

Record of Decision
Final Environmental Impact Statement
FHWA-OR-EIS-04-2-F
Pioneer Mountain to Eddyville
US 20
Lincoln County, Oregon

Decision

The Federal Highway Administration (FHWA), with the Oregon Department of Transportation (ODOT,) has decided to construct the Preferred Alternative of the Pioneer Mountain to Eddyville project on US 20, the Corvallis to Newport Highway, in Lincoln County, Oregon. The selection of this project alternative is based on the analysis in the Final Environmental Impact Statement (FEIS), consideration of public comments on the Draft Environmental Impact Statement (DEIS) and the need to improve this Statewide Highway to modern safety and design standards applicable to this section of US 20. The project replaces an existing 10-mile segment on primarily a new alignment built to modern safety and design standards, reducing the length to 7 miles. The new roadway will have two 12-foot travel lanes, a 14- to 16-foot median, where needed, and 12-foot climbing lanes in both directions approaching the highest elevation near Crystal Creek. The project is the Preferred Alternative described and shown in Figures 2-2 through 2-38 in the FEIS. The project is located between Pioneer Mountain and Eddyville, from mile points 14.68 to 24.75 on the Corvallis to Newport Highway.

Alternatives Considered

The Draft Environmental Impact Statement (DEIS) evaluated one Build Alternative and the No Build Alternative. The decision to include these alternatives in the DEIS results from decisions made subsequent to the release of a state-funded DEIS released in 1993. In the 1993 DEIS, two build alternatives were considered, a public hearing was held, and a preferred alternative was selected. Lack of funding resulted in the project being placed on hold, and as a result the Final Environmental Impact Statement (FEIS) was not completed. However, after receiving public and agency comments on the 1993 DEIS, ODOT recommended the elimination of Alternative 1 from further review, while proceeding with Alternative 2 with Design Option A (Option 2A) as the preferred alternative. Alternative 2 Option 2A had fewer impacts on the surrounding environment than Alternative 1.

Project work resumed in 1999, and ODOT made several modifications to the Alternative 2 Option 2A project alignment and structures. Modifications were based on comments received from the public and resource agencies through the 1993 DEIS process and afterwards, and on the addition of salmonid species listed under the Endangered Species Act since 1993. The modifications included shifts in the proposed alignment to avoid sensitive areas and a decision to convert three culvert designs to bridges to better accommodate wildlife movement. These new bridges are at Simpson Creek, Trapp Creek and Crystal Creek. In addition, ODOT developed right-of-way commitments for material disposal areas. These modifications to Alternative 2 Option 2A from the 1993 stated-funded

DEIS resulted in the Build Alternative that was analyzed in the DEIS addressed in this Record of Decision (ROD).

During the preparation of the Biological Assessment (BA) and the FEIS, negotiations with the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service, Oregon Department of Fish and Wildlife (ODFW), the State Historic Preservation Office (SHPO) and the Confederated Tribes of Siletz Indians resulted in further refinements to the Build Alternative. These refinements to the design have resulted in a preferred alternative presented in the FEIS. The changes to the Build Alternative in the interval between the DEIS and the FEIS are explained in Section 2 Preferred Alternative of the FEIS.

During preparation of the 1993 DEIS, ODOT examined additional alignments early in the process prior to selecting Alternatives 1 and 2 for analysis in the 1993 DEIS. Preliminary Alignments A through E are described in the FEIS, including reasons for their modification or dismissal in the 1993 DEIS process.

The following is a brief description of each of the alternatives analyzed for this project, including the reasons for selecting or rejecting an alternative or preliminary alignment. The description begins with the Preferred Alternative in the FEIS, followed by the No-Build Alternative, and then Alternatives considered earlier in the process.

The reasons for selecting or rejecting the alternatives are *italicized*.

Preferred Alternative

The Build Alternative as described in the DEIS is the Preferred Alternative, with some minor design changes. The following is a description of the Preferred Alternative. A complete description of the Preferred Alternative, including design changes undertaken after the DEIS, is contained in Section 2 and Appendix A of the FEIS.

The Preferred Alternative will replace an existing 10-mile segment (from milepoints 14.68 to 24.75) with a new alignment built to modern safety and design standards, reducing the section to about 7 miles. The new roadway will have two 12-foot travel lanes, a 14- to 16-foot median where needed, and 12-foot climbing lanes in both directions approaching the highest elevation near Crystal Creek. There will be 8-foot paved shoulders, except for 6-foot shoulders adjacent to the climbing lanes.

Access will be managed with major connections to Sams Creek Road, Elk City Road, and Deer Creek Road, plus connections to the existing US 20 near the western and eastern ends of the project.

The Preferred Alternative is anticipated to have two bridges over Simpson Creek, one bridge over the railroad, and one bridge each over Yaquina River, Trapp Creek, Crystal Creek, and Little Elk Creek. There are several culverts for smaller creek crossings along the project. These crossings include three unnamed tributaries to Cougar Creek, three for Eddy Creek, one for the unnamed tributary to Eddy Creek Tributary B, and two tributaries for Little Elk Creek.

Numerous cuts and fills, several of them very large, are anticipated. The project is expected to generate about 6 million cubic yards of material. By pre-designating locations for selective fill sites on the project, it is anticipated that earthwork can be balanced, or that the

cut/fill material to be exported/imported would be minimized. Approximately 5 million cubic yards of material will be used as fill on the project, and 1 million cubic yards of material will be permanently located in selected fill sites adjacent to the project.

No signals or lighting are planned for the project.

The following changes have been made to the Preferred Alternative since the release of the DEIS, primarily in response to concerns raised by NOAA Fisheries Service, ODFW, SHPO, and the Confederated Tribes of Siletz:

- Development of a stormwater management system, that meets performance standards designed to minimize impacts to fish-bearing streams.
- Minimization of interbasin transfer of waters to the extent practicable.
- Location of stormwater facilities outside of the 100-foot buffer from either ordinary high water or the existing waterway.
- Stormwater management measures to maintain pre-project hydrographic characteristics to the maximum extent feasible.
- Replacement of the existing culvert at Station 646+76, with a fish passage culvert.
- Replacement of the culvert at Elk City Road with a bridge.
- Provisions for wildlife passage at four locations.
- Retaining wall at Cougar Creek to avoid impacting the confluence of Cougar Creek and its tributaries.
- Design of culverts for several tributaries mapped and surveyed since release of the DEIS.
- Mitigation measures at the Yaquina Meadows selective fill site being negotiated with ODFW.
- Salmon Viewing Area to be provided from Station 670+00 to 690+00.
- Shift in alignment at the Yaquina River crossing and the Yaquina Meadows area.

In addition to meeting the Project Purpose and Need by providing an alignment constructed to modern safety and design standards, the Preferred Alternative had the following advantages over other alternatives examined during project development:

- *The design features described in this discussion of the Preferred Alternative reduce environmental impacts to fisheries, wildlife, water quality and other natural resources more specifically than alternatives previously analyzed.*
- *Alternative 2 Option 2A, which evolved into the Preferred Alternative, was selected for advancement over Alternative 1 because it had fewer environmental impacts. These impacts are outlined below.*
- *Preliminary Alignments A through E all had greater direct impacts than the Preferred Alternative. These impacts are outlined below.*

In summary, the Preferred Alternative has been selected through a process that has discarded more environmentally intrusive alternatives to ones with fewer environmental impacts at each stage of project development. The Preferred Alternative in the FEIS is the environmentally preferred alternative that causes the least damage to the biological and physical environment.

The No-Build Alternative

Selection of the No-Build Alternative would have meant that the current section of the Corvallis-Newport Highway (US 20) between MP 14.68 and MP 24.75 would remain in place for the foreseeable future, with only routine maintenance to prevent its deterioration.

The stated Project Purpose for the Pioneer Mtn. – Eddyville project in the DEIS EIS is to:

- *Facilitate Safe and efficient movement of existing and future traffic volumes within this segment of US 20.*
- *Improve the safety of US 20 and reduce the crash rates.*
- *Allow the passage of interstate truck traffic.*
- *Provide an improved link to coastal communities for interregional commercial and tourist traffic.*

The No-Build Alternative does not meet the Project Purpose. The accident rate on the existing highway is 57 percent higher than the 10-year average statewide and the 10-year average fatality rate is 11 percent higher than the statewide average. The existing highway cannot be used by large commercial vehicles. This is the last segment of US 20 between Corvallis and Newport that has not been reconstructed to current design and safety standards.

Alternatives Considered but Not Selected

Alternative 1

ODOT's *Hearing Study Report*, published in March 1994, recommended the elimination of Alternative 1 from further review, while proceeding with Alternative 2 with Design Option 2A as the preferred alternative. This report's recommendations were based on external agency comments and public input received at an open house and public hearing in October 1993 and written comments received on the 1993 DEIS.

Alternative 2 was determined to have far fewer impacts on the surrounding environment than Alternative 1. Specifically, Alternative 2:

- *Required fewer bridges over the Yaquina River or the lower reaches of major tributaries, resulting in less adverse effect on fisheries resources, water quality and riparian habitat*
- *Affected 2.24 acres fewer jurisdictional wetlands and four fewer acres of floodplain*
- *Removed nine fewer acres of agricultural land*
- *Required eight fewer acres of rural residential land*
- *Resulted in one fewer residential displacements*
- *Caused substantially fewer impacts to the view sheds and community cohesion*
- *Affected seven fewer residences and businesses with increased noise levels*
- *Affected one to three fewer properties where hazardous substances might have been stored, used or disposed of*
- *Was preferred by the public and agencies over Alternative 1*
- *Was about three miles shorter than existing roadway*

New Roadway Alignments: Preliminary Alignments A through E

The following roadway alignments were considered prior to the analysis of Alternatives 1 and 2 Option 2 A in the 1993 DEIS. Preliminary Alignments A and B were the “parents” to Alternatives 1 and 2 in the 1993 DEIS. All were rejected as a result of greater environmental impacts, extremely large quantities of excess material or resource agency concerns.

Preliminary Alignment A

This alignment was the “parent” to Alternative 1 in the 1993 DEIS. The alignment originally passed over the saddle in the Big Bend area and behind the Eddyville School. It bisected the historic Chitwood town site and included 10 bridges and approximately 580,000 cubic yards of excess material that would have to be disposed of off site. It resulted in 1,500 linear feet of channel changes on Simpson Creek.

The following environmental impacts associated with this alignment were not acceptable:

- *Cut and fill impacts to an ancient landslide*
- *Retaining wall required by the 6 percent grade needed to pass over the mountain.*
- *Passage behind the Eddyville School.*
- *Impacts to the Chitwood town site, which includes properties potentially eligible to the National Register of Historic Places.*
- *Channel changes to Simpson Creek.*

Changes to the alignment that reduced these sets of impacts resulted in Alternative 1 in the 1993 DEIS.

Preliminary Alignment B

This alignment was the “parent” to Alternative 2, and continued refinements to Alternative 2 resulted in the current Preferred Alternative. Preliminary Alignment B has remained largely unchanged except that potential landslide hazard areas are avoided. This alignment was developed because it was the most direct route, avoided existing development more than the other preliminary alignments, included fewer crossings of creeks and the Yaquina River than other alignments, and included substantially less excess material requiring offsite disposal (90,000 cubic yards) than the other alignments. Slight modifications to the alignment balanced the cut and fill amounts, and excess materials were not expected with this alignment. As with Alignment A, the Simpson Creek channel changes were eliminated.

This alignment reduced many social and environmental impacts of other alignments considered. The following impact was not acceptable, and later revisions to this alignment eliminated this impact:

- *Cut and fill impacts to a landslide area*

Preliminary Alignment C

This alignment was generally located in the lower elevations of the Yaquina River Valley. The alignment generally followed the existing highway at Chitwood and included 10 bridges.

This alignment was eliminated because it:

- *Included 10 bridges.*

- *Resulted in 3 million cubic yards of excess material for off-site disposal. The availability of suitable off site locations for disposal is extremely limited. In turn, this large amount of excess material would have major environmental impacts beyond the immediate project area.*

Preliminary Alignment D

This alignment was the same as Preliminary Alignment C except near the saddle in the Big Bend area. The alignment passed behind the Eddyville School and included 13 bridges. It featured a route around the saddle intended to reduce cut and fill;

This alignment was eliminated because:

- *Other features of the alignment resulted in approximately 3.2 million cubic yards of excess material requiring offsite disposal. This large amount of excess material requiring offsite disposal was unacceptable. The off-site disposal of this material would have the same concerns as that for Alignment C above.*
- *It required 13 bridges.*

Preliminary Alignment E

This alignment was located on the ridge and hillside above Chitwood and crossed over the Big Bend saddle. The alignment was located north of the Eddyville Cemetery, included eight bridges, and generated approximately 2.9 million cubic yards of excess material.

This alignment was rejected because:

- *Extensive excess excavation and waste material requiring offsite disposal. Similarly, the off-site disposal of this large amount of excess material would have the same undesirable impacts as Alignments C and D above.*

Measures to Minimize Harm

The Summary of Mitigation and Conservation Measures for this project are described in Chapter 6 of the FEIS. The summary below is broken down into two subsections. The first is for the general project mitigation measures by subject area. The second is for the Conservation Measures that are the Terms and Conditions of the Biological Opinion. ODOT's Standard Specifications for Highway Construction and Best Management Practices will also guide construction. All practicable measures to minimize environmental harm have been incorporated into the decision to select this Build Alternative.

Mitigation Measures

Geology

Structures and Retaining Walls

Mitigation techniques for stabilizing temporary cut slopes for retaining wall excavations include shoring, soil nailing, rock bolting, and flattening back slopes.

Cut Slopes

Mitigation for stability of cut slopes includes avoiding steep slopes (using typical 1.5 horizontal to 1 vertical [1.5H:1V] or gentler, depending on the material and the height of cut) or slope drainage to prevent pore pressure buildup. For rock cut slopes that show continued instability, rock bolts or lateral drainage holes can be installed. Soil slopes that

show continued instability can be buttressed using riprap. Mitigation for rockfalls on otherwise stable slopes includes rock catchment zones or draped mesh.

Blasting Impacts

Mitigation for blasting impacts includes avoiding blasting whenever practicable, and using controlled blasting techniques.

Fills and Embankments

Mitigation for fill stability includes reducing fill height, constructing buttresses, reducing steepness of slopes, benching foundations, and adding foundation improvements, such as riprap and sub-drainage, to prevent saturation and pore pressure buildup. Mitigation for fill settlement includes surcharging early in the construction phase and installing culverts after construction and settlement of the fills, or by pipe jacking or tunneling the culverts into place after fills have settled.

Mitigation for spring flow alterations includes adding sub-drains to provide drainage beneath or around the fill.

Selective Fills

Mitigation for high-water erosion includes placing selective fill above the 100-year floodplain to avoid seasonal high-water flows and periodic floods.

Mitigation for groundwater flow disruption resulting from settlement could include identifying groundwater flow patterns and uses and replacing domestic water sources, if necessary.

Landslides

Mitigation for landslides includes avoiding excavations into existing slides and construction at the heads of slides, or other landslide stabilization techniques, such as drainage, buttresses, or structural stabilization.

Hydrology

100-Year Floodplain

Perform a “no rise” analysis of the 100-year floodplain and obtain Lincoln County’s Floodplain Development Permit prior to construction.

There may be minor encroachment on floodplains at the following crossings:

- Simpson Creek Bridge
- Simpson Creek Bridge at Elk City Road
- Yaquina River
- Trapp Creek

If a determination is made that there is encroachment on a floodplain at one of these crossings, hydraulic studies according to the requirements of 23 CFR 650.11 will be performed. The structures will be designed to meet requirements for no rise in flood elevations.

These locations are considered a low risk for both floodplain impacts and for difficulties in designing to avoid a rise in flood elevations.

The Yaquina Meadows area is out of the 100-year floodplain of the river. In addition, there currently is no FEMA designated floodplain or floodway within the project area.

Additional hydrology mitigation measures are addressed in the Conservation Measures subsection.

Culverts and Bridge Crossings

The Conservation Measures subsection addresses measures to protect hydrological functions at culverts and bridge crossings.

Floodways

The proposed roadway alignment falls outside the “Limit of Detailed Study” in the 1980 Federal Emergency Management Agency (FEMA) Flood Insurance Studies for the Yaquina River and Little Elk Creek. Therefore, there will be no floodway impacts.

Water Quality

Water quality mitigation measures are addressed in the Conservation Measures subsection.

Biological Resources

Wildlife Passage

Deer and Elk. In coordination with ODFW, ODOT will provide site-fitted wildlife crossings in the final design of the project at the following locations:

- Between Trapp Creek and Crystal Creek
- Between Eddy Creek Tributaries A and B
- Between Eddy Creek Tributaries B and C
- Between Eddy Creek Tributary D and Little Elk Creek

ODOT is currently working with ODFW on additional wildlife passage, and will consider fencing, culverts, and other options as described in FHWA’s publication “Critter Crossings”.

Amphibians and Reptiles. The design/build contractor, in coordination with ODOT, will collaborate with ODFW to determine design features that could be incorporated into the project to accommodate amphibian and reptile movements. In particular, these design features will be considered where major stream alterations will occur, such as the total burying or isolation of upper wetland features to downstream wetland features.

Wildlife Habitat

Yaquina Meadows Selective Fill Site. The design/build contractor, in coordination with ODOT and other agencies, will work with ODFW to design a variety of habitat types in this selective fill area. Benching, creation of small draws, integration of stormwater features, variations in vegetation types, placement of woody debris, and other specific design features will be considered.

Fisheries

There are potentially up to 10 stream locations impacted by the project that may require fish passage waivers through ODFW where fish passage may not be restored. ODOT will be applying for a Fish Passage Waiver or Exception through ODFW as needed. This need and locations may change during the design/build process. This is being worked with ODFW to negate or reduce this number.

Other fisheries mitigation measures are addressed in the Conservation Measures subsection.

Wetlands

Minimization Measures

The following measures will be taken to minimize impacts to wetlands and Waters of the State and U.S.:

- Where feasible, minimize encroachment within the Ordinary High Water (OHW) when building bridge stream and river crossings. Where practical, interior bents of bridges will be located outside the OHW.
- Implement velocity control at channelized areas to prevent increased erosion of banks.
- Set culverts at existing grade and maintain water flow to prevent changes in stream flow upstream and downstream from culverts.
- Maintain erosion control at all cut and fill areas using such techniques as silt fences, hay bales, diking, detention and settling ponds, rapid re-vegetation and minimum soil exposure.
- Limit in-water construction activities to the preferred in-water work period recommended by ODFW (July 1 through September 15).
- With the exception of acknowledged impacted wetland areas, flag wetland areas as no-work areas.
- Remove topsoil from permanently impacted wetland areas and stockpile for later use in the mitigation area.

Restoration Measures

The following actions will be used to rehabilitate or repair wetlands areas affected by temporary construction impacts:

- Restore grade immediately after construction to meet upstream and downstream topography.
- Replant all temporarily disturbed areas in and along the banks of rivers or streams with a mixture of wetland plants. Plant species should be native vegetation appropriate for the affected site. Hydroseed exposed earth as soon as feasible following grading or other disturbance for immediate establishment of erosion-controlling vegetation.
- Test soil conditions as part of site-specific re-vegetation plans to determine whether amendments or soil are required at any location to accomplish successful re-vegetation with hydrophytic species. Place soil amendments on sites as recommended based on soil tests.

Compensation Measures

Creating 1.8 acres of compensatory wetlands will mitigate unavoidable impacts to 0.59 acre of wetlands. There are several options being considered for mitigation for 6,136 linear feet of lost riverine habitat. One is to plant a 50-foot-wide riparian buffer along the banks of Little Elk Creek, for a distance of approximately 6,200 feet in the vicinity of the wetland mitigation area. Alternately, 7,280 linear feet of obliterated roadway that will be replanted with trees

serve the same riparian function along the Yaquina River and Simpson Creek may also be considered for the 50' buffer. Riparian planting activities will include removal of Himalayan blackberry in this area. Mitigation for 1,710 feet of relocated channel will involve creation of new channel areas and associated riparian habitat. Relocated channels will be constructed and re-vegetated to match as closely as feasible hydrological and habitat conditions of the original channel.

Replacement of jurisdictional wetlands will be at a 3:1 area ratio. Replacement for lost riverine habitat will involve riparian planting at a 1:1 ratio for length.

Conceptual Mitigation Plan Design

A conceptual mitigation plan, including suggested locations, reference wetlands, and compensatory wetlands has been developed in consultation with the US Army Corps of Engineers, Oregon Department of State Lands and Oregon Department of Fish and Wildlife and is included in the FEIS.

Land Use

The following mitigation measures are being considered for the Preferred Alternative:

- To the extent feasible, design bridges to permit passage of livestock and farm equipment and management personnel in non-flood conditions beneath bridge.
- Permit resource use-related vehicle access to farm or forest parcels as permitted by the OAR 734 Division 51 rules through changes to logging roads and other private access roads.
- Restrict access to the highway consistent with the provisions of state law and the adopted Access Management Plan. Acquire the rights of access where right-of-way is acquired. Where access will be provided, consolidate access to the improved highway.
- Ensure that all highway approach roads to the Build Alternative comply with county Clear Vision Standards and ODOT Access Management requirements.
- Provide potable water or compensation to property owners for whom the water supply system will be severed by construction of the highway.

Socioeconomics

Mitigation will be provided to address socioeconomic impacts, including those related to community facilities, displacements, and access changes. Mitigation measures shall include the following, as appropriate:

- At the initiation of construction, conduct an "all-school" assembly at the Eddyville School to inform students about safety hazards associated with construction of the highway.
- Provide cyclone fencing between the Eddyville School property and the highway right-of-way.
- During the final design, look for methods to minimize the impact to natural resource trails by the Eddyville School.

- Maintain space along the roadway shoulder for bicycles and pedestrians during construction.
- Install temporary signage to inform drivers of potential traffic delays because of construction and heavy equipment entering or leaving the highway.
- Assure reasonable alternative access, which can include payment of damages for logging road reconnections for those logging roads critical to logging operations that were severed during construction of the project.

Right of Way

Compensate property owners for property acquired for new right-of-way. Occupants displaced by a highway project will be eligible for relocation benefits and assistance under the Uniform Relocation Assistance and Acquisition Act of 1971 and its amendments and related Oregon Laws and guidelines, and per the provisions of ODOT's Relocation Assistance Program.

Cultural Resources

Known Archaeological Site, Unit 1

In coordination with the Confederated Tribes of Siletz, the Confederated Tribes of Grand Ronde and the State Historic Preservation Office (SHPO), avoidance and minimization strategies have been developed. Tribal monitors will also be on site during construction in the site area to ensure avoidance and to expedite treatment of any cultural material that may be inadvertently discovered during construction.

Discovery of Unknown Sites During Construction

In the unlikely event of the discovery of human remains during project construction, the proper protocol for such discovery will be implemented. Work in the vicinity of the discovery will stop immediately and the location will be secured. The Lincoln County Sheriff's Office and Medical Examiner, the SHPO archaeologist, the ODOT Project Manager, and the ODOT senior archaeologist will be contacted. If the discovery is determined to be Native American, the Legislative Commission on Indian Services (LCIS), the Confederated Tribes of Siletz, and the Confederated Tribes of Grand Ronde will be notified of the discovery. The Tribes, SHPO, and ODOT will then confer on an appropriate course of action for re-interment.

Visual Resources

Significant unavoidable impacts to visual resources include a reduction in the prevalence of vegetative cover, the natural qualities of landforms, and random colors and textures of the landscapes. To offset such impacts, mitigation measures shall include the following, as appropriate:

- During final design, consider actions that will reduce form, texture, or color contrasts in cut and fill slopes.
- During final design, consider design features that will lessen the visual impacts of retaining walls.
- Consider lessening visual impacts of bridges through rounded surfaces and colors.

- Consider limiting the removal of, replacing, and/or planting vegetation to buffer or screen sensitive viewers from introduced landscape lines or slope scarification.
- At Sams Creek Road/Simpson Creek Viewpoint, consider including riparian vegetation plantings along Simpson Creek and abandoned portions of the highway consistent with the Terms and Conditions of the Biological Opinion (BO) as well as the conceptual mitigation plan.
- To enhance the historic resource of the (restored) Chitwood Covered Bridge, consider providing signage about the bridge for the benefit of travelers.

Air Quality

Watering of exposed soil surfaces will be required to control the generation of dust and pollutants. Reduction of construction equipment speeds can also be imposed, as conditions dictate.

Noise

Considered Project Noise Abatement Measures

No noise mitigation measures are recommended as part of the project due to the cost effectiveness and land use considerations.

Construction Noise Mitigation

The design build contractor will be required to meet construction and noise abatement measures listed in the FEIS, Chapter 6, which includes construction time and distance prohibitions as well as equipment sound control devices. Construction activities will be in compliance with local noise ordinances. Should a noise impact complaint occur during the construction of the project, the construction project manager may require the contractor to implement additional noise mitigation measures.

Hazardous Materials

Based on the findings of the hazardous substance assessment, additional investigations have been recommended for specific sites identified in the DEIS. Where required, as specified in the FEIS, recommendations include a site specific Level 1 Initial Site Assessment and a Level 2 Preliminary Site Investigation.

Conservation Measures

The Conservation Measures contained in the FEIS are the Terms and Conditions of the BO.

This project was developed when the Oregon Coast coho salmon was protected under the Endangered Species List. The BA was submitted to the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service in March 2004 for formal consultation. This BA had been developed in close coordination through near weekly meetings with NOAA Fisheries staff. Subsequently, based on a US 9th Circuit Court of Appeals action, the listing of the Oregon Coast coho salmon was declared unlawful and the protection status was removed. In May 2004, NOAA Fisheries again confirmed that they would consider coho salmon as federally threatened and issuance of a BO would be appropriate. On May 28, 2004, NOAA Fisheries stated that they had all of the information needed to provide the BO. On July 21, 2004, NOAA Fisheries Service signed the Terms and Conditions of the BO as a conference opinion (Opinion).

The Conservation Measures in the FEIS (or Terms and Conditions of the BO) are summarized below. The full text of the Conservation Measures is contained in the FEIS.

Resource Documentation

Applicable parts of the following plans and documents will be used in implementing the best management practices and conservation measures during construction and operation of the project:

- *FHWA Guideline Manual* (Baker and Votapka, 1990)
- NOAA Fisheries Service *Juvenile Fish Screen Criteria for Pump Intakes* (1997)
- NOAA Fisheries Service *Electrofishing Guidelines* (1998)
- NOAA Fisheries Service *SLOPES II Programmatic Biological Opinion* (2002)
- NOAA Fisheries Service *HCD Stormwater Online Guidance – ESA Guidance for Analyzing Stormwater Effects* (2003a)
- NOAA Fisheries Service *Programmatic Biological Opinion on the Federal Highway Administrations' Programmatic Consultation for Statewide Drilling, Surveying, and Hydraulic Engineering Activities in Oregon* (2003b)
- ODOT *Hydraulics Manual* (1990)
- ODOT *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices* (1999a)
- ODOT *Regional Road Maintenance Endangered Species Act Program Guidelines* (1999b)
- ODOT *Standard Specifications for Highway Construction* (2002)
- ODOT *Guidance Document for Preparation of Erosion, Sediment, and Pollution Control Plan (ESPCP)*

Construction Documents

The following documents will be developed specifically for the project prior to construction activities:

- Environmental management plan. This will address legally defined environmental requirements for the project, including minimization of impacts, implementation of required mitigation and conservation measures, and compliance with the terms and conditions of the Biological Opinion, the 404, and other environmental permits. It will also define roles and responsibilities for managing the environmental requirements for the project as well as identify milestones related to environmental commitments.
- Stormwater management plan to minimize the amount and extent of undesirable influence on the natural environment caused by new impervious surfaces and resultant stormwater runoff
- Erosion, sediment, and pollution control plan of practices adopted to prevent erosion, releases of sediment, and other pollutants generated at a site of ground disturbance

- Structure removal plan for removal of existing structures (existing culverts to be replaced)
- Wetted channel isolation plan. This plan will describe the measures used when in-water work is required, particularly compliance with the in-water work window and placement of structures/materials and operation of equipment..
- Compensatory mitigation plan to ensure the proposed action meets the goal of 'no net loss' aquatic functions by offsetting unavoidable long-term adverse effects to streams and other aquatic habitats
- Restoration plan to ensure that all streambanks, soils, and vegetation disturbed by the project are cleaned up and restored
- Plan to control exotic, invasive vegetation. This plan will describe specifics on ensuring noxious or invasive species are not inadvertently introduced on the project, and how the natural occurring undesirable vegetation will be controlled.
- Technical memorandum summarizing reconnaissance findings for Eddy Creek Tributary A and Unnamed Tributary to Eddy Creek Tributary C
- Technical memorandum summarizing reconnaissance findings for Cougar Creek tributaries 3 and 4
- Documentation of vehicle inspection. These inspections will be maintained on site and be available for review by agencies. The intent is to ensure construction vehicles are not leaking fluids and that prompt corrective action is taken if needed.

Following construction activities, the following document will be developed:

- Implementation monitoring report (120-day and annual). This report will describe the success in meeting permit conditions. It will include before and after photos, project specific data to include methods of work isolation, stream bank protection, site restoration or mitigation monitoring, and other related compliance with permit conditions efforts.

Water Quantity Performance Measures

Minimum standards for water quality will be met for the completed project in the subject areas described below. A complete description is provided in the Conservation Measures of the FEIS.

General Stormwater Management Planning

This measure requires a stormwater management plan, logic and science, including modeling, to support the plan and Best Management Practices (BMP's). It requires the maintenance of subbasin hydrologic integrity, minimization of interbasin transfer of runoff, and routing of discharge waters close to the natural receiving area.

Surface Water Modeling

This measure requires hydrologic analyses to determine pre- and post-project stormwater runoff characteristics including peak flow magnitude, peak flow timing, event runoff volume, and runoff duration.

Hydrology

This measure requires that ODOT maintain pre-project hydrograph characteristics to the maximum extent practicable. It includes specific requirements for post-project peak discharge, and stormwater management practices to maintain storm event and inter-event base flows relative to pre-project conditions. Requirements include defined stormwater infiltration and sheet flow parameters, and use of ODOT *Hydraulics Manual*, the NOAA Fisheries Service document titled *HCD Stormwater Online Guidance – ESA Guidance for Analyzing Stormwater Effects*, and other guidance.

Eddy Creek Tributary A and Unnamed Tributary to Eddy Creek Tributary C

The design at these sites will be evaluated in accordance with a process to determine conceptual design options for conveying stream flow through the area of large embankment fills at the specified waterways.

Cougar Creek Tributaries 3 and 4

Available information shall be reviewed, the potential impacts the alignment cut area may have on existing tributary stream flows will be evaluated, and the appropriate design at the site of each of these tributaries will be determined.

Yaquina Meadow Fill Site

Specific measures have been developed to prevent delivery of sediment to surface waters from the excess fill stockpiled at Yaquina Meadow. This includes development and implementation of an erosion, sediment, and pollution control plan, and BMP's for control of sediment laden waters.

Water Quality Performance Measures

Water quality performance measures assume that detention facilities are engineered and built in accordance with ODOT standard specifications and the ODOT *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices* (ODOT, 1999a), and that water quality facility designs will be appropriate for the affected watersheds.

Water quality performance measures will:

- Produce no net degradation, and improve as feasible, short- and long-term water quality conditions associated with stormwater runoff and related pollutant loads from the roadway, bridges, and related project elements and areas, over the full project area.
- Prevent erosion and manage sediment and pollution from project areas.
- Prevent delivery of contaminants to soils and Waters of the State.
- Avoid adverse effects to water quality from construction discharge water (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) by implementing procedures within the Erosion, Sediment, and Pollution Control Plan.

Terrestrial Habitat Performance Measures

Replacement Ratios

The 250 acres cleared for the improved roadway have tree replacement ratios of 1.5:1 to 3:1 depending upon forest type and hydrological status of the affected subbasin.

Wildlife

A list of measures is included in the FEIS to reduce the magnitude and duration of wildlife impacts. Measures provided include control of equipment access during geotechnical exploration, restoration of temporary habitat disturbances, revisions to slope length and grade, incorporation of wildlife habitat features, and others that are conducive directly or indirectly to the health of wildlife and wildlife habitat.

Aquatic Resources Performance Measures

All measures are consistent with ODOT's *Standard Specifications for Highway Construction* (2002), and many are congruent with ODFW's *Waterway Habitat Alteration Policies* (1989).

Although this project does not satisfy all criteria under the NOAA Fisheries Service SLOPES II programmatic biological opinion (NOAA Fisheries Service, 2002), many SLOPES II Reasonable and Prudent Measures, and Terms and Conditions, apply to the proposed action.

The project will address general conditions for surveying, exploration, construction, operation, and maintenance, stream bank protection, stream and wetland restoration, road construction, repairs, and improvements, over-water and in-water structures, and monitoring.

The following aquatic habitat conservation and enhancement measures, including many conservation measures from SLOPES II, are proposed for use on the project.

- Exclusions
- Hydraulic Surveys
- Minimum area for construction impacts
- Timing of in-water work.
- Cessation of Work
- Fish Passage
- Fish Protection
- Fish Salvage
- Environmental Special Provisions

Many of the items above are Standard Specifications or Environmental Special Provisions taken from ODOT's *Standard Specifications for Highway Construction* (2002), and each bullet item has many particulars from those sources. The FEIS contains the complete measures under each bullet item.

Construction Responsibilities

The following subjects are addressed through specific measures contained in the Conservation Measures of the FEIS and Terms and Conditions of the BO:

- Construction Responsibilities
- Erosion, Sediment, and Pollution Control Plan
- Treated Wood
- Preconstruction Activity
- Construction Discharge Water
- Geotechnical Surveys and Drilling
- Stream Crossing Procedures
- Temporary Access Roads

- Temporary Access Road Specifics
- Construction
- Heavy Equipment
- Site Preparation
- Isolation of in-water work area
- Structure removal
- Earthwork
- Streambank protection
- Restoration Plan
- Site Restoration
- Revegetation

Monitoring and Enforcement Plan

The Conservation Measures (Terms and Conditions of the BO) provide specific roles and responsibilities for monitoring and enforcement of all environmental requirements and responsibilities through the completion of construction.

Roles and Responsibilities

ODOT will require an environmental management plan as part of the design/build request for proposal (RFP) for this project.

Role Definitions

At a minimum, the environmental management plan will identify:

- Issuing agencies for permits and approvals whose legal requirements the environmental management plan will address
- Positions, roles, and responsibilities for managing the environmental requirements of the project
- Positions specifically designated to meet the legal requirements of permits and approvals:
 - Environmental Compliance Manager
 - Environmental Construction Monitor

At a minimum, the design/build RFP organizational team will identify the following positions as having specific responsibilities associated or interfacing with the environmental management plan:

- Design Manager
- Project Manager
- Construction Manager
- Quality Control Manager

In addition, the environmental management plan will specify the authority associated with each position.

Wetlands

Monitoring Program

The following parameters are recommended for monitoring the success of the wetland mitigation during and following project construction.

Construction Monitoring

The Environmental Construction Monitor will assist in monitoring construction activities in the stream relocation and wetland impact areas.

Post-Construction Monitoring

The wetland mitigation areas will be monitored to meet state and federal guidelines.

Performance Criteria

The goals for plant material survival rate is 75 percent at the end of the first growing season. At the end of the fifth year of monitoring, the goal is 90 percent cover of desired native species.

Remedial Actions

Remedial actions will be taken if it becomes clear during monitoring that any of the performance criteria are not being met or will not be met.

Each of these measures is described in detail in the FEIS.

Monitoring

The Conservation Measures of the FEIS and the Terms and Conditions of the BO provide measures to ensure completion of a comprehensive monitoring, maintenance and reporting program to confirm that the project meets its objective of minimizing take from permitted activities.

Site Restoration Five-year Monitoring and Maintenance Plan

Terms of monitoring include a site restoration five-year monitoring and maintenance plan. Specific actions include a scheduled visit to the restoration site annually for 5 years or longer as necessary to confirm that performance standards are met, keeping a written record of visits, site conditions and corrective actions, and offsetting unavoidable losses through defined mitigation plans. Compensatory mitigation is required to offset riparian and aquatic habitats displaced. These impacts are addressed in the conceptual wetland mitigation plan.

Regulatory Program Implementation Monitoring

This measure requires that an implementation monitoring report be submitted within 120 days of project completion describing success meeting permit conditions.

The report shall contain the following information:

1. Project identification
2. Photos of habitat conditions before, during and after project completion
3. Additional project-specific data
4. Site restoration or compensatory mitigation monitoring.

Maintenance of Stormwater Management System

ODOT has a comprehensive set of procedures for maintaining the stormwater management system, which identifies each component of the system and the procedures associated with that component:

- Grassed Swale
- Water Quality Structure

Comments on the Final EIS

The Final Environmental Impact Statement for the Pioneer Mountain to Eddyville project was circulated to government agencies, organizations, interested parties, and the public on June 15, 2004. Its availability was published in local newspapers and it was placed on the ODOT web site. The Notice of Availability was published in the Federal Register on June 25, 2004. The 30-day comment period ended on July 26, 2004. No comments were received.

Conclusion

Based on the analysis and evaluation contained in the proposed project's Final Environmental Impact Statement; after careful consideration of all of the identified social, economic, and environmental factors and input received from other agencies, organizations, and the public; and the factors and project commitments through mitigation and conservation measures outlined above, it is the decision of the FHWA to approve the selection of the Build Alternative as the Selected Alternative for the Pioneer Mountain to Eddyville project.

(28 July 2004)

Date

(Signed)

David Cox

Division Administrator

Federal Highway Administration