

**ODOT PROJECT DELIVERY
OPERATIONAL NOTICE PD-04**

**JOBS AND TRANSPORTATION ACT
(JTA) SECTION 18**

**ENVIRONMENTAL PERFORMANCE
STANDARDS
AND
TECHNICAL GUIDANCE**

Prepared by

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CONTENTS

I INTRODUCTION.....	3
II BACKGROUND.....	3
III ENVIRONMENTAL PERFORMANCE STANDARDS AND TECHNICAL GUIDANCE	4
A. AQUATIC BIOLOGICAL RESOURCES	5
B. TERRESTRIAL BIOLOGICAL RESOURCES.....	9
C. STORMWATER MANAGEMENT.....	12
D. EROSION AND SEDIMENT CONTROL	14
E. POLLUTION CONTROL.....	16
F. CULTURAL RESOURCES.....	17
G. ENHANCEMENTS	21
IV EPS IMPLEMENTATION GUIDANCE	23
A. EPS IN PROJECT DEVELOPMENT	23
B. EPS IN CONSTRUCTION MANAGEMENT	25
V APPENDIX.....	26
A. DEFINITIONS	26

Environmental Performance Standards and Technical Guidance

I Introduction

This document defines the primary environmental performance standards (EPS) to be achieved when designing and constructing state highway construction projects, including local agency highway construction projects funded by ODOT, and the supporting technical guidance for the EPS. These EPS do not apply to non-STIP work conducted by ODOT Maintenance Districts.

II Background

The Jobs and Transportation Act (JTA) is a law passed by the 2009 Oregon Legislature to support transportation infrastructure. Section 18 of the JTA required ODOT to adopt an Oregon Administrative Rule (OAR), taking into consideration (a) incorporating EPS into the design and construction of all ODOT and local agency highway construction projects funded by ODOT, and (b) improving the environmental permitting process for state highway construction projects. The Oregon Transportation Commission adopted these administrative rules in May 2011 (OAR 734-024-0005 to 0040).

What are EPS?

As defined by the OAR, EPS are the “acceptable levels of environmental performance specified for project activities.” In other words, they define environmental outcomes (or results) to be attained for project activities. Levels of environmental performance can range from high-level environmental standards (“avoid or minimize impacts to water quality”) down to more specific quantitative criteria required by permit condition (“stream turbidity shall not exceed 10% above background turbidity levels except for...”).

What are EPS intended to do?

Currently, permit requirements from environmental regulatory agencies are dominated by prescriptive standards, which specify how ODOT must do something regardless of project and site specifics: a particular erosion control method must be used; certain in-water work window restrictions must be adhered to; specific forms and procedures must be used to obtain approval; etc.

By adopting outcome-based performance standards into agency policy, ODOT seeks to demonstrate that the same environmental outcomes as required by regulatory agency permits can be achieved by adopting the EPS. An additional goal is to improve our ability to select the most efficient and cost-effective ways to build our projects.

How were EPS developed?

ODOT organized interdisciplinary, interagency workgroups to develop the EPS. Participation by regulatory agency liaisons helped ensure the EPS are consistent with regulatory permit requirements. The workgroups developed EPS for broad natural and cultural resource management categories. The work groups used the common laws and permits with which ODOT highway construction projects typically must comply, as well as ODOT's mission and values, written policies, and technical guidance.

How are regulatory requirements differentiated from enhancements in the EPS?

For specific highway projects, the first step in determining which EPS are triggered is to identify the environmental and cultural permitting requirements. Enhancement opportunities are a separate consideration based on project constraints and context. An enhancement is an action included in a project that goes above and beyond the regulatory requirements (e.g., providing bat habitat on bridges).

Additionally, designing to many of the EPS can have ancillary benefits for natural and cultural resources. For example, by meeting fluvial performance standards for stream crossings, resource benefits are provided for both aquatic and terrestrial animals and plants that may go beyond what is required by regulation.

How does one know if the EPS are met?

The EPS were developed to be high-level outcome statements that can be met on all STIP project types. ODOT has and will continue to maintain a strong commitment to environmental stewardship in highway projects, adopting many standard permit requirements into our Design Manuals, Standard Specifications, Special Provisions, and programmatic permits. This guidance references the documents mentioned above for the specific details of how to ensure the high-level EPS are met on highway projects. In a nutshell, if a project is following the requirements of ODOT technical manuals (Hydraulics, Erosion Control, etc.), Standard Specifications, Special Provisions and applicable permits (Standard Local Operating Procedures for Endangered Species Programmatic Biological Opinion IV [SLOPES IV], ODOT-Federal Highway Administration Endangered Species Act Programmatic Biological Opinion [ODOT-FHWA ESA Programmatic], etc.), the high-level EPS outcomes are being met.

III Environmental Performance Standards and Technical Guidance

This section specifies the primary EPS to be achieved when designing and constructing state highway construction projects, including local agency highway construction projects funded by ODOT. The EPS are intended to meet state and federal laws and regulations, general permit conditions, and ODOT policies, as well as to ensure protection of the "natural" environment while facilitating projects that build, maintain, improve, preserve, and protect the "built" environment. Technical guidance resources

are provided for achieving the EPS with references to state and federal regulations and ODOT policy, where appropriate.

A. Aquatic Biological Resources

1. AQUATIC BIOLOGICAL RESOURCES EPS

Apply to construction activities within the regulated work area that may affect aquatic species and their habitats.

High-Level Goal: Protect state and federal Endangered Species Act (ESA)-listed aquatic species and their habitats, and aquatic species and habitats protected by other applicable state and federal laws and regulations.

Primary EPS:

- Avoid or minimize incidental take of state and federal ESA-listed fish species and adverse impacts to these fish species from construction activities within the regulated work area.
- Avoid disturbance to marine mammals.
- Implement streambank protection actions that avoid or minimize impacts to streams, aquatic habitat, and floodplain functions.
- Avoid or minimize habitat modification that impairs the ability of aquatic species to complete essential biological behaviors.
- For stream crossing structures, avoid or minimize impacts to normative physical processes within the stream-floodplain corridor.
- Provide upstream and downstream passage for native migratory fish.

2. AQUATIC BIOLOGICAL RESOURCES TECHNICAL GUIDANCE

ODOT has several resources available to implement avoidance and minimization measures, provide guidance, and comply with federal and state regulatory requirements. The Aquatic Biological Resources EPS were developed so that when these resources are updated or expanded the EPS language and performance outcomes remain the same. The biology manual listed below is currently under development.

General Guidance

- ODOT-FHWA ESA Programmatic Guidance Manual (pending)
- Oregon Department of Fish and Wildlife (ODFW) In-water Work Windows for Oregon 2008
http://www.dfw.state.or.us/lands/inwater/Oregon_Guidelines_for_Timing_of_InWater_work2008.pdf

Fish Passage and Screening

- National Marine Fisheries Service (NMFS) Fish Screening Criteria for Anadromous Salmonids <http://swr.nmfs.noaa.gov/hcd/fishscrn.pdf>
- NMFS Anadromous Salmonid Passage Facility Design http://www.habitat.noaa.gov/pdf/salmon_passage_facility_design.pdf
- ODFW Fish Passage Criteria <http://www.fws.gov/midwest/Fisheries/StreamCrossings/images/PDF/ODFW%20Fish%20Passage%20Criteria%20-%202004.pdf>
- ODFW Fish Passage Plans, waivers, exemptions, and background information <http://www.dfw.state.or.us/fish/passage/>

Other Resources

- ODOT 2011 Hydraulics Manual (Chapters 9 and 10 for temporary water management, fish passage) ftp://ftp.odot.state.or.us/techserv/geo-environmental/Hydraulics/Hydraulics%20Manual/Table_of_Contents_rev_Nav.pdf
- ODOT Geotechnical Design Manual: (Chapter 3.8 Environmental Protection during Exploration, Chapter 8 Foundation Type Selection) ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Geotech/GeoManual/Final_GDM_April2012/GDM_April_2012_Final.pdf
- ODOT Bridge Design and Drafting Manual (BDDM) http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
 - Riprap Details 1.1.3.1
 - Permits 1.1.2.9.10.2
 - Elements of TS&L Design that Inform the Biological Assessment 1.1.2.11
 - Cofferdams 1.1.3.3 & 1.4.9.6
 - Underwater Construction 1.1.6
 - Bridge Length 1.1.2.2
 - Structure Layout: Spans and Proportions 1.1.2.3
 - Substructure Choices 1.1.2.5
 - Hydraulics 1.1.3.4
 - Foundation Design 1.1.5
 - Determining Bridge Length 1.1.8.1
 - Wingwall Location 1.1.8.2
 - Deck Drainage 1.1.20.3
 - Preservative Treatments (Timber) 1.3.5

- Bridge Temporary Works (Detour Bridges, Falsework, Shoring, Cofferdams, Bridge Raising) 1.4.9
- ODOT Biology Manual (Draft)
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/manual_procedures_practices.shtml#Biology
- SSPC The Society for Protective Coatings, Guide 6 “Guide for Containing Debris Generated During Paint Removal Operations”
- ODOT Bridge Standard Specifications
http://www.oregon.gov/ODOT/HWY/SPECS/docs/08book/08_00500.pdf

00501	Bridge Removal
00503	Bridge Deck Cold Plane Pavement Removal
00510	Structure Excavation and Backfill
00512	Drilled Shafts
00520	Driven Piles
00570	Timber Structures
00581	Bridge Drainage Systems
00594	Preparing and Coating Metal Structures
00595	Reinforced Concrete Box Culverts
00596	Retaining Walls
00597	Sound Walls
- ODOT Historic Bridge Field Guide (Pending)
<http://www.oregon.gov/ODOT/HWY/BRIDGE/Pages/index.aspx>

Special Provisions

- http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00200
- http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00500
- http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
- ODOT Bridge Special Provisions
http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf

00501	Bridge Removal
00503	Bridge Deck Cold Plane Pavement Removal
00510	Structure Excavation and Backfill
00512	Drilled Shafts
00520	Driven Piles
00536 I	Internal Shear Anchors
00538	Crack Injecting Existing Bridges
00556	Multi-Layer Polymer Concrete Overlay

00557	Premixed Polymer Concrete Overlays
00559	Silica Fume and Latex Modified Concrete Overlays
00570	Timber Structures
00581	Bridge Drainage Systems
00592	Spray Waterproofing Membrane
00594	Preparing and Coating Metal Structures
00595	Reinforced Concrete Box Culverts
00596	Retaining Walls

Additional Bridge Specification Language – Examples

00594.07 Barge Use

http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/JTA/00594_Barges.pdf

03200 Submarine Cable for Movable Bridge

http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/JTA/03200_Submarine_Cable.pdf

B. Terrestrial Biological Resources

1. TERRESTRIAL BIOLOGICAL RESOURCES EPS

Apply to construction activities within a project area that may affect terrestrial species and their habitats within the action area.

High-Level Goal: Protect state Endangered Species Act (ESA) listed and federal ESA-listed plant and wildlife species and their habitats; also plant and wildlife species and their habitats protected by other applicable state and federal laws.

Primary EPS:

- Avoid or minimize take of wildlife protected under the state and federal ESA, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act and adverse impacts to wildlife species from construction activities within the action area.
- Avoid or minimize habitat modification that impairs the ability of terrestrial species to complete essential biological behaviors.
- Avoid habitat modification that jeopardizes state and federal ESA-listed plants.

High Level Goal: Restore roadside areas temporarily disturbed by highway construction projects in ways that are both cost-effective and environmentally responsible.

Primary EPS:

- Revegetate newly exposed surfaces with appropriate native species when practicable.
- Where required by permit conditions or ODOT policies, restore the site to pre-impact or better topography, hydrology, soil quality, and vegetation, and replace other impacted habitat structures (e.g., snags, downed wood, and rock piles).
- Design and manage highway projects and related facilities, such as disposal sites, staging areas, and haul roads, to minimize the establishment and spread of noxious weeds.

2. TERRESTRIAL BIOLOGICAL RESOURCES TECHNICAL GUIDANCE

ODOT has existing resources to implement avoidance and minimization measures, provide guidance, and comply with federal and state terrestrial regulatory requirements. The Terrestrial Biological Resources EPS were developed in such a way that when these resources are updated, the EPS language and performance outcomes would remain the same.

General Guidance

- ODOT-FHWA Programmatic Guidance Manual (pending)
- ODOT Biology Manual (draft)
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/manual_procedures_practices.shtml#Biology

Other Resources

- ODOT Bridge Design and Drafting Manual (BDDM)
http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
 - Permits 1.1.2.9.10.2
 - Elements of TS&L Design that Inform the Biological Assessment 1.1.2.11
 - Bat Habitat 1.4.11
 - Bridge Length 1.1.2.2
 - Structure Layout: Spans and Proportions 1.1.2.3
 - Substructure Choices 1.1.2.5
 - Foundation Design 1.1.5
 - Determining Bridge Length 1.1.8.1
 - Wingwall Location 1.1.8.2
 - Preservative Treatments (Timber) 1.3.5
 - Bridge Temporary Works (Detour Bridges, Falsework, Shoring, Cofferdams, Bridge Raising) 1.4.9
- SSPC The Society for Protective Coatings, Guide 6 “Guide for Containing Debris Generated During Paint Removal Operations”
- ODOT Bridge Standard Specifications
http://www.oregon.gov/ODOT/HWY/SPECS/docs/08book/08_00500.pdf
 - 00501 Bridge Removal
 - 00503 Bridge Deck Cold Plane Pavement Removal
 - 00510 Structure Excavation and Backfill
 - 00512 Drilled Shafts
 - 00520 Driven Piles
 - 00545 Reinforced Concrete Bridge End Panels
 - 00570 Timber Structures
 - 00581 Bridge Drainage Systems
 - 00594 Preparing and Coating Metal Structures
 - 00595 Reinforced Concrete Box Culverts
 - 00596 Retaining Walls
 - 00597 Sound Walls
 - 00599 Concrete Slope Paving

- ODOT Bridge Special Provisions
http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
 - 00501 Bridge Removal
 - 00503 Bridge Deck Cold Plane Pavement Removal
 - 00510 Structure Excavation and Backfill
 - 00512 Drilled Shafts
 - 00520 Driven Piles
 - 00536 Internal Shear Anchors
 - 00538 Crack Injecting Existing Bridges
 - 00545 Reinforced Concrete Bridge End Panels
 - 00556 Multi-Layer Polymer Concrete Overlay
 - 00557 Premixed Polymer Concrete Overlays
 - 00559 Silica Fume and Latex Modified Concrete Overlays
 - 00570 Timber Structures
 - 00581 Bridge Drainage Systems
 - 00592 Spray Waterproofing Membrane
 - 00594 Preparing and Coating Metal Structures
 - 00595 Reinforced Concrete Box Culverts
 - 00596 Retaining Walls
 - 00597 Sound Walls
 - 00599 Concrete Slope Paving

- Section 290 Environmental Special Provisions
http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00200
 - 290.32 Noise Control
 - 290.34 Protection of Fish and Fish Habitat
 - 290.36 Protection of Wildlife and Wildlife Habitat
 - Migratory Birds
 - 290.38 Protection of Plants
 - Section 320 Clearing and Grubbing (page 76)

C. Stormwater Management

1. STORMWATER MANAGEMENT EPS

High-Level Goal

Manage post-construction stormwater runoff from highway projects to protect the receiving waters and support their beneficial uses.

Primary Stormwater Management EPS

- Water Quality: Manage highway stormwater runoff quality to protect the beneficial uses of the receiving surface and ground waters.
- Flow Control: Manage highway stormwater runoff volumes and discharges to protect the form, function and stability of the receiving waters.

2. STORMWATER MANAGEMENT TECHNICAL GUIDANCE

ODOT Stormwater EPS Guidance

http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/JTA/Stormwater_EPS_TechCriteriaImplementation_Attachment%28032513%29.pdf

General Guidance

- ODOT Hydraulics Manual. The official design guidance for stormwater treatment facility and flow control facility design. Also discusses the process and criteria for selecting specific treatment techniques. http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/hyd_manual_info.shtml#top
- ODOT Stormwater Facilities O&M Manuals and Maintenance Tables. The primary required maintenance practices for each type of stormwater treatment facility. <http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/omm.shtml>
- ODOT Stormwater Management Program Website. Contains both general and detailed information on ODOT's stormwater management program. http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/storm_management_program.shtml
- ODOT Water Resources Specialist Manual. Contains information necessary to assist environmental specialist assess water resources impacts and coordinate with stormwater engineers. ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Environmental/Procedural%20Manuals/water_resources_manual/water_resources_manual.pdf

- ODOT Precipitation Viewer. Provides site specific information about storm size for several return intervals as well as the water quality design storm.
\\sn-salemmill-1\GIS\PROJECTS\Precipitation_GIS

Other Resources

- ODOT Bridge Design and Drafting Manual
Section 1.1.20.3 of the Bridge Design and Drafting Manual provides guidance for bridge deck drain design.
http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
- WSDOT Highway Runoff Manual. Additional resource for hydrology and stormwater management facility design. Includes information on infiltration facilities not included in the ODOT Hydraulics Manual, and information on infiltration in filter strips (Chapter 5 section 5-4.2.2)
<http://www.wsdot.wa.gov/Environment/WaterQuality/Runoff/HighwayRunoffManual.htm>

D. Erosion and Sediment Control

1. EROSION AND SEDIMENT CONTROL EPS

Apply to construction activities that may cause transport of sediment from project sites and discharge to waters of the state.

High-Level Goal: Manage project construction activities to avoid or minimize sediment loss from project sites and discharging to waters of the state.

Primary EPS:

- Minimize soil exposure.
- Stabilize and manage disturbed areas.
- Divert clean water away from disturbed areas.
- Limit sediment transport from exposed areas.

2. EROSION AND SEDIMENT CONTROL TECHNICAL GUIDANCE

ODOT has many existing resources to implement an effective Erosion and Sediment Control Program to comply with regulatory requirements as well as Oregon Standard Specifications for Construction.

Existing Erosion and Sediment Control Resources

- ODOT Erosion Control Manual
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/erosion_control_manual_nav.pdf
- ODOT Erosion Control Field Manual
<ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Environmental/Procedural%20Manuals/Erosion%20Control%20Manual/ODOT%20Erosion%20Control%20Field%20Manual%202006.pdf>

Other Resources

- Standard Drawings
http://egov.oregon.gov/ODOT/HWY/ENGSERVICES/roadway_drawings.shtml#Rdwy_1000_Erosion_Control
- Standard Details
http://egov.oregon.gov/ODOT/HWY/ENGSERVICES/details_environmental.shtml#Erosion_and_Sediment_Control
- Monitoring Report
<ftp://ftp.odot.state.or.us/techserv/construction/Construction%20Forms/2361.xls>

- Standard Specs – 00280
http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00200
- Turbidity Monitoring Report
<http://www.odot.state.or.us/forms/odot/highway734/2755.xls>

E. Pollution Control

1. POLLUTION CONTROL EPS

Apply to project situations where there is a risk of release of pollutants that pose a risk of impacting human and environmental health.

High-Level Goal: Prevent release of pollutants from project sites.

Primary EPS:

- Identify potential contaminants and hazardous materials as early as possible.
- Store and use materials (and equipment) in a way that prevents releases of pollutants.
- Manage waste to minimize environmental impacts.
- Respond to spills immediately and clean up completely.

2. POLLUTION CONTROL TECHNICAL GUIDANCE

ODOT has resources to help in compliance with regulatory requirements, ODOT policies, and ODOT standard specifications.

Pollution Control Resources

- ODOT Contaminated Site Management Policy:
http://intranet.odot.state.or.us/ssb/bss/p&p/ENV_16-02_POLICY.pdf
- ODOT HazMat Program Procedures Guidebook:
<ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Environmental/Procedural%20Manuals/HazMat/HazMatProgramProceduresI.doc>
- OTIA III Bridge Delivery Program Materials and Contamination Performance Standards Manual:
http://www.obdp.org/site/view_pdf/?pdf=/files/partner/environmental/MaterialsandContaminationManual.pdf
- Oregon Standard Specifications For Construction, Section 00290:
http://www.oregon.gov/ODOT/HWY/SPECS/docs/08book/08_00200.pdf
- ODOT HazMat Boiler Plate Special Provisions:
http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00200

- Pollution Control Plan Contractor Packet: (Available upon request from the ODOT State HazMat Program Lead)

Other Resources

- Special Provisions
 - http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00500
 - Section 00594 and 01205 include detailed specifications for containment for bridge painting and cathodic protection. 01205 is a pending special provision.
- ODOT Bridge Design and Drafting Manual (BDDM)
 - http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
 - Permits 1.1.2.9.10.2
 - Elements of TS&L Design that Inform the Biological Assessment 1.1.2.11
 - Deck Drainage 1.1.20.3
 - Preservative Treatments (Timber) 1.3.5
 - Bridge Temporary Works (Detour Bridges, Falsework, Shoring, Cofferdams, Bridge Raising) 1.4.9
- SSPC The Society for Protective Coatings, Guide 6 “Guide for Containing Debris Generated During Paint Removal Operations”
- ODOT Bridge Standard Specifications
 - http://www.oregon.gov/ODOT/HWY/SPECS/docs/08book/08_00500.pdf
 - 00501 Bridge Removal
 - 00503 Bridge Deck Cold Plane Pavement Removal
 - 00570 Timber Structures
 - 00581 Bridge Drainage Systems
 - 00594 Preparing and Coating Metal Structures
- ODOT Bridge Special Provisions
 - http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
 - 00501 Bridge Removal
 - 00503 Bridge Deck Cold Plane Pavement Removal
 - 00536 Internal Shear Anchors
 - 00538 Crack Injecting Existing Bridges
 - 00556 Multi-Layer Polymer Concrete Overlay
 - 00557 Premixed Polymer Concrete Overlays
 - 00559 Silica Fume and Latex Modified Concrete Overlays
 - 00570 Timber Structures

00581 Bridge Drainage Systems
00592 Spray Waterproofing Membrane
00594 Preparing and Coating Metal Structures

F. Cultural Resources

High-Level Goal: Avoid or minimize project impacts to properties that are listed or are eligible to be listed on the National Register of Historic Places (NRHP).

1. “ABOVE-GROUND” CULTURAL RESOURCES

Apply to project impacts within the ODOT-State Historic Preservation Office (SHPO) defined area of potential effect that may affect above-ground cultural resources and their historic boundaries.

Primary EPS

- Avoid or minimize modification to resource features that allow the resource to be eligible or listed in the NRHP.
- Avoid or minimize the use of land within the historic boundary of an NRHP eligible or listed resource, with higher protection emphasis on those features that make the resource eligible for the NRHP.
- Avoid or minimize significant visual and audible impacts to features that allow a resource to be an NRHP eligible or listed resource.
- Mitigate adverse effects to an NRHP eligible or listed resource.

2. ARCHAEOLOGICAL CULTURAL RESOURCES

Apply to project impacts within the ODOT-SHPO defined area of potential effect that may affect archaeological cultural resources.

Primary EPS:

- Avoid or minimize impacts to archaeological sites that are eligible or listed in the NRHP.
- Mitigate adverse effects to an NRHP eligible or listed resource.
- Avoid or minimize impacts to historic properties of religious and cultural significance to Indian Tribes and other historic properties that are eligible for listing on the NRHP for in-place preservation.
- Avoid impacts to properties that have been identified as potential historic properties, but which have not yet been evaluated.

3. CULTURAL RESOURCES TECHNICAL GUIDANCE

ODOT utilizes several existing resources to implement avoidance and minimization measures, provide guidance, and comply with federal and state cultural resource regulatory requirements. The Cultural Resources EPS were developed in such a way that when these technical guidance resources are updated, the EPS language and performance outcomes will remain the same.

Applicable Legislation and Regulations

- National Historic Preservation Act
- 36 CFR 800
- Department of Transportation Act
- 23 CFR 771 and 774
- ORS 97.740 – Indian Graves and Protected Objects
- ORS 182.162 - Government to Government
- ORS 358.905-.961 – Archaeological Sites and Objects

General Guidance

- Secretary of The Interior's Standards
http://www.cr.nps.gov/local-law/arch_stnds_0.htm
- ODOT Cultural Resources Manual
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/pages/manual_procedures_practices.aspx#cultural
- FHWA 4(f) policy paper
<http://www.environment.fhwa.dot.gov/4f/4fpolicy.asp>
- ODOT/FHWA/ACHP/ORSHPO December 23, 2011 Programmatic Agreement (to be utilized for FHWA projects only)
ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Cultural_Resources/Historic/Documentation_Forms_and_Examples/Example%20Section%20106%20documents/Section_106_PA_Draft_Document.pdf
- ODOT Historic Bridge Preservation Plan 2007
<ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Environmental/Procedural%20Manuals/Cultural%20Resources/Procedures%20Guidance/ODOT%20Historic%20Bridge%20Preservation%20Plan.PDF>
- Slab, Beam and Girder Bridges in Oregon - Historic Context Statement 2004
ftp://ftp.odot.state.or.us/Region1_Projects/HighwayHistory/SBG_Bridges_in_Oregon.pdf
- Oregon Interstate Highway Overview 2004
<ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Environmental/Other%20Environmental%20Materials/OTIA%20III%20Environmental%20Program/Historic%20Context%20Studies/Oregon%20Interstate%20Highway%20Overview%202004.pdf>

Other Resources

- Special Provisions
http://www.oregon.gov/ODOT/HWY/SPECS/2008_special_provisions.shtml#Part_00290
- Special Provision Updates
<http://www.oregon.gov/ODOT/HWY/SPECS/updates.shtml>
- ODOT Bridge Design and Drafting Manual (BDDM)
http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/bddm/nov-2011_finals/section_1-2004_rev_nov-2011.pdf
 - Protection of Recreational/Cultural Resources 1.1.2.9.4
 - Permits 1.1.2.9.10.2
 - Elements of TS&L Design that Inform the Biological Assessment 1.1.2.11
- ODOT Historic Bridge Field Guide (Pending)

G. Enhancements

ODOT Project Teams are to consider enhancement activities on all highway construction projects. With respect to the environment, “enhancement” means an opportunity to be considered and is not a requirement. Enhancements include activities that benefit cultural and natural resources and go beyond the agreed-upon regulatory requirements whether in planning, design, or construction. The decision whether to include a specific enhancement in a project rests with the project team.

Characteristics of enhancement opportunities include actions that are:

- Opportunistic and typically low-cost when compared to the project budget and provide a substantial cultural or ecological benefit.
- An outgrowth or extension of work already planned, constructed, or maintained, or is similar in scope and location to such work.

The table below provides examples of typical enhancement activities incorporated into highway construction projects. Identification of potential enhancement opportunities should be considered during the scoping phase of project development.

Common Enhancements on ODOT Highway Projects Associated with EPS

Enhancement Examples	EPS Resource Categories						
	Aquatic	Terrestrial	Stormwater	ESC	PC	Cultural	Unregulated Resources
Riparian plantings	X	X	X	X			X
Providing fish passage (when not required by Oregon law)	X						X
Adding instream structures/boulders	X						X
Removal of artificial channel obstructions	X						X
Creation of off-channel habitat	X						X
Stabilizing sources of erosion	X		X	X			X
Installing snags, down logs, and perches	X						X
Native rare plant seed propagation	X	X				X	
Upland plantings and seeding		X				X	X
Gateway treatments in response to local government requests							X
Installing fences to protect sensitive areas		X				X	X
Seasonal work scheduling to benefit endangered and threatened species.		X					X
Wildlife passage (e.g., ledges inside culverts or bridges, underpasses)	X	X					X
Informational signage	X	X				X	X
Noxious and exotic weed removal		X				X	X
Installing bat habitat on bridges							X
Installing bird and falcon nesting boxes and platforms		X					X
Peregrine falcon hacking and bridge maintenance timing to accommodate birds		X					X
Redirecting additional stormwater runoff to take advantage of Low Impact Development opportunities.			X				

Enhancement Examples	EPS Resource Categories						
	Aquatic	Terrestrial	Stormwater	ESC	PC	Cultural	Unregulated Resources
Provide treatment of stormwater from areas that are not within a project's Contributing Impervious Area when such treatment is not required for mitigation of shortfalls in regulatory required treatment.			X				X
Use of in-kind materials to replace deteriorated historic features.						X	

IV EPS Implementation Guidance

A. EPS in Project Development

Direction and guidelines are provided for considering and incorporating EPS into highway project development and construction activities. Enhancement policy and associated EPS for enhancement are addressed in the Enhancement section.

Scoping

EPS should be considered at scoping to help avoid unanticipated project costs from permit requirements and to ensure enhancement options are considered and, where appropriate, included in the project budget.

Key EPS considerations for environmental staff at Scoping:

- Identify applicable EPS given project purpose and design concept, and site conditions.
- Communicate applicable EPS and enhancement opportunities to the project development team in project scoping notes and in the Prospectus Part 3.

Project Kickoff

The EPS determined to be applicable at Scoping should be reevaluated at project kickoff.

Key EPS considerations for Project Development Teams (PDTs) at Project Kickoff:

- Identify EPS triggered by the project.
- Inform project team of the presence of natural or cultural resources and potential contamination sources within the project limits.
- Identify and inform the project team of enhancement opportunities.
- Review and confirm applicable EPS and required permits for the project.
- Determine potential design constraints from environmental requirements based upon Scoping and Part 3 research.

Design Acceptance Phase (DAP)

Key EPS considerations for PDTs at DAP:

- Ensure the design incorporates features needed to meet EPS that could affect the amount of right-of-way needed for permit requirements such as stormwater treatment, roadside development, on-site mitigation, etc.
- Consider more efficient alternatives with less life-cycle costs in achieving the EPS and permit requirements.
- Enhancements that affect the scope, schedule, or budget should be incorporated by DAP.
- Consider whether to include additional enhancement activities in the project scope.
- Determine the constraints the EPS will place on project design.
- Identify and confirm environmental commitments for the project.

Preliminary Plans

Key EPS considerations for PDTs at Preliminary Plans:

- If the project footprint changes from DAP, continue to identify and consider reasonable design modifications to avoid or minimize impacts to natural and cultural resources.
- Ensure the design is consistent with both the high level and primary EPS that apply to the project.
- Update PDT when project scope changes cause additional or fewer EPS to become applicable (e.g., addition or removal of in-water work, tree clearing to project scope).
- Review and/or provide special provisions that include environmental permit requirements and address how to fulfill environmental commitments.

Advanced Plans

Key EPS considerations for PDTs at Advanced Plans:

- Ensure project plans and specifications detail the work necessary to satisfy EPS and regulatory requirements in a manner that can be understood, implemented, and enforced.
- Ensure bid items or anticipated items cover labor and materials related to environmental compliance (e.g., Animal and Plant Health Inspection Service (APHIS) migratory bird surveys, archaeology monitoring, turbidity monitoring).
- Determine if reasonable alternatives to avoiding or minimizing impacts to cultural or natural resources have been identified and appropriately considered.

B. EPS in Construction Management

As long as projects are implemented and constructed as designed, the EPS are presumed to be met. Site-specific conditions can necessitate an adjustment in design and construction. EPS will be met if these changes are in accordance with the direction provided in plans and specifications that are developed specifically to meet site-specific conditions (e.g., Pollution Control Plans, Erosion Control Plans, and Bridge Removal Plans).

V. Appendix

A. Definitions

Enhancement - With respect to the environment, an opportunity to be considered, not a requirement. Enhancement includes activities that go beyond the agreed-upon regulatory requirements whether in planning, design, construction, maintenance, or operations. For purposes of this Guidance, enhancements are natural or cultural resource improvements added to or resulting from a highway construction project.

Environmental Commitment - Includes any required, negotiated, or voluntary action that is intended to avoid, minimize, and mitigate environmental impacts of a project.

Environmental Performance Standards - Acceptable levels of environmental performance specified for project activities.

Environmental Stewardship - The responsibility for environmental quality while developing and managing the transportation infrastructure. It means actively working to protect and enhance our natural and cultural resources for current and future generations. It is demonstrated through continuous improvement of environmental performance while conducting the scope and purpose of ODOT's mission.

Mitigation -

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

Project Milestones - Key highway project delivery system steps, such as scoping, project kickoff, and design acceptance package (DAP).

Technical Guidance - ODOT directives, operational notices, technical bulletins, manuals, and other project delivery or permitting guidance documents.