signature(s)		
Landowner of the Project S	ite (if different from ap	plicant)
This project pertains to a linear are required. ODOT will not c consent; a right, title, or intere- judgment authorizing use of the	ar facility as defined by ( conduct removal/fill on ar est in the property suffici he property.	ORS 196.825, under which no landowner's signatures ny land it does not own until it obtains the landowner's ent to undertake the removal/fill, or a court order or
Landowner of the Mitigation	n Site (if different from	applicant)
Print Name		Title
Signature		Date
Department of State Lands,	Property Manager (to	be completed by DSI )
If the project is located on <u>state-o</u> Land Management Division of D lands only grants the applicant co submerged and submersible land authorization may be required.	owned submerged and sub SL. A signature by DSL for onsent to apply for a remov ds grants no other authority	omersible lands, DSL staff will obtain a signature from the activities proposed on state-owned submerged/submersible val-fill permit. A signature for activities on state-owned y, express or implied and a separate proprietary
Print Name		Title
Signature		Date

(13) ATTACHMENTS	6						
Drawings (items in bol	d are required)						
Location map with roads identified							
U.S.G.S topograph	U.S.G.S topographic map						
Tax lot map	Tax lot map						
☐ Site plan(s)							
Cross section draw	/ing(s)						
Recent aerial photo	)						
Project photos							
Erosion and Pollution	Control Plan(s), if applicable						
DSL/Corps Wetland	Concurrence letter and map,	f approved and applicable					
Pre-printed labels for adj	acent property owners (Requi	red if more than 5)					
Restoration plan or rehat	pilitation plan for temporary im	pacts					
Mitigation plan							
Wetland functional asses	ssment and/or stream functior	nal assessment					
Alternatives analysis							
Biological assessment (in	f requested by Corps project r	nanager during pre-application coordination.)					
Stormwater managemen	t plan (may be required by the	Corps or DEQ)					
Li Other:							
Send Completed form to:		Send Completed form to:					
U.S. Army Corps of	Counties:	DSL - West of the Cascades:					
Engineers ATTN: CENWP-OD-GP	Baker, Clackamas, Clatsop, Columbia	Demonstrate of State Land					
PO Box 2946	Gilliam, Grant, Hood	775 Summer Street NE. Suite 100					
Portland, OR 97208-2946 Phone: 503-808-4373	River, Jefferson, Lincoln, Malheur, Marion, Morrow	Salem, OR 97301-1279					
	Multnomah, Polk,	Phone: 503-986-5200					
	Sherman, Tillamook, Umatilla, Union.	OR					
	Wallowa, Wasco,	DSL - East of the Casesday					
	Washington, Wheeler, Yamhill	Doc - Last of the Cascades.					
25		Department of State Lands					
UK		Bend, Oregon 97701					
U.S. Army Corps of	Counties:	Phone: 541-388-6112					
Engineers ATTN: CENWP-OD-GE	Benton, Coos, Crook, Curry, Deschutes.	Send all Fees to:					
211 E. 7 <sup>th</sup> AVE, Suite 105	Douglas Jackson,	Department of State Lands					
Phone: 541-465-6868	Josephine, Harney, Klamath, Lake, Lane.	Salem, OR 97301-1279					
	Linn	Pay by Credit Card by Calling 503-986-5253					

### **ATTACHMENTS**

- 1. Location Map
- 2. USGS Topographic Map
- 3. Tax Lot Maps
- 4. Site Plan
- 5. Elevation View of work bridge
- 6. Aerial photo
- 7. Explanation of Effects of Installation and Removal of Temporary Work Bridge Pile
- 8. Federal Aid Highway Programmatic ESA-MSA Programmatic Notification
- 9. Documentation of Cultural Resource Clearances and Tribal Coordination







### <u>Attachment 2</u> USGS Topographic Map K17526: US101 Siuslaw R Br Cathodic Protection











Tax Lot Maps K17526: US101 Siuslaw R Br Cathodic Protection

















<u>Attachment 7</u> Explanation of Effects of Installation and Removal of Temporary Work Bridge Pile K17526: US101 Siuslaw R Br Cathodic Protection

(pages follow)
## US 101: Siuslaw River Bridge (Florence) Sec. Key # 17526 Explanation of Effects Associated With Vibratory Installation and Removal of Temporary Work Bridge Pile

<u>Project Description</u>: The project entails construction and removal of work bridges in order to make repairs to the existing US 101 Siuslaw River Bridge including installing cathodic protection and seismic retrofits, repairing damaged concrete, constructing pedestrian ramps, and replacing historic bridge rail.

#### Site Specific Biological Context:

#### Siuslaw River Estuary:

The Siuslaw River estuary is one of 22 found along Oregon's coast. Many organisms with complex life cycles, such as anadromous salmonids and pacific lamprey, move from freshwater habitats through the estuary to the sea and back again. Other organisms, such as oysters, mussels and eelgrass, are permanent residents of the estuary. Over fifty species of fin-fish are known to use the Siuslaw estuary (Ecotrust 2002). Estuaries are dynamic. They are high-energy ecosystems where fresh water mixes with saltwater. Estuaries are created and maintained by physical and biological factors originating both in the upper watershed and in the ocean. The Siuslaw River estuary is long and relatively narrow and contains all of the subsystems (riverine, bay, slough, and marine as defined by U.S. Fish & Wildlife Service (USFWS) (Cowardin, et.al, December 1979). Along the main stem of the Siuslaw River, tidal influence is known to extend to about river mile (RM) 26. Actual saltwater intrusion generally extends 17-22 miles upriver during the summer, but only 5-7 miles upriver during winter months. The amount of freshwater moving into the estuary from the Siuslaw River and its tributaries determines how far upstream saltwater reaches on an incoming tide. Patterns of fresh and salt water movement are affected by the combination of tidal amplitude, freshwater inflows and topography. The flow pattern varies daily, seasonally, and over even longer time spans.

The movement of water from both sources (watershed and ocean) directly influences important biological variables such as temperature, salinity, depth, and current. Water movement also affects the concentration and distribution of nutrients, sediments and organic material.

Estuarine habitat categories are arranged hierarchically by U.S. Fish & Wildlife Service (Cowardin et al, 1979). The first break is between sub-tidal and intertidal. Sub tidal habitats are divided into unconsolidated bottom, rock bottom and aquatic beds (algae and eelgrass). Intertidal categories include shore, flats (mud), aquatic beds (algae and eelgrass), and tidal marsh (shrub, fresh marsh, high salt marsh, and low salt marsh). The proposed work bridge pile would be located predominantly in the Siuslaw Bay in the sub-tidal areas. As the work bridge transitions from bay to shoreline, the pile will enter the intertidal zone (Figure I).



Figure I. Diagrammatic illustration of Siuslaw River Bridge in cross section showing <u>approximate</u> sub-tidal (green) river channel and intertidal (red) shoreline areas where work bridge is to be placed.

1

Tidal marshes are the largest habitat type in the Siuslaw River estuary (Ecotrust 2002). Tidal marshes are dynamic. Their size and shape are constantly affected by wind and wave action. Tidal marshes are highly productive areas. They are often covered with aquatic plants, including tufted hairgrass (*Deschampsia caespitosa*), Lyngby's Sedge (*Carex lyngbyei*), Pacific silverweed (*Potentilla anserina*), glasswort (*Salicornia virginica*), and sea arrow-grass (*Triglochin maritimum*). Because of the nature of the sediments (silt/sand) and the energy dynamic of ecosystem in which they occur, tidal marshes are often dissected with dendritic tidal channels. The dendritic channels create varying patterns and elevations for saltwater intrusion and inundation, which can affect rates of primary and secondary production. Different plant species arrange themselves on tidal marshes according to their tolerance to saltwater and to drying (among other factors). Both living and decomposing plants are used by a variety of benthic invertebrates. In addition, tidal channels are important places for fish and invertebrates to escape predators and high river/water flow events, and to physiologically adapt to ocean conditions. Deeper tidal channels can also provide thermal refuge.

Native eelgrass beds (Zostera marina) are found along the lower fringes of tidal flats and the shallow subtidal slopes they border. Eelgrass serves a number of important ecosystem functions in estuaries including providing spawning substrate for Pacific herring (*Clupea pallasii*), a direct food source for migrating black brant geese (*Branta bernicla*), an indirect food source for detritus feeders, hiding and feeding areas for young salmon, crab, and many other species, as well as substrate stabilization for the channels they border.

#### Listed Salmonids:

Adult coho (*Oncorhynchus kisutch*) enter the Siuslaw River as early as September; however, the timing is dependent upon flow and water temperatures and is heavily influenced by past and present hatchery practices. Adults generally reach spawning areas in tributaries from November through mid-January. Spawning in headwater tributaries typically begins in mid-May. Juvenile coho overwinter in freshwater habitat and out-migrate from the tributaries the following April through early May. Juveniles undergo smoltification in freshwater and are believed to migrate quickly through the estuary without spending a great deal of time to rear or feed. Juvenile coho may be present in the estuary year round; however, their abundance in the estuary during the winter will be relatively low. Both spawning and rearing habitat are documented in the Siuslaw River up to RM 28 (Ecotrust 2002). Habitat conditions in the project area most important to coho salmon include good water quality/quantity and cover from predation for out-migrating juveniles. The most important factors for migrating adults are water quality and adequate upstream passage.

The project area (bridge) is approximately 4.8 miles from the confluence of the Pacific Ocean (RM 4.8). The main stem of the Siuslaw River supports estuarine wetlands and off-channel habitat. The project area provides excellent habitat for both anadromous salmonids and resident taxa, and also supports a diverse wildlife and vegetation community. The main stem of the Siuslaw River is considered important refuge for salmonids that may be present during low river flow summer months. However, juvenile coho salmon are more likely to remain in cooler pool habitat of the tributaries than they are to be present in the estuary during the summer. The estuary plays a significant role in the salmonids' physiological adaptation to saltwater, although these physiological changes likely begin in freshwater.

Steelhead trout (O. mykiss) chum salmon (O. keta), cutthroat trout (O. clarki), Chinook salmon (O. tshawytscha) are also present within the Siuslaw River system. Other fish species include Pacific lamprey (Lampetra tridentata), western brook lamprey (L. richardsoni), reticulate sculpin (Cottus perplexus), and large scale suckers (Catostomus macrocheilus), dace (Rhinichthys osculus.), three-spined stickleback (Gasterosteus aculaeatus), and northern pike-minnow (Ptychocheilus oregonensis). The estuary is habitat for a diversity of

life stages of pelagic and ground fish species. There are also many introduced species in the Siuslaw River and its estuary.

## Proposed Work Within the Siuslaw River/Estuary:

High river flows, bad weather, and higher winter tides will make pile removal for the work bridge during the preferred In-Water Work Period (IWWP) of November 1<sup>st</sup> to February 15<sup>th</sup> difficult. However, the Oregon Department of Fish & Wildlife (ODFW) has indicated they will not grant Oregon Department of Transportation (ODOT) an in-water work variance to remove pile via vibratory means outside this window. Consequently, the work bridge piles will need to stay in the estuary for up to three in-water work periods (IWWP). To reiterate, ODOT has not been successful in receiving an in-water work variance to remove the piles by vibratory means outside the above-mentioned window. The biological ramifications of removing pile by vibratory means are considered a non-issue by National Oceanographic & Atmospheric Administration (NOAA) Fisheries, and currently NOAA places no restrictions on vibratory pile removal under Endangered Species Act (ESA) consultations other than the use of bubble curtains for sound attenuation.

Discussions concerning vibratory pile removal were held with John Spangler (ODFW district biologist) and Jason Kirchner (ODFW habitat biologist), Tom Loynes (ODOT NOAA liaison), and Russ Klassen (ODOT Department of State Lands (ODSL) Liaison), and Dana Hicks (ODSL). ODOT has already completed the ESA consultation with NOAA Fisheries via a programmatic biological opinion, the Federal Aid .Highway Program (FAHP), but is awaiting the resolution of the pile issue before final signatures are given.

The ODSL has asked ODOT to define and evaluate the following effects as a part of the assessment of impacts associated with permitting work bridge piles. These effects are: I) direct effects of pile on sediment character; II) direct effects of pile on eelgrass & benthic organisms; III) effects of pile on localized flows; IV) effects of pile on hydro-acoustics, and shading & competition or predation of fish; and V) effects of pile on water quality.

## I) Direct Effects of Pile on Sediment Character:

Installation and removal of pile associated with the work bridge will occur in the Siuslaw River estuary adjacent to the existing bridge. The piles are needed to support the work bridges that accommodate equipment used to repair the existing bridge. Although the final configuration of the work bridge will be the responsibility of the contractor, ODOT has set a total limit of 180 (diameter (d)-24" max) pile that can be installed to construct the work bridges. The piles are likely to be steel, but wood may be used. Pile may be smaller than d-24".

Piles will be vibrated and set into the soft estuary sediments associated with the bridge. Pile removal will also be by vibratory means. Once piles are installed, a temporary deck will be placed on top of the pile to define the work surface (deck) upon which equipment and access to the bridge will occur. The temporary bridge will have the capacity to retain leaks from equipment (if they were to occur) so that they do not enter the estuary.

Without an ODFW in-water work variance that would allow more time per season to finish the cathodic protection work, it is expected that sections of the work bridges facilitating the project will be in place for up to three in-water work periods. The pile for the work bridge will be constructed in two sections: the south section and north section. The south side of the work bridge and its pile will remain in the estuary for up to three IWWP's (27 months) and the north section will remain for two IWWP's

(~15 months). As sections of the project are completed, the deck and piles will be removed from the estuary during the in-water work period of November 1<sup>st</sup> to February 15<sup>th</sup>.

Contract specifications have limited the number of pile that can be installed into the estuary to 180 (d 24" max). Because ODSL Rules (OAR 141-085-0510 (88)) consider pile to be permanent after 24 months, the pile, although they will be removed from the estuary within 27 months, are considered permanent fill by ODSL.

Pile installation will start on the shoreline and work out into the river. Once shoreline piles are installed and the deck is in place, this will serve as the platform from which the river piles will be installed. The contractor will place pile then build the deck to reach further out until the work bridge sections are completed. Once piles are installed into the river sediment (mud/sand) the pile will become new vertical structures in the water column. Vertical structure may become colonized by algae and may provide habitat/cover for smaller fish species and/or more mobile arthropods. Historic piles (wooden) in the bay at Florence are fully colonized with a variety of algae and marine organisms, and are serving as refuge/habitat for many taxa (Figure II). Contract specifications have limited the number of in-water pile to 180; however, a maximum of 50 (38 anticipated) pile will be in the water for more than 24 months (south work bridge). It is anticipated that pile spacing will be approximately 40 feet along a north-south axis and approximately 20 feet along an east-west axis.

Conversion of substrate area (mud/sand) to pile will be minor. In total, the piles, which will remain in the water longer than 24 months (n= 50 max) will have a maximum cross sectional area of 157 ft.<sup>2</sup>. This is a very small foot print ( $\simeq 16' \times 10'$ ) when compared to the cross sectional area of estuary and the river channel. The effect of substrate conversation to pile will displace 157 ft.<sup>2</sup> of mud/sand. This level of sediment displacement is expected to have a negligible effect to the sediment of Siuslaw estuary or its river channel. In comparison, the Army Corps of Engineers Portland District has authorized the Port of Siuslaw to maintain the navigation channel up to 18 feet deep and 200 feet wide. Authorized sediment removed by dredging operations in the navigation channel and its effects upon the benthic community is estimated to have greater effect than ODOT's proposed action of 157 ft.<sup>2</sup> of substrate conversion to pile. Once piles are removed the net effect to sediment conversion will be zero as the piles will be gone.



Figure II. Photograph of historic piles in the Florence Bay front adjacent to Siuslaw River Bridge showing heavy colonization by algae and marine organisms. Also shown are the mud/sand substrate associated with the bridge.

### II) Direct Effects of Pile on Eelgrass and Benthic Organisms:

Temporary work bridges will be installed to avoid impacts to a defined eelgrass bed in the SW corner of the bridge. Contract specifications have established "no pile zones" where this eelgrass bed is located (piles will fully span eelgrass bed) and a grated steel deck will be used in one section of the work bridge that will span an eelgrass bed so that ambient levels of sunlight will continue to reach the eelgrass bed during the construction seasons. It is fully expected that with the no pile zones and grated deck section that the level of sunlight (irradiance) reaching the eelgrass bed will be maintained at existing levels to maintain health and reproductive vigor. Because the existing bridge is orientated north-south, its morning shadow is cast to the west and the afternoon shadow cast to the east. Consequently, the eelgrass bed does not extend under the existing bridge or far into the shadow-zone of the bridge. ODOT has noted this naturally-occurring condition and has specified an grated deck section that will allow existing light levels to reach the eelgrass bed in this area. Figure III shows the shadow-zone of the bridge and the proximity of the eelgrass bed to it (see Section IV for more details).



Figure III. View looking south showing shadow-zone of the Siuslaw River Bridge in the morning hours. Note the eelgrass bed growing just outside the shadow-zone of bridge and not in it. Green arrows denote approximate location of the 24' wide south work bridge.

Other eelgrass beds are located outside ODOT right of way both up and down river of the bridge and are defined as "no work areas". Figure IV illustrates eelgrass beds in the Siuslaw Bay Area (U.S. EPA, 2007).

Many nektonic and sedentary organisms use eelgrass during their life history for shelter, foraging, and reproduction. Due to ODOT's project specifications specifying the avoidance of eelgrass, vibratory pile installation and removal is not expected to locally disrupt behavior of mobile species, *e.g.*, fish, Cephalopods, and Arthropods, which may be occupying eelgrass bed in the project vicinity. Similarly, epiphytic taxa are not expected to be influenced since ODOT's proposed work is avoiding the eelgrass. The project's work bridge piles are not expected to produce sub-lethal or lethal affects to taxa that colonize eelgrass or planktonic/nektonic taxa, which may utilize it as habitat. The habitat structure of the eelgrass in this local section will not be lost in the river system. The important role of eelgrass to localized sediment stabilization and deposition is not expected to change.



Figure IV. Aerial image of Siuslaw River Bridge and associated eelgrass beds. U.S.EPA 2007.

Intertidal mudflats are usually located around perimeters of estuaries and other sheltered coastal areas where wave action is low and sediments are deposited. The sediments consist mostly of sands, silts and clays with a high organic content. Toward the mouths of estuaries, where salinity and wave energy are higher, the proportion of sand increases. Substrates associated with the Siuslaw River Bridge are mostly a sub-tidal mixture of sand and silt (mud), although intertidal mudflats are present. Estuary sediments generally are characterized by high biological productivity and abundance of benthic organisms. The surface of the sediment is often apparently devoid of vegetation, although mats of benthic microalgae are common. Mudflats, together with other intertidal and sub-tidal habitats, support large numbers of invertebrates and crustaceans, and provide habitat for birds and fish. These habitats provide feeding and resting areas for populations of migrant and wintering waterfowl, and are also important nursery areas for flatfish.

Vibratory pile installation and removal is not expected to cause changes to river bathymetry via vibration induced slumping of sediments. The controlled construction methods used will not cause burial of valuable aquatic features such as eelgrass or increased sedimentation in the river or adjacent mudflats and intertidal marshes. This probability is further reduced by the fact that in the area of the work bridges, the gradient of the river bottom is generally a shallow slope from bank to bank and does not contain large "over-hanging" deposits of sediment waiting to drop to lower positions in the channel (see Figure I).

Although no project-specific sampling was conducted in the Siuslaw River for benthic invertebrates, sampling in near-shore habitats has been done by the Army Corps of Engineers off Newport, Oregon (U.S. Army Corps of Engineers, Portland District, and U.S. EPA, 2010). These studies show the existence of a well-developed, diverse benthic community, largely dominated by mobile organisms. These organisms serve as a direct food source for other benthic organisms and bottom feeding (demersal) fishes. They also play an active role in the breakdown of organic debris, and the tube-building benthic species (polychaetes) help stabilize sediments. The Corps sampling found that many of the benthic species in the near-shore habitats are able to survive by being either mobile or being able to react to both natural and man-made disturbance. The density distribution data indicated large juvenile recruitment of most benthic species from spring reproduction to be common; therefore, the benthic

community would be expected to re-colonize within a period of weeks to months after disturbance, especially if at a smaller, localized scale.

The work bridge piles are not expected to have any long-lasting effect to the benthos of the Siuslaw River channel. Any organisms located within the 157 ft.<sup>2</sup> pile footprint will either move or become encased inside the hollow steel piles and most likely perish as they would not be able to escape or forage. Once piles are removed the sediments would simply become recolonized by juvenile recruitment and/or dispersal from neighboring habitats.

#### III) Effects of Pile on Localized Flows:

According to the ODOT hydraulic engineer (Carmichael 2014), review of the Federal Emergency Management Agency (FEMA) maps and FEMA study for the Siuslaw River indicate there is no FEMA numerical model (*i.e.* hydraulic model – HEC 2) at the project bridge location. The FEMA flood profiles in the vicinity of the bridge use approximately 10-feet mean sea level (NGVD 1929 vertical datum) for the 100-year flood/high tide event. A HEC-2 modeling cross-section is located 3.0 miles upstream of the project bridge location and this is where the existing FEMA study starts (the downstream end of the FEMA numerical model). The 100-year flood elevation at the FEMA crosssection is 10.0 feet mean sea level, which is the 100-year/high tide elevation that was determined from detailed coastal studies in Lincoln County. Since there is no previously-established hydraulic model, there is no way to model the impacts of the proposed work bridge piles on the 100-year surface elevation.

Based on ODOT hydraulic engineer's understanding of the FEMA study, it is his opinion that work bridges at the proposed project site are unlikely to affect or cause a significant rise to the 100-year water surface elevation because it appears that the 100-year water surface (as defined by the FEMA study) is primarily a result of the influence of a high tide and not to the river storm flow (Carmichael, 2014). However, without an accurate hydraulic model, project impact estimates to flow velocities, sediment transport, bank erosion, etc., as requested by regulatory agencies are not possible. However, the prevalence of muddy/sandy substrates in the project area suggests that channel scour is not a significant influence in the system. This observation is supported by an earlier hydraulic analysis conducted by ODOT for a 2005 ODOT project located 1.5 miles upstream at the confluence of the North Fork Siuslaw with the Siuslaw River. That analysis determined the river (North Fork) velocities during peak storm events modeled for the existing and proposed bridges (new bridge, work bridge, and old bridge in the river at the same time) remain quite low. For instance, HEC-RAS analysis indicates that the 2-year flow at the bridge was calculated to be 4,140 cubic feet per second while the design flow (50-year recurrence interval) for that bridge was 10,600 cubic feet per second. River velocity was shown to change little between these flows, increasing from 0.6-foot per second to approximately 1.0-foot per second, respectively (ODOT 2005).

Similar to this proposed project, the North Fork Siuslaw Bridge had a temporary work bridge with approximately 170 (d 14") steel piles. However, the North Fork Siuslaw Bridge also had the new bridge bents, and about 100 (d 12") pilings holding up the old bridge, all of which were in the hydraulic opening at the same time. Nevertheless, the 2005 hydraulic analysis showed velocities during peak storm events remain quite low even with all these structures in the water. To reiterate, there were roughly 33% more piles in the water at the North Fork Siuslaw River Bridge and the hydraulic HEC-RAS analysis showed no significant scour forces at work, from the old bridge pile, new bridge bents, and work bridge pile all in a row across the river.

As a preemptive measure, ODOT has written specifications for drift removal to reduce any cumulative hydraulic effects from the bridge and also the work bridges while within the hydraulic opening of the river. These specifications instruct the contractor to remove any drift that may accumulate on the work bridges or existing bridge during construction. Drift stacked up against a bridge or work bridge could cause potential hydraulic problems, and this specification is aimed to avoid those problems.

## IV) <u>Hydro-Acoustic Impacts and Effects of Pile/Work Bridges on Shading, Competition or</u> <u>Predation</u>:

#### Hydro-Acoustic Impacts:

As noted a vibratory method will be used to install and remove piling. A vibratory method is generally used where soft sediments occur as is the case in the project area with its mud and sand deposits. To install pile, an excavator with a vibratory attachment (or a crane) grabs the metal pile and reaches out and places it in the proper location then vibrates it down into the ground. There are no percussive impacts (as is the case with pile driving) associated with this type of installation, which means lower levels of acoustic energy transmitted into the sediment and water column. If an excavator is used, it is "walked" down the shoreline section of the work bridge where it is used to reach out to install the next pair of pile so that decking can be placed. This process continues until the work bridge is constructed. According to NOAA, during vibratory pile installation, there is little danger of fish becoming damaged or killed by hydro-acoustic energy if fish are in the immediate vicinity of the piles. This is especially the case if sound-mitigating bubble curtains are used around pile, which the ODOT biologist has included in the project specifications. In soft sediments, the vibratory installation process usually takes minutes to set the pile. In harder sediments, the process can go slower. The duration of acoustic energy directed into the water or transmitted through the substrates will be limited and at levels that have been shown not to harm fish or their habitat. During low tides, there will be less water touching the piling during installation and this would reduce the transmission of acoustic energy into the water column. During high tides, there would be more water-pile contact. NOAA fishery has routinely maintained that vibratory installation does not pose a lethal or sub-lethal acoustic concern to the fish they regulate. For the North Fork Siuslaw River Bridge, ODFW Biologist, Art Martin (personal communication, 2007) indicated that ODFW did not have an acoustic concern for shellfish in the soft sediments found in the project area.

# Effects of Pile/Work Bridges on Shading, Competition, and Predation:

The effects of shading from the work bridges and their pile on local habitats are expected to be biologically minimal; however, they will be measurable. As noted earlier in Section II, the work bridge nearest to an eelgrass bed (south) will not shade the eelgrass bed due to the work bridge being built within ODOT right of way, which is immediately adjacent to the existing structure. Because of the close proximity, the work bridge will remain in the main bridge's morning shade-zone, which is cast to the west of the bridge. Also, for eelgrass, an extra precaution of a grated deck section is being used. Light levels under the solid-decked sections of work bridge may be lower than ambient light levels for small periods of time. Because of the north-south orientation of the work bridges, the period of time any one section under the work bridge will be shaded will be limited due to the sun's constant motion from east to west as the day progresses. In general terms, light levels will be somewhat reduced under the work bridge's solid-decked sections, but the shaded zone will not remain stationary and will travel from west to east opposite the sun. The work bridges will be lower (closer to the water) than the existing bridge. The existing condition of the mud/sand substrates found under the bridge is relatively un-vegetated habitat. There are scattered communities of algae and eelgrass, yet the baseline conditions are generally dominated by sand and mud (see Figure II). Substrates in the project area are habitat for benthic invertebrates as well as free-swimming arthropods and less mobile epiphytic taxa. It is known that the presence of vegetation, especially below-ground biomass, is a primary determinant of the density of benthic invertebrate community composition, which leads to greater invertebrate densities in vegetated versus un-vegetated intertidal zones (Levin and Talley 2000). The project area has not been sampled for invertebrates, but densities should not be extremely high due to the relatively un-vegetated local substrates. It is also known that predation of invertebrates may be greater in un-vegetated or thinly vegetated areas, which is the baseline condition of the project area.

Struck et al. (2004) showed that densities of benthic invertebrates under permanent, low highway bridges that shaded an estuary environment were generally lower in organisms/m<sup>2</sup> than they measured in adjacent reference marshes. These authors also found the density of numerically dominant taxa and surface and subsurface deposit feeders also were reduced under low bridges that shaded estuary habitat. Likewise, Whitney and Darley (1983) found that micro-algal communities in shaded areas are generally less productive than unshaded areas, with productivity positively correlated with ambient irradiance. In addition, shading by man-made docks and piers was shown to decrease shoot density and biomass in eelgrass (*Zostera marina*) and the abundance and growth rate of juvenile fish.

Because both the height and width variables of bridges contribute to bridge shading, Struck et al. (2004) combined them to form a height to width ratio (HW ratio). In general terms, the amount of light required for photosynthesis was lower at bridges with HW ratios of less than 0.70 compared to bridges with an HW ratios greater than 0.70. The proposed Siuslaw River work bridges will have a deck width of 24 feet and a height which will vary depending on the tide of between 20 feet at low tide and 7 feet at high tide. Consequently, the work bridges will have a H/W ratio of 0.83 and 0.29 at low and high tide respectively with an average tide cycle H/W ratio of 0.56. Struck et al. (2004) found there were no differences in benthic invertebrate densities in natural reference marshes and bridge shaded sites with an HW ratio greater than 0.70. However, bridges with a HW ratio of less than 0.70 did have fewer benthic invertebrates than unshaded areas outside of the bridges. These authors also found that bridges with a HW ratio of less than 0.70 did have fewer species richness and aboveground biomass compared to bridges with high HW ratios and natural reference marshes.

Based on the calculated H/W ratios, the work bridges on average will reduce the ambient levels of sunlight (irradiance) reaching the channel bottom. The effect of reduced light on the existing benthic community structure and population density is not conclusively known as there are other environmental variables that play roles in the makeup and distribution of these benthic communities. However, for the purposes of this analysis, some measurable reduction in benthic diversity and density are likely, due to an anticipated reduction in primary productivity under the structures. Because the baseline substrate condition is sand/mud with scattered vegetation, predation of invertebrates may or may not increase over baseline while the work bridges are in place. Similarly, plankton, fish larvae, and small fish predation may increase under the work bridges, but again there are many unknown variables. It is not anticipated the work bridges will cause significant competition for habitats and/or resources elsewhere in the estuary or large shifts of invertebrate densities to areas not under the bridges or yet colonized. It is expected that the adjacent substrate habitats can support any organisms that move from work bridge areas into adjacent habitats. If adjacent substrates are fully seeded with invertebrates, any displaced benthos will either move further or may fall prey to predatory species. When the work bridges are removed full re-colonization of substrates would be expected.

The Siuslaw River channel is also a major migratory corridor for many species that move in and out with the tidal exchange and/or those that are in route from their spawning grounds. Piles are not expected to influence migrating fish.

#### V) Effects of Pile on Water Quality:

Installation and removal of pile is not expected to create turbidity of significance to the estuarine/riverine environment. Vibratory pile installation/removal may kick up small pulses of sandy sediment. The duration of any sediment disturbance will be short-term on the order of minutes for pile installation and removal. The piles used will most likely be steel and will have no petrochemicals on them. There will be no earth work associated with this project. Similarly, contamination is not expected from the cathodic protection process. Specifications have been included in the contract for a membrane beneath the wood decking of the work bridges to catch any spills that might occur while equipment is resting on the deck. The cathodic protection installation process fully contains sections of bridge that are being worked on, since negative air pressure is needed for the process to work. An enclosure will trap all dust, particles, and Zinc inside where wastes are vacuumed up and disposed of in an appropriate setting. The containment system will isolate any material from being washed into the river and estuary.

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<u>Attachment 8</u> Federal Aid Highway Programmatic ESA-MSA Programmatic Notification K17526: US101 Siuslaw R Br Cathodic Protection

(pages follow)



# ODOT Federal-Aid Highway Program ESA-MSA Programmatic Notification

Key Number

17526

Last Modified

May 28, 2014

#### **Project Information**

NMFS Approval U	SFW Notification	Select Predominant Project Type		Proponent	Agency	
Approval Needed N/A		Bridge Repair		ODOT		
Project Name		Route		Beg MP End	MP Other Road / Path Name	
US 101: Siuslaw R. Bridge	(Florence) Cathodic	Protection US 101 - Oreg	on Coast - 9	190.84 19	1.15 Oregon Coast Highway	
Latitude (e.g. 45.4591°N)	Longitude (e.g123.	8442°W) ODOT Region	County	Anticipated C	onstruction Start Year End Year	
43.965 N	-124.109 W	Region 2	Lane	2015	2019	
Biologist	Phone	E-mail	ODOT Region Environment	tal Coordinator	E-mail	
Testa	541 757 4155	nicholas.r.testa@odot.state.c	r.us Adam Roberts		adam.roberts@odot.state.or.us	
FHWA Contact	Phone	E-mail				
Dustin Woods	503-316-2557	dustin.woods@dot.gov			Additional 6th Eigld ULICs	
6th Fleid HUC		6th Field HUC (	f applicable)		Check if additional HUCs	
171002060104 - Siuslav	w River-Siuslaw Fa	Ills			are listed below in Project	
ODFW In-Water Work Window		ODFW In-Wate	r Work Window			
November 1	to February 15		to			
					7	
	to		to			
Brief Project Description:	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.					
Construct north and south to	emporary work bridge	es using approximately 200 piles	@ 24 inch diameter (maximun	n) along side ex	cisting bridge to facilitate cathodic	
protection of existing bridge. Piles will be vibrated or driven into soft estuarine substrates and proofed. Work bridges will remain for 40 months over 4 in-water						
work periods. Geotechnical drinning occurring in 2014 will need a 2-week extension on the front end of the estuarine in-water period. A 2-week front-end IWW estension for 2015-2019 is also sought. ODOT will have a no work zone around ead						
ODOT will restrict work bridge pile layout so they avoid all eel grass (Zostera maritima) beds on the southwest end of the existing structure. Similarly, ODOT will						
nake mandatory a grated deck surface in this area so that light will not be restricted to the eel grass bed during construction. According to ODOT's Wetland						
for the purposes of this potif	ication all niles will a	cis to eel grass. ODOT Construct	tion will restrict work bridge pile	e layout via cor	tract specifications. Consequently,	
	ioutori un pilos un di	old ool gladd bodd.				
Recause indirect imposts (or	uch ac chading) may	also require mitigation ODOT	a level and the state of the second second second			

Because indirect impacts (such as shading) may also require mitigation ODOT evaluated whether or not shade from the work bridge would cast shadows upon eel grass beds beyond the shadow cast by the permanent bridge. The ODOT Wetland Specialist has determined that the potential for additional shading with the above-mentioned measures (no pile zone and grated deck surface) in place is negligible and would not have a direct or indirect impact upon adjacent eel grass beds. There is a high correlation between eel grass and salmonids, especially juvenile fish, which utilize eel grass for cover, foraging and predator avoidance.

ODOT Wetland Specialist and Biologist will be on-site during pile installation to monitor avoidance of eel grass beds. Contract specification will allow the grated deck surface to be temporarily covered with plywood for a maximum of 14 days while work is occurring directly on top of this section of work bridge. After 14 days any surface will be removed.

Cathodic protection will be fully contained and work bridge will be designed to withhold the load of construction equipment associated with cathodic protection operations and to contain construction equipment leaks (oils/gas) if they were to happen.

Removal of work bridge deck will occur after cathodic protection is completed. Removal of the temporary pile will occur during the November 1st- February 15th in-water work period.

#### **Affected Species**

Species	Critical Habitat*	Species	Critical Habitat*
Oregon Coast Coho Salmon	X	Select Species	
Eulachon	Г	Select Species	
Green Sturgeon		Select Species	Г
Select Species		Select Species	Г
Select Species	Г	Select Species	
Select Species	Г	Select Species	
Select Species		Select Species	
Select Species		Select Species	
Select Species	Г	Select Species	

May Effect EFH

Chinook Salmon Form # 734-2898 Level 2 - Limited 🕱 Coastal Pelagics

X Coho Salmon

🗙 Groundfish

http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/ Template Last Revised October 4, 2013

Proj	ect Activities		
Chec	k boxes to indicate project activities that may affect covered species or supporting habit	at.	
X	General Heavy Construction		Slope Stabilization and Drainage
X	Geotechnical Drilling	Г	Streambank Stabilization and Scour Protection
Γ	Material Sources	-	Culvert and Bridge Removal
X	Mobilization, Staging and Disposal	X	Bridge Repair and Rehabilitation (As Relevant, Attach Bridge Supplement)
X	Erosion, Sedimentation and Pollution Control	Г	Bridge Construction (Attach Bridge Supplement if Aquatic)
X	Temporary Access Roads	X	Pile Driving and Pile Removal (Attach Bridge Supplement if Aquatic)
X	Barges	Г	Culvert Extension, Repair and/or Installation
X	Temporary Bridges and Treated Materials (Attach Bridge Supplement if Aquatic)	X	Painting and Coating
Г	Work Area Isolation	Γ	Asphalt and Concrete Paving
X	Clearing, Grubbing and Earthwork	Г	Other Permanent Roadway Structures
Г	WeedRemoval	X	Site Restoration and Enhancement Plantings
X	Trees and Down Timber Removal	Г	Channel Modification and Waterway Enhancements (Attach Relevant Plans)
1	Blasting	F	Stormwater Management
		X	Other: Cathodic Protection with Full Enclosure

## Activities Requiring Approval from Services (check which apply; explain / justify below)

Not Applicable

		Attachments Needed:
Г	On-site stormwater treatment deficit	Relevant plans
	Net increase in artificial fill or abandoned fill in the functional floodplain	Relevant plans
	Unvegetated streambank riprap; any streambank riprap above OHW, or in-stream flow control structures	Relevant plans
X	In-water work extension	IWW Variance/Project Change
	Fish passage structure or fishway (including ladder, culvert retrofit, pool-riffle structure, roughened chute)	Fish passage plan or plans
Γ	Weed control that doesn't meet treatment standards	Relevant plans
	Blasting in or near aquatic habitat	Blasting plan
	Bridge replacement that doesn't meet fluvial performance standards	Bridge Supplement
	Stream channel modification or waterway enhancement that does not meet design standards	Relevant plans
	Stormwater flow management (when required) in watershed less that 100 mi <sup>2</sup>	Drawing or plans
	Other modifications to FAHP design standards in the FAHP that may result in direct impacts to covered aquatic resources	Relevant plans

#### Explanation of Activities That Require Approval or Modifications:

Not Applicable

Project will avoid direct impacts to eel grass beds. A 2-week extension of the IWW period is expected on the front end of the IWWP from 2014 to 2019. Consequently, NOAA approval is required.

To avoid indirect impacts to eelgrass beds monitoring during pile installation is recommended so that any turbidity form pile instillation does not drift over eelgrass beds causing siltation or burial. Tide cycles in the Siuslaw estuary are expected to provide adequate tidal flushing to keep the risk of turbidity very low; however, monitoring will record any suspended sediment that may occur during pile installation. If a particular pile is causing turbidity in or adjacent to an eelgrass bed the biologist or wetland specialist will advise the ODOT project engineer or ODOT environmental coordinator in order to stop and/or change BMP so that turbidity occurring within a given tide cycle in minimized to the extent practical.

Dustant A state

lonnwatt	er Management					X Not Applicab	
	Stor	mwater Featu	re	Pre-P	roject	Anticipated Post Project	
Project	Impervious Surface Are	a (ISA)			Acres	Acres	
Net New	w ISA (=Pre-Project-Actu	al Post Project	)			Acres	
Contribu	uting Impervious Area (	CIA)			Acres	Acres	
Total ISA	A Treated On-site		And the Address of		Acres		
Total ISA	A Treated Off-site					Acres	
Stormwa	ater Credits Used*					Acres	
	Total	Managed ISA (	on- and off-site and cred	ts)		Acres	
	Net Water Quality	Treatment (=Te	otal Managed ISA-Post Project (	CIA)		Acres	
	E	xcess Stormwa	it*		- Acres		
*Stormwat	ter Credit discussions still unde	rway, please consu	It with NMFS before using any so	t of credit.			
*Provide rang ater Qualit Not Requir ow Contro Lower En ormwater ormwater <b>Attached</b>	ge If variable. If off-site is less than o ity Design Storm red, Why? D Design Range: ad Point Design Storm Manual Cited: Designer Name, Phone #, d Aerial Photo/Site Draw	inches Is i inches Is i inches E-mail: wing That Show	table, see User's Guide), a greater and Flow Control Provided? Upper End Point Desig Responsible Agenc W: The CIA, Sub-Basins, D	n Storm	d and describe below.	Vaters and BMP Locations.	
rainage Area	Treatment Me	ethod	вмр	Maint. Table***	ISA Treated (Acres)	Receiving Water	
					Acre	(S)	
					Acre	(S)	
					Acre	(s)	
			-		Acre	(s)	
/					Acre	(5)	
					Acre	(c)	
nments;	*** ODOT Stormwater Facility	For addition Maintenance Tab	al rows, please attach the <u>Storm</u> les ( <u>http://www.oregon.gov/OD</u>	water Management DT/HWY/GEOENVIROM	Data Page. IMENTAL/pages/om	m.aspx) or other (attach).	

#### Habitat Impacts / Restoration

	Anticipat	ted Impact	Anticipated Restoration			
Habitat Type	Linear ft	Area	Linear ft	Area	Primary Purpose	
Streambank Hardening Below OHW	ft		ft		NA	
Riparian Habitat Disturbed		95ft <sup>2</sup>	C. C. Stranger	95ft <sup>2</sup>	In-Kind Replacement	
Aquatic (below HMT)*	ft	527ft2	ft	ft <sup>2</sup>	Pile removal = Offsetting	
	ft	ft <sup>2</sup>	ft	ft²		
	ft	ft²	ft	ft <sup>2</sup>		
#4				1	I	

\* Aquatic Habitat Type(s) Disturbed: 👘 Pool 🦳 Riffle 🦳 Glide 🦵 Estuarine Habitat (<300'away)

#### Trees & Woody Debris Anticipated Impacts / Restoration

Not Applicable

Not Applicable

		Tre	ees Ren	noved	Trees Added			
Habitat Type	0-6"	6-18"	> 18"	# Down Timber (LWM)	# Native Trees Planted	# LWM Installed	Primary Purpose	
Riparian Zone	40	12			104	0	In-Kind Replacement	
Other: Spruce Trees			4		8	0	In-Kind Replacement	

## Other Anticipated Avoidance/Minimization Measures, Offsetting Measures and Enhancements

X Not Applicable

Activity/Resource	Purpose		Amount			
		On-Site	Off-Site	Units		

Other information on impacts/restoration/enhancements (attach Additional Information form if more space needed):

#### **List of Attachments**

Not Applicable

Bridge Supplement

Relevant Plans/Special Provisions

#### Electronic Signatures & Authorizations:

The following individuals have reviewed the Notification for accuracy & compliance with the FAHP ESA Consultation (NMFS Ref(2011/02095)) and approve implementation of the project as described here in. A Biologist Qualified by ODOT under its ESA Effects Determination Program <u>must</u> review this document and ensure its quality before it is submitted to the FHWA. Please sign this document <u>electronically</u> & forward appropriately.

Nicholas Testa Nicholas Testa Portestication composition our region 2 fairbonn emilia hoto Astronemodo Astronemo emilia hoto Astronemodo Astronemo emilia hoto Astronemodo Astronemo emilia hoto Astronemodo Astronemo Porte 201405 20 1151:38 07007	Chuck Lemos	elly signed by Chuck Lemos cn-Chuck Lemos, o-Oregon Department of sportation, ou=Project Manager, dechalesa Lemostock statework, c, e-US : 2014 05:28 1547:30-02/00	Molly Cary Distance of MolyCary Distance of MolyCary Distance of MolyCary Distance of Dist
ODOT Region Biologist	Construction Project Mar	Construction Project Manager - Organization	
Dustin	Woods Distally kigned by Durtin Woods Distally works, a-OR Davision, ou-USDOT-FHMA, email-durtin woods@dor.gov, c=US Dave: 2014.06.10 12:4325 - 07:00	Only if "approval from services r	equired"

## Design Narrative US 101 Siuslaw River Bridge (Florence) Section Oregon Coast Highway (9), M.P. 190.84 to 191.15 Lane County, Oregon Key No. 17526

Expenditure Account # PE002175-000-

Key No. 17526

# **PROJECT DATA**

Functional Classification:Principal ArterialDesign Standard: 3RCurrent ADT (Year):10,800 (2013)% Heavy Veh: 8.15%Design ADT (Year): NADesign Speed: 45MPHPosted Speed: 40 MPH

# PURPOSE / SCOPE OF PROJECT

This project is located on the Siuslaw River Bridge No 01821E in the City of Florence, Lane County. It is 1568' long has a center lift span and was built in 1936. This is a maintenance project that will rehabilitate the structure and install an impressed current cathodic protection system. There will be no changes to the appearance, dimensions, horizontal or vertical alignment of the bridge. The existing bridge has a curb to curb roadway width of 27'. Temporary work bridges and containment structures will be placed during construction. The sidewalks in the area beyond the end of the bridge will be upgraded with ADA ramps built to current ODOT standards. Suitable parking for the bridge maintenance vehicles and personnel will be provided near the north bridge end.

## **GEOMETRY AND LAYOUT**

The existing horizontal and vertical alignment will not be altered. The geometrics of the project will comply with 3R standards for a design speed of 45 MPH, except as noted for a narrow shoulder width.

# WATER QUALITY\ HYDRAULICS:

No water quality facilities will be required on this project as no new impervious surfaces will be added.

## **GUARDRAILS**

Guardrail will be installed as required by the Roadside Design Guide.

# TRAFFIC CONTROL PLAN & MOBILITY

**Freight Traffic:** Existing over-dimensional wide and vertical clearances conditions on or around the Siuslaw River Bridge will not be changed with this project. Over-dimensional load freight mobility impacts on the Oregon Coast Hwy. (US101) from this specific project will not be an issue.

Inherent in every project, no matter how minimally impactful delays are anticipated to be, is the potential for some delays due to a temporary unforeseen need. These minor delays would allow over-dimensional passage and through construction are inevitable.

**General Public Traffic:** Due to the high traffic volumes in the area, especially in the summer high volume tourist season, seasonally adjusted lane restrictions will be implemented through the Special Provisions. These restrictions are included to enhance and improve the economic viability of business locations in the area surrounding the bridge and various connections to US101.

# Work Zone Traffic Control:

<u>Vehicles:</u> The Oregon Coast Hwy. (US101) 2-lane, 2-way, roadway configuration currently spanning the Siuslaw River Bridge in Florence will be maintained throughout the majority of the current planned construction. Only occasional use of flagger control in a 1-lane, 2-way configuration will be utilized, and then, only during restrictive hours.

<u>Pedestrians:</u> The Siuslaw River Bridge currently carries potential pedestrian traffic on each side of the structure. During construction, only one side of the structure at any one time will be allowed to restrict pedestrian passage.

# UTILITIES

There are underground communication lines along the west side of the US 101: Siuslaw River Bridge, via submarine cables. The utility specialist is in the process of attempting to precisely locate the lines, in order to design temporary "Piling" which avoids the line and avoids a utility conflict. Should we be unsuccessful, and need to relocate the line. The time frame needed is one year minimum, because of the complexity of replacing submarine

## **RIGHT-OF-WAY & EASEMENTS**

No Right-of-Way is needed for this project.

# ENVIRONMENTAL ISSUES

There is one area containing eelgrass that will be a no work zone within existing R/W. The South Access area for the work bridge will be accessed for archeological impacts when clearing allows.

# HAZMAT

There are no hazmat issues in the area of this project. The Access to the south side of the bridge will require clearing and grading to allow access. There are no other work areas that will disturb ground.

# COST

Total project cost is \$37,250,000.

## **DESIGN EXCEPTIONS**

An exception will be needed for narrow shoulders and sidewalks.

Attachments: Bridge TS&L



)T_DATA\Projects\17526_Siuslaw_River_Bridge\17526f.tsl :: Defau				DRAWING VO.         DESCRIPTION           1         75 & L	INDEX OF SHEETS, CONT. SREET VO. DESCRIPTION 3 General Construction 4 General Construction	
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Standard Drowings located on the web at. http://www.oregon.gov/ODUT/HWY/ENGSERVICES/pages/standard_drawings_hane.aspx			ĩ		'e Guard	
US101: SIUSLAW RIVER BRIDGE (FLORENCE OREGON COAST HIGHWAY FEDERAL HIGHWAY FEDERAL HIGHWAY PROJECT MURREN OREGON DIVISION 1:1200						











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With regard to cultural resources, ODOT will clear this project using Stipulation 4C of the 2011 Programmatic Agreement between the SHPO, ODOT, and FHWA, which does not require case-by-case review by SHPO. Documentation will be provided annually to the SHPO and FHWA. Two historic archaeological sites have been identified at the south end of the project and will be marked on the design plans and in the field as no work zones.

Tribal coordination summary:

Confederated Tribes of the Grand Ronde Community of Oregon

• June 25, 2012, e-mailed Eirik Thorsgard (Eirik), Cultural Resources Coordinator, David Harrelson (David), Cultural Protection Specialist, and Briece Edwards (Briece), Archaeologist, project information and project area map. Eirik replied that the Grand Ronde will defer to the Confederated Tribes of Siletz Indians.

Confederated Tribes of Siletz Indians

- June 25, 2012, e-mailed Robert Kentta (Robert), Cultural Resources Director, project information and project area map. Robert replied, "any ground disturbance work in the vicinity of the bridge should be closely monitored. Part of the concern there also- is that there are raw form obsidian cobbles that appear there...and if any come up they should be noted/ collected/used (for research or cultural use-geological specimens etc.)."
- February 28, 2013, e-mailed Robert project spreadsheet for March 21, 2013, meeting. No comments received.
- March 22, 2013, meeting with Robert. Provided project information and project area map. No
  comments received.
- July 8, 2013, e-mailed Robert revised project description and project area maps. No comments received.
- 10/23/2013: sent Robert a project update via email regarding OSMA's pedestrian survey results and recommendations for subsurface probing. I also let Robert know that I passed on his information regarding obsidian cobbles to Brian O'Neill (Archaeologist) with of OSMA.
- 3/18/2014: Project on Spreadsheet for Siletz Annual ODOT/Tribal Meeting that was sent to Robert; however, I was unable to attend due to illness.
- 6/16/2014: email to Robert outlining the additional sidewalk, curb, and ramp work proposed on the north end as well as the two no works zones that will be avoided to protect the historic archaeological sites on the south of the project API.

## Attachment 9a

Documentation of Cultural Resource Clearances and Tribal Coordination K17526: US101 Siuslaw R Br Cathodic Protection



#### Confederated Tribes of the Coos, Lower Umpgua, and Siuslaw Indians

- June 25, 2012, e-mailed Agnes Castronuevo (Agnes), Tribal Historic Preservation Officer/Archaeologist, project information and project area map.
- July 24, 2012, Agnes replied, "Sorry it's taken so long to review this. I think it will be fine—I'll issue a comment letter tomorrow, first thing. Do you have a copy of the site record for 35LA1460 you can forward electronically? I can't locate one in my office."
- July 25, 2012, I e-mailed Agnes the report and site form, as requested. Agnes replied with the Tribes' comments without objects for the proposed project (see attached).
- July 8, 2013, e-mailed Cultural Resources Protection e-mail revised project description and project area maps, and included copy of Agnes Castronuevo's letter (attached).
- July 22, 2013, Stacy Scott (Stacy), Archaeologist, replied, "I am not aware of any fish weirs within the project APE but there are some sites that I do not have good GIS data for (not accurately taken GPS points) on the North side of the bridge so I am requesting that any activity that is outside of the current road prism between the bank on the north side of the bridge and MP 190.83 be monitored and in particular I would like to be out there to monitor myself if there is any ground disturbance within that area outside of the existing road prism." And provided attached letter. I responded, "At this point, my understanding is that impacts along the north bank would be limited to construction access through/on the interpretive center under the bridge, to construct the work bridge. There should be no ground disturbance in this area; however, I will forward your letter to the project team so they are aware of the tribes' concerns. I'll contact you if something changes.
- Presented at ODOT/Tribal Meeting on 9/23/2014; at this meeting Jesse Beers and Stacy Scott CTCLUSI staff expressed concern regarding this project and the area in general. At this time, work appears pretty minimal on the north end, but the design plans are not 100% complete. The Tribe may want to discuss their concerns with the ODOT inspector or contractor.
- Sent Stacy Scott and Jesse Beers a project update email on 10/23/2014 regarding OSMA's pedestrian survey results and recommendations for subsurface probing; email from Jesse on 10/23/2014 thanking me.
- 12/6/2013 email to Jesse with the field schedule proposed by OSMA as he was omitted from the original email from OSMA to the tribal contacts. 12/9/2014 email from Jesse thanking me.
- 12/9/2013 email to Jesse regarding the change in OSMA's field schedule due to weather. Jesse thanked me.
- 6/12/2014 email to Jesse and Stacy outlining the additional sidewalk, curb, and ramp work proposed on the north end as well as the two no works zones that will be avoided to protect the historic archaeological sites on the south of the project API.

6/19/2014 Email from Stacy stating that as long as the work stays within already disturbed areas and do not disturb native soils I cannot see any potential impacts to cultural resources. Please keep Jesse and myself updated on construction schedules so that we can have the opportunity to perform monitor work and perform site visits.

#### Attachment 9b

Documentation of Cultural Resource Clearances and Tribal Coordination K17526: US101 Siuslaw R Br Cathodic Protection



Department of State Lands 775 Summer Street, Suite 100 Salem, OR 97301-1279 503-986-5200

Permit No.:	56869-GP
Permit Type:	Transportation-Related Structures
Waterway:	Siuslaw River
County:	Lane
Expiration Date:	October 21, 2015

## ODOT

# IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE ATTACHED COPY OF THE APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

- 1. This permit does not authorize trespass on the lands of others. The permit holder shall obtain all necessary access permits or rights-of-way before entering lands owned by another. For new linear facility projects, the removal-fill activity cannot occur until the permit holder obtains either the landowner's consent, a right, title or interest with respect to the property that is sufficient to undertake the removal or fill activity, or a court order or judgment authorizing the use of the property.
- 2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
- 3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
- 4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action, which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
- 5. Employees of the Department of State Lands and all duly authorized representatives of the Director must be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
- 6. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
- 7. In issuing this permit, the Department of State Lands makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390, and related administrative rules.
- 8. Permittee must defend and hold harmless the State of Oregon, and its officers, agents, and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.
- 9. Authorization from the U.S. Army Corps of Engineers may also be required.

<u>NOTICE</u>: If removal is from state-owned submerged and submersible land, the applicant must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 to 274.940. This permit does not relieve the permittee of an obligation to secure appropriate leases from the Department of State Lands, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact the Department of State Lands at 503-986-5200.

Lori Warner-Dickason, Aquatic Resource Manager Aquatic Resource Management Oregon Department of State Lands

Authorized Signature

October 21, 2014					
Date Issued	EXHIBIT F				

# ATTACHMENT A

# Permit Holder: ODOT

# **Project Name: Siuslaw River Bridge Cathodic Protection**

## Special Conditions for Removal/Fill Permit No. 56869-GP

# READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.

The project site may be inspected by the Department of State Lands (DSL) as part of our monitoring program. DSL has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit must be available at the work site whenever authorized operations are being conducted.

- 1. **Responsible Party:** By proceeding under this permit, ODOT agrees to comply with and fulfill all terms and conditions of this permit, unless the permit is officially transferred to another party as approved by DSL.
- 2. Authorization to Conduct Removal and/or Fill: This permit authorizes the temporary placement of up to 1,647 cubic yards and placement for potentially longer than 24 months of 634 cubic yards of material in T18S R12W Section 34, Tax Lot Hwy 101 ROW, within Siuslaw River in Lane County, as described in the attached permit application, map and drawings, received August 28, 2014. In the event information in the application conflicts with these permit conditions, the permit conditions prevail.
- 3. **Copy of Authorization Available for Inspection.** A copy of the authorization must be available at the work site whenever authorized activities are being conducted.
- 4. **Site Access Required.** Employees of the Department and all authorized representatives must be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this authorization.
- 5. Work Period in Jurisdictional Areas: Fill or removal activities below the highest measured tide elevation of Siuslaw River must be conducted between November 1 and February 15, unless otherwise coordinated with Oregon Department of Fish and Wildlife and approved in writing by DSL. Work is prohibited when fish eggs are present within the reach where the authorized activities are being conducted.
- 6. Changes to the Project or Inconsistent Requirements from Other Permits: It is the permit holder's responsibility to ensure that all state, federal and local permits are consistent and compatible with the final approved project plans and the project as executed. Any changes made in project design, implementation and/or operating conditions to comply with conditions imposed by other permits must be approved by DSL prior to implementation.
- 7. **DSL May Halt or Modify:** DSL retains the authority to temporarily halt the project, require modification, rectifiction or additional mitigation in case of unforeseen damage to natural resources.

Attachment A 56869-GP Page 3 of 6

# **Pre-Construction**

- 8. Local Government Approval Required Before Beginning Work: Authorization of use under this permit is contingent upon acquisition of a Floodplain Fill Permit and LC 16.240(9) and LC 16.243(10) from Lane County.
- 9. Stormwater Management Approval Required Before Beginning Work: Issuance of the permit is contingent upon acquisition of a National Pollution Discharge Elimination System (NPDES) permit from the Oregon Department of Environmental Quality.
- 10. **Authorization to Use Property**. For linear facility projects, the removal-fill activity cannot occur until the person obtains:
  - a. The landowner's consent;
  - b. A right, title or interest with respect to the property, that is sufficient to undertake the removal or fill activity; or
  - c. A court order or judgment authorizing the use of the property.
- 11. **Pre-Construction Resource Area Fencing or Flagging.** Prior to any site grading, the boundaries of any avoided wetlands, waterways and riparian areas adjacent to the project site must be surrounded by noticeable construction fencing or flagging. There will be no vegetation removal or heavy equipment within marked areas. The marked areas must be maintained during construction of the project and be removed immediately upon project completion.

# **General Construction Conditions**

- 12. Water Quality Certification: The Department of Environmental Quality (DEQ) may evaluate this project for a Clean Water Act Section 401 Water Quality Certification (WQC). If the evaluation results in issuance of a Section 401 WQC, that turbidity condition will govern any allowable turbidity exceedance and monitoring requirements.
- 13. Erosion Control Methods. The following erosion control measures must be installed at the construction site before construction and maintained during and after construction to prevent erosion and minimize movement of soil into waters of this state:
  - a. All exposed soils must be stabilized during and after construction in order to prevent erosion and sedimentation;
  - b. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures must be used to prevent movement of soil into waterways and wetlands;
  - c. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, must be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours;
  - d. Unless part of the permanent fill, all construction access points through, and staging areas in, riparian and wetland areas must use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities must be stabilized by mulching and native vegetative plantings or seeding. Sterile grass may be used instead of native vegetation for temporary sediment control if native vegetation is unavailable. If soils are to remain

Attachment A 56869-GP Page 4 of 6

> exposed for more than seven days after completion of the permitted work, they must be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed;

- e. Where vegetation is used for erosion control on slopes steeper than 2:1, tackified seed mulch must be used so the seed does not wash away before germination and rooting;
- f. Dredged or other excavated material must be placed on upland areas having stable slopes and must be prevented from eroding back into waterways and wetlands;
- g. Erosion control measures must be inspected and maintained as necessary to ensure their continued effectiveness until soils become stabilized; and
- h. All erosion control structures must be removed when the project is complete and soils are stabilized and vegetated.
- 14. Hazardous, Toxic, and Waste Material Handling: Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint, wood treated with leachable preservatives or other deleterious waste materials must not be allowed to enter waters of this state. Machinery refueling is to occur at least 150 feet from waters of this state and confined in a designated area to prevent spillage into waters of this state. Barges must have containment system to effectively prevent petroleum products or other deleterious material from entering waters of this state. Project-related spills into waters of this state or onto land with a potential to enter waters of this state must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.
- 15. Federally Listed Endangered or Threatened Species: When listed species are present, the authorization holder must comply with the Federal Endangered Species Act. If previously unknown listed species are encountered during construction, all construction activity must immediately cease and the permit holder must contact DSL.
- 16. Archaeological Resources: If any archaeological resources and/or artifacts are encountered during construction, all construction activity must immediately cease. The State Historic Preservation Office must be contacted at 503-986-0674.
- 17. **Hazards to Recreation, Navigation or Fishing:** The activity must be timed so as not to interfere with or create a hazard to recreational or commercial navigation or fishing.
- 18. **Construction Corridor:** There must be no removal of vegetation or heavy equipment operating or traversing within wetland or waterways located outside the designated construction corridor or footprint.
- 19. Raising or Redirecting Water: The project must not cause water to rise or be redirected and result in damage to structures or property.
- 20. **Waste Disposal**: Old piling and other waste material generated by the project must be disposed of in an appropriate disposal facility. There must be no temporary storage of piling or other waste material below top of bank, in wetlands, in a Federal Emergency Management Administration-designated floodway, or in an area historically subject to landslides.
- 21. **Spoil Disposal:** Spoil materials, not used in the project, must be placed in an upland location. Spoil materials used in the project must be included in the cumulative removal-fill calculation for the activity.

Attachment A 56869-GP Page 5 of 6

- 22. **ODFW Fish Passage Requirement:** The authorized activity must meet Oregon Department of Fish and Wildlife requirements for fish passage before commencing the project (ORS 509.580 through 509.901 and OAR 635-412-0005 through 635-412-0040.
- 23. **Bubble Curtain:** A bubble curtain adequate to dampen decibels to within levels acceptable to ODFW and NMFS standards is required for non-vibratory pile driving.

# Eelgrass Avoidance

- 24. **Eelgrass Avoidance:** Piling must not be placed in eelgrass beds, or in a manner that will be detrimental to the eelgrass beds, including sedimentation.
- 25. **Eelgrass Shading:** Grated decking must be maintained open so light will not be restricted to the eelgrass beds during construction. Grated decking may be covered for up to 14 days while work is occurring directly over this section to contain pollutants and debris.

## **Monitoring and Reporting Requirements**

- 26. **Eelgrass Monitoring:** Eelgrass location and abundance under and adjacent to the project shall be evaluated upon completion of the project. Taking into account areas likely affected by the project and eelgrass' transitory tendencies, effects of the project upon the eelgrass shall be compared with the pre-project delineation. If the Department determines the project has detrimentally affected the eelgrass area or abundance, the permittee must provide a mitigation plan acceptable to the Department. Scoured eelgrass beds must be mitigated by replacement at 1:1.
- 27 **Photos:** Photos must be taken from the highway bridge above the eelgrass beds within the project area pre- and post-project from the highway bridge, and from the work bridge above the eelgrass beds. The photos must be taken from fixed photo points and the permittee must strive for at least one photo clearly showing the eelgrass beds pre-project and post project and every 6 months from the work bridge.
- 28. **Monitoring Report Required:** Within 90 days of completion of the project, the permittee must submit a written report of the results of observations and photo monitoring, including copies of the photos.
- 29. Failure to Submit Monitoring Report: Failure to submit the required monitoring report by the due date may result in an extension of the monitoring period and/or enforcement action.
- 30. **Contents of the Monitoring Report:** The annual monitoring report shall include the following information:
  - a. Completed Monitoring Report Cover Sheet, which includes permit number, permit holder name, monitoring dates, and conclusions of observations and photos.
  - b. Site location map with photo-points marked on the map.
  - c. A brief narrative that describes any restoration or maintenance activities necessary.
  - d. Any extra data collected to support the conclusions related to the status of the site.
  - e. Photos from fixed photo points.
  - f. Other information necessary or required to document compliance.

31. Corrective Action May Be Required: The Department retains the authority to require corrective action in the event eelgrass beds are detrimentally affected.

# **Mitigation Conditions**

## **Rectification for Temporary Impacts**

- 32. Site Rectification Required for Temporary Wetland Impacts: Temporary impacts to riparian areas must be rectified immediately following construction, including preconstruction contours and reestablishment of similar vegetation community to what was present prior to the project.
- 33. Woody Vegetation Planting Required: Planting of native woody vegetation shall be completed before the next growing season after re-establishment of the pre-construction contours.

## Bank Credits

34. **Mitigation Bank Credit Purchase**: Mitigation for the unavoidable loss of 0.0036 acres of estuarine wetland unconsolidated bottom has been accomplished via purchase of 0.0036 credits from the Wilbur Wetland Mitigation Bank, per the proof of purchase.

Issued: October 21, 2014

# **Glen Southerland**

From:	Jason Kirchner <jason.a.kirchner@state.or.us></jason.a.kirchner@state.or.us>
Sent:	Tuesday, December 02, 2014 10:27 AM
То:	Glen Southerland
Subject:	RE: Siuslaw River Bridge Cathodic Protection

Hi Glen,

No problem, glad we can help.

Yes, if they use an impact hammer we would recommend utilizing sound attenuation devices such as a bubble curtain.

Take care.

Jason

From: Glen Southerland [mailto:glen.southerland@ci.florence.or.us] Sent: Tuesday, December 02, 2014 10:07 AM To: Jason Kirchner Subject: RE: Siuslaw River Bridge Cathodic Protection

Hi Jason,

Thank you for that. If impact pile driving is used, would you also recommend sound attenuation devices?

Best regards, Glen

From: Jason Kirchner [mailto:jason.a.kirchner@state.or.us] Sent: Monday, December 01, 2014 10:53 AM To: Glen Southerland Subject: RE: Siuslaw River Bridge Cathodic Protection

Hi Glen,

Here is a copy of our comments and recommendations and the DSL authorization letter for this project. I know that DSL required conditions to rectify temporary impacts such as riparian vegetation damage, and for having temporary piles in the estuary longer than 24 months. ODOT is purchasing mitigation bank credits for the unavoidable loss of 0.0036 acres of estuarine wetland unconsolidated bottom from the Wilbur Wetland Mitigation Bank.

Jason Kirchner Estuary and Freshwater Habitat Biologist Oregon Department of Fish and Wildlife 2040 SE Marine Science Drive Newport, OR 97365 541-867-0300 ext 281 541-867-0311 -fax



From: Glen Southerland [mailto:glen.southerland@ci.florence.or.us]
Sent: Saturday, November 29, 2014 3:54 PM
To: Jason Kirchner
Subject: Siuslaw River Bridge Cathodic Protection

Hi Jason,

I hope you had a good holiday!

I know that ODOT has worked closely with ODFW for a great deal of the planning for the Siuslaw River Bridge cathodic protection project. I was wondering if you had any additional input on the project or the temporary work platforms.

Does ODFW usually suggest mitigation for temporary structures? Do you have any other suggestions you would like to make?

Thank you, **Glen Southerland** Assistant Planner City of Florence Planning Department <u>www.ci.florence.or.us</u> 250 Highway 101 Florence, OR 97439 Phone: (541) 997-8237

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Department of Fish and Wildlife

North Coast Watershed District 2040 SE Marine Science Drive Newport, OR 97365 (541) 867-4741 Fax: (541) 867-0311 www.dfw.state.or.us



September 16, 2014

Mr. Russ Klassen Department of State Lands 775 Summer St. NE, Suite 100 Salem, OR 97301

RE: ODOT- US101 Siuslaw River Bridge Cathodic Protection Permit No. DSL: 56869

Dear Mr. Klassen:

The Oregon Department of Fish and Wildlife (Department) has reviewed the Department of State Lands (DSL) Permit No. 56869-RF for the placement of pilings at the U.S. 101 bridge area and associated compensatory mitigation, dated August 28, 2014. The Department has concerns these proposed actions may have adverse impacts to aquatic resources, such as sound impacts to fish/wildlife, and potential eelgrass shading. The activity includes placement of 180, 24" piles, which proposes to cover an area of 565 square feet of estuarine aquatic habitat. The proposed fill location is valuable subtidal/intertidal habitat utilized by clams, crabs, fish, wildlife, and benthic organisms.

It is the policy of the State of Oregon to manage fish and wildlife to prevent the serious depletion of indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of citizens of this state (ORS 496.012). The Department provides the following comments and recommendations for consideration in DSL's review of this application.

## Fish, Wildlife and Habitat Use

The proposed project site is located in the Siuslaw estuary which is dominated by marine influences and site specific physical parameters (e.g., high salinity, pH, depth, water temperature, substrate composition, dissolved oxygen, marine fish species, etc.). The project site is utilized by mixed communities of shellfish, such as Dungeness crab, hermit crabs, ghost shrimp, bay shrimp, seastars, softshell clams, and many other species. Some of these shellfish are motile (*e.g.*, crabs, bay shrimp, snails, seastars, etc.) and may inhabit or migrate through the subtidal zone, while others are sessile (*e.g.*, cnidarians, bivalves, ghost shrimp, etc.) and remain in place over the duration of their adult lives (ODFW 2013).

Several species of demersal fishes inhabit the Siuslaw estuary at the proposed project site and many of these (*e.g.,* Starry flounder, English sole, staghorn sculpins, and sturgeon) are benthic feeders that utilize subtidal soft sediment habitat to locate their prey, as well as for spawning and rearing. Subtidal habitat at the proposed pile placement site is also used by many species of migratory fishes such as fall Chinook salmon, coho salmon, steelhead, coastal cutthroat trout, eulachon, topsmelt, Pacific herring, longfin smelt, surf smelt, northern anchovy, etc., and other EXHIBIT G2

species (*e.g.*, lingcod, greenling, rockfishes, gobies, sand lance, surfperches, threespine stickleback, Pacific tomcod, and sturgeons). Species such as sole, sand lance, and sculpin create burrows in subtidal soft-sediments to escape predation and to forage for benthic food resources. Salmonids and other fish species also rear and migrate through subtidal soft-sediment habitats to access high energy, primary, or alternate food sources such as burrowing amphipods and other epibenthic or benthic invertebrates. Subtidal soft-sediment habitat is also utilized by numerous shallow-water fish (*e.g.*, sculpins) during periods of low tide when they seek refuge in the deeper subtidal areas that are continuously under water. The subtidal habitat zone at the project site provides a critically important food source (*e.g.*, epibenthic and infaunal invertebrates), and cool marine influenced summer/fall water temperatures for these species during low tides (ODFW 2013).

Several species of wildlife inhabit the Siuslaw estuary and utilize subtidal habitats to locate prey and cover (e.g., Harbor seals, sea lions, waterfowl, cormorants, pigeon guillemot, and river otters) for survival.

Pile driving/removal may impact fish and other aquatic life through sound attenuation if it reaches certain levels or cumulative effects. Fish resting, swimming, and feeding near pile placement sites have the potential to experience physiological damage (e.g., swim bladder, ear bone, internal hemorrhaging, etc.) or behavioral effects (e.g., reduce predation avoidance, disorientation, etc.).

## **Recommendations**

The Department recommends that ODOT avoid and minimize impacts to estuarine fish, wildlife, and habitats in the Siuslaw estuary. During an office meeting with ODOT environmental staff we discussed our concerns with in-water work timing, eelgrass shading, and sound attenuation impacts to fish and wildlife from pile driving/removing, and work bridge construction. We understand the need to maintain the 101 bridge crossing for public and professional use and have listed our recommendations to minimize impacts to fish and wildlife species and habitats.

- Conduct all in water work (e.g., pile driving/removal) during our recommended work window of November 1- February 15.
- Avoid all construction and shading impacts (e.g., bridge deck shading footprint) on or adjacent to eelgrass beds. We also recommend no storage or long term placement of equipment/ vehicles on grated portions of work bridge near eelgrass beds. These will block needed sunlight in these areas if covered.
- Vibratory pile driving and/or removal technique has a continuous wave sound. ODOT is
  installing up to 180 piles which may have a cumulative sound impact on fish and wildlife.
  The Department recommends implementing sound attenuation reduction measures on
  vibratory pile driving/removal project (e.g., bubble curtains, bubble trees, sound
  monitoring, and casings).

The Department of Fish and Wildlife appreciates your coordination on this project and the opportunity to provide comments and recommendations to minimize impacts to fish, wildlife, and habitat resources. If you have any questions or concerns please contact me at (541) 867-0300 ext. 281 or e-mail Jason.A.Kirchner@state.or.us.

Sincerely,

lom

Jason Kirchner Estuary & Freshwater Habitat Biologist North Coast Watershed District

Cc: Loynes- NMFS Cary- ODOT Roberts-ODOT

## **References**

Oregon Department of Fish and Wildlife. 2013. Ecological Functions and Values of Subtidal Soft-Sediment Habitats and Potential Restoration and Enhancement Opportunities in Oregon Estuaries. Oregon Department of Fish & Wildlife Inter-Departmental Memorandum.

# **Glen Southerland**

Lynn Lamm
Tuesday, November 18, 2014 8:13 AM
Glen Southerland
RE: Referral - PC 14 22 CUP 09 - Siuslaw River Bridge Work Platforms

It's a "good to go" for me, Glen ..... Chief Lamm

From: Glen Southerland
Sent: Monday, November 17, 2014 3:52 PM
To: Mike Miller; Jim Langborg (jlangborg@svfr.org); sean@svfr.org; Eric Rines; Lynn Lamm; REDON Charles; Jason Kirchner; Megan Messmer; sscott@ctclusi.org; Port of Siuslaw Manager; ODOTR2PLANMGR@ODOT.STATE.OR.US
Cc: Wendy Farley-Campbell
Subject: Referral - PC 14 22 CUP 09 - Siuslaw River Bridge Work Platforms

Hello all,

The purpose of this notice is to acquaint you with a proposed development, to gather information you may have about the project, and provide an opportunity to comment and express concerns related to the approval criteria, prior to staff's decision on the project proposal.

**RESOLUTION PC 14 22 CUP 09:** A request by the Oregon Department of Transportation for a Conditional Use Permit to add fill to the Siuslaw River for the purpose of supporting temporary work platforms and a containment structure alongside the Siuslaw River Bridge for repair work and cathodic protection taking place for about three years from approximately 2015 to 2019. The under bridge parking area will be closed during the repair work. Installation and removal of work bridges will take place during in-water work periods from November 1 through February 15. No work will be done within the navigation channel and the drawbridge will remain operable throughout the work period. Work platforms and pilings will be removed after work is complete.

Please let me know if you have any questions.

Best Regards, **Glen Southerland** Planning Technician City of Florence Planning Department <u>www.ci.florence.or.us</u> 250 Highway 101 Florence, OR 97439 Phone: (541) 997-8237

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Chapter 5: Open Spaces and Scenic, Historic, and Natural Resources Page V-27



# **Glen Southerland**

From: Sent: To: Cc: Subject: LANGE Jeffrey R < Jeffrey.R.LANGE@odot.state.or.us> Monday, November 10, 2014 1:27 PM JACOBSON Stephen L; Glen Southerland LEMOS Charles A; LITTLE Richard \* Rick RE: Siuslaw River Bridge CUP

Steve and Glen,

I have inserted answers to the questions below. Let me know if there is anything additional you need.

Thanks, Jeffrey Lange ODOT Project Leader 644 A' Street Springfield, OR 97477 (541)747-1302

From: JACOBSON Stephen L Sent: Monday, November 10, 2014 12:36 PM To: LANGE Jeffrey R Subject: FW: Siuslaw River Bridge CUP

#### Jeff-

These question are in your bailiwick. Please let me know what you were able to tell him. (An example is the pile driving. Everything I had stated vibratory.)

Thanks

Steve Jacobson

Region 2, Planning Senior Transportation Planner Ph: 503-986-2837

From: Glen Southerland [mailto:] Sent: Thursday, November 06, 2014 5:11 PM To: JACOBSON Stephen L Cc: Wendy Farley-Campbell Subject: Siuslaw River Bridge CUP

Hello Steve,

I hope you are doing well and everything is progressing nicely. While reviewing your submission for the Cathodic Protection Project (I also attended the meeting that the project manager and Cogito hosted), I had the following questions:

1. Your submission stated that there would be vibratory pile driving. At the meeting with the project manager and Cogito, they stated that the piles would be driven by impact hammers. I was looking for clarification about the pile driving and, if you knew, how the piles would be removed at the conclusion of the project (submission



states vibratory). Also, are you aware of whether or not the impact driving versus vibratory driving would affect the environmental report information?

Vibratory pile driving is an option for the contractor but it will not likely be chosen, with no reachable bedrock it would require impact hammering anyway to do a proof of the piles. The environmental permitting has us covered for both vibratory and impact pile driving.

2. Will the containment structure be part of the work platforms or a separate structure attached to the bridge? I did not see any information regarding the containment structure and whatever support structures for workers as part of this application. The containment structures can be added to this application if needed.

The contractor will have the option to choose to build the containment supported by the work bridges or to hang containment from the bridge structure. A lot of these details are left to the contractor since we do not know who will get the bid and we want to leave enough room for innovation and construction cost savings.

3. How will equipment/workers reach the work platforms on the north bank? Will they be craned up from Bay

Street or down from the bridge deck or will the platforms reach a "landing" where equipment can be driven on? The north bank work bridge will be able to be driven on and accessed directly from the under bridge parking area that will be used for staging.

4. What measures will be employed to prevent objects from falling off of the platforms/containment structures? The successful bidder will be required to submit construction drawings prior to constructing the work bridges, designing the structure to prevent spills or debris from escaping will be a design feature our engineers will be looking for. The containment structures themselves will be fully enclosed.

Thank you and please feel free to contact me if you have any questions at any point during this process.

Best regards, **Glen Southerland** Planning Technician City of Florence Planning Department <u>www.ci.florence.or.us</u> 250 Highway 101 Florence, OR 97439 Phone: (541) 997-8237

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# Appendix C Species Lists

# LISTED SPECIES

Reptiles and Amphibians Marine: Loggerhead sea turtleCaretta caretta Chelonia mydas Dermochelys coriacea Leatherback sea turtleOlive (=Pacific) ridley sea turtleDermochelys coriacea Lepidochelys olivaceaFish Inland: Oregon chub Bull troutOregonichthys crameri Salvelinus confluentusInvertebrates Insects: Fender's blue butterfly Oregon silverspot butterflyIcaricia icarioides fenderi Speyeria zerene hippolytaPlants	<b>Birds</b> Marbled murrelet Western snowy (coastal) plover Short-tailed albatross Northern spotted owl	Brachyramphus marmoratus Charadrius alexandrinus nivosus Phoebastria albatrus Strix occidentalis caurina	CH T CH T E CH T
Fish       Inland:         Oregon chub       Oregonichthys crameri         Bull trout       Salvelinus confluentus         Invertebrates       Insects:         Fender's blue butterfly       Icaricia icarioides fenderi         Oregon silverspot butterfly       Speyeria zerene hippolyta         Plants       Value	Reptiles and Amphibians Marine: Loggerhead sea turtle Green sea turtle Leatherback sea turtle Olive (=Pacific) ridley sea turtle	Caretta caretta Chelonia mydas Dermochelys coriacea Lepidochelys olivacea	E T E T
Invertebrates         Insects:         Fender's blue butterfly       Icaricia icarioides fenderi         Oregon silverspot butterfly       Speyeria zerene hippolyta         Plants	Fish Inland: Oregon chub Bull trout	Oregonichthys crameri Salvelinus confluentus	СН Т СН Т
Plants	Invertebrates Insects: Fender's blue butterfly Oregon silverspot butterfly	lcaricia icarioides fenderi Speyeria zerene hippolyta	CH E CH T
Willamette daisyErigeron decumbens var. decumbensBradshaw's desert parsleyLomatium bradshawiiKincaid's lupineLupinus sulphureus ssp. kincaidii	<b>Plants</b> Willamette daisy Bradshaw's desert parsley Kincaid's lupine	Erigeron decumbens var. decumbens Lomatium bradshawii Lupinus sulphureus ssp. kincaidii	CH E E CH T

# PROPOSED SPECIES

None

No Proposed Endangered Species No Proposed Threatened Species

# **CANDIDATE SPECIES**

#### Mammals North American wolverine

Birds Streaked horned lark

Reptiles and Amphibians Inland:

Gulo gulo luscus

Eremophila alpestris strigata

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PE

PT

Oregon spotted frog

Rana pretiosa

# SPECIES OF CONCERN

#### Mammals

Pallid bat White-footed vole Red tree vole Townsend's western big-eared bat Silver-haired bat Long-eared myotis bat Fringed myotis bat Long-legged myotis bat Yuma myotis bat Camas pocket gopher

#### Birds

Northern goshawk Western burrowing owl Black tern Olive-sided flycatcher Black oystercatcher Harlequin duck Yellow-breasted chat Acorn woodpecker Lewis' woodpecker Mountain quail Band-tailed pigeon Oregon vesper sparrow Purple martin

#### **Reptiles and Amphibians**

Northern Pacific pond turtle Coastal tailed frog Oregon slender salamander Northern red-legged frog Foothill yellow-legged frog Cascades frog Southern torrent (seep) salamander

#### Fish

Malheur mottled sculpin Pacific lamprey Coastal cutthroat trout

## Invertebrates

#### Insects:

Tombstone Prairie farulan caddisfly Tombstone Prairie oligophlebodes caddisfly Insular blue butterfly One-spot rhyacophilan caddisfly Antrozous pallidus pacificus Arborimus albipes Arborimus longicaudus Corynorhinus townsendii townsendii Lasionycteris noctivagans Myotis evotis Myotis thysanodes Myotis volans Myotis yumanensis Thomomys bulbivorus

Accipiter gentilis Athene cunicularia hypugaea Chlidonias niger Contopus cooperi Haematopus bachmani Histrionicus histrionicus Icteria virens Melanerpes formicivorus Melanerpes lewis Oreortyx pictus Patagioenas fasciata Pooecetes gramineus affinis Progne subis

Actinemys marmorata marmorata Ascaphus truei Batrachoseps wrighti Rana aurora aurora Rana boylii Rana cascadae Rhyacotriton variegatus

Cottus bairdi ssp. Lampetra tridentata Oncorhynchus clarki ssp

Farula reaperi Oligophlebodes mostbento Plebejus saepiolus insulanus Rhyacophila unipunctata

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#### Plants

Pink sand-verbena Crenulate grape fern Cliff paintbrush Cold-water corydalis Willamette Valley larkspur Peacock larkspur Wayside aster Shaggy horkelia Thin-leaved peavine Frye's Limbella Whitetop aster Henderson's checker-mallow Hitchcock's blue-eyed grass Abronia umbellata ssp. breviflora Botrychium crenulatum Castilleja rupicola Corydalis aquae-gelidae Delphinium oreganum Delphinium pavonaceum Eucephalus vialis Horkelia congesta ssp. congesta Lathyrus holochlorus Limbella fryei Sericocarpus rigidus Sidalcea hendersonii Sisyrinchium hitchcockii

# DELISTED SPECIES

**Birds** American Peregrine falcon Bald eagle

Falco peregrinus anatum Haliaeetus leucocephalus Pelecanus occidentalis

# Definitions:

Brown pelican

Listed Species: An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

<u>Proposed Species:</u> Taxa for which the Fish and Wildlife Service or National Marine Fisheries Service has published a proposal to list as endangered or threatened in the Federal Register.

<u>Candidate Species</u>: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

<u>Species of Concern</u>: Taxa whose conservation status is of concern to the U.S. Fish and Wildlife Service (many previously known as Category 2 candidates), but for which further information is still needed. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for listing.

<u>Delisted Species</u>: A species that has been removed from the Federal list of endangered and threatened wildlife and plants.

#### Key:

- E Endangered
- T Threatened
- CH Critical Habitat has been designated for this species
- PE Proposed Endangered
- PT Proposed Threatened

#### PCH Critical Habitat has been proposed for this species

#### Notes:

<u>Marine & Anadromous Species:</u> Please consult the National Marine Fisheries Service (NMFS) (<u>http://www.nmfs.noaa.gov/pr/species/</u>) for marine and anadromous species. The National Marine Fisheries Service (NMFS) manages mostly marine and anadromous species, while the U.S. Fish and Wildlife Service manages the remainder of the listed species, mostly terrestrial and freshwater species.

<u>Marine Turtle Conservation and Management</u>: All six species of sea turtles occurring in the U.S. are protected under the Endangered Species Act of 1973. In 1977, NOAA Fisheries and the U.S. Fish and Wildlife Service signed a Memorandum of Understanding to jointly administer the Endangered Species Act with respect to marine turtles. NOAA Fisheries has the lead responsibility for the conservation and recovery of sea turtles in the marine environment and the U.S. Fish and Wildlife Service has the lead for the conservation and recovery of sea turtles on nesting beaches. For more information, see the NOAA Fisheries webpage on sea turtles <a href="http://www.nmfs.noaa.gov/pr/species/turtles/">http://www.nmfs.noaa.gov/pr/species/turtles/</a>.

**Gray Wolf**: In 2008, the Service published a final rule that established a distinct population segment of the gray wolf (*Canis lupis*) in the northern Rocky Mountains (which includes a portion of Eastern Oregon, east of the centerline of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon east of the centerline of Highway 95 south of Burns Junction). Any wolves found west of this line in Oregon belong to the conterminous USA population [see 73 FR 10514]. On May 5, 2011, the Fish and Wildlife Service published a final rule – as directed by legislative language in the Fiscal Year 2011 appropriations bill – reinstating the Service's 2009 decision to delist biologically recovered gray wolf populations in the Northern Rocky Mountains. Gray wolves in Oregon are State-listed as endangered, regardless of location.

Species <sup>1</sup>			Current Endangered Species Act Listing Status <sup>2</sup>	ESA Listing Actions Under Review	
	1	Snake River	Endangered		
Sockeye Salmon	2	Ozette Lake	Threatened		
nerka)	3	Baker River	Not Warranted		
	4	Okanogan River	Not Warranted		
	5	Lake Wenatchee	Not Warranted		
	6	Quinalt Lake	Not Warranted		
	7	Lake Pleasant	Not Warranted		
	8	Sacramento River Winter-run	Endangered		
	9	Upper Columbia River Spring-run	Endangered		
Chinook Salmon O. tshowytscha)	10	Snake River Spring/Summer-run	Threatened		
o. maan jisena)	11	Snake River Fall-run	Threatened		
	12	Puget Sound	Threatened		
	13	Lower Columbia River	Threatened		
	14	Upper Willamette River	Threatened		
	15	Central Valley Spring-run	Threatened		
	16	California Coastal	Threatened		
	17	Central Valley Fall and Late Fall-run	Species of Concern		
	18	Upper Klamath-Trinity Rivers	Not Warranted		
	19	Oregon Coast	Not Warranted		
	20	Washington Coast	Not Warranted		
	21	Middle Columbia River spring-run	Not Warranted		
	22	Upper Columbia River summer/fall-run	Not Warranted		
	23	Southern Oregon and Northern California Coast	Not Warranted		
	24	Deschutes River summer/fall-run	Not Warranted		
	25	Central California Coast	Endangered		
	26	Southern Oregon/Northern California	Threatened		
(O. kisutch)	27	Lower Columbia River	Threatened	<ul> <li>Critical habitat</li> </ul>	
(e, hower)	28	Oregon Coast	Threatened		
	29	Southwest Washington	Undetermined		
	30	Puget Sound/Strait of Georgia	Species of Concern		
	31	Olympic Peninsula	Not Warranted		
~ ~ .	32	Hood Canal Summer-run	Threatened		
(O. keta)	33	Columbia River	Threatened		
()	34	Puget Sound/Strait of Georgia	Not Warranted		
	35	Pacific Coast	Not Warranted		
	36	Southern California	Fudamoarad		
	37	Unner Columbia River	Thrastonad		
Steelhead (O. mykiss)	20	Central California Coast	Threatened		
	30	South Central California Coast	Threatened		
	10	Spake Diver Basin	Theorem		
	40	Louver Columbia Diver	Threatened		
	41	California Central Vallar	Threatened		
	42	Unner Willomatte Diver	Threatenet		
	43	Middle Columbic Direct	Threatened		
	44	Nether Colifer	Intealened		
	45	Northern California	Threatened		
	46	Oregon Coast	Species of Concern		
	47	Southwest Washington	Not Warranted		
	48	Olympic Peninsula	Not Warranted		
	49	Puget Sound	Threatened	Critical habitat	
Dinla Cal	50	Klamath Mountains Province	Not Warranted		
rink Salmon	51	Even weer	Mat Wannandad		

# Endangered Species Act Status of West Coast Salmon & Steelhead (Updated Aug. 11, 2011)

(O gorhuscha)	1 21	Even-year	Not warrantea	
10. gor bubbling	52	Odd-year	Not Warranted	

The ESA defines a "species" to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries Service considers an evolutionarily significant unit, or "ESU," a "species" under the ESA. For Pacific steelhead, NOAA Fisheries Service has delineated distinct population segments (DPSs) for consideration as "species" under the ESA. 1

Page Title: ESA MM List URL: http://www.nwr.noaa.gov/Marine-Mammals/ESA-MM-List.cfm

# **ESA-Listed Marine Mammals**

Under the jurisdiction of NOAA Fisheries that may occur:

### off Washington & Oregon

- Southern Resident killer whale (Orcinus orca) (E); critical habitat
- <u>humpback whale</u> (Megaptera novaeangliae) (E)
- <u>blue whale</u> (Balaenoptera musculus) (E)
- fin whale (Balaenoptera physalus) (E)
- sei whale (Balaenoptera borealis) (E)
- <u>sperm whale</u> (*Physeter macrocephalus*) (E)
- <u>Steller sea lion</u> (Eumetopias jubatus) (T); <u>critical habitat</u>

#### in Puget Sound

- <u>Southern Resident killer whale</u> (Orcinus orca) (E); <u>critical habitat</u>
- humpback whale (Megaptera novaeangliae) (E)
- Steller sea lion (Eumetopias jubatus) (T); critical habitat

(E) = Endangered

(T) = Threatened

Page last updated: 2010-06-15 11:08:13



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Page last updated: September 7, 2011

# Page Title: Eulachon URL: http://www.nwr.noaa.gov/Other-Marine-Species/Eulachon.cfm

# **Eulachon (Columbia River Smelt)**

Eulachon, also known as Columbia River smelt, candlefish or hooligan, are found in the eastern north Pacific Ocean. They range from northern California to southwest Alaska and into the southeastern Bering Sea. Smelt typically spend three to five years in saltwater before returning to freshwater to spawn in late winter through mid spring.

**Jan. 5, 2011:** NOAA Fisheries announced that it proposed to designate critical habitat for the southern distinct population segment (DPS) of Pacific eulachon, and requested public review and comment. The comment period closed Mar. 7, 2011. See the *Federal Register* notice, below, for more information; or contact Marc Romano, 503-231-2200, in the Northwest, or Jim Simondet, 707-825-5171, in California. Two public meetings on this proposal were held Jan. 26, 2011, in Portland, Ore.

#### Media advisory

- Federal Register notice (PDF 573KB)
- Questions & Answers on eulachon proposed critical habitat (PDF 55KB)
- Eulachon proposed critical habitat overview maps (PDF 5.6MB)
- Biological Report (PDF 3.5MB)
- Economic Analysis (PDF 1.7MB)
- ESA Section 4(b)(2) Report (PDF 737KB)
- <u>References for eulachon proposed critical habitat (PDF 31KB)</u>

**March 16, 2010:** NOAA Fisheries announced that it is listing the southern distinct population segment (DPS) of eulachon as threatened under the ESA. The listing became effective on May 17, 2010.

- News release (PDF 64KB)
- Mar. 18, 2010, Federal Register notice (PDF 103KB)
- Citations for eulachon ESA listing (PDF 52KB)
- Questions & Answers on eulachon ESA listing (PDF 50KB)
- Updated status review of eulachon (PDF 3.5MB)

Page last updated: 2011-09-20 21:11:35