Big Eddy-Ostrander Conductor Replacement

Mitigation Action Plan

SUMMARY

This Mitigation Action Plan is for the Big Eddy-Ostrander Conductor Replacement Project. The project would replace about 67 -line miles of conductor and associated hardware in Clackamas, Hood River and Wasco counties, Oregon.

This Mitigation Action Plan is for the Proposed Action and includes all of the integral elements and commitments made in the environmental assessment (EA) to mitigate potential adverse environmental impacts.

BPA and its contractor are responsible for implementing the mitigation measures during various phases of project construction. Relevant portions of this Mitigation Action Plan will be included in the construction contract specifications, which will obligate the contractor to implement the mitigation measures identified that relate to contractor responsibilities during and after construction.

If you have any general questions about the project, contact the Project Manager, Tina Edwards: toll-free telephone 800-622-4519, direct telephone 360-418-1792, or tbedwards@bpa.gov.

If you have questions about the Mitigation Action Plan, contact the BPA lead for the environmental review, Beth Belanger: toll-free telephone 800-622-4519, direct telephone 503-230-7579, or e-mail babelanger@bpa.gov.

If you have questions about the Mitigation Action Plan during implementation, contact the BPA environmental lead for project implementation, Oden Jahn: toll-free telephone 800-622-4519, direct telephone 503-230-7501, or e-mail owjahn@bpa.gov.

This Mitigation Action Plan may be amended if revisions are needed due to new information or if there are project adjustments.

MITIGATION MEASURES

Minimization and mitigation measures identified to reduce potential impacts associated with the Proposed Action are provided in the Mitigation Action Plan Table.

Mitigation Action Plan Table

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Land Use, Recreation and Transportation	
Provide a construction schedule to all potentially affected landowners.	Before and during construction
Coordinate the construction schedule with US Forest Service recreation specialists to post alerts for construction activities that may impact users of recreational facilities.	Before and during construction
Provide a construction schedule for work that would result in disruptions to the Pacific Crest Trail to the Pacific Crest Trail Association as early as practicable, for posting on their website.	Before and during construction
Post a construction schedule at Pacific Crest Trail crossing, Surveyor's Ridge, French's Dome, Barlow Trail County Park, and Sandy Ridge Trail System.	Before and during construction
Use a flagger at the Pacific Crest Trail crossing to stop construction to allow hikers to cross through work areas safely, to minimize delays to hikers to no more than one to two hours.	Before and during construction
Cut stumps as low to the ground as practicable for hazard tree removal within 150 feet of the Pacific Crest Trail to lessen visual impacts. All stumps should be cut to a maximum of 12-inch height on the uphill slope in visually sensitive areas allocated to retention or where visible in the immediate foreground from the Pacific Crest Trail.	During construction
Maintain existing access to residences, businesses and recreation areas during construction.	During construction
Coordinate with commercial timber landowners to ensure that access road enhancements, gates, and construction and maintenance activities would minimize disruptions to commercial forestry operations.	Before and during construction
Compensate landowners for the value of any property damaged by construction activities, as appropriate.	After construction
Coordinate with local agencies to time construction activities so that project construction does not conflict with land management agency construction activities.	Before and during construction
Coordinate with Oregon Department of Transportation (ODOT) and obtain a permit for conductor stringing activities across state highways.	Before and during construction
Coordinate with ODOT to obtain any permits that may be required for new approaches to ODOT-managed state right-of-way, work within the state highway right-of-way, or use of oversized or over weight vehicles.	Before construction
Coordinate with Clackamas, Hood River and Wasco County Public Works departments to obtain any right-of-way permits that may be required for project activities, including hauling, within county roadways and rights-of-way.	Before construction
Coordinate construction schedule with agricultural landowners to limit impacts to farming and orchard operations.	Before and during construction
Require construction workers to use designated restroom facilities and	During construction

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
dispose of trash in approved receptacles.	
Cover excavated areas at the end of the workday to prevent injuries to farm workers and livestock.	During construction
Use traffic safety signs and flaggers to inform motorists and manage traffic during construction activities on affected roads.	During construction
Install permanent gates at selected locations to minimize unauthorized use of BPA access roads and unauthorized entry to BPA's right-of-way.	During construction
Provide traffic control to ensure traffic safety where existing rural roadways are narrow.	During construction
Follow the applicable state, county, and city requirements for traffic control and lane closures	During construction
Visual Quality	
Locate construction staging and storage areas away from locations that would be clearly visible from residences and recreation facilities, when practicable.	Before and during construction
Focus security lighting at staging areas and the material storage yard inward to minimize spillover of light and glare.	During construction
Maintain a clean construction site and remove all construction debris.	During construction
Stabilize permanent disturbance areas by applying a weed-free gravel (if available) top layer to the roadways.	During construction
Conduct project construction, including tree removal, during the dry season when rainfall, runoff, and stream flow are low to minimize erosion, compaction, and sedimentation, to the extent practicable.	During construction
Identify and implement site stabilization and mitigation measures if geotechnical issues, such as new landslides, arise during construction.	During construction
Install appropriate erosion-control devices where needed to minimize soil transport.	Before and during construction
Retain vegetative buffers where possible to prevent sediments from entering waterbodies.	During construction
Include water control structures on new, reconstructed, and improved access roads using low grades, water bars, and drain dips to help control runoff and prevent erosion.	Before and during construction
Properly space and size culverts on access roads.	During design
Apply water from water trucks on an as-needed basis to minimize dust and reduce erosion due to wind.	During construction
Revegetate disturbed areas to help stabilize soils as soon as work in that area is completed and appropriate environmental conditions exist, such as moderate temperatures and adequate soil moisture.	After construction
Inspect revegetated areas to verify adequate growth and implement contingency measures as needed.	After construction
Inspect and maintain access roads and cross-drains to ensure proper function and nominal erosion levels after construction.	After construction
Drive vehicles at low speeds (less than 5 miles per hour) on access roads and in the BPA right-of-way to minimize dust.	During construction

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Conduct proposed activities on existing compacted surfaces such as roads, tower pads, landings, and staging areas to the extent practicable.	During construction
Use wetland mats in areas of saturated soils to minimize soil compaction and disturbance during construction.	During construction
Vegetation	
Use the existing road system, to the extent practicable, to access structure locations to reduce crushing of vegetation and transport of weeds.	During construction
Minimize the construction area and disturbance to vegetation to the extent practicable, especially on BLM- and USFS-managed land, and in Northern spotted owl habitat, wetlands, and waterbody crossings.	During construction
Restrict construction work around structure 22/3 to minimize impacts to Watson's desert parsley (*Lomatium watsonii*). Work within the population is only allowed within 95 feet of the southwestern tower leg of structure 22/3.	Before and during construction
Flag sicklepod rockcress (*Boechera atrorubens*) rare plant populations between structures 20/2 to 20/4 for avoidance during access road work.	Before and during Construction
Perform work around structure 22/2 and road reconstruction on access road 019-05-2 in late summer and fall, after rare plant sicklepod rockcress has senesced.	During construction
Locate materials storage and staging areas in previously disturbed areas, as practicable.	During construction
Conduct as much work as possible, including tree removal during the dry season to minimize erosion and soil compaction.	During construction
Conduct tree removal in a manner that minimizes disruption to remaining trees and shrubs.	During construction
Cut trees and leave existing root systems intact to help prevent erosion.	During construction
Leave large bowl sections of trees for large woody debris recruitment.	During construction
Return temporarily disturbed areas to their original, pre-construction contours and conduct site restoration and revegetation measures before or at the beginning of the first growing season following construction.	During and after construction
Revegetate disturbed areas with grasses, forbs, or shrubs to ensure appropriate vegetation coverage and soil stabilization.	During construction
Locate pulling/tensioning equipment inside the transmission line right-of-way for pulling/tensioning sites located within right-of-way, to the extent practicable.	During construction
Conduct post-construction site restoration monitoring once a month until site stabilization is achieved.	After construction
Prior to construction, identify noxious weed infestation areas for avoidance (as practicable) and treat noxious weeds adjacent to access roads and structure sites (if necessary).	Before and during construction
Perform follow-up monitoring until final stabilization criteria have been met.	During and after construction
Conduct weed treatment in disturbed areas after construction, if needed.	After construction

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Implement measures to minimize noxious weed spread such as inspecting vehicles before entering construction areas, installing and using weed wash stations and washing before entering or leaving work areas or using other appropriate equipment cleaning measures.	During construction
Leave all erosion control products in place until after stabilization criteria are met. Use products that are 100 percent biodegradable and composed of natural plant fiber products with no synthetic material. Products containing plastics (including "photodegradable" products) are not permitted without approval by the BPA Environmental Lead.	During construction
Use USFS-approved native species seed mixes for revegetation activities on USFS-managed land.	After construction
Water Resources, Floodplains, and Fish	
Conduct soil-disturbing activities during the dry season and culvert work when streams are dry, where practicable.	During construction
Fell all trees in riparian reserves towards the waterway on USFS-managed land.	During construction
Conduct in-water work during Oregon Dept. of Fish and Wildlife (ODFW) approved in-water work windows, or ODFW, NMFS, U.S. Army Corps of Engineers, and Division of State Lands approved in-water work extension periods.	During construction
Conduct fish and aquatic organism salvage according to National Marine Fisheries Service (NMFS)/ODFW requirements.	During construction
Comply with the applicable Clean Water Act and Oregon Removal/Fill law permits for work in streams.	During construction
Divert stream flow around the work area and maintain downstream flow if construction occurs during times when streams are flowing.	During construction
Isolate in-water work areas prior to culvert and ford installations, dewater work area as necessary for construction and to minimize turbidity. Do not discharge turbid water to streams.	During construction
Return temporary disturbance areas for culvert and road work to pre-construction contours: mulch, seed, and plant as per plans and specifications.	After construction
Restrict construction vehicles and equipment to access roads and designated work areas.	During construction
Use temporary bridges or steel plates for waterway crossings at existing fords to protect water quality.	During construction
Store, fuel, and maintain all vehicles and other heavy equipment (when not in use) in a designated upland staging area located a minimum of 150 feet away from any stream, waterbody, or wetland or where any spilled material cannot enter natural or manmade drainage conveyances.	During construction
Dispose of waste material generated from access road work in a stable upland site, approved by the BPA Environmental Lead, smooth to match adjacent grades, and seed for stability. In steep terrain or near waterbodies or wetlands, haul waste material offsite.	During construction
Design culverts (non-fish bearing drainages) for the 100-year storm event to minimize future maintenance needs.	During design

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Develop and implement a spill prevention and spill response plan.	Before and During construction
Confirm equipment is clean (e.g., power-washed) and that it does not have fluid leaks prior to contractor mobilization of heavy equipment to site; inspect equipment and tanks for drips or leaks daily and make necessary repairs within 24 hours.	Before and During construction
Contain petroleum-product spills immediately, eliminate the source, deploy appropriate measures to clean and dispose of spilled materials in accordance with applicable federal, state, and local regulations, and contact the BPA Environmental Lead.	During construction
Maintain emergency spill control materials, such as oil booms and spill response kits, on-site at each ford, culvert and bridge improvement, replacement or installation site at all times and ready for immediate deployment.	During construction
If fertilizer is needed, use a slow-release fertilizer.	During and after construction
To minimize adverse effects on stream channel stability, all water used for construction must come from a permitted source.	During construction
Install culverts and fords in accordance with ODFW and NMFS fish passage requirements for streams that potentially contain fish.	During construction
Follow preferred design criteria in National Marine Fisheries Service's 2016 Programmatic Biological Opinion (PBO) for Standard Local Operating Procedures for Endangered Species (SLOPES) for BPA's transmission line and access road actions in Oregon, Washington, and Idaho to address effects on Endangered Species Act (ESA)-listed salmon (Lower Columbia River Coho salmon, Lower Columbia River fall-run Chinook Salmon, and Lower Columbia River winter-run steelhead). (NMFS 2016[1]).	Before construction
Install, operate and maintain screens for any temporary water withdrawals as required by NMFS. Temporary water withdrawals may not exceed 10 percent of the available flow. Screens would be used on all streams to protect aquatic species (fish, sensitive snails, mussels, macroinvertebrates, etc.). (NMFS 2022)[2].	During construction
Limit the placement of fill for access road work in floodplains to the minimum required.	During construction
Install erosion-control measures prior to work in or near floodplains.	During construction
Prepare and implement an Erosion and Sediment Control Plan.	Before and during construction
Construct access roads to slope (e.g. 2 to 5 percent) away from the center of the road, to maintain natural drainage patterns and minimize interceptions and concentration of up gradient runoff when practicable.	During construction

[1] National Marine Fisheries Service (NMFS) 2016. Programmatic Biological Opinion (PBO) for Standard Local Operating Procedures for Endangered Species (SLOPES) for BPA's transmission line and access road actions in Oregon, Washington, and Idaho to address effects on Endangered Species Act (ESA) listed salmon (Lower Columbia River Coho salmon, Lower Columbia River fall-run Chinook Salmon, and Lower Columbia River winter-run steelhead).

[2] National Marine Fisheries Service, Northwest Region (NMFS). 2022. NOAA Fisheries West Coast Region Anadromous Salmonid Passage Design Manual, NMFS, WCR, Portland, Oregon.

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Plant 201 native shrubs near locations where 67 danger trees are proposed for removal within 100 feet of streams bearing fish listed under the Endangered Species Act.	After construction
Wetlands and Groundwater	
Protect wetlands from compaction and disturbance by using temporary equipment mats, timing the work to take place when soils are not saturated (during the dry season), or by using low ground-pressure equipment.	Before and during construction
Comply with applicable Clean Water Act regulations and removal/fill permit requirements for all work in wetlands.	During construction
Install erosion-control measures prior to work in or near wetlands (e.g., silt fences, straw wattles, and other sediment control measures)	Before and after construction
Avoid depositing excavated material in wetland areas.	During construction
Avoid locating construction staging, equipment or materials storage, or vehicle fueling within 150 feet of wetland areas.	During construction
Use existing roads to access structure locations.	During construction
Clearly mark road sections to be decommissioned before construction.	During construction
Remove any temporary equipment mats and revegetate.	After construction
Restore all temporary disturbance areas to original contours and decompact soils, if necessary.	After construction
Reseed all temporary disturbance areas in wetlands with native species and monitor revegetated wetland areas until 70 percent of pre-project vegetative cover is achieved.	After construction
Limit the placement of fill for access road work in floodplains to the minimum required.	During construction
Prepare and implement a storm water pollution prevention plan for construction activities with potential stormwater discharges in accordance with the National Pollutant Discharge Elimination System permit administered by the State of Oregon under the 1200-CA Stormwater General Discharge Permit program.	Before and during construction
Wildlife	
Restore areas disturbed by construction to pre-construction condition.	During construction
Avoid tree removal between March 1 and July 15 to minimize displacement of nesting migratory birds.	During construction
Restrict construction activities within a 0.1 mile of any active raptor nesting areas for the remainder of the nesting season, unless authorized by a USFS wildlife biologist, ODFW, or USFWS.	During construction
Provide maps of areas to be avoided by helicopters to minimize impacts on wildlife.	Before and during construction
Schedule work as late in the Northern spotted owl nesting season as possible, while still ensuring road work is completed prior to the start of the wet season.	Before and during construction

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Schedule work within 0.25 mile of suitable Northern spotted owl habitat, including danger tree removal, to occur outside of the critical nesting season (March 1 to July 15). Locations within 0.25 mile of suitable habitat are at or between structures 22/1 to 24/4, 27/5-29/4, 32/1-51/4, 52/4-56/1, 56/3-56/5.	Before and during construction
Within 0.50 mile of suitable Northern spotted owl habitat, restrict Type 1 large transport helicopters (Chinook 47d, Blackhawk UH-60) use below 995 feet Above Ground Level (AGL) during the critical Northern spotted owl breeding period (March 1-July 15), and below 500 feet AGL during the late breeding period (July 16-September 30).	During construction
Within 0.25 mile of suitable Northern spotted owl habitat, restrict Type 2 medium transport helicopters (Boeing Vertol 107, Sikorsky S-64) use below 650 feet AGL during the critical Northern spotted owl breeding period (March 1-July 15), and below 350 feet AGL during the late breeding period (July 16-September 30).	During construction
Within 0.25 mile of suitable Northern spotted owl habitat, restrict Type 3 small helicopters (K-Max, Bell 206 L4, Hughes 500) use below 530 feet AGL during the critical Northern spotted owl breeding period (March 1-July 15), and below 350 feet AGL during the late breeding period (July 16-September 30).	During construction
Restrict blasting within 0.25 mile of Northern spotted owl suitable habitat during entire Northern spotted owl nesting season (March 1-September 30).	During construction
Top and girdle 82 hazard trees in Late Successional Reserve Northwest Forest Plan land use allocation areas on USFS-managed land to provide habitat/structure for wildlife, particularly Northern spotted owls, small mammals, and amphibians. All 82 trees are ≥18 inches in diameter at breast height and are on USFS-managed land.	During construction
Conduct pre-construction surveys for streaked horned lark between structures 67/1 to 68/4 at least 2 weeks prior to construction commencing for any work occurring between March 1 and July 30. If active nests are found, reduce speed limits to 20mph and avoid working within 100 feet of nest for duration of breeding season.	Before/during construction
Remove all food scraps and food packaging of any kind from the project sites and transport off-site after each workday; food cannot be left exposed and unattended for any amount of time; no food may be fed to or left for wildlife.	During construction
Waste generated during all phases of the project would be properly managed and disposed of at permitted facilities.	During construction
Cultural Resources	
Locate transmission structures, equipment and material storage areas, and access roads to avoid known cultural resource sites and limit ground disturbance near known cultural resource sites.	Before construction
Conduct cultural resource monitoring at BPAS-181A (near 24/4), BPAS-192, BPA-195a and BPA-195b (between 20/5 and 21/1), BPAS-232B (near 12/2), 35HR137, 35HR137.4 and 35HR137.5.	During construction

MINIMIZATION AND MITIGATION MEASURE	IMPLEMENTATION
Place avoidance flagging at BPAS-192, BPAS-232B, 35HR137, 35HR137.4, 35HR137.5.	During construction
Follow BPA's Post-Review Discovery Procedure which requires that if an inadvertent discovery of cultural resources is made all work in the vicinity would stop immediately and the BPA archaeologist, Oregon State Historic Preservation Office (SHPO), affected Tribes, and BLM or USFS, if applicable, would be notified immediately.	During construction
Stop all operations immediately within 200 feet of the inadvertent discovery of human remains, suspected human remains, or if any items suspected to be related to a human burial are encountered during project construction; secure the area around the discovery and immediately contact local law enforcement, the BPA archaeologist, the Oregon SHPO, the affected Tribes, and BLM or USFS, if applicable.	During construction
Provide cultural resources awareness training to explain cultural resource-related avoidance and mitigation measures to the construction contractors and inspectors during preconstruction meetings.	Before and During construction
Depict cultural sites as sensitive areas to avoid in construction documents, on construction maps, and in the field.	Before construction
Socioeconomics and Public Health	
Maintain access to all businesses, residences, and public facilities during construction.	During construction
Notify local agencies, residents, and business owners of upcoming construction activities and potential disruptions associated with the Proposed Action.	Before and during construction
Coordinate with utility providers that share BPA's right-of-way to determine the exact locations of utilities and minimize service disruptions to other utility lines.	Before and during construction
Compensate landowners at market value for any new land rights required for new, temporary, or permanent access roads on private lands and apply for applicable permits to obtain new access rights on public lands.	Before construction
Noise, Public Health and Services	
Use sound-controlled devices on construction equipment with gasoline or diesel engines and limit construction noise to daylight hours (7:00 a.m. to 7:00 p.m.) to reduce noise impacts, to the extent practicable.	During construction
Other Resources	
Keep all vehicles in good operating condition to minimize exhaust emissions.	During construction
Turn off construction equipment during prolonged periods of non-use.	During construction
Locate staging areas as close to construction sites as practicable to minimize driving distances between staging areas and construction sites.	During construction
Encourage the use of the proper size of equipment for the job to maximize energy efficiency.	During construction
Recycle or salvage non-hazardous construction and demolition debris when practicable.	During construction