Boyer–Tillamook Access Road Improvement Project
Mitigation Action Plan

MITIGATION ACTION PLAN

This Mitigation Action Plan (MAP) is part of the Finding of No Significant Impact (FONSI) for the Boyer–Tillamook Access Road Improvement Project. The project would improve about 13.5 miles of access roads at specific sites along an 18-mile portion of the existing 115-kilovolt (kV) Boyer-Tillamook transmission line in Tillamook and Yamhill counties, Oregon.

This MAP is for the Proposed Action and includes all of the integral elements and commitments made in the Environmental Assessment (EA) to mitigate any potential adverse environmental impacts.

The Bonneville Power Administration (BPA) and its contractor are responsible for implementing the mitigation measures during various phases of project construction. Relevant portions of this MAP will be included in the construction contract specifications. This will obligate the contractor to implement the mitigation measures identified in the MAP that relate to contractor responsibilities during construction and post-construction.

If you have any general questions about the project, contact the Project Manager, Jim Semrau: toll-free telephone 800-282-3713, direct telephone 360-619-6629, or e-mail jesemrau@bpa.gov.

If you have questions about the MAP, contact the BPA lead for the environmental review, Kara Hempy-Mayer: toll-free telephone 800-282-3713, direct telephone 503-230- 4982, or e-mail klhempymayer@bpa.gov.

If you have questions about the MAP during implementation, contact the BPA environmental lead for project implementation, John Howington: toll-free telephone 800-282-3713, direct telephone 503-230-7603, or e-mail jwhowington@bpa.gov.

This MAP may be amended if revisions are needed due to new information or if there are any significant project changes.

MITIGATION MEASURES

Minimization and mitigation measures have been identified to reduce potential impacts associated with the Proposed Action, and are provided below in Table 1. Timing restrictions for project construction are provided in Table 2.

Table 1. Mitigation Action Plan

Environmental Resource	Mitigation
Land Use, Recreation, and Transportation	• Distribute, post, and publicize the construction schedule so landowners and recreational users know when potential construction-related disruptions might occur. • Employ traffic-control flaggers and post warning signs of construction activities and merging traffic, when necessary, for short interruptions of traffic.

Environmental Resource	Mitigation
	• Maintain access to residences, farms, and businesses during construction. • Limit access road widths to 14-feet wide except where topography and/or curves necessitate a wider roadbed, and reduce tree removal to the extent possible. • Repair any damage to non-project roads caused during project construction. • Passenger vehicles would be kept at a minimum due to restricted work space.
Geology and Soils	• Minimize the ground disturbance footprint, particularly in areas prone to erosion, such as along steep slopes. • Limit soil exposure times by using stabilization and revegetation measures (also see Vegetation). • Reseed all disturbed areas, including the roadbed. • Design roads to limit water accumulation and install appropriate access road drainage (e.g., ditches, water bars, cross drainage, or roadside berms) to control and disperse runoff and reduce the risk of mass wasting.
Water Resources	• Construct, widen, and resurface access roads during the dry season when stream flow, rainfall, and runoff are low. • Replace culverts and install bridges during the dry season when stream flow, rainfall, and runoff are low or if flows are present, temporarily divert streams around the construction site (see Table 2). • Prepare a Stormwater Pollution Prevention Plan to reduce erosion and runoff and stabilize disturbed areas. • Minimize the ground disturbances near waterbodies during construction, particularly in areas prone to erosion. • Retain vegetative buffers, where possible, to prevent runoff into waterbodies. • Install sediment barriers and other suitable erosion- and runoff-control devices, prior to ground-disturbing activities at construction sites to minimize offsite sediment movement. • Park construction vehicles or equipment at least 50 feet from any stream or wetland unless authorized by a permit or on an existing roadway. • Stabilize approaches to streams and stream crossings with clean rock or steel plates during construction to minimize erosion and sedimentation. • Plant a total of 547 trees across four stream crossing improvement locations to provide streambank stability and riparian buffer establishment. • Prepare and implement a Spill Prevention and Response Plan and Procedures to prevent, contain, and report accidental spills. • Place refueling and servicing operations away from waterbodies so that spilled material could not enter through natural or manmade drainages (e.g., ditches or streams). • Use pumps, funnels, absorbent pads, and drip pans to avoid or minimize spills during fueling or servicing of vehicles. • Use herbicides in accordance with BPA's *Transmission System Vegetation Management Program Final EIS/Record of Decision* (BPA 2000).
Wetlands and Floodplains	• Design construction activities to minimize impacts to wetlands, and obtain the appropriate permits. • Complete work below ordinary high water during the ODFW recommended in-water work period between July 1 and September 15 (see Table 2).

Environmental Resource	Mitigation
	• Flag wetland boundaries in the vicinity of construction areas to ensure these areas are avoided during construction. • Park construction vehicles or equipment at least 50 feet from any wetland, unless authorized by a permit or on an existing road. • Place geotextile fabric around work areas at stream crossings with associated wetlands within 25 feet of wetlands to avoid depositing excavated material into the wetlands. • Plant a total of 547 trees across four stream crossing improvement locations to provide streambank stability and riparian buffer establishment. • Store fuel and refuel machinery at least 150 feet from wetlands and waterways, and inspect regularly for leaks. • Require a BPA environmental specialist to meet with contractors in the field, and visit wetlands near or within construction areas to review mitigation measures and any permit requirements. • Install sediment barriers along with other suitable erosion- and runoff-control Best Management Practices (BMPs), where needed, prior to ground-disturbing activities at construction sites to minimize off-site sediment movement near wetlands. • Revegetate disturbed wetland and buffer areas with appropriate native plant species following specific revegetation guidelines in any applicable permits.
Vegetation	• Cut or crush vegetation rather than blade in areas that would remain vegetated, to maximize the ability of native plants to resprout and maintain soil integrity. • Prior to seeding, prepare soils through decompaction, if needed. • Implement noxious weed control measures in coordination with the county weed board and landowners if state-listed noxious weeds are found in the project area. • Treat identified noxious weed infestations where possible prior to construction manually, mechanically, and/or chemically. • Clean vehicles and other equipment that have been in weed infested areas at established blow or wash stations upon leaving the infested areas, to prevent spreading weeds to uninfected areas during construction. • Monitor and treat existing and new infestations during construction annually for at least three years after construction. • Use weed-free mulch, if mulch is used for erosion control. • Equip all vehicles with basic fire-fighting equipment, including extinguishers and shovels, to potentially put out small fires. • Plant a total of 547 trees across four stream crossing improvement locations to provide streambank stability and riparian buffer establishment. • Implement restoration or stabilization actions as soon as possible after ground disturbing activities. • Reseed all disturbed areas as soon as possible after construction with an appropriate seed mix. Native seed mixes would be used where appropriate and effective.
Fish and Wildlife	Fish • Complete in-water construction work by the ODFW recommended work period between July 1 and September 15, the period below ordinary high water (see Table 2). • Isolate work areas at the unnamed tributary to Sourgrass Creek, Hester Creek, unnamed tributary to Louie Creek, and the unnamed tributary to Alder Creek crossings and utilize

Environmental Resource	Mitigation
	a biologist to capture, transport, and release any fish found in the work area. • Determine the depth and gradient of the streambed, channel dimensions, and streambed material sizing consistent with Standard Local Operating Procedures for Endangered Species design criteria and ODFW fish passage requirements. • Screen any pumping of surface waters to re-route downstream discharges according to NMFS guidelines (NMFS 2011)[1]. • Limit diversions of surface water to 10 percent of the available streamflow at the time of construction. • Treat water generated during construction activities prior to its discharge to prevent the release of contaminated or sediment-laden water into the streams. • Prevent equipment from fording the stream sections during construction. • Implement pollution and erosion control measures prior to construction and maintain them throughout the duration of the Proposed Action. • Replant disturbed woody riparian areas at four stream crossing improvement areas with woody plants for channel stability and to provide riparian cover. • Leave any removed large trees or existing pieces of large woody debris in or near the stream channel impact areas on site when feasible. Wildlife • Design the Proposed Action to minimize impacts to sensitive natural resources in the affected area. • Seed all temporarily disturbed areas with a native seed mix and plant with native woody vegetation where appropriate to restore natural habitats. Seeding should be done at the appropriate time for germination. • Utilize fire prevention and control training and equipment to protect habitats. • Continue to advise transmission maintenance crews annually about the occurrence (general and/or specific locations), seasons of use, and sensitivity of nesting migratory birds, raptors, and other special-status species that could be adversely affected by maintenance activities. Incorporate this information into maintenance planning and schedules to minimize adverse impacts to sensitive species. • Prohibit work March 1 through August 5 in designated areas to protect migratory birds, including marbled murrelets and Northern spotted owls. Additionally, work will be conducted from 2 hours after sunrise to 2 hours before sunset from August 6 through September 15 in these designated areas (see Table 2). • Complete additional mitigation measures to minimize impacts to marbled murrelets and northern spotted owls recommended by the USFWS as appropriate.
Cultural Resources	• Implement BPA's Inadvertent Discovery Procedure. Under this procedure, should ground-disturbing activities reveal any cultural materials (e.g., structural remains, Euro-American artifacts, or Indian artifacts), all activities in the vicinity of the find would cease. The BPA archaeologist, the Oregon State Historic Preservation Officer (SHPO), and affected tribes would be notified immediately.

[1] See Chapter 7 (*References*) of the Boyer Tillamook Access Road Improvement Project Preliminary Environmental Assessment for citations used in the Mitigation Action Plan.

Environmental Resource	Mitigation
	• Require, under the Inadvertent Discovery Procedure, that crews cease construction immediately within 200 feet of any human remains, suspected human remains, or any items suspected to be related to a human burial (i.e., funerary items, sacred objects, or objects of cultural patrimony) encountered during Proposed Action construction. The area around the discovery would be secured and the Tillamook and/or Yamhill county sheriffs, the BPA archaeologist, the Oregon State SHPO, and the affected tribes would be contacted immediately. • Minimize construction footprints if any areas contain wild hazelnut as an ethnobotanical species. Include wild hazelnut in seed mixes where the species would naturally occur. • Potential impacts to wild hazelnut ethnobotanical resources would be mitigated by including wild hazelnut in seed mixes or plantings where potential habitat is impacted.
Socioeconomics, Environmental Justice, and Public Services	• Distribute a schedule of construction activities to all potentially affected landowners and businesses. • Coordinate construction activities with the Oregon Department of Transportation, county public works and transportation staff, the Siuslaw National Forest, and private landowners to minimize construction-related disturbances. • Compensate landowners at fair market value for any new land rights required for new, temporary, or permanent access roads on private lands. • Maintain access to residences, farms, and businesses during construction. • Use traffic safety signs and flaggers if needed to inform motorists and manage traffic when transporting equipment and construction materials on State Route 22 and U.S. Highway 101. • Repair any damage to non-project roads caused during project construction. • Maintain access to residential and business driveways during construction to the extent possible.
Visual Quality	• Schedule all construction work during daylight hours to avoid the use of nighttime illumination of work areas. • Avoid storing construction equipment and supplies on residential streets or access roads directly adjacent to residential or business property to the greatest extent possible. • Incorporate erosion control BMPs into the construction of access roads to minimize permanent visual impacts. • Reseed disturbed, non-farmed areas, including the roadbed, once construction is completed using a predominantly native seed mix or a seed mix agreed upon with landowners. • Inspect reseeded sites periodically over a 3-year period to verify adequate growth has occurred. If necessary, contingency measures, such as reseeding, would be implemented to ensure development of adequate growth and vegetation cover. Areas replanted with woody species would be monitored until a 70 percent establishment rate is met. • Require contractors to maintain clean construction sites to minimize the visual impacts of the temporary use of these areas.
Air Quality and Greenhouse Gasses	• Encourage use of carpooling and shuttle vans among construction workers to minimize construction-related traffic and associated emissions.

Environmental Resource	Mitigation
	• Utilize alternative fuels for generators at construction sites, such as propane or solar, or use electrical power where practicable. • Reduce electricity usage in the construction office by using compact fluorescent bulbs and turning off computers and other electronic equipment every night. • Recycle or salvage non-hazardous construction and demolition debris where practicable. • Locate staging areas as close to construction sites as practicable to minimize driving distances between staging areas and construction sites. • Locate staging areas in previously disturbed or graveled areas to minimize soil and vegetation disturbance where practicable. • Encourage the use of the proper size of equipment for the job to maximize energy efficiency. • Use local rock sources for road construction where practicable.
Noise, Public Health, and Safety	• Distribute the construction schedule to all landowners within 500 feet of the Proposed Action to inform the landowners of when they might experience construction-related noise. • Limit construction noise to daylight hours (7:00 a.m. to 5:00 p.m.). • Locate equipment as far away as is practical from noise-sensitive uses. • Turn off construction equipment during prolonged periods of non-use. • Operate and maintain all equipment so as to minimize noise generation. • Muffle all gasoline or diesel engines exhausts. • Conduct crew safety meetings at the start of each workday to review potential safety issues and concerns. • Conduct monthly meetings between BPA and the contractor to discuss safety concerns. • Secure the site at the end of each workday to protect equipment and the general public.

Table 2. Construction Timing Restrictions and Locations

Underlying Landowner	Location/ Structures	Category of Restriction	Work Description	Timing Restriction Description
All	All	Marbled murrelet and northern spotted owl and migratory bird protection	All tree removal	• Tree removal to occur between August 6 and February 29
USFS Forest	From 4/1 to 5/7	Marbled murrelet and northern spotted owl protection in critical habitat	All work	• Work to be performed between August 6 and February 29 • Conduct work from 2 hours after sunrise to 2 hours before sunset, from August 6 through September 15
USFS Forest	Between 5/4 and 5/5	Timing of in-water work to protect fish	Access Road (AR) 6 (unnamed tributary to Sourgrass Creek) culvert removal, replacement with bottomless arch culvert	• Work to be performed between August 6 through September 15
Private Forest and Rural Houses	Between 7/2 and 7/3	Timing of in-water work to protect fish	AR 40-2 (unnamed tributary to Louie Creek) culvert removal, replace with bridge	• Work to be performed from July 1 through September 15
USFS Forest	From 7/3 to 7/5	Marbled murrelet and northern spotted owl protection in critical habitat	All work	• Work to be performed between August 6 and February 29 • Conduct work from 2 hours after sunrise to 2 hours before sunset, from August 6 through September 15
Private Forest	Between 8/6 and 8/7	Timing of in-water work to protect fish	AR 41-2 (unnamed tributary to Alder Creek), culvert removal replace with bridge	• Work to be performed between July 1 through September 15
USFS Forest	From 8/6 to 9/1	Marbled murrelet and northern spotted owl in critical habitat	All work	• Work to be performed between August 6 and February 29 • Conduct work from 2 hours after sunrise to 2 hours before sunset, from August 6 through September 15
USFS Forest	From 9/5 to 10/5	Marbled murrelet and northern spotted owl and migratory bird protection in critical habitat	All work	• Work to be performed between August 6 and February 29 • Conduct work from 2 hours after sunrise to 2 hours

Underlying Landowner	Location/ Structures	Category of Restriction	Work Description	Timing Restriction Description
				before sunset, from August 6 through September 15
Private Forest and Rural Houses	Between 11/3 and 11/4	Timing of in-water work to protect fish	AR 44-1 and 44-4 (Lawrence Creek) bridge replacements	• Work to be performed from July 1 through September 15
Private Forest and Farm	Between 20/2 and 20/3	Timing of in-water work to protect fish	AR-27 (Hester Creek) culvert removal, replace with bridge	• Work to be performed from July 1 through September 15