SECTION 00290 - ENVIRONMENTAL PROTECTION

(Follow all instructions. If there are no instructions above a subsection, paragraph, sentence, or bullet, then include them in the project. The specifications may be modified to include project specific specifications, but all additions, deletions, or modifications must be sent to the ODOT Technical Resource and Senior Specifications Engineer for review and approval. Generally, the subsections that include instructions comply with SLOPES III requirements. Modify these subsections only for site specific conditions.)

(Use only one of the following lead-in paragraphs as instructed below.)

[Use the following lead-in paragraph when NONE of the following subsections are included in the project.]

Comply with Section 00290 of the Standard Specifications.

[Use the following lead-in paragraph when ANY of the following subsections are included in the project.]

Comply with Section 00290 of the Standard Specifications modified as follows:

(Use the following subsection .10 when specific staging areas have been approved. Delete what does not apply. Remove parentheses. Obtain information from the Environmentalist.)

00290.10 Staging and Disposal Sites - Add the following to the end of this subsection:

Use the following staging (disposal) site(s):

- **Site Type** - _____(staging, disposal)_____
- **Location** - _____(Highway MP/TRS, etc.)_____
- **Access** - _____(ingress/egress)_____
- **Available Area** - _____(acreage, etc.)_____

No other sites may be used on this Project, including non-Agency sites. Delineate the limits of the site with orange plastic mesh fencing from the QPL for the duration of the Project. Remove the fencing when the Project is complete and the site has been restored to preconstruction conditions.

Restore the site by:

- Removing all imported fabric, rock, and other construction debris.
- Smoothing the ground.
- Reseeding all disturbed earth.

(Use the following subsection .30(a) when either subsections (7) or (8) are required)

00290.30(a) Pollution Control Measures - Add the following subsections and bullets:

(Use the following subsection (7) when there is work in, adjacent to, or over a Regulated waterway, even if there is no direct in-water work. Modify as needed for site-specific circumstances and project-specific permit conditions. If subsection (8) is used, be sure to delete the second bullet "Do not cause turbidity…" and the fifth bullet "If monitoring or inspection…" below. Obtain information from Environmentalist.)

[Begin subsection (7)]

(7) Water Quality:

- Do not discharge contaminated or sediment-laden water, including drilling fluids and waste, or water contained within a work area isolation, directly into any waters of the State or U.S. until it has been satisfactorily treated (for example: bioswale, filter, settlement pond, pumping to vegetated upland location, bio-bags, dirt-bags). Treatment shall meet the turbidity requirements below.
- Do not cause turbidity in waters of the State or U.S. greater than 10% above background reading (up to 100 feet upstream of the Project), as measured 100 feet downstream of the Project.
- During construction, monitor in-stream turbidity and inspect all erosion controls daily during the rainy season and weekly during the dry season, or more often as necessary, to ensure the erosion controls are working adequately meeting treatment requirements.
- If construction discharge water is released using an outfall or diffuser port, do not exceed velocities more than 4 feet per second, and do not exceed an aperture size of 1 inch.
- If monitoring or inspection shows that the erosion and sediment controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.
- Underwater blasting is not allowed.
- Implement containment measures adequate to prevent pollutants or construction and demolition materials, such as waste spoils, fuel or petroleum products, concrete cured less than 24 hours, concrete cure water, silt, welding slag and grindings, concrete saw cutting by-products and sandblasting abrasives, from entering waters of the state or U.S.
- End-dumping of riprap within the waters of the state or U.S. is not allowed. Place riprap from above the bank line.
- Cease project operations under high flow conditions that may result in inundation of the project area, except for efforts to avoid or minimize resource damage.

- The Project Manager retains the authority to temporarily halt or modify the Project in case of excessive turbidity or damage to natural resources.

[End subsection (7)]

(Use the following subsection (8) when turbidity monitoring is required. Select one of the following subsection (8)'s as instructed below. Check with Regional Environmental Coordinator for correct one to use. Delete the ones that do not apply.)

[Begin subsection (8)]

[Use this subsection (8) when visual turbidity monitoring is required.]

[Begin visual turbidity monitoring]

(8) Visual Turbidity Monitoring - Perform visual turbidity monitoring each day when working in regulated work areas according to the following:

- Before beginning work, make in stream turbidity observation approximately 100 feet upstream and, based on the wetted stream width, at the compliance distance listed in Table 00290-1 downstream of the in-water work area.
- Make in stream turbidity observations upstream and downstream every four hours.
- If a turbidity plume is observed within the compliance distance downstream of the in-water work area, implement in-water best management practices (BMP). If a turbidity plume is still observed at the second four hour observation, stop all in-water work and implement additional BMP. Resume in-water work activity the next morning.
- If a turbidity plume is observed beyond the compliance distance downstream of the in-water work area at any observation interval, stop all in-water work and implement additional BMP. Resume in-water work activity the next morning.

Table 00290-1

Wetted Stream Width	Compliance Distance
≤ 30 feet	50 feet
> 30 feet to 100 feet	100 feet
> 100 feet to 200 feet	200 feet
> 200 feet	300 feet
Lakes, Ponds, and Reservoirs	Lesser of 100 feet or max. surface dimension

[End visual turbidity monitoring]

[Use this subsection (8) when meter turbidity monitoring is required.]

[Begin meter turbidity monitoring]

(8) Meter Turbidity Monitoring - Perform meter turbidity monitoring each day when working in regulated work areas according to the following:

- Use a turbidity meter that has been calibrated to meet manufacturer requirements.
- Before beginning work, take in stream turbidity readings approximately 100 feet upstream and, based on the wetted stream width, at the compliance distance listed in Table 00290-1 downstream of the in-water work area.
- Take in stream turbidity readings upstream and downstream at four hour intervals or more frequently and perform in-water work based on turbidity measurements according to the following:
  - If the downstream reading at the compliance distance is 0 to 4 nephelometric turbidity units (NTU) above upstream levels, continue to work and take readings every four hours.
  - If the downstream reading at the compliance distance is 5 to 29 NTU above upstream levels, modify work procedures and best management practices (BMP) and take a subsequent downstream reading four hours later. If at the subsequent four hour reading, the downstream reading is still 5 to 29 NTU above upstream levels, stop all in-water work and implement additional BMP. Resume in-water work activities the next morning.
  - If the downstream reading at the compliance distance is 30 to 49 NTU above upstream levels, modify work procedures and BMP and take a subsequent downstream reading two hours later. If, at the subsequent two hour reading, the downstream reading is still 30 to 49 NTU above upstream levels, stop all in-water work and implement additional BMP. Resume in-water work activities the next morning.
  - If the downstream reading at the compliance distance is 50 NTU or more above upstream levels, stop all in-water work and implement BMP. Resume in-water work activities the next morning.

Table 00290-1

Wetted Stream Width	Compliance Distance
≤ 30 feet	50 feet
> 30 feet to 100 feet	100 feet
> 100 feet to 200 feet	200 feet
> 200 feet	300 feet
Lakes, Ponds, and Reservoirs	Lesser of 100 feet or max. surface dimension

[End meter turbidity monitoring]

[Use this subsection (8) when individual permit conditions apply.]

[Begin permit turbidity monitoring]

(8) Turbidity Monitoring - Perform turbidity monitoring when working in regulated work areas according to the following:

(Insert permit turbidity monitoring frequency and requirements here. Be sure to only include project specific information. Use bullets to list information. Write in imperative mood and write in plain language.)

- _____
- _____

[End permit turbidity monitoring]

Document all turbidity monitoring results including date, time, and location on the Agency provided form or another form approved by the Agency. Submit reports to the Engineer weekly when working in regulated work areas and keep copies of the reports at the project site.

If work activities violate permit conditions or cause water quality violations which may endanger the health of aquatic life or environment, stop all in-water work activities and notify the Engineer. Submit a written report of violations to the Engineer within 5 Calendar Days of violation.

[End subsection (8)]

(Use the following subsection .32 on City of Portland projects where applicable.)

00290.32 Noise Control - Add the following paragraphs to the end of this subsection:

The Contractor's attention is directed to City of Portland Ordinance No. 159276 which describes noise control regulations. Comply with the applicable noise control requirements of the ordinance for project work.

Copies of the ordinance and noise control code are available at the office of the Project Manager.

(Use the following subsection .34 when fish or fish habitat resources require protection. Modify as needed for site-specific conditions. Check to make sure applicable to project permit conditions. Obtain information from Environmentalist.)

00290.34 Protection of Fish and Fish Habitat - Add the following paragraph:

Meet with the Agency Biologist, Resource Representative, Project Manager, and inspector on site, before moving equipment on-site or beginning any work, to ensure that all parties understand the locations of sensitive biological sites and the measures that are required to be taken to protect them.

(Use the following subsections .34(a) ~~and .34(b)~~ when regulated work areas are required. Fill in the blanks as necessary. Delete what does not apply. Obtain information from the Environmentalist.)

00290.34(a) Regulated Work Areas - Add the following to the end of this subsection:

The regulated work area is the area within the ordinary high water (OHW) elevation that is shown on the plans.

- For this Project, the regulated work area is the area at or below _____ feet elevation and between stations _____ and _____.
- Perform work within the regulated work area only during the in-water work period. The in-water work period is from ___(date)___ to ___(date)___.
- The total volume of material filled or discharged into waters of the state and waters of the U.S. shall not exceed _____ cubic yards.
- The total volume of material excavated from the waters of the state and waters of the U.S. shall not exceed _____ cubic yards.

Submit a schedule to complete all work within the regulated work area within the in-water work period at least 10 days prior to the preconstruction conference.

(Use the following subsections .34(b) when regulated work areas are required.)

00290.34(b) Prohibited Operations - ~~Add the following bullets to the end of the bullet list~~Replace this subsection, except for the subsection number and title, with the following:

Except where allowed by the Contract or by permit, do not:

- Blast underwater.
- Use water jetting.
- Release petroleum products or chemicals in the water.
- Disturb spawning beds.
- Obstruct stream channels.
- Cause silting or sedimentation of waters of the State or waters of the U.S.
- Use treated timbers within the regulated work area.
- Impede adult and juvenile fish passage, including intermittent streams.

(Use the following two bullets when regulated work areas are required. Fill in the blanks as necessary. Delete what does not apply. Obtain information from the Environmentalist.)

- Allow entry within the Regulated Work Area or between stations _____ and _____.
- Allow equipment to enter or work in or on the water.

(Use the following bullet for projects permitted under the Endangered Species Act Consultation (ESA) on the Federal-Aid Highway Program (FAHP), unless modified by consultation with NMFS.)

- Install steel piles greater than 24 inches in diameter or H-pile larger than designation HP 24 within the regulated work area.

(Use the following lead-in paragraph and subsection .34(c) to list required environmental permits. Edit buffer distances as relevant to project permits. Obtain information from Environmentalist. (Include paragraphs (1) through (12)

as necessary. When paragraphs are NOT included, renumber the remaining paragraphs beginning with the appropriate number.)

[Begin subsection .34(c)]

Add the following subsection:

00290.34(c) ~~Fish~~ Aquatic Species Protection Measures Required by Environmental Permits:

(1) General ~~Equipment~~ Requirements:~~ -~~

- Do not install fish ladders (for example: pool and weirs, vertical slots, fishways) or fish trapping systems.
- Do not apply surface fertilizer within 50 feet of any stream channel.

Use heavy equipment as follows:

- Choice of equipment must have the least adverse effects on the environment (for example: minimally sized, low ground pressure).
- ~~Before operations begin and as often as necessary during operation, steam clean all equipment that will be used below the regulated work area until all visible oil, grease, mud, and other visible contaminants are removed. Complete all cleaning in approved staging areas.~~
- Secure absorbent material around all stationary power equipment (for example: generators, cranes, drilling equipment) operated within 150 feet of wetlands, waters of the State, ~~and~~ waters of the U. S., drainage ditches, or water quality facilities to prevent leaks, unless suitable containment is provided to prevent spills from entering waters of the state ~~and~~ or waters of the U.S.
- Do not cross directly through a stream for construction access, unless shown or approved. If shown or approved, cross perpendicular to the stream and do not block stream flow. When a crossing is no longer needed, completely remove the crossing and restore the soils and vegetation to the original condition.
- ~~Do not install fish ladders (for example: pool and weirs, vertical slots, fishways) or fish trapping systems.~~
- ~~The volume of material filled or discharged into waters of the state or U.S. plus the volume excavated shall not exceed _____ cubic yards.~~
- ~~Do not apply surface fertilizer within 50 feet of any stream channel.~~
- Store fuel and maintain all equipment in staging areas that are at least 150 feet away from any waters of the State, waters of the U.S., or storm inlet or on an impervious surface that is isolated from any waters of the State, waters of the U.S., or storm inlet.
- If temporary access roads are needed within 150 feet of any body of water, use existing routes unless new routes are shown or approved.
- Before beginning work on temporary access routes that are not shown, submit a proposal to the Engineer for approval.

(Use this subsection (2) when Section 00245 is required.)

(2) Work Area Isolation - Provide work isolation according to Section 00245. Provide safe passage around or through the isolated work area for adult and juvenile migratory fish unless passage did not previously exist.

(3) Water Intake Screening - Install, operate, and maintain fish screens on each water intake used for project construction, including pumps used to isolate an in-water work area. When drawing or pumping water from any stream, protect fish by equipping intakes with screens having a minimum 27% open area and meeting the following requirements:

- Perforated plate openings shall be 3/32 inch or smaller.
- Mesh or woven wire screen openings shall be 3/32 inch or smaller in the narrowest direction.
- Profile bar screen or wedge wire openings shall be 1/16 inch or smaller in the narrow direction.

Choose size and position of screens to meet the following criteria:

Type	Approach Velocity [1] (Ft./Sec.)	Sweeping Velocity [2] (Ft./Sec.)	Wetted Area of Screen (Sq. Ft.)	Comments
Ditch Screen	≤ 0.4	Shall exceed approach velocity	Divide max. water flow rate (cfs) by 0.4 fps	If screen is longer than 4 feet, angle 45° or less to stream flow
Screen with proven self-cleaning system	≤ 0.4	–	Divide max. water flow rate (cfs) by 0.4 fps	–
Screen with no cleaning system other than manual	≤ 0.2	–	Divide max. water flow rate (cfs) by 0.2 fps	Pump rate 1 cfs or less

[1] Velocity perpendicular to screen face at a distance of approximately 3 inches
[2] Velocity parallel to screen

Provide ditch screens with a bypass system to transport fish safely and rapidly back to the stream.

(Use the following subsection (4) when special aquatic habitats are required. Obtain information from the Environmentalist.)

(4) Special Aquatic Habitats - The following exploration or construction activities are not allowed in special aquatic habitats:

- Use of pesticides and herbicides, unless allowed according to Section 01030.
- Use of short pieces of plastic ribbon to determine flow patterns.

- Temporary roads or drilling pads built on steep slopes, where grade, soil type, or other features suggest a likelihood of excessive erosion or slope failure.
- Exploratory drilling in estuaries that cannot be conducted from a work barge, or an existing bridge, dock, or wharf.
- Installation of a fish screen on any permanent water diversion or intake that is not already screened.
- ~~Projects that require in-water installation of hollow steel piling greater than 24 inches in diameter, or use of H-pile larger than designation HP24.~~
- Drilling or sampling in an EPA-designated Superfund Site, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information, ~~or~~ U. S. Army Corps of Engineers representative, or the Agency.

(5) Site Restoration - Restore damaged streambanks to a natural slope, pattern, and profile suitable for establishment of permanent woody vegetation unless precluded by pre-project conditions (for example: natural rock substrate):

- Replant all damaged streambanks before the first April 15 following construction.
- If use of large wood, native topsoil, or native channel material is required for the site restoration according to the roadside development plans, stockpile all large wood, native vegetation, weed-free topsoil, and native channel material displaced by construction. Cut trees or large wood and trees into pieces of no less than 20 feet in length, or as shown on the roadside development plans or as directed. Stockpiled native wood and vegetation remain the property of the Agency.
- Stabilize all disturbed soils, including obliteration of temporary access roads, following any break in work unless construction will resume in 4 Calendar Days.

(6) Surface Water Diversions - Surface water may be diverted to meet construction needs other than work area isolation, consistent with Oregon law, only if water from sources that are already developed, such as municipal supplies, small ponds, reservoirs, or tank trucks, is unavailable or inadequate, and meeting the following conditions:

- When alternative surface sources are available, divert from the stream with the greatest flow.
- Install, operate, and maintain a temporary fish screen.
- Do not exceed a pumping rate and volume of 10% of the available flow. For streams with less than 5 cubic feet per second, do not exceed drafting of 18,000 gallons per day. Do not use more than one pump for each site.

(7) Hydro-Acoustic - Unless otherwise shown or approved, ~~Hollow~~ steel piling ~~24 inches in diameter or smaller and H-pile designated as HP24 or smaller~~ may be installed below the ordinary high water as follows:

- Minimize the number and diameter of pilings, as feasible.
- Repairs, upgrades, and replacement of existing pilings consistent with these conditions are allowed. In addition, up to five single pilings or one dolphin consisting of three to five pilings may be added to an existing facility.

- Whenever feasible, use vibratory hammer for piling installation. Otherwise, use the smallest drop or ~~hydraulic~~ impact hammer necessary to complete the job, and set the drop height to the minimum necessary to drive the piling.
- For all pile installed or removed, maintain a pile installation and removal log and submit the log when the related work is completed. Include types, sizes, locations, installation or removal methods, and dates in the log.
- When using an impact hammer to drive or proof steel piling within a body of water, or as directed, use one of the following sound attenuation devices to effectively dampen sound~~using an impact hammer to drive or proof steel pile, one of the following sound attenuation devices must be used to reduce sound pressure levels by 20 dB.~~:
-

  - ~~Place a block of wood or other sound dampening material between the hammer and the piling being driven.~~
  - Completely isolate the pile from the waters of the state and waters of the U.S. by dewatering the area around the pile according to Section 00245.
  - If water velocity is ~~1.7 miles per hour~~ 1.6 feet per second or less, surround the pile~~ing~~ being driven ~~by an unconfined~~ with a bubble curtain that ~~will~~ distributes small air bubbles around 100% of the piling perimeter for the full depth of the water column~~. Contract the Project Manager for guidance on how to deploy an effective, economical bubble curtain.~~ and is in accordance with the guidance in Appendix 10 of The ODOT-FHWA Programmatic Endangered Species Act Consultation on the Federal-Aid Highway Program (FAHP) User's Guide. The FAHP User's Guide is available on the Agency's website at:

    http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/Pages/fahp.aspx

  - If water velocity is greater than ~~1.7 miles per hour~~ 1.6 feet per second, surround the piling being driven by a confined bubble curtain (for example: a bubble ring surrounded by a fabric or metal sleeve) that will distribute air bubbles around 100% of the piling perimeter for the full depth of the water column and is in accordance with the guidance in Appendix 10 of The ODOT-FHWA FAHP User's Guide.
  - ~~Written approval of an alternative sound attenuation plan may be requested to the U. S. Army Corps of Engineers through the Project Manager, provided the plan will maintain sound pressure levels below 150dB rms (1 micro Pascal) for a minimum of 50% of the driver strikes, and peak sound pressure levels below 180 dB rms (1 micro Pascal) for all strikes.~~

(8) Drilling, Boring, or Jacking - If drilling, boring, or jacking is used, the following conditions apply:

- Design, build, and maintain facilities to collect and treat all construction and drilling discharge water using the best available technology applicable to site conditions. Provide treatment to remove debris, nutrients, sediment, petroleum hydrocarbons, metals, and other pollutants likely to be present. An alternate to treatment is collection and proper disposal offsite.

- Isolate drilling operations from wetted stream to prevent drilling fluids from contacting waters of the state ~~and~~ or waters of the U.S.
- Use casing to prevent loss of drilling fluid to the subsurface formation. Do not drill open hole.
- If it is necessary to drill through an over-water bridge deck, use containment measures to prevent drilling debris from entering the stream channel.
- If drilling fluid or waste is released to surface water, wetland or other sensitive environment, cease all drilling pending written approval from appropriate regulatory agencies through the Project Manager to resume drilling.
- Recover all waste and spoils if precipitation is falling or imminent. Recover, recycle, or dispose of all drilling fluids and waste to prevent entry into flowing water.

  - Recycle drilling fluids using a tank instead of drill recovery/recycling pits, whenever feasible.
  - When drilling is completed, make attempts to remove the remaining drilling fluid from the sleeve (for example: by pumping) to reduce turbidity when the sleeve is removed.

(9) Treated Wood - Treated wood includes any wood treated with any pesticide or wood preservatives. Do not use lumber, pilings, or other wood products that are treated or preserved with pesticidal compounds below the ordinary high water (OHW) or as part of an in-water or over-water structure, except as described below:

- Store treated wood shipped to the Project out of contact with standing water and wet soil, and protected from precipitation.
- Visually inspect each load and piece of treated wood. Reject for use in or above aquatic environments if visible residues, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present.
- ~~Pilings treated with ammoniacal copper zinc arsenate, chromated copper arsenate, or creosote may be installed below OHW provided that no more than 50 piles are used. No other use for treated wood or preservative type is allowed below or over the OHW.~~
- Use pre-fabrication to the extent feasible. When field fabrication is necessary, all cutting and drilling of treated wood, and field preservative treatment of wood exposed by cutting and drilling, shall occur above the OHW. Use tarps, plastic tubs, or similar devices to contain the bulk of any fabrication debris, and wipe off any excess field preservative.
- All treated wood structures, including pilings, shall have design features to avoid or minimize impacts and abrasion by livestock, pedestrians, vehicles, vessels, and floats.
- Treated wood may be used to construct a bridge, over-water structure or an in-water structure, with the exception of the work containment system, provided that all surfaces exposed to leaching by precipitation, overtopping waves, or submersion are coated with a water-proof seal or barrier are maintained. Apply and contain coatings and paint-on field treatment to prevent contamination. Surfaces that are not exposed to precipitation or wave attack, such as parts of a

timber bridge completely covered by the bridge deck, are exempt from this requirement.

- During demolition of treated wood, ensure that no treated wood debris falls into the water. If treated wood debris does fall into the water, remove it immediately.
- Store removed treated wood debris in appropriate dry storage areas, at least 150 feet away from the regulated work area.

(10) Piling Removal - Remove temporary or permanent piling according to the following:~~If a temporary or permanent piling will be removed, the following conditions apply:~~

- Dislodge the piling with a vibratory hammer, whenever feasible.
- Once loose, place the piling onto the construction barge or other appropriate dry storage site.
- ~~Ensure remaining treated wood piling is broken, cut, or pushed at least 3 feet below the sediment surface and covered with a cap of clean, native substrates that match surrounding streambed materials.~~
- ~~Fill holes left by each piling with clean, native sediments whenever feasible.~~

(Use the following bullet when future river dredging is anticipated where piles are being removed.)

- When piles are not completely removed, locate each unremoved pile and submit the locations to the Agency. Submitted pile locations shall be accurate to within 10 feet of the actual pile location.

a. Non-Treated Piling - Use the following methods to remove non-creosote piling:

(Use the following bullet when piling will be removed from uncontaminated sediment. Check with the Region HazMat Coordinator.)

- If a pile in uncontaminated sediment cannot be removed or breaks, cut or push the pile or stump off at least 3 feet below the surface of the sediment and cover with a cap of clean, native substrates that match surrounding streambed materials.

(Use the following bullet when piling will be removed from contaminated sediment. Check with the Region HazMat Coordinator.)

- If a pile in contaminated sediment cannot be removed or breaks above the sediment line, cut the pile or stump off at the sediment line. If the pile breaks below the sediment line, make no further effort to remove it.
- Fill holes left by each pile with clean, native sediments whenever feasible.
- Do not excavate to remove piling.

b. Treated Piling - To minimize toxic release, sediment disturbance, and total suspended solids, use the following methods to remove treated piling:

- Install a floating surface boom to capture floating surface debris.
- Keep all equipment out of the water, grip piles above the waterline, and complete all work during low water and low current conditions.
- Dislodge the piling with a vibratory hammer, whenever feasible. Do not intentionally break a pile by twisting or bending.
- Slowly lift the pile from the sediment and through the water column.
- Place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment.

(Use the following bullet when piling will be removed from uncontaminated sediment. Check with the Region HazMat Coordinator.)

- If a pile in uncontaminated sediment cannot be removed or breaks, cut or push the pile or stump at least 3 feet below the surface of the sediment and cover with a cap of clean, native substrates that match surrounding streambed materials.

(Use the following bullet when piling will be removed from contaminated sediment. Check with the Region HazMat Coordinator.)

- If a pile in contaminated sediment cannot be removed or breaks above the sediment line, cut the pile or stump of at the sediment line. If the pile breaks below the sediment line, make no further effort to remove it.
- Fill the hole left by each removed or partially removed pile with clean, native sediments and cap with clean, native substrates that match surrounding streambed materials immediately after removal.
- Dispose of all removed piles, floating surface debris, contaminated supplies, and sediment spilled on work surfaces at a permitted upland disposal site.

(11) Ditch and Culvert Cleaning - Complete ditch cleaning, culvert and trash rack cleaning by working from the top of bank, unless work area isolation would result in less habitat disturbance.

- Do not work more than 20 feet upstream or downstream the culvert or trash rack.
- Remove only the minimum amount of wood, sediment, or other natural debris necessary to maintain the facility's function, without disturbing spawning gravel or changing the configuration of the original ditch, unless the new configuration is part of the project design.
- Place all large wood, cobbles, and gravels recovered from during culvert and trash rack cleaning downstream from the structure.
- Complete drift removal in the following priority, as directed:

  - Pull and release whole logs or trees downstream.
  - Pull whole logs and trees and place in the riparian area, as directed.
  - Remove whole logs or trees only if roadside development plans have been developed for replacement in-kind.

- Pull, cut only as necessary, and release logs and trees downstream.

(12) Floating Structures - The following types of over-water or in-water structures are not allowed:

- boat house
- boat ramp made of asphalt
- buoy or float in an active anchorage or fleeting area
- covered moorage
- floating storage unit
- houseboat
- marine
- pier
- non-water related facilities (including staging areas) inside riparian management areas
- any other over-water structure more than 6-feet wide unless otherwise approved in writing by appropriate regulatory agencies through the Project Manager

The following conditions apply to floatation structures:

- Concrete boat ramps that consist of pre-cast concrete slabs below the ordinary high water elevation, and higher elevation portions that are completed in the dry so that no wet concrete that has cured less than 24 hours is allowed to contact any wetland or waters of the state ~~and~~ or waters of the U.S.
- Rock may be used to construct a boat ramp footing, or other protection necessary to prevent scouring, down-cutting, or failure of the boat ramp, provided that the rock does not extend further than 4 feet from the edge of the ramp in any direction.
- Any replacement roof, wall, or garage door for covered moorages and boat houses must be made of translucent materials or skylights. In addition, each side, except the door, of the boat house shall have windows at least 4 feet wide installed the length of the boat house, subject to breaks only for structural support.
- An existing marina may be modified within the existing footprint of the moorage, or in the water more than 50 feet from the shoreline and more than 20 feet deep, except that structures may not be placed in areas that support aquatic vegetation or areas where boat operations may damage aquatic vegetation.
- Fit all pilings, mooring buoys, and navigational aides with devices to prevent perching by piscivorous birds.
- Permanently encapsulate all synthetic flotation material to prevent breakup into small pieces and dispersal in water.
- Install small temporary floats less than 7 Calendar Days before a scheduled event, remove them five days after a scheduled event is concluded, and do not leave them in place longer than 21 Calendar Days.
- Install mooring buoys and temporary floats (for example: shellfish traps) more than 300 feet from native submerged aquatic vegetation, more than 50 feet from the shoreline, and in water deeper than 20 feet deep at all times, or as necessary to

ensure that gear does not ground out unnecessarily, and boats do not prop wash the bottom.

(Use the following paragraph, bullets, and sub-bullets when using a barge.)

[Begin barge paragraph and bullets.]

When using a barge:

- Before moving the barge to the project site, unless the barge is transported solely by water from within the state of Oregon, inspect the barge and ballast for invasive species to ensure that invasive species are not brought to the project site. Contact the Oregon State Marine Board if invasive species are found.
- Before moving the barge to the project site, clean and pressure wash the barge deck.
- Do not use impact hammers for spud placement.
- Install and maintain containment measures to prevent barge surface runoff from flushing oil, fuel, or other contaminants into the water.
- Secure all equipment, portable toilet facilities, and containers with fuel, hazardous materials, or waste to the barge deck.
- If the barge is equipped with a toilet facility, pump it out into an approved waste removal system when work requiring a barge is complete, or as often as is necessary. Move temporary toilet facilities to shore before pumping them out.
- If a fuel container is used on the barge, provide a double-walled fuel container and place an absorbent containment boom around the container when it is on the barge.
- Remove hand carried fuel containers from the barge at the end of each work shift unless containers are secured to the barge and stored within a secondary containment vessel of sufficient capacity to hold the entire volume of liquid available.
- Refill hand carried fuel containers within a secondary containment vessel of sufficient capacity to hold the entire volume of liquid available.
- Provide individual containment for each piece of equipment on the barge, including containment pans or absorbent booms to locally contain minor spills.
- Remove waste material from the barge at least every 3 working days and before any pause in work that is longer than 1 day or before reaching the calculated safe load weight of the barge.

[End barge paragraph and bullets.]

(13) Temporary Power, Communication and Water Lines - Before installing temporary power, communication, or water lines across streams or bodies of water, submit a proposed plan to the Engineer for approval. Do not begin installation before receiving approval from the Engineer. Proposed plans for installation of temporary power, communication, and water lines and stream crossings shall utilize the following design methods in the listed order of priority:

1. Aerial lines, including lines hung from existing bridges.

2. Directional drilling, boring and jacking that spans the channel migration zone and any associated wetland.

3. Trenching, which is restricted to intermittent streams and may only be used when the stream is naturally dry. For all sections of trenches below the ordinary high water line, backfill with native material and cap with clean gravel suitable for fish use in the project area.

Align each crossing as perpendicular to the watercourse as possible. For drilled, bored, or jacked crossings, ensure that the line is below the total scour prism. Return any large wood displaced by trenching or plowing as nearly as possible to its original position, or otherwise arranged to restore habitat functions.

(14) Injured Fish Notification - If a dead or injured fish is found in the project area, immediately notify the Agency. If the injured fish is in a location where further injury or stress may take place, attempt to move the fish to a safer location, if one is available, near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead or dies while being captured or moved, save the fish and any tags. The Agency will notify appropriate regulatory agencies about the injured or dead fish and provide additional direction to the Contractor.

[End subsection .34(c)]

(Use the following subsection .36(b) when there is potential disturbance to maternal bat colonies. Delete what does not apply. Obtain information from Environmentalist.)

00290.36(b) Bats - Add the following to the end of this subsection:

Protect bats by doing the following:

- Schedule bridge demolition outside of the bat breeding season (___(date)___ to ___(date)___).
- If this is not feasible and if approved by the Project Manager, apply exclusionary methods prior to this date to exclude bats from accessing suitable habitat. An exclusionary device is any method that denies birds physical access to the nest site area (for example: nets and hole blockers).
- Exclusionary devices must be installed a minimum of 15 days prior to this period.
- Inspect, maintain, and repair exclusionary devices to prevent active occupancy by bats during period listed above.

(Use one of the following option lead-in paragraphs and subsection .36(c)'s as directed by instruction below. Delete the one that does not apply. Obtain information from the Environmentalist.)

[Use this lead-in paragraph and subsection .36 when migratory birds or bats are known to use the bridge or vegetation in the area and avoidance is feasible. Modify as needed. Delete items that do not apply.]

[Begin option 1 subsection .36(c)]

Add the following subsection:

00290.36(c) Avoid Nesting - Comply with Migratory Bird Treaty Act (16 U.S.C. 703-712). Submit a migratory bird protection plan for review and approval at least 10 Calendar Days before the pre-construction conference. Include the following:

- Describe measures to avoid disturbance to migratory bird nesting habitat (vegetation, structures) from March 1 to September 1 of each year.
- Do not begin work until the migratory bird protection plan is approved.
- In the event the nesting birds or bats are encountered during construction, the Engineer may suspend the work according to 00180.70

[End option 1 subsection .36(c)]

[Use this lead-in paragraph and subsection .36(c) when migratory birds or bats are known to use the bridge or vegetation in the area and avoidance is NOT feasible. Modify as needed. Delete items that do not apply.]

[Begin option 2 subsection .36(c)]

Add the following subsection:

00290.36(c) Prevent Nesting - Comply with Migratory Bird Treaty Act (16 U.S.C. 703-712). Submit a migratory bird protection plan for review and approval at least 10 Calendar Days before the pre-construction conference. Include the following:

- Provide a list of qualified personnel experienced in bird identification, including a summary of their qualifications. A qualified individual shall have at least 2 years of work experience identifying nesting birds in the Pacific Northwest.
- Describe measures to avoid disturbance to migratory bird nesting habitat (vegetation, structures) from March 1 to September 1 of each year. If complete avoidance is not feasible, describe measure and method to prevent birds and bats from nesting within the Project Site. Describe measures to install, inspect, maintain, and repair exclusionary devices and/or harassment methods, and a schedule for installing, inspecting, and removing exclusionary measures.
- Do not begin work until the migratory bird protection plan and the implementation schedule are approved.
- Prevent nesting by native birds on structures to be removed or repaired and on vegetation to be removed as follows:
    - Install, inspect, repair and maintain exclusionary methods or begin harassment methods to prevent nesting of native birds in, on, or under the structures and the vegetation from March 1 to September 1 of each year.
    - If exclusionary measures have been installed or harassment methods have begun on-site prior to NTP, within 15 Calendar Days of the preconstruction conference, assume responsibility for ensuring that native birds do not nest in, on, or under the

structures or the vegetation, according to Agency's migratory bird protection plan, including maintaining and inspecting exclusionary measures.

- Using qualified personnel from the list, perform inspections on the structures (and the vegetation) according to the implementation schedule for nesting activity and effectiveness of exclusionary measures. Document inspections and maintain documentation on-site.
- Remove existing bird nests only if no eggs or young are found.
- Meet with the Agency Biologist, the Engineer, and inspector on-site if nests containing eggs or young are found.
- Use equivalent materials when repairing or replacing damaged exclusionary measures.
- If on-site work is completed prior to September 1, discontinue exclusionary measures or harassment methods.

In the event the Contractor fails to prevent nesting of native birds, the Engineer may suspend the work according to 00180.70.

Unless authorized in writing by the Engineer, return to the Engineer, within 5 Calendar Days of removal, all exclusionary measures applied by others prior to the NTP for the Project.

[End option 2 subsection .36(c)]

(Use the following lead-in paragraph and subsection .36(d) when there is high noise production work near listed birds. Change "(d)" to "(c)" if either of the above (c)'s are NOT used. Obtain information from Environmentalist.)

[Begin subsection .36(d)]

Add the following subsection:

00290.36(d) Wildlife Avoidance/Harassment (High Noise) - For purposes of this project, "high noise" is defined as sound pressure levels greater than 10 dBA above the ambient as measured by the L_{AFmax} and L_{AFeq} at sensitive habitat as shown:

(Use the following bullets when suitable habitat for marbled murrelet is located within one mile of the project.)

- Non-blasting high-noise producing construction activities are not allowed between April 1 and August 5. Blasting activities within one mile of sensitive habitat shall be conducted only between September 15 and March 30.
- Non-blasting high noise producing construction activities conducted from August 6 to September 15 shall implement a daily limited operating period of daytime work being conducted from two hours after sunrise to two hours before sunset. If night construction is needed, then activity shall be conducted one hour after sunset to one hour before sunrise.

(Use the following bullet when nesting or communal roosting sites for bald eagles are within one mile of blasting activities, 0.5 mile line of sight of construction activities, or 0.25 mile of construction activities.)

- High-noise producing activities, including blasting, are allowed only between November 1 and August 31.

(Use the following bullets when there is suitable habitat for northern spotted owl near the project site. Delete what does not apply.)

- Blasting and high-noise producing activities shall be prohibited during the following critical nesting period:

  - March 1 to July 7 for the North Coast Province.
  - March 1 to June 30 for the Rogue/Siskiyou National Forest (NF) and Medford District of U.S. Bureau of Land Management (BLM) in the Southwest Province.
  - March 1 to July 15 for the Umpqua NF in the Southwest Province.
  - March 1 to July 15 for the Willamette Province.
  - March 1 to September 30 for the Deschutes NF, Fremont, and Winema NF and unlisted areas.

[End subsection .36(d)]

(Use the following subsection .41(b) when required by relevant permits. Obtain information from the Environmentalist.)

00290.41(b) Disturbing Wetlands - Add the following to the end of this subsection:

Permits have been obtained for this project from the [US Army Corps of Engineers (Corps)] and the [Department of State Lands (DSL)]. Keep a copy of Corps and DSL permits at the project site during construction. These permits authorize the placement of _____ cubic yards of fill within wetlands located at Station(s)_____. A total of ____ acres of wetlands will be permanently filled and _____ acres will be temporarily impacted. Changes to the project that may increase the amount of fill placed in wetlands or the acreage of wetlands impacted are not authorized.

(Use the following lead-in paragraph and subsection .42 when a work containment plan and a work containment system are required, such as for bridge demolition or paint removal. Delete items that do not apply. Fill in the blanks as needed. Obtain information from Environmentalist.)

[Begin subsection .42]

Add the following subsection:

00290.42 Work Containment Plan and System - A work containment plan (WCP) and a work containment system (WCS) are required on this Project for _____ activity(ies).

Develop and submit a WCP for approval at least 28 Calendar Days prior to mobilization for ____ activity(ies). Maintain a copy of the WCP on the Project Site at all times during construction, readily available to employees and inspectors. Ensure that all employees comply with the provisions of the WCP. Design the WCP to avoid or minimize disturbance

to protected features (property, sensitive cultural or natural resources, the Regulated Work Area, or other features identified by Agency) related to Contractor operations.

Before developing the WCP, meet with Agency to review the Contractor's activities that require a WCP and WCS and to ensure that all parties understand the locations of protected features to be avoided and the measures needed to avoid and protect them.

Notify the Project Manager at least 10 Calendar Days before beginning WCS construction activities.

The Agency reserves the right to stop work and require the Contractor to change the WCP methods and equipment before any additional Contract work, at no additional cost to the Agency, if and when, in the opinion of the Agency, that such methods jeopardize the safety of traffic, the integrity of the new structure, damage protected features, or destroy aquatic life or habitat in the Regulated Work Area.

Provide a WCP and a WCS according to the following:

(a) Work Containment Plan (WCP) - The WCP shall identify the prevention of delivery of construction debris, material or other contaminants to protected features, caused by the Contractor's construction operations including but not limited to mobilization, construction, maintenance, and demolition. Implement the WCP as approved. The WCP shall:

- Include relevant construction, operation, or demolition activities.
- Include a work containment system to provide complete containment measures that prevent construction waste, debris, rubble (for example: dust, concrete debris and saw cutting by-products, welding slag, and grindings) and work materials from damaging protected features.
- Not require any tree removal, clearing, or grubbing, unless approved by the Project Manager.
- Prohibit the use of treated timber.
- Prohibit the use of concrete form release agents within waters of the State, ~~and~~ waters of the U.S., wetlands, drainage ditches, water quality facilities, or other water conveyances.
- Include full containment of fueling procedures.
- Require the WCS to be fire retardant or resistant to fire from welding slag, torch operation or any sparks from the Work.
- Require the WCS to be weather resistant.

(Use one of following bullets depending on permit conditions. Delete what does not apply. Fill in the blank with stream or bridge name.)

- Prohibit barge use at _____ .
- Barge use is allowed only at _____ .

(In (b) below, select either "repair" or "removal" as appropriate. Delete the one that does not apply. Remove the parentheses around the word that remains.)

(b) Work Containment System (WCS) - The WCS shall consist of a containment system that is rigid and in place before (repair) (removal) work begins, as described in the WCP. Design the containment system for not less than the system self-weight plus 25 psf live loading, or system self-weight plus debris weight plus removal equipment weight, or load combinations. Debris weight includes the possibility of a concrete form failure, concrete spills, and any other construction material load imposed on the containment system.

The WCS shall show specific attention to the need for special care in demolition work. Provide all required shoring, bracing, barricades, fencing, and other devices that may be required, and exercise all necessary precautions to fully protect pedestrian, vehicular, and navigation traffic, and to minimize disturbance to protected features and to prevent damage to the new bridge or other structures.

The WCS shall be designed and stamped by a registered Professional Engineer. Include all load assumptions and calculations and submit stamped working drawings to the Agency according to 00150.35.

[End subsection .42]

(Use the following subsection .51 when there are known sensitive cultural sites on the project. Fill in the blanks.)

00290.51 Protection of Sensitive Cultural Sites - Add the following to the end of this subsection:

There are sensitive cultural sites on this Project. At the time of preparation of the Plans, there were _____ sites identified.

(List Tribal Representative and Agency Archaeologist below. Do not include phone numbers. Delete if not applicable.)

The Tribal Representative for this Project is _____.

The Agency Archaeologist for this Project is _____.

All contact with the Tribe or the Agency Archaeologist shall be through the Project Manager's office.

Contractor, Inspector, ODOT Regional Environmental Coordinator and Agency Archaeologist will discuss location of archaeological sites and high probability areas, prior to construction. Identify all No Work Zones with orange plastic mesh fencing from the QPL or lath and flagging, as shown.

An Archaeological/Tribal Monitor has been selected for this project.

(Use the following subsection .90 when a work containment plan and a work containment system are required, when staging areas are required, when there are known sensitive cultural sites on the project, or when turbidity monitoring is required. Remove the parentheses in "paragraph(s)" when more than one

paragraph below is used. Remove "(s)" when only the plastic mesh fencing paragraph is used.)

00290.90 Payment - Add the following paragraph(s) to the end of this subsection:

(Use the following paragraphs when a work containment plan and a work containment system are required.)

The work containment plan and the work containment system will be paid for at the Contract lump sum amount for the item "Work Containment Plan and System".

Payment will be payment in full for furnishing all materials, equipment, labor, and incidentals necessary to complete the work as specified. Payment includes providing and updating the work containment plan and for designing, constructing, maintaining, and removing the containment system.

(Use the following paragraphs when turbidity monitoring is required.)

The accepted quantities of turbidity monitoring will be paid for at the Contract lump sum amount for the item "Turbidity Monitoring".

Payment for turbidity monitoring will be payment in full for furnishing and placing all materials and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

(Use the following paragraph when staging areas are required or when there are known sensitive cultural sites on the project.)

No separate or additional payment will be made for orange plastic mesh fencing.