

Appendix A

**Washington Department of Natural Resources
Lands Analysis**

Appendix A Washington Department of Natural Resources Lands Analysis

The Washington State Energy Facility Site Evaluation Council (EFSEC) and the Oregon Department of Energy (ODOE) have provided Bonneville Power Administration (BPA) with state substantive standards that they believe are potentially applicable and should be addressed in this environmental impact statement (EIS). Inclusion of these standards in the EIS (Chapter 28, Consistency with State Substantive Standards) helps BPA and state agencies in their review of the project. By identifying and considering these standards as early as possible, the project can be designed to be consistent or compatible with them to the maximum extent practicable.

BPA recognizes that, when a state owns property that BPA proposes to cross with any facilities, the state agency managing that property may need to comply with certain state or local laws or regulations before it can agree to allow BPA use of their property. As discussed in Chapter 5, Land, Washington Department of Natural Resources (WDNR) is a state agency that manages property crossed by the action alternatives. To assist WDNR in its compliance efforts, BPA has included this Appendix A to provide additional information, where available, for these lands.

BPA and WDNR have signed a Mitigation Agreement that sets the foundation for future agreements specific to future projects or applicable to all land use actions between BPA and WDNR (May 2010; see attached appendix). Section 4 of the agreement committed BPA and WDNR to enter into a Statewide Rights-of-Way Memorandum of Agreement (Statewide MOA) that covers all WDNR managed state lands in the state of Washington. This Statewide MOA covers specific issues related to all WDNR lands that are encumbered with BPA easements. Some of the information included in this appendix reflects agreements made in the MOA. The Statewide MOA addresses BPA transmission line operations and maintenance compatibility with trust land management and was signed by BPA and WDNR in March 2012. The Statewide MOA is formally titled Memorandum of Agreement between Washington State Department of Natural Resources and the Bonneville Power Administration, Department of Energy for Managing Impacts to State Lands from BPA Transmission Line and Access Road Easements. The following elements are addressed in the MOA:

- Integration of state and federal requirements
- Danger trees
- Vegetation management
- Noxious Weed Control and Management
- Access road management, maintenance, repair, and cost sharing
- Environmental and Resource Protection
- Dispute resolution
- Communications/notification

- Liability
- Situations where additional right-of-way and/or mitigation is needed for transmission operations, such as safety zones and vegetation removal for clear safe backlines
- Third party use (authorized and unauthorized)
- Safety

This appendix also reflects an Appraisal Memorandum of Understanding (Appraisal MOU) between BPA and WDNR. The Appraisal MOU was finalized on August 1, 2010 and describes the process BPA would use to appraise WDNR lands crossed by the proposed project.

The following sections of this appendix provide more detailed information on WDNR lands relevant to the I-5 project. Section A.1 describes WDNR land ownership that could be affected by the project; Section A.2 discusses potential impacts to WDNR land; and Section A.3 lists possible measures that could be undertaken before, during, or after project construction to lessen or avoid these potential impacts.

A.1 Washington Department of Natural Resources Land Potentially Affected

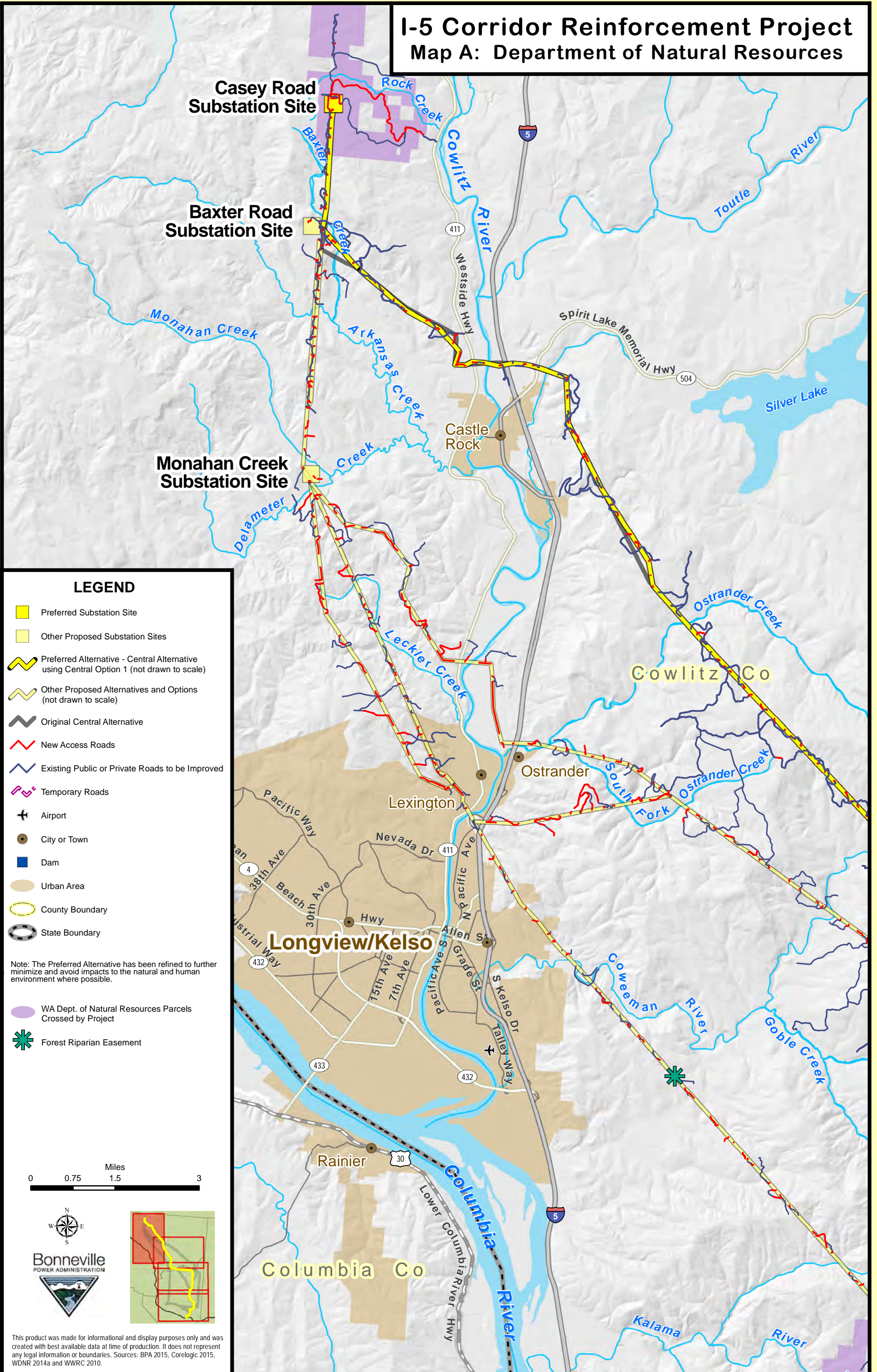
WDNR manages land in the project area, including land that would be crossed by the action alternatives (see Maps A through D and Table A-1). WDNR manages land for many purposes, including protection of state and federal threatened and endangered species, revenue for school construction, revenue for other state facilities, and environmental protection.

Table A-1 WDNR Parcels Potentially Crossed by Alternatives or Options in the Project Area^{1,2}

















WDNR Parcel Number	Alternative, Option, or Substation	Route Segment or Access Road ³
111253	Central	10
92	Central	10
11578	Central	12
11580	Central and Crossover	12, 14, 15
13438	Central	12
11577	Central	12
11576	Central	12
15529	Crossover	14, New and improved roads on Segments 12 and 25
11609	Central and Crossover	15
15253	Central and Crossover	15, New and improved roads on Segment 23
11611	Central and Crossover	15, 23
110022	Central and Crossover	18
11616	Central and Crossover	18
11649	Central and Crossover	18

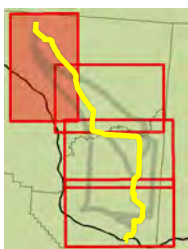
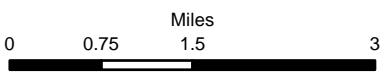
I-5 Corridor Reinforcement Project

Map A: Department of Natural Resources



LEGEND

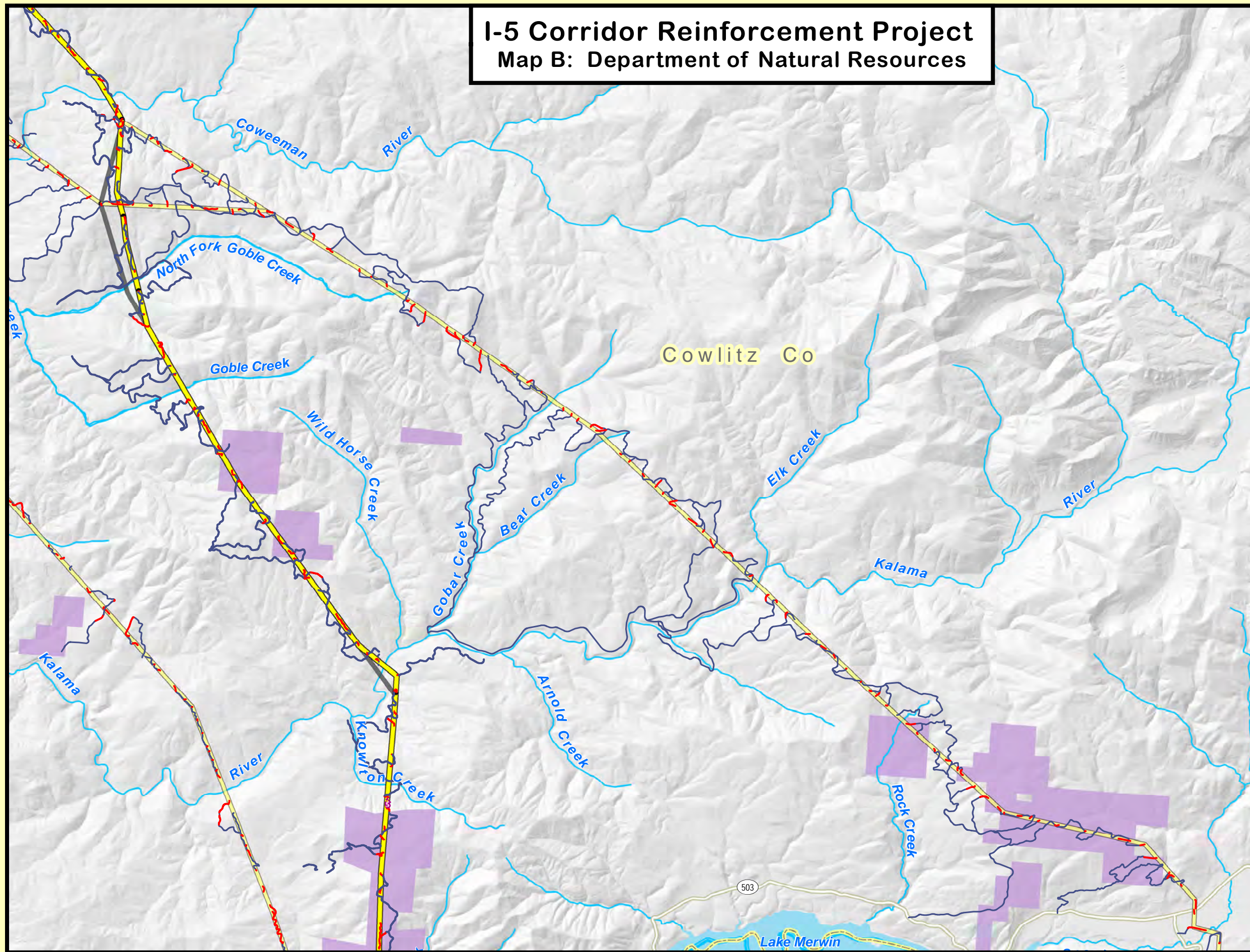
-  Preferred Substation Site
 -  Other Proposed Substation Sites
 -  Preferred Alternative - Central Alternative using Central Option 1 (not drawn to scale)
 -  Other Proposed Alternatives and Options (not drawn to scale)
 -  Original Central Alternative
 -  New Access Roads
 -  Existing Public or Private Roads to be Improved
 -  Temporary Roads
 -  Airport
 -  City or Town
 -  Dam
 -  Urban Area
 -  County Boundary
 -  State Boundary
- Note: The Preferred Alternative has been refined to further minimize and avoid impacts to the natural and human environment where possible.
-  WA Dept. of Natural Resources Parcels Crossed by Project
 -  Forest Riparian Easement



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I-5 Corridor Reinforcement Project

Map B: Department of Natural Resources

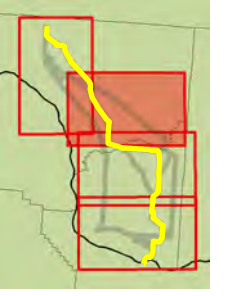
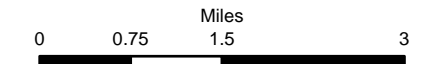


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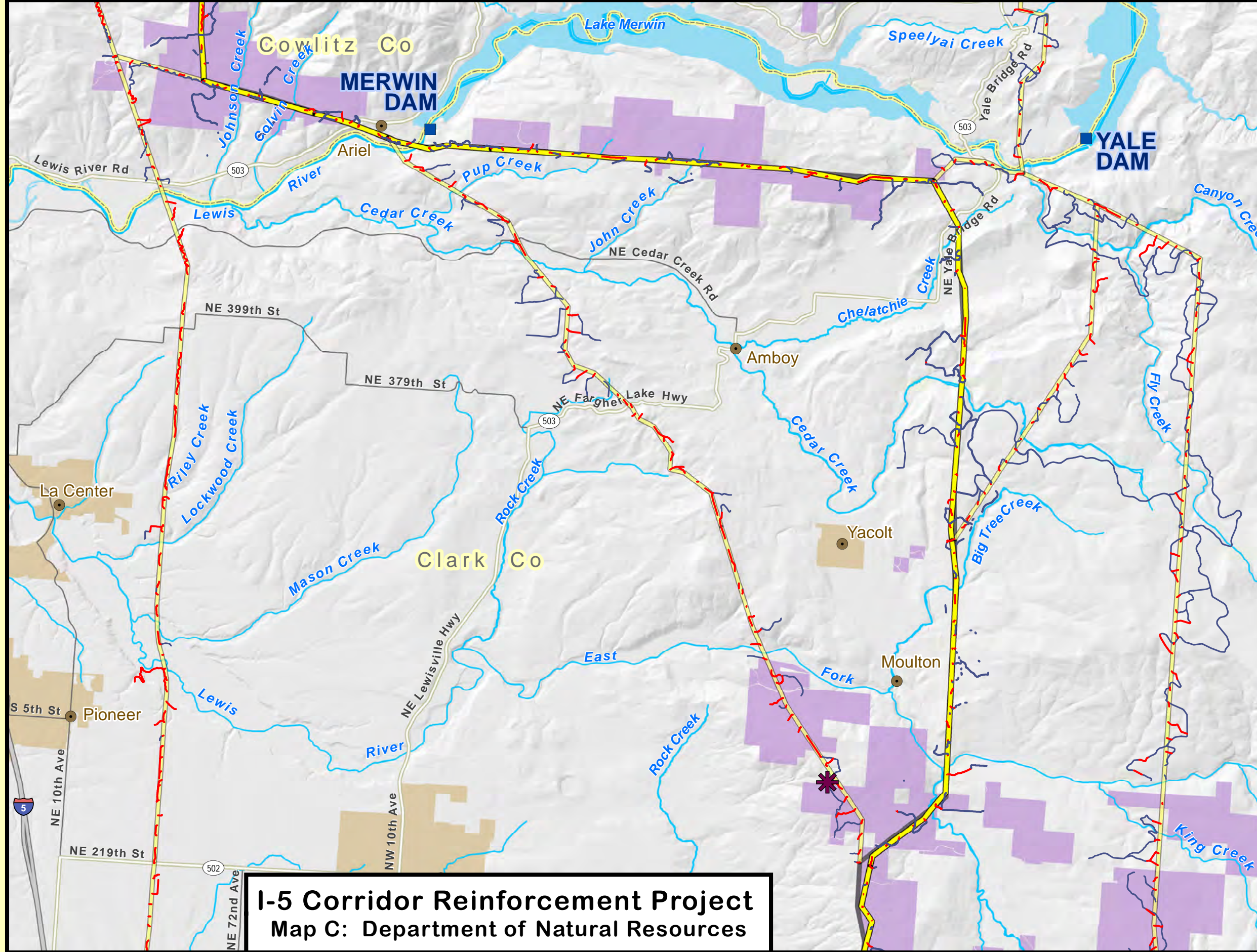
- Preferred Substation Site
- Other Proposed Substation Sites
- Preferred Alternative - Central Alternative using Central Option 1 (not drawn to scale)
- Other Proposed Alternatives and Options (not drawn to scale)
- Original Central Alternative
- New Access Roads
- Existing Public or Private Roads to be Improved
- Temporary Roads
- ✈ Airport
- City or Town
- Dam
- Urban Area
- County Boundary
- State Boundary

Note: The Preferred Alternative has been refined to further minimize and avoid impacts to the natural and human environment where possible.

WA Dept. of Natural Resources Parcels Crossed by Project



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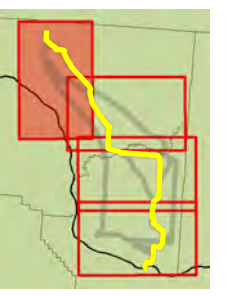
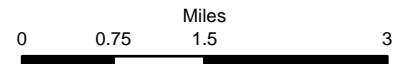


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- Preferred Substation Site
- Other Proposed Substation Sites
- Preferred Alternative - Central Alternative using Central Option 1 (not drawn to scale)
- Other Proposed Alternatives and Options (not drawn to scale)
- Original Central Alternative
- New Access Roads
- Existing Public or Private Roads to be Improved
- Temporary Roads
- Airport
- City or Town
- Dam
- Urban Area
- County Boundary
- State Boundary

Note: The Preferred Alternative has been refined to further minimize and avoid impacts to the natural and human environment where possible.

- WA Dept. of Natural Resources Parcels Crossed by Project
- Genetic Research Plots

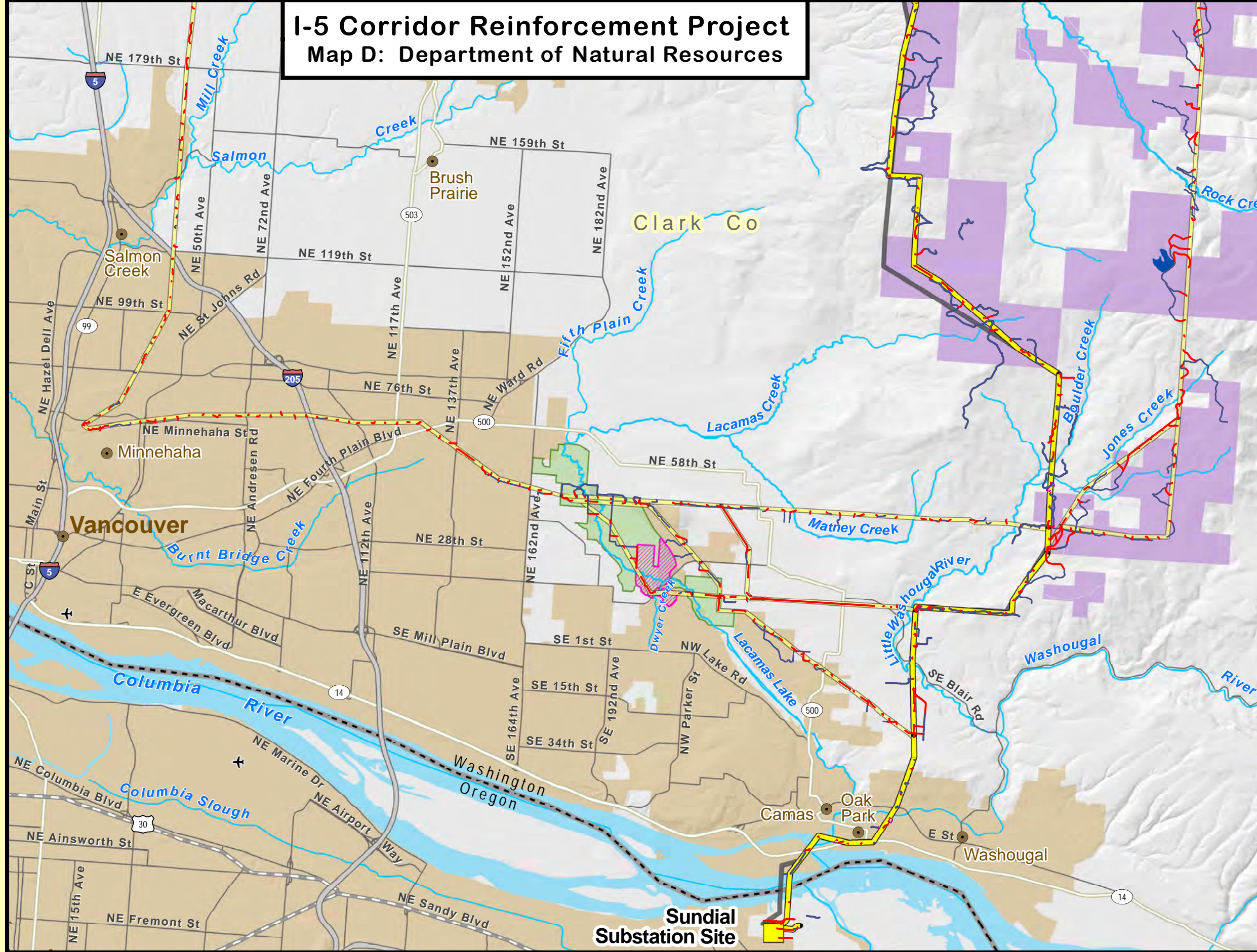


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**I-5 Corridor Reinforcement Project
Map C: Department of Natural Resources**

I-5 Corridor Reinforcement Project

Map D: Department of Natural Resources

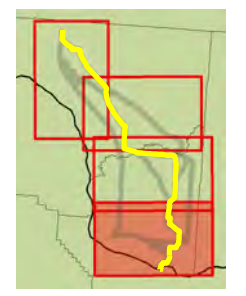
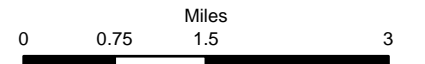


LEGEND

- Preferred Substation Site
- Other Proposed Substation Sites
- Preferred Alternative - Central Alternative using Central Option 1 (not drawn to scale)
- Other Proposed Alternatives and Options (not drawn to scale)
- Original Central Alternative
- New Access Roads
- Existing Public or Private Roads to be Improved
- Temporary Roads
- + Airport
- City or Town
- Dam
- Urban Area
- County Boundary
- State Boundary

Note: The Preferred Alternative has been refined to further minimize and avoid impacts to the natural and human environment where possible.

- WA Dept. of Natural Resources Parcels Crossed by Project
- Herbaceous Bald
- Lands Eligible for inclusion in Natural Resource Area (NCRA)
- Lands Eligible for inclusion in Natural Area Preserve (NAP)



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WDNR Parcel Number	Alternative, Option, or Substation	Route Segment or Access Road³
11651	Central and Crossover	18
7925	Central and Crossover	18
11648	Central and Crossover	18
11614	Central and Crossover	18, L
11656	Central and Crossover	18
7927	Central and Crossover	18
7930	Central and Crossover	18
10753	West	25
7911	Central Option 3	30
7905	Central Option 3	30
7923	Central, Central Option 3, and East Option 2	30, P, V
7910	Central Option 3	30
7921	Central, Central Option 3	30, Improved road on Segment V
7913	Central Option 3, and East Option 2	30
7918	Central, Central Option 3, and East Option 2	30, V
115082	West, and West Options 1, 2, 3	36A, 36B, 40
49	Central Option 1	New and improved roads on Segment A
54	Central Option 1, Casey Road site	A
56	Central Option 1, Casey Road Substation	A
53	Central Option 1, Casey Road site	A
3313	Casey Road site	New road to Casey Road site
11628	East	K
8109	East	K
15535	East	K
11620	East	K
11627	East	K
11618	East	K
11624	East	K
11626	East	K
15108	Central and Crossover	L, New and improved road on Segment 18
11653	Central and Crossover	N, Improved road on Segments 18 and 28
7904	Central Option 3	New road on Segment 30

WDNR Parcel Number	Alternative, Option, or Substation	Route Segment or Access Road³
8023	East and Crossover	New road on Segment O
7982	East and Crossover	O
8001	East and Crossover	O
7947	East, Crossover, and East Option 3	O, Q, R
13030	East and Crossover	O
111730	East and Crossover	O
7948	East and Crossover	O
7980	East and Crossover	O
8072	East and Crossover	O
7946	East and Crossover	O
8007	East and Crossover	O
7981	East and Crossover	O
7979	East and Crossover	O
8032	East and Crossover	O
8040	Central and East Option 2	P
7885	Central and East Option 2	P
7894	Central and East Option 2	P
7884	Central and East Option 2	P
7886	Central and East Option 2	P
7887	Central and East Option 2	P
8041	Central and East Option 2	P, New and improved road on Segment 35
7963	Central, East, Crossover, West Option 3, East Option 2, and East Option 3	35, 39, 49, Q, R, S, T
7951	East, Crossover, and East Option 3	Q, R
7952	East Option 3	R
7962	East Option 3	R
11556	Casey Road site	New road to Casey Road site
50	Central Option 1, Casey Road site	New and improved road to Casey Road site
51	Central Option 1, Casey Road site	Improved road to Casey Road site
111252	Central	New and improved road on Segment 10
11579	Central	Improved road on Segment 12
11570	Central	Improved road on Segment 12
11606	Central and Crossover	Improved road on Segment 15
11608	Central and Crossover	Improved road on Segment 15

WDNR Parcel Number	Alternative, Option, or Substation	Route Segment or Access Road ³
7928	Central and Crossover	18
5	West and Crossover	Improved road on Segment 9
7	West and Crossover	Improved road on Segment 9
58	Central Option 1	Improved road on Segment A
60	Central Option 1	New and improve road on Segment A
15536	East	Improved road on Segment K
11636	East	Improved road on Segment K
11631	East	Improved road on Segment K
8073	East and Crossover	New and improved road on Segment O
13031	East and Crossover	O
8033	East and Crossover	Improved road on Segment O
7999	East and Crossover	New and improved road on Segment O
8024	East and Crossover	New and improved road on Segment O
8025	East and Crossover	Improved road on Segment O
8042	East and Crossover	Improved road on Segment O
8039	Central and East Option 2	P
8019	Central and East Option 2	Improved road on Segment P
8020	Central and East Option 2	Improved road on Segment P
7961	East Option 3	Improved road on Segment R
7960	East Option 3	New and improved road on Segment R
7917	Central	Improved road on Segment V
8067	Central and East Option 2	V
7919	Central and East Option 2	V
<p>Notes:</p> <p>1. Includes right-of-way, footprints for the substation, and a 30- and 20-foot easement for new and improved access roads outside of the transmission line right-of-way (some easements already exist with WDNR for existing access roads identified for improvement). Casey Road site access road has 75- and 65-foot easements for new and improved roads.</p> <p>2. Note that impacts from clearing beyond the 150-foot right-of-way would occur for danger trees and pulling and tensioning sites (see Chapter 3), but the impact to additional WDNR parcels is unknown at this time.</p> <p>3. A particular WDNR parcel is listed only once in this table, regardless if multiple project features cross it. Roads crossing a particular WDNR parcel are only listed if that particular WDNR parcel is not also crossed by the right-of-way or the substations.</p> <p>Sources: BPA 2015, Corelogic 2015, WDNR 2014a</p>		

About 8 to 455 acres of WDNR land would potentially be crossed by the action alternatives (see Table A-2). Permanent impacts on WDNR land would occur from construction of towers, access roads, substations, and clearing of new right-of-way (see Table A-3). Clearing of additional vegetation for danger trees outside of new and existing right-of-way could occur but the amount is unknown at this time. Temporary disturbance (including removing trees) at pulling and tensioning sites and helicopter fly yards adjacent to the right-of-way could occur on WDNR land. About 13 acres of WDNR land not shown in Table A-3 would be cleared for pulling and tensioning sites adjacent to the Preferred Alternative's right-of-way although trees in these

areas would be allowed to grow back. Staging area locations are unknown, but would likely be located on flat, previously cleared and/or developed sites possibly near highway access.

Table A-2 WDNR Land Ownership in the Project Area¹ (Acres)

Alternatives and Options²	WDNR Land
West Alternative	10
West Option 1	+1
West Option 2	-1
West Option 3	+7
Central Alternative³	455 (485)
Central Option 1 ³	+97 (+94)
Central Option 2	N/C
Central Option 3	-88
East Alternative	220
East Option 1	N/C
East Option 2	+81
East Option 3	+54
Crossover Alternative	316
Crossover Option 1	N/C
Crossover Option 2	N/C
Crossover Option 3	N/C
<p>Notes: N/C – No change from the action alternative.</p> <p>1. Includes, footprints for the substations, and a 30- and 20-foot easement for new and improved access roads outside of the transmission line right-of-way (some easements already exist with WDNR for existing access roads identified for improvement). Casey Road site access road has 75- and 65-foot easements for new and improved roads. Note that impacts from clearing beyond the planned right-of-way would occur for danger trees (see Chapter 3), but the exact amount and type of clearing is unknown at this time.</p> <p>2. The value for each option represents the net change from the alternative. It was calculated as the acres of WDNR ownership added by the option minus the acres of WDNR ownership in the segments the option replaces.</p> <p>3. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.</p> <p>Sources: BPA 2015, Corelogic 2015, WDNR 2014a</p>	

Table A-3 Permanent Impacts on WDNR Land in the Project Area (Acres)

Alternatives and Options ¹	Substation ²	Transmission Line Right-of-Way	Towers ³	New Access Roads ⁴	Improved Access Roads ⁴	Total Permanent Impacts
West Alternative	0	9	0	1	0	10
West Option 1	N/C	+1	N/C	+1	0	+1
West Option 2	N/C	-1	N/C	0	0	-1
West Option 3	N/C	+5	N/C	+2	0	+7
Central Alternative⁵	0 (0)	384 (408)	<1 (0)	17 (23)	53 (55)	455 (485)
Central Option 1 ⁵	+37 (+63)	+17 (+15)	+7 (+<0.1)	+30 (+2)	+6 (+14)	+97 (+94)
Central Option 2	N/C	N/C	N/C	N/C	N/C	N/C
Central Option 3	N/C	-85	N/C	+1	-4	-88
East Alternative	0	163	0	15	42	220
East Option 1	N/C	N/C	N/C	N/C	N/C	N/C
East Option 2	N/C	+84	N/C	-1	-1	+81
East Option 3	N/C	+50	N/C	+1	+4	+54
Crossover Alternative	0	264	0	18	34	316
Crossover Option 1	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 2	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C	N/C	N/C	N/C
Notes:						
N/C – No change from the action alternative.						
1. The value for each option represents the net change from the alternative. It was calculated as acres added by the option minus the acres in the segments the option replaces.						
2. Includes towers and access roads within the substation footprint.						
3. Includes towers outside of the substation footprint and planned right-of-way needing to be removed or rebuilt.						
4. Based on an average 30- and 20-foot easement that would be needed for new or improved access roads. Casey Road site access road has 75- and 65-foot easements for new and improved roads. Includes access roads outside of the substation area and planned right-of-way.						
5. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.						
Sources: BPA 2015, Corelogic 2015, WDNR 2014a						

A.2 Resource Impacts

The following discussions address the environmental resources affected by the project to aid WDNR in its statutory and regulatory compliance efforts for its lands. General resource impacts from the project are described in Chapters 5 through 22 of this EIS, including impacts on environmental resources not specifically addressed in this appendix, including on WDNR land. The information below addresses the site-specific impacts on WDNR land, to the extent they have been identified during focused field surveys on the Preferred Alternative.

A.2.1 Land Use

Chapter 5 of the EIS provides an analysis of potential project impacts on land use, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. Existing land uses on WDNR land the project could cross include rural, timber production, agriculture, and open space (which includes both forested and non-forested areas) (see Table A-4).

Table A-4 Land Use on WDNR Land in the Project Area (Acres)

Alternatives and Options ¹	Urban/Suburban	Rural	Timber Production	Open Space	Agriculture	Total
West Alternative	0	0	5	5	0	10
West Option 1	N/C	N/C	<-1	+1	N/C	+1
West Option 2	N/C	N/C	1	-2	N/C	-1
West Option 3	N/C	N/C	+9	-2	N/C	+7
Central Alternative²	0 (0)	<1 (<1)	447 (476)	8 (9)	<1 (<1)	455 (485)
Central Option 1 ²	N/C (N/C)	N/C (N/C)	+62 (+60)	+34 (+35)	+1 (+<1)	+97 (+95)
Central Option 2	N/C	N/C	N/C	N/C	N/C	N/C
Central Option 3	N/C	N/C	-88	<-1	+1	-88
East Alternative	0	0	212	7	<1	220
East Option 1	N/C	N/C	N/C	N/C	N/C	N/C
East Option 2	N/C	N/C	+81	<-1	<-1	+81
East Option 3	N/C	N/C	+51	+4	N/C	+55
Crossover Alternative	0	<1	310	6	<1	316
Crossover Option 1	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 2	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C	N/C	N/C	N/C

Notes:
 N/C – No change from the action alternative.
 1. The value for each option represents the net change from the alternative. It was calculated as acres added by the option minus the acres in the segments the option replaces.
 2. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.
 Sources: BPA 2015, Corelogic 2015, Herrera 2010, USGS 2011, WDNR 2014a

Impacts on WDNR land include the creation of incompatible land uses related to conversion of active timber production lands to non-timber production land, use of open space land for project components, and disturbance to WDNR lands during maintenance and construction activities.

Use of WDNR land would be limited within the transmission line right-of-way and other uses would be eliminated at substations or under roads and tower footprints. Restrictions would include keeping the right-of-way clear of all structures, fire hazards, and incompatible

vegetation, and preventing any other use that may interfere with the safe operation or maintenance of the line. Initially, this would include danger tree removal adjacent to the right-of-way, and tree clearing at any designated pulling and tensioning sites and helicopter fly yards adjacent to the right-of-way. Trees would be allowed to re-grow in these areas unless they became a future danger to the operation of the line. BPA would obtain the right, via its easements, to keep the right-of-way clear of vegetation and structures; BPA could also enter into agreements with WDNR for low-growing vegetation that does not interfere with BPA's safe operation and maintenance of its transmission facilities. WDNR would coordinate with BPA prior to planting to ensure that the use is safe, compatible, and does not create interference. Non-woody, non-structure supported (i.e., trellised) vegetation with a mature height not to exceed 4 feet could be grown safely under the transmission line. However, orchards, Christmas trees, tall-growing landscape or natural vegetation, and structure-supported crops would require special consideration.

Grazing land tends to be compatible with transmission lines, because livestock would be able to graze within the right-of-way. Although tower footprints and road beds would occupy land and remove that area of vegetation from grazing, livestock and wildlife could still walk around the towers and roads to access WDNR open space used for grazing that would be affected by the project.

Some uses of the right-of-way would not be restricted, but certain precautions would need to be taken. For example, in general, no object should be raised higher than 14 feet above the ground within the right-of-way (i.e., when moving timber harvest equipment underneath the right-of-way); ground elevation should not be altered (such as piling of dirt within the right of way); irrigation spray should not create a continuous stream onto the conductors or towers; fences should be grounded; and installing underground pipes or cables through the right-of-way needs to be coordinated with BPA so that they do not interfere with transmission line grounding systems. Vehicles and large equipment such as cranes, derricks and booms that do not extend more than 14 feet high could be operated safely under the line where it passes over roads, driveways, parking lots, cultivated fields or grazing lands.

BPA access roads could create an avenue for unauthorized access onto WDNR lands. At the request of WDNR, BPA would place gates at the entrance of access roads to prevent public access onto WDNR land and the project corridor. Locked gates at the entrances of BPA access roads and rights-of-way, which are installed for the life of the line and maintained by both BPA and WDNR, would help reduce trespassers, but could also cause a slight inconvenience to users of WDNR land.

There is the potential that, even with gates, unauthorized access and use of the right-of-way and adjacent properties could occur. WDNR has raised concerns about potential impacts to state lands from this unauthorized access and use. Because transmission line corridors are linear facilities that typically can be accessed fairly easily by the general public, WDNR is concerned that the project could contribute to unauthorized use and damage to state lands and public resources on these lands. WDNR also is concerned that gates by themselves are not sufficient to prevent unauthorized access and use to its lands where the project and associated roads would be present. During construction and line maintenance, workers would need to ensure that gates are closed to prevent any livestock that may be grazing in the vicinity of WDNR land from escaping. Use of gates would also limit easy access to WDNR land by off-road vehicles.

In general, unauthorized public access and use could increase soil erosion and fire danger, introduce noxious weeds and illegal dumping, and disturb vegetation, wildlife, wildlife habitat, and cultural resources. Increased soil erosion could occur from unauthorized uses such as off-road vehicles and other unmanaged recreational activities accessing areas and disturbing soils. Over time, unauthorized uses of gravel or dirt roads on WDNR land could lead to accelerated deterioration of these roads through disturbance and erosion. Increased fire danger can result from activities by unauthorized users on or near the project from a variety of means, such as campfires, discarded cigarettes, and vehicle exhaust systems coming into contact with vegetation.

The potential introduction of noxious weeds from unauthorized public access and use can occur from unauthorized vehicles inadvertently transporting and spreading seeds of noxious weeds into the project corridor and WDNR lands. Soil disturbance from these vehicles increases the potential for the introduced noxious weeds to become established in these disturbed areas. Such weed infestations would reduce the quality and value of WDNR land used for timber production, conservation, and preservation. They would also reduce forage quality of WDNR land, increase weed control costs, and threaten the integrity of native plant communities and habitats.

BPA would continue to work with WDNR concerning possible avenues for controlling or minimizing the potential for unauthorized public access and use on state lands to address WDNR's concerns about unauthorized access to its lands as a result of the project. Overall, maintenance impacts to WDNR land for the action alternatives would be low because the activities would not change land use; would be short term and limited to noise, dust and a small amount of vehicle traffic; and BPA would compensate for any damage that may occur. Timber harvest activities would not be affected by maintenance, other than possible minor scheduling conflicts that would be resolved by the parties involved through standard communication.

A.2.2 Recreation

Chapter 6 of the EIS provides an analysis of potential project impacts on recreation resources, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land.

Recreation facilities on WDNR lands include parks, campgrounds, motorized trails, and non-motorized trails. Recreational activities on WDNR land include sightseeing, nature appreciation, off-highway vehicle riding, target practice, fishing, and hunting. Dispersed recreation also takes place outside of designated recreation facilities, and can be authorized or unauthorized, as is the case with some off-highway motorized vehicle use and target practice at the Casey Road substation site.

Trails on WDNR land in the Yacolt Burn State Forest crossed by the project include the following:

- **Bells Mountain Trail:** This primitive, 7.5-mile-long, 4-foot-wide, non-motorized shared-use trail serves hikers, mountain bikers, and equestrians (WDNR 2010).
- **Tarbell Trail:** This trail is a 35-mile non-motorized trail system that is open to hikers, equestrians, and mountain bikers year-round (WDNR 2010).

- **Larch Mountain Trail:** This trail is used by hikers, equestrians, and mountain bikers to reach the summit of Larch Mountain from the Tarbell Trail (WDNR 2010).
- **Jones Creek Trail and Jones Creek Trail Connector A:** This 14-mile-long stretch of double-track motorcycle and all-terrain vehicle motorized trail is open seasonally from May 1 to November 30.

The Central, East and Crossover alternatives would cross or otherwise affect WDNR recreation resources within the Western Yacolt Burn State Forest (see Table A-5). The Casey Road substation site has no WDNR trails, but unauthorized activities such as target practice do occur. No other substation sites would affect WDNR recreation resources. Segment P along the Central Alternative and East Option 2 would affect future trail expansion identified in the West Yacolt Burn Recreation Plan. Future trails include 4x4 and/or ORV trails under the phase 3 construction schedule shown in the recreation plan. BPA would work with WDNR to ensure that adequate notice is provided to users of WDNR trails and recreational facilities before and during the construction period.

Table A-5 Permanent Impacts to Trails on WDNR Land in the Project Area¹

Alternatives and Options ²	Towers ³ (miles)	New Access Roads ⁴ (miles)	Improved Access Roads ⁴ (miles)
Central Alternative ⁵	--	--	Bells Mountain Trail, <0.1 (--)
East Alternative	Tarbell Trail, <0.1	Tarbell Trail, 0.1 Larch Mountain Trail, <0.1	Jones Creek Trail, <0.1 Tarbell Trail, <0.1
East Option 1	N/C	N/C	N/C
East Option 2	Tarbell Trail, -<0.1	Tarbell Trail, -0.1 Larch Mountain Trail, <0.1	Jones Creek Trail, <0.1 Tarbell Trail, -<0.1
East Option 3	N/C	Jones Creek Trail, +<0.1	Jones Creek Trail, +0.2
Crossover Alternative	Tarbell Trail, <0.1	Tarbell Trail, 0.1 Larch Mountain Trail, <0.1	Jones Creek Trail, 0.1 Tarbell Trail, <0.1
Crossover Option 1	N/C	N/C	N/C
Crossover Option 2	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C

Notes:
 N/C – No change from the action alternative
 1. The recreation study area is defined as the area within approximately 1,000 feet of the route.
 2. The value for each option represents the net change from the action alternative. It was calculated as the total area added by the option minus the total area in the segments the option replaces.
 3. Includes towers within and outside of the 150-foot right-of-way.
 4. Includes access roads within and outside of the 150-foot right-of-way.
 5. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.
 Sources: BPA 2015; Clark County 2011d; Corelogic 2015; WDNR 2014a, 2015a

A.2.3 Socioeconomics

Chapter 11 of the EIS provides an analysis of potential project impacts on socioeconomic resources, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. The socioeconomic conditions and resources potentially affected by the project on WDNR land include public services and utilities, government revenue from timber production, values associated with recreation and tourism, and ecosystems.

WDNR provides fire protection for more than 12 million acres in Washington, including their lands in the project area. WDNR has mutual aid agreements with rural fire districts in Clark and Cowlitz counties, and a master agreement for sharing fire protection resources among all state and federal agencies. In the event of a large or unusual emergency, they would likely be able to call in additional personnel and equipment from these districts and agencies.

WDNR manages state trust lands to provide revenue for several trusts, primarily by producing timber. The revenue generated for those trusts statewide ranged from \$6 million to \$71 million in 2014 (see Table A-6).

Table A-6 Washington State Trust Land, Beneficiaries, Acres, and Timber Sales, Statewide, 2014

Trust ¹	Beneficiaries	Acres Harvested ²	Volume Harvested (mbf) ²	Value of Sales ³ (\$ millions)
Capitol Building Trust	State Capitol Campus	840	28,949	9
Charitable, Educational, Penal, and Reformatory Institutions Trust	WA State Institutions	641	19,228	6
Common School Trust	Public Schools (K-12)	7,869	153,056	45
Agricultural School Trust and Scientific School Trust	WA State University	1,350	38,493	11
State Forest Lands (Clark, Cowlitz)	County, State General Fund, WDNR	1,029	34,596	71
Total		11,729	274,322	142
Notes:				
1. Includes only trusts with land in the project area.				
2. Statewide amounts, except State Forest Lands, which includes only State Forest Purchase Lands in Clark and Cowlitz counties.				
3. Statewide amounts.				
Source: WDNR 2014b				

The project would create a short-term increase in the trusts' revenue from these lands by triggering the harvest of the existing mature timber stock in and next to the new right-of-way and on any lands that would be occupied by a substation or access roads. Harvest of existing timber stock on existing right-of-way would likely not contribute to an increase in revenue for WDNR because this timber may be owned outright by BPA through fee-owned title or owned by BPA as reflected in existing easement agreements.

The value of short-term increases in government revenue for each action alternative has been quantified (see Table A-7). Several assumptions are used to quantify the value of the trees that would be cut to make way for construction of the project:

- The number of acres of timber owned by WDNR that would intersect with the proposed right-of-way, access roads, and substation sites (based on GIS analysis)
- The average volume of timber per acre, specific to WDNR land in Clark and Cowlitz counties: 5,144.7 cubic feet per acre (US Forest Service FIA Data)
- The percent of volume sold as merchantable timber, on average from public lands: 80 percent
- Value per thousand board feet, based on the stumpage price for Washington WDNR timber sold in 2014: \$363.74/MBF (WDNR 2014b)

An additional, but currently unknown, number of danger trees would be cut adjacent to the right-of-way for temporary access roads (not on WDNR land), staging areas, pulling and tensioning sites, and helicopter fly yards adjacent to the right-of-way; although developed sites are preferred. This additional harvest would increase short-term revenue somewhat beyond the values reported here. Any increase in revenue would be offset if WDNR decided to reduce harvest on other lands in response to the project-related harvest. Additional revenue would come from BPA's payment of compensation for any state trust lands acquired for the project or for the easements themselves on trust lands. The appraisal process would also consider whether the transmission facilities would diminish the utility of a portion of the timberland property if the line effectively severs this area from the remaining property (called "severance damage").

Table A-7 Value of Timber Cleared on State Trust Lands (in 2014 dollars)¹

Alternatives and Options ²	Capitol Building	Institutions ³	Common School	Agri-cultural	Scientific School	State Forest Lands	Total ⁴
Value of Existing Timber							
West Alternative	\$0	\$0	\$4,096	\$0	\$0	\$0	\$4,096
West Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
West Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
West Option 3	N/C	N/C	+\$59,713	N/C	N/C	N/C	+\$59,713
Central Alternative	\$318,838 (\$262,359)	\$230,682 (\$244,915)	\$1,124,903 (\$1,186,818)	\$3,889 (\$3,214)	\$168,308 (\$174,984)	\$1,478,472 (\$1,677,995)	\$3,325,092 (\$3,550,284)
Central Option 1	N/C (N/C)	N/C (N/C)	+\$67,933 (+\$21,761)	+\$16,586 (N/C)	+\$48,283 (+\$134,096)	+\$288,786 (+\$292,499)	+\$421,588 (+\$448,356)
Central Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Central Option 3	N/C	N/C	-\$119,515	N/C	N/C	-\$585,899	-\$705,414
East Alternative	\$71,430	\$0	\$472,439	\$0	\$2,867	\$1,019,306	\$1,566,043
East Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
East Option 2	+\$88,279	N/C	+\$165,563	N/C	-\$2,867	+\$376,091	+\$627,066
East Option 3	N/C	N/C	+\$170,925	N/C	N/C	+\$212,988	+\$383,913

Alternatives and Options²	Capitol Building	Institutions³	Common School	Agri-cultural	Scientific School	State Forest Lands	Total⁴
Crossover Alternative	\$71,430	\$0	\$827,650	\$0	\$84,618	\$1,301,904	\$2,285,603
Crossover Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Net Present Value of Revenue from Forgone Future Timber Harvests⁵							
West Alternative	\$0	\$0	\$3,200	\$0	\$0	\$0	\$3,200
West Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
West Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
West Option 3	N/C	N/C	+\$46,651	N/C	N/C	N/C	+\$46,651
Central Alternative	\$249,097 (\$204,972)	\$180,224 (\$191,344)	\$878,848 (\$927,219)	\$3,038 (\$2,511)	\$131,493 (\$136,709)	\$1,155,079 (\$1,310,960)	\$2,597,779 (\$2,773,714)
Central Option 1	N/C (N/C)	N/C (N/C)	+\$53,074 (+\$17,001)	+\$12,958 (N/C)	+\$37,722 (+\$104,764)	+\$225,618 (+228,519)	+\$329,372 (+\$350,285)
Central Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Central Option 3	N/C	N/C	-\$93,373	N/C	N/C	-\$457,742	-\$551,115
East Alternative	\$55,806	\$0	\$369,100	\$0	\$2,240	\$796,348	\$1,223,495
East Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
East Option 2	+\$68,969	N/C	+\$129,349	N/C	-\$2,240	+\$293,827	+\$489,905
East Option 3	N/C	N/C	+\$133,538	N/C	N/C	+\$166,400	+\$299,938
Crossover Alternative	\$55,806	\$0	\$646,614	\$0	\$66,109	\$1,017,133	\$1,785,662
Crossover Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C	N/C	N/C	N/C	N/C
<p>Notes:</p> <p>N/C – No change from the action alternative.</p> <p>1. Calculated for timber that would be cleared from the right-of-way, substations, and access roads.</p> <p>2. The value for each option represents the net change from the action alternative. It was calculated as the total value added by the option minus the total value in the segments the option replaces.</p> <p>3. Includes charitable, educational, penal, and reformatory institutions.</p> <p>4. Totals may not sum due to rounding.</p> <p>5. Calculated in perpetuity.</p> <p>6. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.</p> <p>7. Represents the revenue from timber harvests in Clark and Cowlitz counties; actual revenue impacts to the counties would vary depending on a variety of factors that are adjusted annually. In recent years, counties received about 70 percent of total harvest revenue from State Forest Lands.</p> <p>Sources: Herrera 2010; USFS 2010; Warren 2009; WDNR 2014a, 2014b</p>							

The project would create long-term decreases in government revenue generated from state trust lands in three ways:

- Elimination or reduction of timber production on WDNR timberlands-that would be cleared in or next to the new right-of-way or for the substations and access roads
- Increase in the costs of managing timberland near the new right-of-way, resulting, for example, from project-related restrictions on timber-harvest techniques, such as cable logging, or increases in risks to safety from logging near the right-of-way, the need for setback and offset distances of guyline cables to the right-of-way corridor, and a potential for reconstructing existing landings outside of the right-of-way due to harvest restriction
- Reduction in the ability of WDNR managers to generate additional types of revenue, such as from growing trees to sequester carbon on the cleared lands

The long-term decreases in government revenue for each action alternative described in the first bullet are quantified in Table A-7. Measuring the impact entails converting the future impacts on timber-harvest revenue to an equivalent, single number, called the present value. This is done by calculating a perpetual annuity (which assumes timber would be harvested on rotation indefinitely). The perpetual annuity assumes average annual revenue per acre per year of about \$234, based on these assumptions:

- The number of acres of timber owned by WDNR that would intersect with the proposed right-of-way, access roads, and substation sites, where trees would not be allowed to grow after construction is complete (based on GIS analysis)
- The average volume of timber per acre, specific to WDNR land in Clark and Cowlitz Counties: 5,144.7 cubic feet per acre (US Forest Service FIA Data)
- The allowable annual harvest per acre, using Von Mantel's formula for calculating the sustained annual yield, assuming a rotation length of 80 years ($5,144.7 / (80/2)$): 128.62
- Value per MBF, based on the stumpage price for Washington WDNR timber sold in 2014 (assuming a constant price in real terms over time): \$363.74/MBF (WDNR 2014b)
- A discount rate of 4 percent per year (Row, Kaiser and Sessions 1981)

These assumptions result in a calculated present value of a perpetual annuity of about \$5,848 per acre. An additional, but currently unknown, number of trees may be cut adjacent to the right-of-way for safety purposes, which may increase the forgone revenue. Data are unavailable to quantify the decrease in government revenue from the impacts associated with increased logging and management costs for land adjacent to the project, or management goals other than harvest.

A.2.4 Transportation

Chapter 12 of the EIS provides an analysis of potential project impacts on transportation resources, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. About less than 1 to 14 miles of new roads would be constructed and less than 1 to about 26 miles of road improvement would occur on WDNR lands

for the alternatives (see Table A-8). Other existing roads on WDNR lands would be used to access the transmission line and substations during construction (see existing roads, Table A-8).

Table A-8 New, Improved, and Existing Access Roads on WDNR Land in the Project Area

Alternatives and Options ¹	New Access Roads (miles)	Improved Access Roads (miles)	Existing Roads Potentially Used during Construction (miles)
West Alternative	<1	<1	<1
West Option 1	+1	N/C	N/C
West Option 2	-<1	N/C	N/C
West Option 3	+1	+<1	+<1
Central Alternative²	10 (13)	23 (27)	13 (15)
Central Option 1 ²	+4 (+1)	+3 (+7)	+3 (N/C)
Central Option 2	N/C	N/C	N/C
Central Option 3	-1	-2	+<1
East Alternative	7	21	30
East Option 1	N/C	N/C	-0.2
East Option 2	+0.4	-1	-10
East Option 3	+0.2	+1	+4
Crossover Alternative	9	16	29
Crossover Option 1	N/C	N/C	+0.1
Crossover Option 2	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C
Notes: N/C – No change from the action alternative. 1. The value for each option represents the net change from the action alternative. It was calculated as the miles added by the option minus the miles in the segments the option replaces. 2. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design. Sources: BPA 2015, Corelogic 2015, WDNR 2014a			

A discussion of BPA's access road system is included in Section 3.9, Access Roads, of the EIS. This discussion includes a general description of the width, location, type of road improvement, and construction equipment that would be used. Use of temporary roads within agricultural fields is also discussed. For the WDNR parcels, BPA would acquire rights (easements for line access roads and fee title for substation access roads), and develop and maintain permanent access suitable for travel by wheeled vehicles to each transmission line structure site, substation or other transmission facility. Existing public and private roads and transmission line rights-of-way would be used for access where reasonably possible.

Potential impacts to vehicle traffic flow would be short-term and moderate during the 5-year (60-month) construction period if heavy equipment and supplies are transported on local roads to tower sites. Material transport amounts and specific routes are not defined to date, although

existing roads that may be used during construction and do not need any improvement have been identified. A typical crew can construct 10 miles of line in about 3 months so construction traffic is likely to be present for 1-3 months before the next 10-mile section is constructed and other roads are used.

Maintenance traffic would not impact transportation modes along any of the action alternatives over the life of the line because it would normally require only a few maintenance vehicles several times a year and helicopters twice a year. Large vehicles such as flatbed trucks or a crane may occasionally be required to replace or repair the transmission line and towers, which could cause minor disruption to local traffic for brief periods of time.

As part of BPA's Transmission Engineering Manual, BPA has an Access Road Planning and Design Manual (Updated Access Road Design Standard STD-DT-000056 dated 4/09/2015 [previously BPA's 1987 Access Road Planning and Design Manual]). This comprehensive manual includes BPA's access road policy and standards regarding the design and construction of access roads, including those on and next to WDNR land. For BPA's current road design efforts, a minimum of 29 tons of rock per station would be applied to improve driveways, 50 tons of rock per station for improved roads, and 82 tons of rock per station for reconstructed and constructed roads. There may be some specific requirements in some areas which may differ from these amounts. BPA also plans to add subgrade stabilization for soft areas which is an additional 12 inches of quarry spalls with geotextile fabric. In some cases this would be added to the amounts above. Additional rock would be applied as needed during construction for maintenance and in the future for maintenance based on agreements between BPA and WDNR.

Any structure installed on any stream regardless of fish presence would be appropriately sized based on hydraulic calculations similar to those in the WDFW manual for 100-year flood plus debris events. For fish bearing streams specifically, BPA would use the stream simulation method for sizing the crossings with a hydraulic analysis of the 100-year flows performed as a check of the culvert or bridge size. Hydraulic analysis is not used for ditch relief culverts. BPA would use appropriately sized round culverts on non-fish bearing streams. Fish bearing stream crossings may contain an embedded round or arch pipe in addition to open bottom culverts and bridges. For embedded culverts BPA typically sets the invert of the culvert a minimum of 1 foot or 2D90 below the lowest potential scour elevation (Vertical Adjustment Potential [VAP]). WDFW published guidelines specify embedded culverts as an option with the stream simulation method.

Environmental, engineering, economic, and maintenance factors are considered in locating and designing access roads. Access road planning, as described in the BPA Manual, takes into account many factors including seasonal constraints for construction, steep slopes, present and potential land uses, soil conditions, soil erosion potential, water quality impacts, visual impacts, and impacts to cultural resources. The BPA Manual also describes erosion and sediment control methods that are implemented. Erosion control is a very important factor in planning, designing, constructing and maintaining access roads. Erosion must be controlled during and after construction to prevent road damage, to avoid undue increases in stream turbidity and sedimentation, and soil deposition outside of the road right-of-way. Well designed and constructed erosion control measures would reduce road maintenance costs and provide a reliable road in the event of emergency work on the transmission line.

Drainage structures including culverts, intercepting dips, water bars, and gravel surfacing are elements of erosion control, as is seeding. The use of water bars would be coordinated with WDNR. Water bar type (rock or rubber) would depend on access road usage and grades. Dips are not intended to convey water from ditches or streams. They are used to armor areas where the road is in a sag (e.g., low area or trough); also, where there is a need to minimize maintenance by armoring because adjacent basins are causing the road to be soft or to offset roadway flows which may propagate through rutting. Road sections continue to be evaluated to determine if an uphill ditch would be needed and cross drains used at intervals based on road grade.

Access road planning and design are important elements of transmission project development and, to be effective, must begin at the earliest stage of project planning. Well-developed access road plans and designs minimize construction and maintenance costs, environmental impacts, and costly delays because of late changes in access road routing. Access road plans and designs are developed using landowner, environmental, construction, and maintenance input. For WDNR land, access road plans and designs would also be coordinated with the appropriate WDNR engineer. BPA has provided a comparison of BPA's updated access road standards with other applicable standards for culvert design (see Table A-9).

As discussed in the introduction to this appendix, BPA and WDNR signed a Statewide MOA with the goal of addressing BPA transmission line operations and maintenance compatibility with WDNR trust land management. Among other things, this MOA provides mutually agreeable definitions (described below), classifications, and responsibilities for BPA sole and joint use access roads located on WDNR lands for maintenance and operation of these roads.

Table A-9 Comparison of BPA's Access Road Standards and Other Applicable Road Standards for Culvert Design

	WSDOT ¹	ODOT ²	Federal Lands Highway (FLH) ^{3,4}	Washington Forest Practices Act ⁵	BPA Transmission Lines and Substation Access Roads ⁷
Culvert Minimum Size (dia. in inches)	12	12	24	18 (for cross drains) 1.2 times bankfull width (BFW) for non-fish streams 1.2 times BFW + 2 feet for fish streams	18 for cross drains The greater of 1.2 times BFW + 2 feet or 72-inch diameter with 30% embedment for non-fish streams The greater of 1.2 times BFW + 2 feet or 1.5 times active channel width (ACW) per NOAA Fisheries or 72-inch diameter with 30% embedment for fish streams
Culvert Material	Concrete, Corrugated Metal Pipe (CMP), HDPE	Concrete, CMP, HDPE	Concrete, CMP, HDPE	Not included in standards	Aluminized steel, dual walled ADS (HDPE)
Culvert Design Loading	HS-20	HS-20	HS-20	Not included in standards	HS-20
Culvert Cover	2 feet from bottom of pavement	2 feet from bottom of pavement	Varies (12-inch to 16-inch depending on size)	2 feet for cross drains 12-inch or 1/2 culvert diameter, whichever is greater.	2 feet over top of pipe from finish grade
Design Event - Conveyance	25-year	25-year	25-year	100-year	Stream simulation for standard non-fish culverts and checked for surcharge with the 100-year event
Design Event - Overtopping	100-year	100-year	Assess risk to properties	Not included in standards	100-year
Headwater/Depth for Conveyance Design Event	1.25	1.25	1.5 (48" dia. or less) 1.2(greater than 48" dia.)	0.9 (hydraulic passage only) 0.5 to 0.67 (for woody debris and sediment passage)	0.9 (hydraulic passage only) 0.5 to 0.67 (for woody debris and sediment passage)

	WSDOT¹	ODOT²	Federal Lands Highway (FLH)^{3,4}	Washington Forest Practices Act⁵	BPA Transmission Lines and Substation Access Roads⁷
Allowable Headwater for Roadway	Headwater to subgrade	Headwater to subgrade	Not included in standards	Not included in standards	Since the culverts are designed to not surcharge during a 100-year storm event, headwater elevation would be below the top of the culvert and would not impact the roadway subgrade.
Hydrologic Calculation Method	Rational method, SBUH, HSPF, USGS regression, FEMA, published flow records	Rational method, USGS regression, TR-55, TR-20, HEC-HMS, FEMA, published flow records.	Rational method, USGS regression, TR-55, TR-20, FEMA, published flow records	(1) USGS Regression Equations (2) Rational Method (only use for basins smaller than the lower limit used for the USGS regression equations) (3) Manning's equation (requires accurate channel measurements)	(1) USGS Regression Equations (2) Continuous Flow Simulation Model (3) Rational Method (only use for basins smaller than the lower limit used for the USGS regression equations)
Hydraulic Calculation Method	HY-8	HY-8	HY-8	(1) WinXSPro (2) FishXing (3) HEC-RAS (4) HY-8	HY-8
Fish Passage	WDFW	ODFW	HEC-26 ⁶	WDFW	WDFW If the fish stream is regulated by NOAA Fisheries (NMFS) the greater of BFW times 1.2 + 2 feet or 1.5 times ACW would be used

	WSDOT ¹	ODOT ²	Federal Lands Highway (FLH) ^{3,4}	Washington Forest Practices Act ⁵	BPA Transmission Lines and Substation Access Roads ⁷
Low-Water Crossings (a.k.a. Fords)	Not included in standards	Not included in standards	<p>Vented crossing (hydraulic opening below road surface) with 10-year design with no overtopping allowed for roads with ADT<220.</p> <p>Unvented crossing stable for the 25-year design with overtopping allowed for daily crossing for an ephemeral stream.</p>	<p>Fords may be suitable in the following circumstances:</p> <ul style="list-style-type: none"> - Minimal vehicle traffic - In sites where access limits regular maintenance. - Variable stream widths exist from frequent landslides, debris flows, or ice flows. - When culverts or bridges are not an option because (1) crossing is too difficult to maintain (2) high debris loading is present in stream channel. 	Fords are not desirable but existing fords can be repaired and replaced.
<p>Sources:</p> <ol style="list-style-type: none"> 1. WSDOT Hydraulics Manual. WSDOT 2007 2. ODOT Hydraulics Manual. ODOT 2005 3. FLH uses the Project Development and Design Manual (PDDM), Draft February 2011 edition. PDDM also accepts hydrology from HDS-2. 4. HDS-2: Highway Hydrology. FHWA October 2002 5. Forest Practices Board Manual Chapter 3 and Chapter 4. Technical supplement to the forest practices rules, Title 222 WAC. August 2011 6. Fish Passage - HEC-26, Culvert Design for Aquatic Organism Passage, FHWA HIF-11-008, October 2010 7. BPA Updated Access Road Design Standard STD-DT-000056, April 2015 					

A.2.4.1 Definitions

1. **Road Maintenance:** Periodic work performed on a road so that the road prism remains usable and costly repairs are not needed. Activities include but are not limited to: shaping the roadway, vegetation control, cleaning catch basins, installation of cross-drain culverts and culvert maintenance, water bars, ditches, roadside brushing, and spot rocking. Road maintenance may be required because of traffic use or non-traffic related conditions such as vegetation growth.
2. **Road Improvement:** Includes any work that increases the overall value of the road and requires a significant expenditure of resources and specifically excludes road maintenance and road abandonment. Activities include but are not limited to: new road and bridge construction, bridge and culvert replacement, significant road surface improvement or changing the surface of a road, widening, ditch construction, abandonment, decommissioning and road realignments or rerouting. It does not include any of the specific activities listed in road maintenance.
3. **Road Abandonment:** Includes all work to put a road in a condition that no longer requires maintenance. The following work is required to exempt a road from maintenance:
 - a. Roads are out-sloped, water barred, or otherwise left in a condition suitable to control erosion and sediment transport and maintain water movement within a wetland or a natural drainage
 - b. All disturbed slopes, including ditches, are left in a suitable condition to control or limit erosion
 - c. The road is blocked, or other reasonable measures are taken, when equally effective, to prevent four wheel highway vehicles from passing the point of closure at the time of abandonment
 - d. Water crossing structures and fills on all typed waters are removed, except where State determines other measures would provide adequate protection to public resources
4. **Sole Use Road:** A road on state-managed uplands within and outside the transmission corridor that is used almost exclusively by BPA, including roads built for the original line construction, patrol, maintenance, upgrades, emergency repairs, and vegetation management. General characteristics of this type of road include:
 - a. Road does not currently, nor in the foreseeable future, provide needed access to state-managed lands for the purpose of resource management.
 - b. Road is not generally used, identified, or necessary for administrative use by State purchasers, lessees, or permittees.
 - c. No additional easement holder user of the road has been identified.
 - d. State rarely uses the road administratively. Such State use includes, but is not limited to easement administration.
 - e. State does not have a designated recreational trail or promote other authorized recreational use of the road.
 - f. State does not consider the road part of the State funded transportation system.

5. Joint Use Road: A joint use road is a road on WDNR-managed land that is used by both BPA and WDNR. General characteristics of this type of road include:
- a. State uses or has immediate plans to use the road, or a portion of the road, to access WDNR-managed lands.
 - b. State's purchasers, lessees or permittees require use of the road.
 - c. An additional easement holder user of the road may have been identified.
 - d. State has designated sections of the road as a recreation trail or has invited recreational use onto the road.
 - e. State maintains the road and considers the road part of the State funded transportation system.

A.2.4.2 Best Practices To Maintain and Improve Joint and Sole Use Roads on State-Managed Lands

WDNR and BPA agree to produce and maintain a safe, cost effective, environmentally friendly, and practical road program that is supported by and meets the needs of users of the sole and joint use roads. Instead of complying with specific roads standards, the agencies will identify and implement best practices to accomplish the following objectives:

- Protect water quality and avoid sediment loading into water bodies
- Protect sensitive areas and reduce ecosystem impacts
- Maintain natural channels, natural stream flow, and maintain passage for aquatic organisms
- Control surface water on the road
- Stabilize the driving surface
- Evaluate unauthorized use that may damage the road and take steps to curtail such use
- Implement needed slope stabilization measures and reduce mass wasting
- Establish compatible vegetation on disturbed areas
- Avoid and control the spread of noxious weeds

A.2.5 Cultural Resources

Chapter 13 and Appendix I of the EIS provides an analysis of potential project impacts on cultural resources, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. Sites have been identified by using a variety of methods including archaeology, oral history and history. Many of the pre-contact sites recorded in the project area are near major waterways including Lacamas Lake, the Washougal River, and the Columbia River. None of these major waterways are crossed by the project on WDNR land. Fewer archaeological sites have been identified in upland areas in the eastern and northern portions of the project area, where WDNR lands are most dense. Six historic sites are potentially eligible for listing and have been identified on WDNR parcels. Two of these sites are crossed by the project. One site, a historic road, is located between two tower sites and would

be spanned by the new line. The other site, a historic road and bridge, is just within the proposed right-of-way. Four new sites (three pre-contact and one historic) were identified on WDNR land during the cultural survey of the Preferred Alternative. BPA continues to work with WDNR to do additional testing and evaluation of the sites.

During construction, BPA attempts to avoid known sites whenever possible and uses trained cultural resource monitors on large-scale projects to ensure unidentified sites are not inadvertently impacted. Known archaeological sites would be delineated both by surface observations and subsurface testing before construction to avoid physically impacting sites during construction. For unknown sites, appropriate mitigation procedures would be in place to stop construction activities and determine protective measures (e.g., avoidance) if artifacts are found (see Chapter 13). BPA would notify WDNR if an inadvertent discovery occurs on their lands. Impacts should not occur to unknown sites with these procedures in place.

If towers, substations, and access roads are sited to avoid sensitive areas, their subsequent maintenance and operation would not affect known resources. If any maintenance activities would need to occur outside of tower locations, outside of the substation fence, or off access roads, a review of sensitive areas would be required to avoid impacting resources.

A.2.6 Geology and Soils

Chapter 14 and Appendix J of the EIS provide an analysis of potential project impacts on geology and soils, including on WDNR land, and identify measures to lessen or avoid impacts that would also apply to WDNR land. The analysis in Chapter 14 includes a general assessment of geologic hazards including WDNR parcels potentially affected by the project, and the identified measures to lessen or avoid potential geologic hazards would also apply to WDNR land. Maps in Appendix I display the liquefaction risks and faults found within the project area, including WDNR parcels.

WDNR lands in the project area are located in the hilly topography of the South Cascades and Willapa Hills physiographic provinces where residual soil overlays igneous bedrock. Potential impacts to soils that may result on WDNR lands from the project include increased soil erosion, soil compaction, and increased landslide activity.

Soil Erosion. About 95 percent of the WDNR lands in the project area have a severe hazard of erosion. Increased soil erosion could lead to increased sedimentation into water bodies, which in turn would impact water resources (such as drinking water), fish (such as salmon and steelhead), and plants, as well as degradation of air quality from blowing dust. Although the soils on WDNR land may be susceptible to erosion, with implementation of mitigation measures as described in Chapters 3 and 14, the impact from erosion would be low.

Soil Compaction: Similar to other areas of the project, WDNR lands in the project area would be subjected to permanent soil compaction where roads, towers, and substations are constructed, and temporary soil compaction would occur in areas disturbed during project construction, such as near roads, towers, and substations. Impacts from compacted soils could include restricted infiltration and root depth, and reduced water available for plant growth. When infiltration is reduced, runoff may occur and lead to erosion, nutrient loss, and potential water quality problems. These impacts would be reduced, but not eliminated, through the implementation of the mitigation measures described in Chapters 3 and 14.

Landslide Areas: Two mapped landslides occur on WDNR land in the project area; one north of the Lewis River, the other south of Yacolt. Potential impacts from landslides triggered or exacerbated by the project on WDNR land include damage to roads, disruption of utilities (such as transmission lines or pipelines), damage to plant and wildlife habitats, and sedimentation or damming of water bodies. These potential impacts would be avoided or reduced through implementation of mitigation measures described in Chapters 3 and 14, such as siting towers and roads to avoid potentially unstable locations, or designing towers and roads specifically to avoid destabilizing landslide areas. Additionally, BPA monitors towers for signs of distress due to slope movement. Potential active slide-caused problems would likely be observed at towers during the annual maintenance crew tower inspections and twice-a-year helicopter inspections.

Because road development also has the potential to cause erosion or landslides, road grades on all lands crossed by the proposed project would be varied depending on the erosion potential of the soil and roads would be rocked where needed for dust abatement, stability, load bearing, and seasons of use. Final design measures would take slopes, soil types, bedrock, the presence of bedrock hollows or inner gorges, and other factors into account based on site-specific information.

Seismic Risks and Volcanic Activity: The risk to the project on WDNR land from earthquakes and volcanic eruptions is low. While all of the project including those portions potentially on WDNR lands could be subjected to shaking from an earthquake, all facilities would be built to applicable seismic standards and combined wind- and ice-loading tower design criteria typically exceed earthquake-induced loads.

Seismically induced liquefaction risk is also low; WDNR lands in the project area are mostly underlain by igneous bedrock with a small area underlain by glacial deposits. Generally, transmission towers are likely to survive settlement associated with liquefaction with only minor structural damage. It is BPA's policy to avoid placing towers in areas where liquefaction might occur, such as stream crossings. If a potential liquefaction hazard is found, the liquefiable soils would most likely be excavated to bedrock and replaced with non-liquefiable backfill. In addition, no mapped active faults cross the project on WDNR lands.

Portions of the project potentially on WDNR lands could be subjected to ashfall from an eruption of nearby Mt. St. Helens, which is an active volcano, but none of the WDNR land in the project area are mapped as being located within a proximal (e.g., lava flows, pyroclastic flows) or distal (i.e., lahar) hazard zone.

Additional geology and soils information would be obtained from updated geologic hazard assessments, including on-the-ground field assessments of the Preferred Alternative. An update of the geologic hazard assessments in Appendix J for the Preferred Alternative would include another review of liquefaction hazard mapping, geologic maps for fault locations, and aerial photographs combined with surface condition assessments at proposed tower locations and surrounding terrain for landslide hazard assessment including downslope areas. In addition to that review, BPA would analyze the Preferred Alternative using WDNR's RMAP tool to classify the geologic hazard risks (low, medium, or high). Specific geologic hazard areas would be field surveyed to determine minimization/mitigation measures, which may require subsurface explorations. The slope stability efforts would be led by Elson "Chip" Barnett of GeoEngineers, who is a WDNR-recognized Forest Practices Qualified Geologic Expert. Geological soil testing would continue to be done at representative tower locations to help determine appropriate

tower footings for a given soil type or hazard. Geologic and soil hazard areas are avoided where possible, and where avoidance is not possible, towers and roads would be designed to address the applicable hazard.

A.2.7 Water and Fish

Chapters 15 and 19 and Appendix K of the EIS provide an analysis of potential project impacts on water and fish resources, including on WDNR land, and identify measures to lessen or avoid impacts that would also apply to WDNR land. Rights-of-way and new and improved access roads would not cross any FEMA designated 100-year floodplains on WDNR land. None of the new towers on WDNR land or Casey Road Substation are in floodplains. No stream segments listed on the Washington State 303(d) list would be crossed by rights-of-way and new and improved access roads on WDNR land. Access roads would cross some streams on WDNR land (see Table A-10). Clearing of riparian vegetation would occur along these streams. Installation of culverts or bridges would occur in the dry season or during low-flow conditions in compliance with WDFW's in-water work windows (see Table 3-2).

Table A-10 Access Roads and Right-of-Way Stream Crossings on WDNR Land in the Project Area

Alternatives and Options¹	New and Improved Roads Outside of Right-of-Way Stream Crossings (number)	Right-of-Way Stream Crossings (number)
West Alternative	0	3
West Option 1	N/C	N/C
West Option 2	N/C	+1
West Option 3	+3	+3
Central Alternative²	45 (66)	71 (82)
Central Option 1 ²	+22 (+21)	+4 (+4)
Central Option 2	N/C	N/C
Central Option 3	-3	-17
East Alternative	28	26
East Option 1	N/C	N/C
East Option 2	+17	+23
East Option 3	+5	+16
Crossover Alternative	26	48
Crossover Option 1	N/C	N/C
Crossover Option 2	N/C	N/C
Crossover Option 3	N/C	N/C

Notes:

N/C – No change from the action alternative.

1. The value for each option represents the net change from the action alternative. It was calculated as the acres added by the option minus the acres in the segments the option replaces.

2. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design..

Sources: BPA 2015; Corelogic 2015; WDNR 2014, 2015b

WDNR manages 2.4 million acres of state-owned aquatic lands beneath many project area water bodies including the Columbia, Cowlitz, Coweeman, Lewis, and Kalama rivers. Easements or permits on these state-owned aquatic lands may be required where alternatives or options cross (see Table A-11).

Special status and resident fish species that may be present in project area streams on WDNR land include resident cutthroat trout, rainbow trout, Lower Columbia River steelhead (listed as threatened under the Endangered Species Act [ESA]), and Lower Columbia River coho (ESA threatened).

WDNR is in negotiations with USFWS and NOAA Fisheries to develop an Aquatic Lands Habitat Conservation Plan (HCP) that will cover aquatic lands under water bodies, including those proposed to be crossed by the project. Final conservation measures may change from those listed below once the Aquatic HCP is negotiated and approved and the Incidental Take Permit is developed for covered species and vegetation. Under the draft HCP, the following draft conservation measures are proposed to be implemented on a case-by-case basis as site-specific conditions warrant.

- **Protection of Submerged Native Aquatic Vegetation.** WDNR has identified freshwater and marine vegetation species to be protected. New activities must avoid existing freshwater native aquatic vegetation identified in the project area (see list of freshwater and marine vegetation species to be protected provided by WDNR Aquatic Lands HCP, November 2012). BPA has identified aquatic plants at State Owned Aquatic Lands (SOAL) crossings along the Preferred Alternative (see Table A-12).
- **Species Work Windows.** For the crossings listed in the Columbia, Coweeman, Kalama, Lewis, and Washougal Rivers, WDFW species in-water work windows must be used for the timing of any construction, operation or maintenance activities, to protect listed and sensitive species and forage fish species in sensitive life history phases (see Listed and Sensitive Species provided by WDNR Aquatic Lands HCP, November 2012).
- **Maintenance and Decommissioning.** Lessees and grantees must remove unused, abandoned structures, and equipment from the lease or easement site. A timeframe for removal will be specified in the authorizing document.

The action alternatives cross SOAL along the Columbia, Camas Slough, Cowlitz, Coweeman, Kalama, Lewis, East Fork Lewis, and Washougal rivers (see Table A-10). Within the ordinary high water mark (OHWM), two existing towers would be removed and two new towers would be constructed in the existing right-of-way in the Columbia River on Lone Reef (see Chapter 3, Project Components). On Lady Island along the Camas Slough and within the OHWM, one existing tower would be removed and replaced with a new tower. On the east bank of the Washougal River and within the OHWM, two existing towers would be removed and replaced with two new towers. A few additional towers would be removed and replaced close to rivers but outside of the OHWM. Most structures would be at least 200 feet from the edge of river banks. No towers, other than the ones already described, or new or improved access roads would be placed in rivers. Depending on type and height, riparian vegetation would be removed along the rivers for safe operation of the line and development of access roads to towers. BPA continues to work closely with WDNR to identify the types and amounts of trees that need to be removed and how placement of the right-of-way, towers, and roads might minimize riparian clearing and potential impacts to aquatic species and other aquatic resources and activities.

Table A-11 WDNR State-Owned Aquatic Lands Potentially Crossed by Alternatives or Options in the Project Area

State-Owned Aquatic Lands	Segment	Alternative or Option
Columbia River	52	East, Central, West, Crossover
Cowlitz River	F, 3, 4	East, Central, West, Crossover, East Option 1, Central Option 2
Coweeman River	9 (three crossings)	West, Crossover
Lewis River	25, M, L, K	West, Central, Crossover, East, Central Option 3
East Fork Lewis	25	West
Kalama River	9, 10	West, Crossover, Central
Washougal	52	East, Central, West, Crossover
Camas Slough	52 (two crossings)	East, Central, West, Crossover
Sources: WDNR 2015b,2015c		

Table A-12 WDNR Aquatic Plants Potentially Occurring within State-Owned Aquatic Lands along the Preferred Alternative

State-Owned Aquatic Lands	Plant Species Observed (Common Name)	Plant Species Observed (Scientific Name)	Habitat Type	Location
Columbia River (Ione Reef)	Red-osier dogwood	<i>Cornus alba</i>	Below OHWM	Within right-of-way
	Narrow-leaf willow	<i>Salix exigua</i>	Below OHWM	Within right-of-way
	False indigo bush	<i>Amorpha fruticosa</i>	Below OHWM	Within right-of-way
	Pinkweed	<i>Persicaria pensylvanica</i>	Below OHWM	Within right-of-way
	Lamb's quarters	<i>Chenopodium album</i>	Below OHWM	Within right-of-way
	Gumweed	<i>Grindelia squarrosa</i>	Below OHWM	Within right-of-way
	Witchgrass	<i>Panicum capillare</i>	Below OHWM	Within right-of-way
	Crabgrass	<i>Digitaria sp.</i>	Below OHWM	Within right-of-way
Yellow nutsedge	<i>Cyperus esculentus</i>	Below OHWM	Within right-of-way	
Columbia River	Reed canarygrass	<i>Phalaris arundinacea</i>	Wetland	Within right-of-way
	Columbia River willow	<i>Salix fluviatilis</i>	Wetland	Within right-of-way
	Hardhack	<i>Spiraea douglasii</i>	Wetland	Within right-of-way
	Black cottonwood	<i>Populus balsamifera</i>	Wetland	Within right-of-way
	Common tansy	<i>Tanacetum vulgare</i>	Wetland	Within right-of-way
	St. John's wort	<i>Hypericum perforatum</i>	Wetland	Within right-of-way
	Bentgrass	<i>Agrostis sp.</i>	Wetland	Within right-of-way
	Yellow nutsedge	<i>Cyperus esculentus</i>	Wetland	Within right-of-way
	Slender rush	<i>Juncus tenuis</i>	Wetland	Within right-of-way
	Yellow parentucellia	<i>Parentucellia viscosa</i>	Wetland	Within right-of-way
	Common centaury	<i>Centaureum erythraea</i>	Wetland	Within right-of-way
	False indigo bush	<i>Amorpha fruticosa</i>	Wetland	Within right-of-way
Yellow fireweed	<i>Epilobium luteum</i>	Wetland	Within right-of-way	
Cowlitz River	Red alder	<i>Alnus rubra</i>	Riverbank (LB & RB) ¹ and Wetland	Within right-of-way
	Willows	<i>Salix sp.</i>	Riverbank (LB and RB)	Within right-of-way
	Lady fern	<i>Athyrium filix-femina</i>	Riverbank (RB)	Within right-of-way
	Slough sedge	<i>Carex obnupta</i>	Riverbank (RB)	Within right-of-way

State-Owned Aquatic Lands	Plant Species Observed (Common Name)	Plant Species Observed (Scientific Name)	Habitat Type	Location
Cowlitz River cont.	Black cottonwood	<i>Populus balsamifera</i>	Riverbank (LB)	Within right-of-way
	Reed canarygrass	<i>Phalaris arundinacea</i>	Riverbank (RB)	Within right-of-way
	Salmonberry	<i>Rubus spectabilis</i>	Riverbank (RB)	Within right-of-way
	Soft rush	<i>Juncus effusus</i>	Riverbank (RB) and Wetland below OHWM (RB)	Within right-of-way
	Scotch broom	<i>Cytisus scoparius</i>	Riverbank (LB & RB)	Within right-of-way
	Birds foot trefoil	<i>Lotus corniculatus</i>	Riverbank (LB)	Within right-of-way
	Bull thistle	<i>Cirsium vulgare</i>	Riverbank (LB)	Within right-of-way
	Bentgrass	<i>Agrostis sp.</i>	Riverbank (LB)	Within right-of-way
	Western bittercress	<i>Cardamine oligosperma</i>	Riverbank (LB)	Within right-of-way
	Sheep sorrel	<i>Rumex acetosella</i>	Riverbank (LB)	Within right-of-way
	Everlasting peavine	<i>Lathyrus latifolia</i>	Riverbank (LB)	Within right-of-way
	Salmonberry	<i>Rubus spectabilis</i>	Riverbank (RB)	Within right-of-way
	Water plantain	<i>Alisma plantago-aquatica</i>	Wetland below OHWM (RB)	Within right-of-way
	Water purslane	<i>Ludwigia palustris</i>	Wetland below OHWM (RB)	Within right-of-way
	Smartweed	<i>Polygonum spp.</i>	Wetland below OHWM (RB)	Within right-of-way
	Pondweed	<i>Potamogeton sp.</i>	Wetland below OHWM (RB)	Within right-of-way
	Bur-reed	<i>Sparganium sp.</i>	Wetland below OHWM (RB)	Within right-of-way
	Softstem bulrush	<i>Scirpus tabernaemontani</i>	Wetland below OHWM (RB)	Within right-of-way
	Water sedge	<i>Carex aquatilis</i>	Wetland below OHWM (RB)	Within right-of-way
	Water horsetail	<i>Equisetum fluviatile</i>	Wetland below OHWM (RB)	Within right-of-way
	Tapertip rush	<i>Juncus acuminatus</i>	Wetland below OHWM (RB)	Within right-of-way
	Pond water starwort	<i>Callitriche stagnalis</i>	Wetland below OHWM (RB)	Within right-of-way
	Cattail	<i>Typha latifolia</i>	Wetland below OHWM (RB)	Within right-of-way
Small-fruited bulrush	<i>Scirpus microcarpus</i>	Wetland below OHWM (RB)	Within right-of-way	
Common spikerush	<i>Eleocharis palustris</i>	Wetland below OHWM (RB)	Within right-of-way	
Coweeman River	Reed canarygrass	<i>Phalaris arundinacea</i>	Riverbank (LB), Floodplain (RB) and Instream islands	Within right-of-way

State-Owned Aquatic Lands	Plant Species Observed (Common Name)	Plant Species Observed (Scientific Name)	Habitat Type	Location
Coweeman River cont.	Willows	<i>Salix sp.</i>	Floodplain (RB) and Instream islands	Within right-of-way
	Lady fern	<i>Athyrium filix-femina</i>	Riverbank (LB) and Floodplain (RB)	Within right-of-way
	Red alder	<i>Alnus rubra</i>	Riverbank (LB) and Floodplain (RB)	Within right-of-way
	Western wahoo	<i>Euonomus occidentalis</i>	Riverbank (LB) and Floodplain (RB)	Within right-of-way
	Piggyback plant	<i>Tolmiea menzesii</i>	Riverbank (LB) and Floodplain (RB)	Within right-of-way
	Water parsley	<i>Oeanthe sarmentosa</i>	Riverbank (LB)	Within right-of-way
	Red elderberry	<i>Sambucus racemosa</i>	Riverbank (LB)	Within right-of-way
	Pacific bleeding heart	<i>Dicentra formosa</i>	Floodplain (RB)	Within right-of-way
	Pacific ninebark	<i>Physocapus capitatus</i>	Floodplain (RB)	Within right-of-way
	Salmonberry	<i>Rubus spectabilis</i>	Floodplain (RB)	Within right-of-way
	Trailing blackberry	<i>Rubus ursinus</i>	Floodplain (RB)	Within right-of-way
	Curly dock	<i>Rumex crispus</i>	Floodplain (RB)	Within right-of-way
Camas Slough	Red-osier dogwood	<i>Cornus alba</i>	Wetland	Within right-of-way
	Reed canarygrass	<i>Phalaris arundinacea</i>	Wetland	Within right-of-way
	Fringed willowherb	<i>Epilobium ciliatum</i>	Wetland	Within right-of-way
	Bentgrass	<i>Agrostis sp.</i>	Wetland	Within right-of-way
Lewis River	Pacific willow	<i>Salix sitchensis</i>	Riverbank and Floodplain (RB and LB)	Within right-of-way
	Reed canarygrass	<i>Phalaris arundinacea</i>	Floodplain and Wetland (LB)	Within right-of-way
	Canadian thistle	<i>Cirsium arvense</i>	Floodplain (LB)	Within right-of-way
	Common centaury	<i>Centaurium erythraea</i>	Floodplain (LB)	Within right-of-way
	Water sedge	<i>Carex aquatilis</i>	Wetland	Within right-of-way
	Bur-reed	<i>Sparganium sp.</i>	Wetland	Within right-of-way
	Red-osier dogwood	<i>Cornus sericea</i>	Wetland	Within right-of-way
Oregon ash	<i>Fraxinus latifolia</i>	Wetland	Within right-of-way	

State-Owned Aquatic Lands	Plant Species Observed (Common Name)	Plant Species Observed (Scientific Name)	Habitat Type	Location
Lewis River cont.	Bird's-foot trefoil	<i>Lotus corniculatis</i>	Wetland	Within right-of-way
	English plantain	<i>Plantago lanceolata</i>	Wetland	Within right-of-way
	Mint	<i>Mentha sp.</i>	Wetland	Within right-of-way
E. Fork Lewis River	No access for survey	No access for survey	No access for survey	No access for survey
Kalama River	Red alder	<i>Alnus rubra</i>	Riverbank (RB)	Within right-of-way
	Vine maple	<i>Acer circinatum</i>	Riverbank (RB)	Within right-of-way
	Black cottonwood	<i>Populus balsamifera</i>	Riverbank (RB)	Within right-of-way
Washougal River	Red-osier dogwood	<i>Cornus sericea</i>	Riverbank (RB)	Within right-of-way
	Willows	<i>Salix sp.</i>	Riverbank (RB) and Floodplain (RB)	Within right-of-way
	Hardhack	<i>Spiraea douglasii</i>	Riverbank (RB)	Within right-of-way
	Soft rush	<i>Juncus effusus</i>	Riverbank (RB)	Within right-of-way
	Lyngby's sedge	<i>Carex lyngbyei</i>	Riverbank (RB)	Within right-of-way
	Arrowleaf	<i>Sagittaria latifolia</i>	Riverbank (RB)	Within right-of-way
	Hardstem bulrush	<i>Schoenoplectus acutus</i>	Riverbank (RB)	Within right-of-way
	Spikerush	<i>Eleocharus sp.</i>	Riverbank (LB)	Within right-of-way
	Oregon ash	<i>Fraxinus latifolia</i>	Riverbank (LB)	Within right-of-way
	Reed canarygrass	<i>Phalaris arundinacea</i>	Riverbank (RB and LB)	Within and NW of right-of-way
	Black cottonwood	<i>Populus balsamifera</i>	Riverbank (LB)	NE & SW of right-of-way
	Slough Sedge	<i>Carex obnupta</i>	Riverbank (RB) and Floodplain (RB)	Within right-of-way
Camas Slough	Red-osier dogwood	<i>Cornus alba</i>	Wetland	Within right-of-way
	Reed canarygrass	<i>Phalaris arundinacea</i>	Wetland	Within right-of-way
	Fringed willowherb	<i>Epilobium ciliatum</i>	Wetland	Within right-of-way
	Bentgrass	<i>Agrostis sp.</i>	Wetland	Within right-of-way
Notes: 1. LB refers to left bank and RB refers to right bank. Sources: ESA 2014, 2015; WDNR 2015c				

A.2.8 Wetlands

Chapter 16 and Appendix L of the EIS provides an analysis of potential project impacts on wetlands, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. Although no substations or towers would be built in wetland areas on WDNR land, impacts from right-of-way clearing would occur in forested and scrub-shrub wetlands on WDNR land (see Table A-13). About 0.3 acre of wetland fill would occur along the Casey Road site access road for the Preferred Alternative. As described in Section 16.2.4, West Alternative, clearing and fill of emergent and scrub-shrub wetlands along West Option 1 (Segment 40) would occur within the Lacamas Creek floodplain. Some of this area was designated as the Lacamas Prairie Natural Area Preserve and Natural Resource Conservation Area (NAP/NRCA) by the Washington State Commissioner of Public Lands (see Sections 17.1.1.5, Herbaceous, and 17.1.2.1, WDNR Protected Areas, and Figure 17-1). Clearing within the NAP/NRCA has been included in Table A-13.

Table A-13 Potential Clearing of Wetlands on WDNR Land in the Project Area

Alternatives and Options ¹	Right-of-Way Clearing (acres) ^{2,3}	
	Forested	Scrub-Shrub
West Alternative	0.4	1.3
West Option 1	-0.3	-1.1
West Option 2	+1.0	-0.4
West Option 3	+1.2	-0.4
Central Alternative⁴	3.4 (23.6)	3.7 (0.6)
Central Option 1 ⁴	+0.2 (+0.2)	+<0.1 (N/C)
Central Option 2	N/C	N/C
Central Option 3	-5.3	-0.3
East Alternative	9.3	0.6
East Option 1	N/C	N/C
East Option 2	+7.6	+0.4
East Option 3	+2.7	+1.7
Crossover Alternative	15.4	0.3
Crossover Option 1	N/C	N/C
Crossover Option 2	N/C	N/C
Crossover Option 3	N/C	N/C

Notes:

N/C – No change from the action alternative,

1. The value for each option represents the net change from the action alternative. It was calculated as the acres added by the option minus the acres in the segments the option replaces.

2. Cleared wetland within the right-of-way.

3. All acreages are based on wetlands mapped from available data.

4. Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.

Sources: BPA 2015; Corelogic 2015; DEA 2009; ESA 2015; Herrera 2011a, 2011b, 2012; WDNR 2014a

A.2.9 Vegetation

Chapter 17 of the EIS provides an analysis of potential project impacts on vegetation, including on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. Vegetation types present on WDNR lands where the project would cross include forest, shrubland, herbaceous, and rural landscaped (see Table A-14). Four special-status plant habitats that are managed by WDNR could be affected (Lacamas Prairie NAP/NRCA, forest riparian easements, research plots, and genetic reserves). Four special-status plants were identified on WDNR land crossed by the project. The 2014-2015 plant survey described in Section 17.1.2 mapped and documented populations of those four special-status species: tall bugbane (*Actea elata*), western wahoo (*Euonymus occidentalis* var. *occidentalis*), Torrey's peavine (*Lathyrus torreyi*), and hairy-stemmed checkermallow (*Sidalcea hirtipes*) (Herrera 2015). None of these species are federally listed. Torrey's peavine and tall bugbane are federal species of concern. The population locations were provided to the project design team who adjusted project element locations to avoid the rare plants, and the locations (plus a 50-foot buffer) would be marked as "no disturbance" area on the ground during construction. In addition, the locations were provided to WDNR for long-term monitoring.

The West Alternative and Options (segments 36, 36A, 36B, 40, 41, 45, 46, and 50) cross the Lacamas Prairie NAP/NRCA (see Section 17.1.2.1, WDNR Protected Areas, and Figure 17-1). Approximately 33 acres of the NAP/NRCA would be crossed by new and existing right-of-way; and 11 acres would be affected by towers and access roads, including less than 1 acre of WNHP Oregon white oak woodland priority ecosystems. Special-status species that have documented occurrences in the NAP/NRCA include Bradshaw's lomatium (ESA endangered), Hall's aster (WA sensitive), Oregon coyote-thistle (WA threatened), small-flowered trillium (WA sensitive), dense sedge (WA threatened), and Nuttall's quillwort (WA sensitive).

The West and Crossover alternatives also cross a WDNR forest riparian easement along Segment 9 and a WDNR genetic research plot along Segment 30 of Central Option 3 (see Maps A and C). These areas could be impacted by right-of-way clearing, tower and road construction, and danger tree removal.

Approximately 0.5 acre of existing access road crosses the southern edge of an herbaceous bald on WDNR land along Segment O of the East and Crossover alternatives (see Section 17.1.2.2, WNHP Priority Ecosystems, and Map D). Although species composition is unknown at this time, it could qualify as a Washington Natural Heritage Program (WNHP) North Pacific herbaceous bald and bluff priority ecosystem (it is not currently documented as such by WNHP).

Any tree (stable or unstable) outside of the acquired transmission line right-of-way deemed a present or future hazard to the transmission line is considered a danger tree and is removed prior to construction of the line (see Section 3.11, Vegetation Clearing). A tree would be identified as a danger tree if it could fall into, bend into, or grow into the conductor or be close enough to the conductor as it swings to cause a flashover of current from the conductor. BPA would develop and model an estimation of the amount and location of danger trees that would require removal when the Preferred Alternative route is surveyed and marked in the field. These trees would then be marked for removal in the field. Geospatial information about danger trees would be collected. Data would include quantities, locations, species, volumes and defects for affected property owners. In some cases, a full safe backline would be cleared. This determination would be coordinated with WDNR.

Table A-14 Vegetation Types on WDNR Land in the Project Area

Alternatives and Options ^{1,3}	Vegetation Type (acres) ²						
	Mature Forest	Forest	Production Forest	Shrubland	Herbaceous	Rural Landscaped	Urban/Suburban Landscaped
West Alternative	0	0	5	3	2	0	0
West Option 1	N/C	N/C	<-1	-1	+3	N/C	N/C
West Option 2	N/C	N/C	+1	<-1	-2	N/C	N/C
West Option 3	N/C	N/C	+9	<-1	-2	N/C	N/C
Central Alternative⁴	0 (0)	0 (0)	447 (476)	7 (5)	<1 (<1)	1 (4)	0 (0)
Central Option 1 ⁴	N/C (N/C)	N/C (N/C)	+62 (+60)	+22 (+29)	+1 (+<1)	+12 (+6)	N/C (N/C)
Central Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Central Option 3	N/C	N/C	-88	-1	+1	+<1	N/C
East Alternative	0	<1	212	6	<1	<1	0
East Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
East Option 2	N/C	<-1	+81	<-1	+<1	<-1	N/C
East Option 3	N/C	N/C	+51	+4	N/C	N/C	N/C
Crossover Alternative	0	<1	310	4	<1	1	0
Crossover Option 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 2	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Crossover Option 3	N/C	N/C	N/C	N/C	N/C	N/C	N/C

Notes:

N/C – No change from the action alternative.

- The value for each option represents the net change from the action alternative. It was calculated as the acres added by the option minus the acres in the segments the option replaces.
- Total acres mapped within planned transmission line right-of-way, access roads, and substations for each action alternative.
- Clearing for danger trees outside the planned right-of-way is unknown at this time and not included in these calculations.
- Impact numbers not shown in parentheses reflect updated data, assumptions, and design refinements; impact numbers shown in parentheses reflect updated data and assumptions using the Draft EIS design.

Sources: BPA 2015, Corelogic 2015, Herrera 2010, WDNR 2014a

For new transmission line easements, BPA would acquire rights to cut vegetation outside the easement that presents a real or potential hazard to the transmission line's reliability. BPA would compensate WDNR for the rights to cut danger trees (or to clear to a full safe backline) based on the fair market value of the danger trees at the time they are identified. Criteria for these conditions would include but not be limited to vegetation exhibiting characteristics of failure such as trees on unstable slopes, isolated tree or tree fringes exposed to adverse winds, diseased trees or communities of diseased trees, damaged trees and defective trees. Otherwise, WDNR would be unrestricted by BPA to manage their land outside of the transmission line easement.

Noxious weeds could also be present on WDNR lands where the project would cross. The project could cause the spread of noxious weeds, especially along newly constructed access roads (see Chapter 17 and Appendix M). To control or contain noxious weeds on WDNR parcels potentially crossed by the proposed project, BPA would undertake actions in coordination with WDNR at four stages of the project: pre-construction, construction, immediate post-construction, and maintenance.

Pre-Construction: The MOA between WDNR and BPA and/or easement document for any WDNR lands affected would outline measures for weed control. As part of BPA's noxious weed management, BPA would conduct a noxious weed survey for the Preferred Alternative before construction to help determine infestation locations and appropriate mitigation measures needed before and during construction. If noxious weeds are found on WDNR land, BPA and WDNR could decide to apply herbicides prior to construction to help reduce spread during construction. Construction specifications would contain provisions stating how the noxious weeds would be controlled or contained including provisions outlined in the Statewide MOA.

All proposed actions to control or eradicate noxious weeds would comply with the Carson-Foley Act (P.L. 90-583), the Federal Noxious Weed Act (P.L. 93-629), and other applicable state and federal regulations, and all applicable state and county noxious weed control regulations and guidelines to the extent practicable.

Construction: During construction, BPA would implement noxious weed control measures specified in the construction specifications which would include establishing vehicle and equipment washing stations in strategic locations to reduce the possibility of seed being carried to areas that do not have infestations, and reseeding disturbed areas with desirable species to limit the spread of noxious weeds. To ensure that the desired level of noxious weed control is being carried out, the BPA field inspector and the land liaison representative would monitor the program. For WDNR land, BPA would coordinate these efforts with WDNR as specified in the Statewide MOA or easement agreement.

Immediate Post-Construction: Upon completion of construction, the maintenance of the transmission line and its access roads and rights-of-way would become the responsibility of BPA Transmission Line Maintenance with the assistance of the BPA Regional Natural Resource Specialist. Before the line is released for future maintenance, a detailed post-construction field review would be conducted with WDNR, the BPA field inspector, and the BPA Regional Natural Resource Specialist. Specific noxious weed control measures would be agreed upon and responsibilities, including funding, assigned to the appropriate organization.

Maintenance: Over the long-term, vegetation (including noxious weeds) on WDNR land would be managed by the BPA Regional Natural Resource Specialist along the right-of-way as guided by

BPA's Transmission System Vegetation Management Program EIS and Record of Decision, agreements made with WDNR, and input from the county weed boards.

Noxious weed control on BPA easements across WDNR land and other lands would be coordinated through the BPA Regional Natural Resource Specialist. Prior to conducting any such weed control, BPA's usual practice is to develop a noxious weed management plan within an overall Vegetation Management Prescription, followed by preparation of a Supplement Analysis (SA) to BPA's Transmission System Vegetation Management Program EIS. The SA provides a review of the control activities and ensures they are consistent with the vegetation maintenance activities contained in that EIS. BPA would coordinate preparation of the noxious weed management plan on WDNR managed trust lands with WDNR staff. Examples of maintenance policies that are defined in BPA's Transmission System Vegetation Management Program EIS, and that likely would be included in a noxious weed management plan and considered in SAs relevant to WDNR, include the following:

- Apply EPA-approved herbicides to the rights-of-way following approved Vegetation Management Prescriptions
- Provide herbicides to landowners
- Contract with the owners or county weed control districts to apply herbicides to BPA rights-of-way
- Contract with the county weed control district to apply herbicides to specific identified noxious weeds
- Initiate additional control measures as recommended by local jurisdictions or responsible governmental agencies
- Where required by state or local agencies or in agricultural areas where noxious weeds are present, pressure or steam wash all vehicles used in that location before entering another location

A.2.10 Wildlife

Chapter 18 of the EIS provides an analysis of potential project impacts on wildlife, including impacts on WDNR land, and identifies measures to lessen or avoid impacts that would also apply to WDNR land. Special-status species that may be present on WDNR land crossed by project include marbled murrelet (ESA threatened) and northern spotted owl (ESA threatened). The Central, Crossover, and East alternatives may cross WDNR land that is within a 1.8-mile radius of known spotted owl activity and management areas. Additionally, WDNR has a Habitat Conservation Plan (HCP) that covers all the upland and riparian trust land on the westside and the east slope of the Cascades within the range of the spotted owl. A detailed GIS desktop assessment of marbled murrelet and spotted owl habitat was conducted for the Preferred Alternative. The desktop assessment was followed by field work to verify a subset of the habitat identified. Marbled murrelet habitat was identified on WDNR land at the Casey Road substation site. Spotted owl habitat was identified on WDNR land in segments 10, 15, 23, L, 18, V, and P, as well as at the Casey Road substation site. The analysis showed that habitat quality is generally low and habitat patches are highly fragmented on WDNR land, except in Spotted Owl Special Emphasis Areas, none of which are crossed by the action alternatives or options.

BPA's action alternatives cross WDNR trust lands in the Columbia and South Coast Management Units. The Trust Lands HCP is an ecosystem-based forest management plan developed by the WDNR in 1997 with the assistance of NOAA Fisheries and the USFWS. This HCP provides multiple species' protection on approximately 1.8 million acres of forested WDNR lands including those that may be impacted by the alternatives or options that cross WDNR land. The plan acts to conserve habitat for federally-listed endangered species such as the northern spotted owl, marbled murrelet, and riparian-dependent species such as salmon and bull trout. In addition the HCP conserves habitat for the federally-listed Oregon silverspot butterfly (*Speyeria zerene hippolyta*), peregrine falcon, gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos*), federally-listed Columbian white-tailed deer, and federally-listed or candidate plant species and other plant species of concern. The Trust Lands HCP also guides WDNR's conservation of uncommon habitats — including talus fields, caves, cliffs, oak woodlands, large snags, balds, mineral springs, and large, structurally unique trees. The Riparian Forest Restoration Strategy, a central component of the Trust Lands HCP, protects streams for salmonids and other riparian-dependent species.

In April 2004, an Administrative Amendment to the Northern Spotted Owl Conservation Strategy for the Klickitat HCP Planning Unit was finalized which provided a modified approach for management of NSO habitat in this unit only. Also, at the time the Trust Lands HCP was developed insufficient information existed to provide a detailed approach for the conservation of riparian areas. In April 2006, the Implementation Plan outlining the WDNR strategy for riparian forest restoration was completed for the west side planning units.

The Trust Lands HCP contains four detailed conservation strategies; for marbled murrelet; northern spotted owl; riparian areas, wetlands and salmon; and other species of concern and uncommon habitats. Through these conservation strategies, protection is provided for:

- Habitat for northern spotted owl, marbled murrelet, and riparian-dependent species such as salmon
- Habitat for other animal and plant species that are federally listed as 'threatened' or 'endangered'
- Habitat for state-listed 'threatened' or 'endangered' species
- Habitat for unlisted plant or animal species that might be declining in numbers or that could be listed at some future time
- 'Uncommon habitats' and habitat elements (talus fields, caves, cliffs, oak woodlands, large snags, mineral springs, and large, structurally unique trees), that support various species
- Old-growth forests in the five Westside HCP planning units
- Unstable slopes

Non-timber activities must support the goals and objectives of the Trust Lands HCP, as well as other relevant commitments such as the Policy for Sustainable Forests (WDNR 1997, IV. 191). Non-timber activities are defined as "no take," or insignificant (i.e., de minimis) and management of non-timber activities must include the commitments of the HCP, such that they would not increase the level of impact to the species covered by the HCP beyond a de minimis level. The determination of whether an activity would exceed de minimis levels is subjective and dependent upon the relative impact of the activity in relation to past activities. In general,

guidelines are applied to activities within riparian management zones to remain below de minimis levels. Activities must protect surface resources including soil and water and protect the water from sediment delivery that might result. In addition, activities must minimize the permanent loss of natural vegetation, function, and habitat, and avoid creating barriers to fish passage. All non-timber activities would strive to minimize the negative impacts to these riparian system benefits.

When riparian disturbance is unavoidable, mitigation measures are considered to restore lost riparian function or benefits. Such mitigation opportunities may include replanting exposed soils with native vegetation and trees, placing large or down woody debris in streams or in the riparian area, and the creation of snags.

The West Alternative and Options cross westside prairie and Oregon white oak woodland habitats in the Lacamas Prairie NAP/NRCA, which are both considered WDFW priority habitats (see Section 18.1.2.3, Westside Prairie). About 0.5 acre of existing access road crosses the southern edge of an herbaceous bald habitat along Segment O of the East and Crossover alternatives (see Section A.2.9). Located on WNDR land, this herbaceous bald has been documented by WDFW as priority habitat (see Section 18.1.2.2, Herbaceous Balds).

Other species that may have special status on WDNR land in the project area include elk and deer. Habitat may include winter range for different herds of Columbian black-tailed deer, Roosevelt elk, and Rocky Mountain elk in the Yale Valley and Rock Creek areas (East, Crossover, and Central alternatives). The Casey Road site is also within the winter range for the Willapa Herd of Roosevelt elk.

A.3 Measures for WDNR Lands

In addition to mitigation measures identified in Table 3-2 and Chapters 3 and 5 through 22 of the EIS, the measures outlined in Table A-15 would be implemented to further reduce or avoid potential impacts on WDNR lands. Some of these measures would be implemented per the Statewide Rights-of-Way MOA or the WDNR Easement document, as part of the project design, or during construction if the decision is made to proceed with the project. Other measures are under consideration by BPA in cooperation with WDNR.

Table A-15 Recommended Measures for WDNR Lands

Measure	Implementation
Implement the MOA with WDNR that reduces noxious, invasive and undesirable species including incompatible woody plants and works towards compatible and native low-growing species vegetation on WDNR lands. The MOA outlines coordination between WDNR and BPA for the use of herbicides on lands where WDNR uses herbicides and minimizes the use of herbicides on lands where WDNR does not use herbicides.	Washington Statewide Rights-of-Way MOA/WDNR Easement Document

Measure	Implementation
<p>Implement the MOA that defines, classifies, and designates responsibilities for BPA sole and joint use access roads for the proposed project that would be located on WDNR lands, with the goal of addressing operations and maintenance compatibility of the proposed transmission line with WDNR trust land management.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document</p>
<p>For any noxious weed management plans prepared for proposed weed control and other vegetation maintenance on WDNR-managed trust lands as part of future line maintenance activities, coordinate preparation of these management plans with WDNR staff.</p>	<p>Noxious Weed Management Plans</p>
<p>Commit to coordinating with WDNR regarding the 1989 WDNR Agricultural and Grazing lands Policy Plan and related Resource Management Plans for individual parcels during construction and maintenance of the line and access roads over WDNR trust lands. Provide WDNR with notice of potential impacts to affected lands enrolled in the Conservation Reserve Program (CRP). Request permission to disturb ground cover as needed to complete the project and agree to restore impacted lands outside of lands developed for tower pads and access roads to the same type of cover at no expense to any applicable WDNR lessee or to WDNR as manager.</p>	<p>Washington Statewide Rights-of-Way MOA</p>
<p>Implement the Appraisal MOU with WDNR to pay fair market value for impacts any easement conveyances granted to BPA to on trust lands.</p>	<p>Appraisal MOU</p>
<p>Utilize the Appraisal MOU with WDNR to assess the value for any reduction in CRP acreage due to construction of access roads or towers.</p>	<p>Appraisal MOU</p>
<p>Work with WDNR concerning a possible cooperative agreement for the control of unauthorized public access and use on state lands that could result from the proposed project. The agreement could address various provisions related to unauthorized access, such as additional measures to be taken to discourage unauthorized use of the project corridor and associated access roads, periodic inspection for unauthorized access and any resulting damage, and repair of any damage from unauthorized access. BPA will strive to design the corridor to prevent trespass and provide signs that discourage unauthorized use of the corridor.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document</p>
<p>Mark the easement corridor in strategic locations on WDNR-managed land so that BPA, contractors, adjacent landowners and the public can clearly recognize when they are within the corridor to prevent uncompensated corridor expansion and vegetation management conflicts, and to reduce trespass.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document</p>

Measure	Implementation
Develop a mutually agreeable fire prevention and suppression plan with WDNR that addresses managing and controlling the risks associated with wildland fire due to construction, operation, and maintenance of the transmission line.	Washington Statewide Rights-of-Way MOA/WDNR Easement Document
A minimum of 40 cubic yards per station (100 feet) of rock would be applied to all new and reconstructed access roads associated with the project on WDNR-managed land. Additional rock would be applied as conditions and anticipated use dictate.	Washington Statewide Rights-of-Way MOA; Section A.2.4 for more information.
Appropriately size any structure installed on streams regardless of fish presence based on hydraulic calculations similar to those in the WDFW manual for 100-year flood plus debris events: Design of Road Culverts for Fish Passage http://wdfw.wa.gov/publications/00049/ . BPA would use appropriately sized round culverts on non-fish bearing streams and open bottom culverts or bridges for crossings on fish bearing streams.	Washington Statewide Rights-of-Way MOA; Section A.2.4 for more information.
Avoid installing drain dips, fords or water bars on access roads on WDNR-managed lands. Instead install cross drain culverts and associated ditches at a frequency to outlet water to the forest floor while not increasing erosion. BPA should utilize guidelines in WAC 222-24-040 Water crossing structures (3) and (4): http://apps.leg.wa.gov/wac/default.aspx?cite=222-24-040 . If water bars are proposed for installation then BPA needs to compensate for the change in land use from accepted standards and the resulting economic impact due to log transportation costs and the potential damage to log and equipment trucks in comparison to installing culverts.	Washington Statewide Rights-of-Way MOA; Section A.2.4 for more information.
Avoid construction of temporary construction roads that are parallel to and within the right-of-way corridor on WDNR-managed land. If temporary roads are needed, then BPA would develop and implement BMPs such as: limit the number to only critical roads; allow roads to be used only during the dry season (generally June-October); require vehicle wheels to be clear of noxious weeds when entering the roads; scarify and re-vegetate the road immediately upon completion of use; and install an access barrier of earth or other natural onsite material to prevent unauthorized use.	Washington Statewide Rights-of-Way MOA; the Statewide MOA states that all road work performed under the agreement would use the Western Washington Storm water Manual; Coordination with WDNR to establish road locations and use is ongoing.
Specific minimum road improvement standards would be developed and incorporated as mitigation in the EIS, or in subsequent agreements with landowners such as; clearing limits, brushing limits, aggregate needs, and curve widening requirements.	Washington Statewide Rights-of-Way MOA; WDNR Easement Document

Measure	Implementation
<p>All bridges on heavy equipment transportation routes would be inspected and certified they have the working load capacity to handle construction equipment and insure the safety of workers and the public. BPA would install new structures if bridges have been compromised or do not meet certification for the anticipated heavy equipment.</p>	<p>Coordination with WDNR for bridge locations (new and existing) is ongoing. All bridges on heavy equipment transportation routes would be inspected to verify they have the working load capacity to handle construction equipment and insure the safety of workers and the public. BPA would ensure a safe working load capacity on any deficient structures prior to their use by BPA heavy equipment.</p>
<p>BPA would install gates and a lock box that can accommodate the required number of padlocks to meet the access need.</p>	<p>BPA plans to use WDNR roads to get onto WDNR-managed property because WDNR has asked BPA not to create new entrance roads to their properties. With this plan, no new gates on WDNR property would be needed. If gates are needed for some reason, BPA would install an appropriately sized lock box with the required number of padlocks to accommodate access.</p>
<p>Mitigation would be applied over the life of the project/easement as appropriate to address impacts that are reasonably likely occur over the life of the project.</p>	<p>Impacts to the human and natural environment could occur during operation and maintenance of the transmission line. However, though many of the mitigation measures described in Table 3-2, Mitigation Measures Included as Part of the Project, and referred to in Section 3.12, Mitigation Measures, refer primarily to construction activities, several of the measures (such as routing roads to avoid known cultural resource sites, designing roads to minimize unauthorized use, noxious weed management, and road maintenance to reduce impacts to fish and streams) also would be in place during project operation and would help mitigate longer-term impacts.</p>
<p>Retention clumps and legacy trees permanently removed would be mitigated by compensating WDNR for the ecological function and the monetary value of the trees removed. At a minimum, the total of 8 trees per acre (five live trees and 3 snags) should be compensated and should meet the minimum characteristics identified in the WDNR's Final HCP 1997 page IV. 157.</p>	<p>BPA has worked with WDNR to identify and avoid, where possible, green tree retention clumps and legacy trees through the siting of project facilities. Appropriate mitigation has been determined for those resources that would be permanently removed from WDNR land by the proposed project. See Chapter 17 for impacts from the removal of these resources and a commitment to provide mitigation for these trees.</p>
<p>To avoid colonization of the Preferred Alternative by invasive species, BPA would include a mitigation measure to ensure funding of vegetation control commensurate with the predictable weed problem.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document</p>

Measure	Implementation
<p>In order for mitigation to cover all impacts to WDNR’s land use for the full corridor width, mitigation needs to include those areas outside the typical 150 foot width that BPA would need to control to protect its transmission line including extended distances of clear safe backlines.</p>	<p>Washington Statewide Rights-of-Way MOA; Section A.2.9 for more information.</p>
<p>Landowners would be compensated for the long-term economic impacts of harvest restrictions from inside or outside of the right-of-way including those involving new timber haul roads, reconstruction of landings and avoiding guyline cables. Compensation should include: cost recovery for staff time; permitting; construction; materials; and abandonment costs.</p>	<p>WDNR would have an opportunity to negotiate compensation with BPA though the easement document process.</p>
<p>Pulling and tensioning sites, staging areas, helicopter fly yards, and other offsite temporary use and disturbance locations on WDNR-managed lands would be reviewed and mitigation identified.</p>	<p>BPA would review and coordinate with WDNR regarding pulling and tensioning sites, staging areas, helicopter fly yards, and other offsite temporary use and disturbance locations on WDNR-managed lands.</p>
<p>Similar to mitigation proposed for cultural resources on Table 3-2: “Plan for survey and review as needed of additional disturbance areas not identified during the NEPA process (e.g., staging areas stringing and pulling sites, guard structure areas, etc.)”, BPA would identify and mitigate for impacts to temporary use and disturbance areas on WDNR-managed lands outside the right-of-way consistent with mitigation measures in the Draft EIS as a part of this project and the recommended mitigation measures for the resources identified in the Draft EIS analysis.</p>	<p>BPA would review and coordinate with WDNR regarding offsite temporary use and disturbance locations outside the right-of-way on WDNR-managed lands.</p>
<p>BPA would mitigate the impacts to WDNR’s future ability to transition lands or compensate loss of reasonably foreseeable future economic opportunities both on and off the right-of-way including where the easement changed other uses of some properties as a result of the transmission lines (See Section 11.1.5), e.g., creates incompatible uses such as the conversion of rural residential properties to non-residential uses.</p>	<p>BPA has worked closely with WDNR on siting project facilities on WDNR-managed land to avoid present resources and future development plans to the extent possible. As described in Section 24.4, Economic Productivity, BPA recognizes that losses to long-term economic productivity could occur if project facilities preclude different types of development.</p>
<p>BPA would identify mitigation measures for negative socioeconomic impacts due to loss of current land use, for example community values as outlined in Section 11.1.8. BPA would identify mitigation measures for negative impacts due to loss of community values as outlined in Section 11.1.8.</p>	<p>As described above, BPA has worked closely with WDNR on siting project facilities on WDNR-managed land to avoid loss of current land uses to the extent possible</p>

Measure	Implementation
<p>If Segment 43 is included in a final design, BPA should follow mitigation sequencing (avoid, minimize, compensate) for potential impacts to the parcel. BPA should: avoid the parcel; minimize by moving tower and corridor locations to the edges of the parcel; replace the parcel for like characteristics suitable for the Camas School District.</p>	<p>Segment 43 is not part of the Preferred Alternative</p>
<p>Mitigation of impacts to informal uses should include a planned investment in formal replacement recreational sites on WDNR-managed land to offset this loss.</p>	<p>There would be no impact to recreation at the Casey Road substation site nor would the access road to WDNR-managed lands be permanently affected. Informal target practice at the Casey Road substation site is not considered a formal recreation activity that would be affected by the project, since the activity would not be permitted following construction of the substation. Prior to and during construction, BPA would work with WDNR to inform the public as to when and for how long the road to the site would be affected, and any closures would be temporary and short term. BPA is designing a reconstruction of the road slightly farther to the north that would leave the existing road open to the public. At this time, BPA is not considering a planned investment in formal replacement of recreational sites on WDNR-managed land to offset dispersed recreation at the Casey Road substation site.</p>
<p>Mitigation measures to address Road Maintenance and Abandonment Plan (RMAP) and road design standards would be developed in consultation with WDNR and would be incorporated into the EIS or into a subsequent agreement(s) with WDNR. Any WDNR RMAP scheduled projects would be completed by BPA at its sole cost on any access road to the Casey Road substation site.</p>	<p>Any road abandonment at the Casey Road substation site would be guided by the Washington Statewide Rights-of-Way MOA. There are no plans at this time to abandon any roads at the Casey Road substation site. BPA would continue to work with WDNR on the design and location of access roads.</p>
<p>If identified mitigation measures are not successful in avoiding interference, BPA would relocate these communication sites to a location that does not interfere with them or WDNR would be compensated for impacts to land use that result in loss of lease revenues for any portions of the new transmission line that cause electromagnetic interference with current or reasonably foreseeable planned sites.</p>	<p>If interference is caused by the transmission line, BPA would work with WDNR to move or replace the communication site.</p>
<p>Discuss potential mitigation measures to these land use issues which may be taken to correct this line of site interference of microwave beam paths. Provide compensation for any loss of revenue that result from interference with microwave dish beam paths.</p>	<p>BPA would site transmission towers to avoid interference with WDNR microwave beam paths.</p>

Measure	Implementation
<p>BPA in consultation with WDNR and users would identify areas within and adjacent to the power line corridor where recreational access would be determined to be compatible or incompatible with power-line corridors and access roads. This information would be used as part of the existing or planned recreational trail systems. Access would be restricted or provided as these locations are identified.</p> <p>BPA will provide long term funding to WDNR for enforcing authorized use (through barriers, signage, education, and enforcement) as well as preventing unauthorized use including by regularly and permanently closing and decommissioning unauthorized trails or access points.</p>	<p>BPA has worked closely with WDNR to site the Preferred Alternative. The Preferred Alternative potentially impacts fewer existing and planned recreational sites than the other action alternatives. All activities that presently occur on the trails within the Yacolt Burn State Forest could continue after the line was constructed.</p> <p>BPA would work with WDNR to provide gates and/or signage to try and prevent unauthorized use. Most, if not all roads to the right-of-way from a public road are existing.</p>
<p>BPA in consultation with WDNR would identify and implement strategies that mitigate negative impacts to dispersed recreation opportunities, including restoration of impacted areas, relocation to suitable areas, and restrictions to existing areas. BPA would provide long-term funding to ensure access and protect the resources critical to dispersed opportunities as well as provide enforcement.</p>	<p>Access to areas near the project could be temporarily limited during the construction phase of the project. Although the transmission line and roads would be visible to recreationists close to the facilities, the transmission line would not prohibit dispersed recreation where it is allowed, nor prohibit activities such as hiking, hunting, geocaching, fishing, and plant gathering. BPA would site towers to avoid directly displacing an established motorized or non-motorized trail.</p>
<p>BPA in consultation with WDNR would identify and implement strategies for blocking access to the area during corridor construction. This should include blocking access to unauthorized trails that are within 500 feet of the corridor. BPA would provide funding to defray the enforcement costs of blocking access as well as to defray the costs of maintenance to the redirected areas that see increased use.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document.</p> <p>BPA would work with WDNR to ensure adequate notice is provided to users of WDNR trails and recreation facilities in advance of and during the construction period.</p>

Measure	Implementation
<p>BPA would provide long-term funding and cooperative management with WDNR that is outlined in the EIS; or the EIS includes an acknowledgement that subsequent agreements with DNR regarding preventing unauthorized access, providing enforcement, completing unauthorized trail closures, and restoring areas due to unauthorized public access would be created. Agreements with WDNR would include resources and funding for preparing and implementing long term plans to help avoid or otherwise mitigate damages from unauthorized use. Plans and funding should include enforcement and posting/maintaining new signs, gates, and other barriers when new/other access points are created that were not considered during the construction phase. BPA would share in the responsibility of enforcement, installation of gates, culvert replacement, access roads, closing and decommissioning unauthorized trails that occur from corridors and access roads, etc., for environmental and resources protection measures into the future. The EIS should also identify mitigation measures that could be taken to curtail these unauthorized public uses. This may include: (1) Install fencing or blockades in key locations; (2) Survey existing power lines on WDNR-managed lands in the vicinity and document unauthorized use and damage to state lands and public resources. Use this survey to predict damage on proposed lines; Include costs to repair or mitigate predicted damage or identify effective mitigation that could be added that would avoid unauthorized use and damage; (3) Design the corridor to prevent unauthorized public use; (4) Develop and implement a cooperative management plan with WDNR to reduce unauthorized public access to the corridor; (5) Regularly inspect for off-road development and damage. Repair damage promptly, especially resource damage; (6) Maintain signs that discourage unauthorized use of the corridor; (7) Survey the easement corridor and clearly mark it so that BPA, contractors, adjacent landowners and the public can clearly recognize when they are within the corridor to prevent uncompensated corridor expansion, vegetation management conflicts, and to reduce unauthorized use; (8) Clarify and disclose the responsibilities, roles, and plans BPA proposes to help prevent and assist grantors in managing these real issues; (9) Provide a gate and lock box that can accommodate access for multiple landowners on joint use road systems.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document</p>

Measure	Implementation
<p>BPA would coordinate with WDNR in determining the exact location of the easement boundaries, and the restrictions on SOAL, prior to the development or amendment of any easement and any final decision by WDNR on the issuance of an easement. Recommended analysis: Once the SOALs are identified, BPA would need to provide further information on crossings over state-owned aquatic lands in order for WDNR Aquatic staff to determine environmental impacts to habitat, calculate the length of the crossings, calculate administrative cost recovery, and determine the associated impacts to existing WDNR licenses, leases, and agreements.</p>	<p>WDNR Easement Document/ See Section 15.2.8, Recommended Mitigation Measures</p>
<p>Coordinate with WDNR to ensure consistency with the overall statements in the U.S. Corps Permit (U.S. Corps Permit NWS-2011-346-PN dated January 4, 2013) to protect and utilize important resources and consider fish and wildlife values.</p>	<p>See Section 27.10 for Clean Water Act compliance implementation information</p>
<p>BPA would operate according to in-water work windows established by the Washington Department of Fish and Wildlife (WDFW) or the U.S. Corps Permit (see page 3-27) for this project. Information regarding WDFW in-water work windows can be obtained by contacting WDFW through their Hydraulic Project Approval website: http://wdfw.wa.gov/licensing/hpa/.</p>	<p>See Section 19.2.8, Recommended Mitigation Measures.</p>
<p>BPA would coordinate with WDNR on the development of any proposed mitigation projects on SOAL.</p>	<p>WDNR Easement Document/ See Section 15.2.8, Recommended Mitigation Measures</p>
<p>Amend the language to read “Conduct additional site-specific evaluations in areas of potential landslides identified in Appendix J and by site-specific evaluation of the entire selected route to determine degree of recent activity, likelihood of activation or reactivation, potential setbacks, and site-specific stability as appropriate. Site towers in areas not underlain by landslides. If necessary, design site-specific mitigation measures”.</p>	<p>See Section 14.2.8, Recommended Mitigation Measures.</p>
<p>BPA would coordinate with WDNR on design and site-specific slope stability mitigation measures.</p>	<p>Ongoing</p>
<p>A WDNR representative would have the opportunity to review/approve tower line locations on WDNR lands prior to finalizing locations to limit geological impacts.</p>	<p>BPA would continue to provide WDNR the opportunity to review tower locations. For areas of concern, BPA would consider moving towers and roads or change tower footing types or depths. However, due to limitations in span length, BPA may not have the ability to move some towers and would make the final tower siting decision.</p>

Measure	Implementation
<p>Develop and implement a rapid response plan which includes contacts in case of emergency.</p>	<p>BPA has a Transmission Emergency Response Program that has created policies, procedures, action plans, training, and exercises that respond to emergencies in the region that involve the transmission system. BPA's Continuity of Operations plan is part of this response program.</p>
<p>BPA would notify WDNR if and when a native Indian burial site, grave or human remains is found on WDNR-managed lands and cooperate with WDNR to ensure WDNR compliance with state law.</p>	<p>BPA would notify WDNR if an inadvertent discovery occurs on their lands.</p>
<p>BPA would work with WDNR forest practices staff to develop notification and informational materials for forest landowners who wish to harvest (remove) cleared timber generated from the clearing of the transmission line corridor. The informational materials should be designed to inform landowners of their responsibilities to reduce or eliminate impacts covered by WDNR's forest practices rules.</p>	<p>BPA would work with WDNR forest practices staff to develop notification and informational materials for forest landowners.</p>
<p>On forest roads where Clean Water Act compliance is implemented by the forest practices rules, BPA should follow the BMPs codified in WAC 222-24.</p>	<p>Washington Statewide Rights-of-Way MOA; see Section A.2.4 for more information on access road design; additionally, coordination with WDNR on road design is ongoing.</p>
<p>Mitigation sequencing in riparian areas should follow: (1) Avoidance-where practical, BPA should mitigate impacts by raising towers to avoid cutting overstory timber. Understory vegetation should be retained. (2) Mitigation- if avoidance is not possible, timber should be topped and other trees felled only when needed. All felled timber within the riparian core zone (from edge of bank full width or channel migration zone extending perpendicular to fifty (50) horizontal feet should be left as down wood recruitment in the riparian area.</p>	<p>See Section 27.10, Clean Water Act, for information on avoidance and minimization of adverse impacts to waters of the U.S. Section 19.2.8, Recommended Mitigation Measures states that BPA would place wood debris along streams cleared for transmission line crossings.</p>

Measure	Implementation
<p>(1) BPA would take all reasonable measures to prevent and minimize the start and spread of fire on to adjacent forested areas. Measures should include ensuring all vehicles carry a fire extinguisher of at least a 5 B/C rating and a serviceable shovel, following construction site safety operating procedures which should include compliance with the substantive requirements of the current Washington Administrative Code (WAC) 332-24-301 (Industrial restrictions) and WAC 332-24-405 (Spark emitting requirements). (2) In addition to the proposed mitigation the DEIS should incorporate language similar to “follow best practices to address accumulations of slash, logs or trimmings from vegetation removal operations that pose a hazard for wildfire spread or ignition. Best practices include scattering, chipping or the arrangement of concentrations of logs or trimmings in a manner as to not create a continuous extreme hazard fuel bed”.</p>	<p>Washington Statewide Rights-of-Way MOA/WDNR Easement Document</p>
<p>BPA would consider and propose any mitigation that is needed to protect the species in addition to that recommended on pages 17-33. Similar to mitigation proposed for cultural resources on Table 3-2: “Plan for survey and review as needed of additional disturbance areas not identified during the NEPA process (e.g., staging areas stringing and pulling sites, guard structure areas, etc.)”, BPA would identify and mitigate for special-status species not identified during the NEPA process.</p>	<p>BPA would coordinate with WDNR regarding identification of sensitive species during survey of additional disturbance locations on WDNR-managed lands.</p>
<p>BPA needs to ground verify all GIS data that is being used for the environmental analysis in the EIS and provide additional mitigation measures where additional impacts are indicated. Recommended analysis: Post ground truthing, BPA should review the GIS data in the FEIS and update the data and the environmental impact analysis where needed especially that which is related to the hydro layers.</p>	<p>BPA has conducted field work to verify data gathered during the Draft EIS process and has updated the Final EIS appropriately.</p>

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Appendix

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MEMORANDUM OF AGREEMENT
between the
WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
and the
BONNEVILLE POWER ADMINISTRATION, DEPARTMENT OF ENERGY
for
MANAGING IMPACTS TO STATE LANDS
FROM BPA TRANSMISSION LINE AND ACCESS ROAD EASEMENTS

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This memorandum of agreement (Agreement) is between the Bonneville Power Administration, Department of Energy, United States of America, herein called "BPA" and the STATE of WASHINGTON "State", acting by and through the Department of Natural Resources, herein called "DNR", dated as of March 16th, 2012.

RECITALS

- A. The Agreement memorializes a mutual commitment between BPA and DNR (individually referred to as "Party" and collectively the "Parties") to find compatible solutions to conflicts and challenges caused by the different missions and authorities of the Parties regarding the presence of BPA transmission lines and access road use on all lands managed by DNR (State Lands). Where there is a conflict between federal and state law and BPA must abide by federal law, BPA will comply with the state's law to the extent practicable to meet the commitments described in this Agreement.
- B. The Agreement satisfies the requirement for the Parties to enter into an agreement that covers the impacts of BPA easements on all DNR managed lands in the State of Washington (Mitigation Agreement for McNary-John Day and Other Transmission Line Rights-of-Way dated May 27, 2010).
- C. The Agreement also addresses certain BPA commitments with respect to its easement activities throughout the state.
- D. The Agreement provides guidance for the development of future easements and agreements between the Parties.

AGREEMENT

Scope

Except as otherwise provided, this Agreement applies to all BPA transmission line and access road easements that encumber State Lands. This Agreement addresses impacts arising from BPA easements both within and outside of the easement areas to include danger tree removal and roads. To the extent a BPA easement is inconsistent or in conflict with the Agreement, the easement controls. The Parties may negotiate a mutually agreeable resolution to reconcile a conflict between the easement and the Agreement, when appropriate. To the extent a BPA easement is silent on, or is not otherwise inconsistent with or in conflict with the Agreement, the Agreement controls. Unless otherwise noted, any BPA obligation or requirement in this Agreement applies to BPA's contractors, licensees and other authorized BPA easement users.

Term

This Agreement replaces any existing agreement or understanding to include the March 2, 1979 Memorandum of Understanding between State of Washington, Department of Natural Resources and Bonneville Power Administration, United States Department of Energy, amended February 28, 1983, and will remain in effect for fifty (50) years after its execution unless amended, replaced by another agreement, terminated by mutual written consent of the Parties, or terminated in whole or in part through the dispute resolution process. Parties shall meet periodically, but not less than every five (5) years, to review and amend this Agreement as necessary.

Danger Trees

Definitions. For the purposes of this section of the Agreement, the following definitions will apply:

Danger Trees: Trees outside of the easement area that meet the criteria of Categories 1-3 as described below. As used in this section, tree means any woody perennial plant that, because of its location or characteristics, may affect the safety or reliability of a BPA transmission line or the BPA transmission system.

Category 1- Imminent Danger: Trees in an active state of failure that can strike an electrical facility or fall within the minimum clearance distance and are normally removed outside of normal maintenance cycles.

Category 2- Imminent Danger Conditional: Trees with a high probability of imminent failure contingent upon factors like wind or soil movement and are normally removed outside of normal maintenance cycles. Common examples include storm damaged trees, unprotected timber fringes and areas with root diseases.

Category 3- Normal Maintenance Trees: Trees with fifty percent (50%) or greater probability of structural failure within five years of their identification and may be removed as part of the normal maintenance cycle based on their potential danger to the safety or reliability of a BPA transmission line or the BPA transmission system. Common examples include structurally defective trees, trees with lightning cracks or broken tops, and hardwoods with poor rooting structures.

Incidental Take Tree: Trees with a high probability of being damaged; trees that have been damaged or removed during the danger tree removal process; or trees that are considered a severe risk to worker safety during removal of previously identified danger trees. Reasonable care should be taken to minimize the number of incidental take trees.

Removal: The cutting or felling of danger trees while leaving the trees on site unless otherwise specified in this Agreement.

Disposal: The transportation of trees, processed logs, or tree residue away from the area of origin and off site.

Statewide Danger Tree Tracking Spreadsheet: A spreadsheet, jointly developed by the Parties, containing specific information about the logistics and progress of active danger tree felling operations (Spreadsheet) including:

- BPA transmission line name,
- BPA tract number,
- Legal descriptions,
- Appraised values,
- DNR easement number,
- Invoice numbers, and
- Payment status.

Non-emergency Danger Tree Removal Process. BPA and DNR shall follow the Danger Tree Process described below when planning for, identifying, removing and disposing of Danger Trees in Category 3. The removal of any Danger Trees that fall outside of the categorical definitions will be separately negotiated by the Parties.

Danger Tree Process.

1. BPA Danger Tree Program receives BPA-initiated corridor patrol requests. BPA reviews and identifies State Lands impacted by such requests.
2. BPA notifies the representatives for the affected DNR Region and DNR Rights-of-way Program within the Asset and Property Management Division at least sixty (60) calendar days prior to the start of normally scheduled patrols describing the vegetation management work to be completed including:
 - a. BPA contact person;
 - b. The anticipated patrol date; and
 - c. Sufficient information including the line name or transmission corridor to allow easy identification of the patrol by DNR.
3. DNR will designate a DNR representative who will contact BPA, as needed, to clarify any information contained in the notice.
4. DNR representative responds to BPA within thirty (30) calendar days of receipt of the notice to identify any land management activities and other issues that may conflict with the proposed work. Conflicts may include potential restrictions on road use, timing of DNR planned road work, access requirements, environmental concerns or restrictions, fire danger, the presence of special lands and coordination requirements, active timber harvest, and crop harvest plans.
5. DNR representative updates the Spreadsheet and sends it to the BPA representative. The Parties' representatives are mutually responsible for updating the Spreadsheet from this point forward.
6. BPA initiates patrol, identifies and marks any danger trees, and verifies easement rights and requirements. Danger Trees to be felled shall be marked using orange tree marking paint with a large, clearly visible "DT" at four-to-five feet above ground level and a two-to-three inch spot at the base of the tree prior to BPA sending the Danger Tree Information Packet (as described in number 8 below) to DNR. In addition to Danger Trees, BPA shall mark all Incidental Take Trees with an "IT".
7. BPA verifies easement rights and requirements. If the rights to Danger Trees have not been secured and paid for by BPA, a timber cruise of each Danger Tree and identifiable Incidental Take Tree shall be completed by BPA based upon accepted regional timber cruising standards. BPA shall appraise the market value of the tree(s) based upon current regional market values at the time of appraisal. BPA shall pay DNR the appraised value.
8. BPA sends Danger Tree Information Packet (Packet) to DNR representative at least thirty (30) calendar days prior to planned removal that includes all of the following:

- a. Orthophoto map indicating the location of the trees to be felled, (including Section Township and Range),
 - b. Payment requirements,
 - c. Timber cruise,
 - d. Timber appraisal, and
 - e. Purchase request.
9. Within fourteen (14) calendar days of receipt of Packet, DNR verifies and approves appraisal, identifies any additional needed operational considerations, and informs BPA of any proposed modifications. BPA will contact the DNR representative if proposed modifications or DNR concerns cannot be adequately addressed.
 10. DNR invoices BPA for the appraised value within thirty (30) days of agreement to value by the Parties.
 11. BPA pays DNR.
 12. BPA removes Danger Trees. All trees should be felled away from roads, trails and other improvements. If this is not possible and felled trees will interfere with use of roads, trails, or improvements, BPA shall contact DNR prior to felling the trees. Trees felled across roads and trails shall be bucked and the pieces scattered to prevent safety hazards. BPA shall notify DNR if significant damage has occurred.
 13. BPA notifies DNR when Danger Trees are removed.
 14. Once the Danger Trees are removed, DNR or BPA may identify additional Incidental Take Trees that were not included in the cruise. The identifying Party will notify the other Party of the additional timber volume. DNR will invoice BPA using the established appraisal values for the project.
 15. DNR inspects the Danger Trees felling operations upon completion of the work to ensure the cruise and appraisal were accurate and to identify any damage to State Lands. DNR shall notify BPA of any proposed mitigation or payment for damages caused by BPA. BPA and DNR shall coordinate on the development of any necessary mitigation plans.
 16. DNR updates Spreadsheet with invoicing information and notes. BPA and DNR representatives finalize the Spreadsheet with Danger Tree information and document actions by the Parties.

The Parties may mutually agree to modify the notification and response time frames in the Danger Tree Process.

Emergency Danger Tree Removal Process. When time allows, the removal of Category 2 Danger Trees will follow the Danger Tree Process. In the event of an emergency requiring immediate action to remove Category 1 and 2 Danger Trees outside of an easement area to protect persons or property and where the existing easement language is silent or does not adequately address the process for emergency tree felling, the following process shall be used:

- i. BPA will notify DNR of the emergency as soon as reasonably possible.

2. BPA shall remove the necessary Danger Tree(s) without advance authorization from DNR. Upon request by DNR, BPA will meet onsite to review the completed operation.
3. BPA shall notify DNR of the Danger Trees(s) and Incidental Take Tree(s) removed and include a map of the location and a timber cruise of all trees removed within thirty (30) calendar days after removal or within a mutually agreed upon time period in the event of a catastrophe. Compensation will be determined in the same manner as in the Danger Tree Process of this section described above.
4. BPA will notify DNR of any areas on State Lands used by BPA for emergency access and where damage from BPA operations has occurred. DNR will notify BPA of any proposed mitigation or payment for damages caused by BPA. BPA and DNR will coordinate on the development and implementation of any mitigation plans.

Danger Tree Dispute Process. If the Parties fail to agree on whether a tree meets the definition of a Category 3 Danger Tree, the Parties may agree upon an expert in the field of plant pathology, plant physiology, a certified utility arborist, or other expert with the appropriate qualifications within a reasonable period of time to assist in making a determination. If the Parties cannot agree on whether a tree is a Category 3 Danger Tree, they will use the Dispute Resolution Process in this Agreement.

Grow In Trees. Trees that grow into or whose limbs grow into the easement area may be trimmed to the edge of the easement area. If significant trimming is required and will result in the creation of a Danger Tree, it may be categorized as a Category 2 or 3 Danger Tree.

DNR's Rights and Obligations. DNR has no obligation to identify or remove Danger Trees. All Danger Trees and Incidental Take Trees felled are the property of DNR, unless stated otherwise in the easement. BPA shall not sell, gift or allow disposal of such trees to any person or entity without DNR's prior written approval.

Impact of BPA Danger Tree Removal on DNR Timber Management Objectives. When BPA Danger Tree Removal significantly, continually, and adversely impacts DNR timber management activities, including timber production, crop production and habitat protection or enhancement, beyond the scope of BPA's easement, BPA shall initiate a funding request to expand the easement area, or initiate other agreed upon solutions. Compensation for any additional easement area expansion shall be determined by an appraisal of market value using the August 1, 2010, Appraisal Agreement between Bonneville Power Administration and Washington State Department of Natural Resources.

Land Management

Vegetation Management. The Parties will comply with the following process when BPA is planning and carrying out its scheduled vegetation management activities:

1. BPA Vegetation Management Program reviews and identifies the State Lands that will be impacted by scheduled maintenance activities.
2. BPA notifies the affected DNR Region and DNR Rights-of-way Program within the Asset and Property Management Division at least sixty (60) calendar days prior to the start of any planned project describing the vegetation management work to be completed including:

- a. BPA contact person;
 - b. The anticipated vegetation management work start dates; and
 - c. Sufficient information to allow easy identification of the site by DNR utilizing the GIS database, such as an orthophoto map indicating the location of the planned vegetation management activities pole and tower numbers, transmission line corridor names and access roads.
3. DNR will designate a contact who will contact BPA, as needed, to obtain additional information.
 4. DNR contact responds to BPA within thirty (30) calendar days of receipt of notification to identify any land management activities and other issues that may conflict with the proposed work. These may include potential restrictions on road use, timing of DNR planned road work, access requirements, environmental concerns or restrictions, the presence of special lands and coordination requirements, active timber harvest, and crop harvesting plans.

Noxious Weed Control and Management

Noxious weeds can have a substantial impact on livestock, aquatic lands, and agriculture and timber operations by reducing the quality of forage and preventing the establishment of desired plant communities. In Washington State, many individual counties have established noxious weed boards to coordinate and reduce the impact of noxious weeds on agriculture, aquatic lands, and timber operations. In recognition of the costs associated with the eradication and control of noxious weeds, the Parties agree to implement best practices to control the spread of noxious weeds.

Aerial Application Prohibited. Aerial application of pesticides or herbicides by BPA is not permitted without the prior approval from DNR.

State and County Regulations. BPA shall comply, to the extent practicable, with the substantive requirements of all applicable state and county noxious weed regulations and guidelines; provided however, BPA is not required to comply with any state or local requirements for permits, fees or taxes if BPA is otherwise immune from such requirements as a federal entity. Such weed control shall be consistent with county noxious weed control board requirements. BPA shall coordinate with the county noxious weed control board to control noxious weeds. If there is no county noxious weed control board, BPA shall coordinate with DNR to control noxious weeds.

Within Easement Area. When BPA controls an easement area, BPA shall control noxious weeds within the easement area with the following exceptions:

1. DNR shall control noxious weeds when it exercises its reserved rights to grant rights in the easement area to a third party for agricultural purposes or for conservation reserve lands. When DNR assumes control of noxious weed management in an easement area, it shall notify BPA. When DNR is no longer leasing to a third party or exercising its reserved rights, DNR shall notify BPA and BPA shall assume responsibility for noxious weed control upon receipt of notification.

2. If BPA shows that DNR has caused or aggravated an infestation of noxious weeds when DNR does not control the easement area, DNR shall be responsible for its proportionate share of noxious weed control on a transmission easement area.

BPA is responsible for notifying DNR of noxious weed problems and mitigating noxious weed problems attributable to BPA's activities.

Adjacent Land. When BPA is in control of an easement area and has caused an infestation of noxious weeds on adjacent land, it shall be solely responsible for noxious weed control for a reasonably defined area. The Parties acknowledge that noxious weed control may affect many property owners and users in addition to the Parties. When BPA is not in control of an easement area and has caused or aggravated an infestation of noxious weeds on adjacent land, it shall be responsible for its proportional cost for noxious weed control.

Cost Sharing and Coordination. When the Parties are jointly responsible for noxious weed control costs on and adjacent to the easement areas, consistent with the provisions of this section, the Parties agree to coordinate noxious weed control through the county weed board. If there is no county weed board, the Parties agree to negotiate a noxious weed management plan and apportion costs as appropriate. Plans for noxious weed control will be subject to the budget limitations of the Parties.

DNR shall have the right, but not the duty, to notify BPA of noxious weeds that need to be controlled on an easement area and adjacent State Land when an easement area is under the control of BPA. Within a reasonable timeframe of such notification, BPA shall either control the noxious weeds identified by DNR, or provide a plan to control such weeds to DNR. Failure of BPA to control the noxious weeds, or provide an acceptable vegetative management plan for such noxious weed control, may result in DNR providing a plan for the noxious weed control to BPA for review and approval for reimbursement under the Administrative Cost Recovery section of this Agreement. The Parties agree that long-term vegetative management plans may span multiple growing cycles.

BPA commits to include noxious weed control activities in its routine scheduled vegetation maintenance program as well as working towards the establishment of native low-growing plant communities within BPA easement areas.

Payment for noxious weed control may include in-kind services or materials.

Herbicide Use. Land and transmission line managers commonly use herbicides. The Parties recognize that using herbicides is an effective tool to control undesired vegetation and noxious weeds. However, herbicide use may create risk to sensitive sites and the potential for spills into the natural environment, therefore:

1. The Parties shall follow the Environmental Protection Agency (EPA) label rules for mixing, transporting, storing, and using herbicides.
2. The Parties shall only use herbicides approved for use by the Washington State Department of Agriculture and state licensed contractors or federally licensed BPA employees.
3. In the event of a spill, the Parties shall use spill procedures as directed by the state or federal agency with cleanup authority.

4. In the event of a large spill requiring substantial excavation of the natural environment, BPA agrees to coordinate with DNR to protect trust resources, natural areas, and special features.
5. BPA vegetation management contracts shall require its contractors who conduct noxious weed control to thoroughly wash all trucks, mowers, and other machinery prior to moving them onto the project site. This cleaning may require the use of a pressure washer.
6. BPA agrees to notify DNR before applying herbicides within any easement area or along access roads.
7. The Parties agree to have Material Safety Data Sheets (MSDS) on site and comply with them when applying herbicides.

Herbicide Use Around Water. BPA shall take all necessary precautions to prevent the entrance or accidental spillage of herbicide or contaminants into flowing streams, dry watercourses, lakes, ponds, sensitive sites, and any water source (collectively referred to as "water"). BPA shall comply with the minimum buffers for applying herbicides around water as set forth in the current Environmental Impact Statement (EIS) for Transmission System Vegetation Management (DOE/EIS-0285) or successor documents.

Buffer width from habitat source per application method:

Type of Application	Toxicity		
	Non-Toxic to Slightly Toxic Herbicides	Moderately Toxic or if Label Advisory for Ground/Surface Water	Highly Toxic to Very Highly Toxic Herbicides
Spot	up to edge	25 ft.	35 ft.
Localized	up to edge	35 ft.	100 ft.
Broadcast	35 ft.	100 ft.	Noxious weed control only
Mixing	100 ft.	250 ft.	250 ft.

Desired Condition of Easement Areas. Low-growing native vegetation is typically a plant community that meets the land management objectives of both Parties. Where applicable, the Parties will work to achieve a fully vegetated easement area consisting of low-growing vegetation (typically a mature height less than 10 feet) that is compatible with conductor height or as described in the transmission line easement, native to the region, promotes wildlife use, and limits the potential of noxious weeds and other undesirable vegetation. Methods to accomplish the desired easement area condition may include planting, topping, herbicide use, broadcast seeding, or any combination of these methods. The Parties recognize the transition to this type of easement area condition will take time to achieve across the main eco-regions where BPA transmission line easements encumber State Lands.

Livestock. When an easement area is used for grazing by DNR's lessees or permittees, BPA shall notify and coordinate with such lessees or permittees when it is conducting maintenance and repair activities of transmission lines and roads to minimize interference with their livestock. DNR shall provide BPA with appropriate contact information within a reasonable amount of time after receipt of such request from BPA.

Fences. BPA shall repair or replace any functional fences it damages to an equivalent or better standard than existed prior to the damage. Repairs must be made in a timely manner to prevent the loss of livestock, additional costs of locating and herding livestock, or damage to State Lands from escaped livestock. BPA shall notify DNR's lessee or permit holder in a timely manner if repairs cannot be made immediately and damages are likely to result. BPA shall be responsible for all damages resulting from its failure to timely provide such notice, or to repair or replace fences damaged by BPA.

Safety. DNR and BPA conduct work around power line infrastructure that requires safe operations and situational awareness for employees, contractors, other authorized users, and the public. The Parties conduct operations subject to applicable federal and state safety laws (including OSHA minimum approach distances and Title 64 RCW, Title 296 WAC), along with internal agency safety procedures for providing a safe work environment. The Parties shall ensure all applicable safety standards are met or exceeded. Additionally, the Parties agree as follows:

1. DNR shall review annual timber harvest plans for timber sales that are adjacent to transmission corridors and will consult with BPA local area natural resource specialists when proposed operations or required retention tree plans are near a transmission line corridor. DNR and BPA will coordinate to determine whether retention trees are potential danger trees.
2. DNR shall include safe operating procedures in the DNR timber sale contracts that have operations that may impact a BPA corridor. Before starting active felling operations, DNR timber harvest contractors shall contact BPA to ensure safe operations when harvest activities are located near transmission line corridors on State Lands.
3. BPA shall contact DNR when access is needed in or around active land management activities such as timber sales, rock pit operations, agricultural harvesting, road construction, wind farms, etc.
4. When potential or actual danger trees pose a safety risk on an active timber harvest or other DNR land management activity, DNR shall contact BPA and BPA will work with DNR to identify and assist with the felling of the trees.
5. BPA shall observe a speed limit of twenty-five (25) miles per hour on all State Lands roads, unless posted otherwise.
6. DNR shall not enter any transmission line related structure, facility, or active construction site: (1) unless escorted by a qualified BPA employee or contractor; and, (2) only after receiving an appropriate safety briefing.

Roads

The Parties recognize that there is a shared interest in keeping road maintenance up to date and roads functioning for the Parties' required needs. The Parties commit to advocate for adequate budgets to appropriately manage access road networks and reduce erosion and inferior road surface conditions that could contribute to environmental liability.

Road Definitions.

Road Maintenance: Periodic work performed on a road so that the road prism remains usable and costly repairs are minimized. Road maintenance activities include but are not limited to shaping the roadway, vegetation control, cleaning catch basins, installation of cross-drain culverts and culvert maintenance, water bars, ditches, roadside brushing and spot rocking. Road maintenance may be required because of traffic use or non-traffic related conditions such as vegetation growth.

Road Improvement: Includes any work that increases the overall value of the road or requires a significant expenditure of resources and specifically excludes road maintenance and road abandonment as defined within this Agreement. Road improvement work includes but is not limited to new road construction and in-kind culvert replacement, significant road surface improvement or changing the surface of a road, widening, ditch construction, and road realignments or rerouting.

Large Capital Road Improvement: A Road Improvement where a significant structure is installed, such as a bridge or large culvert, at a stream or river crossing.

Road Abandonment: Includes all work to place a road in a condition that no longer requires maintenance. The following work is required to exempt a road from maintenance:

- Roads are out-sloped, water barred, or otherwise left in a condition suitable to control erosion and sediment transport and maintain water movement within a wetland or a natural drainage;
- All disturbed slopes, including ditches, are left in a suitable condition to control or limit erosion;
- The road is blocked, or other reasonable measures are taken, when equally effective, to prevent four-wheel highway vehicles from passing the point of closure at the time of abandonment; and
- Water crossing structures and fills on all typed waters are removed except where DNR determines other measures would provide adequate protection to public resources.

Sole Use Road: A road on State Lands within and outside the BPA transmission corridor that is used almost exclusively by BPA including roads built for the original line construction, patrol, maintenance, upgrades, emergency repairs, and vegetation management.

General characteristics of Sole Use Roads may include one or more of the following:

- Road does not currently, nor in the foreseeable future, provide needed access to State Lands for the purpose of DNR resource management.
- Road is not generally used, identified, or necessary for use by DNR purchasers, lessees, or permittees.

- No additional easement holder has been identified.
- DNR rarely uses the road administratively except to administer BPA easements and other infrequent uses.
- DNR does not have a designated recreational trail or promote other authorized recreational use of the road.
- The road is not part of the DNR-funded transportation system.

DNR/BPA Joint Use Road: A road on State Lands that is used by both Parties where Third Party Use (as defined below) is less than BPA's use.

General characteristics of DNR/BPA Joint Use Roads may include one or more of the following:

- DNR uses or has immediate plans to use the road, or a portion of the road, to access State Lands.
- Third Party Use is less than BPA's use.
- DNR maintains the road and considers the road part of the DNR funded transportation system.

Third Party Joint Use Road: A road on State Lands that is used by both Parties and where Third Party Use (as defined below) is greater than BPA's use.

General characteristics may include one or more of the following:

- DNR uses or has immediate plans to use the road, or a portion of the road, to access State Lands.
- Third Party Use is greater than BPA's use.
- DNR has designated sections of the road as a recreation trail or has invited recreational use on the road.
- DNR maintains the road and considers the road part of the DNR-funded transportation system.

Joint Use Road: Includes DNR/BPA Joint Use Road and Third Party Joint Use Road.

Third Party Use: Active use by DNR authorized third parties such as lessees and easement holders, or authorized use by the public for recreation, except that timber sale activities and rock hauling are not considered third party use. However, long-term rock hauling by third parties for non-DNR projects may be considered third party use.

Access Road Work Request: The Access Road Work Request Form, attached as Exhibit A, initiates the funding and scheduling of Joint Use Road improvement projects. The information to be provided on the form includes the project scope, cost estimate, proposed schedule, and apportionment of responsibilities based on use. This information may be used to identify opportunities for either Party to provide in-kind services.

Classification of Roads. Within three years of executing this Agreement, the Parties shall identify and classify all roads BPA uses on State Lands. The Parties shall also identify roads that were historically created and/or used by BPA that are no longer needed and should be abandoned. In order to classify the roads, the Parties agree to produce or identify:

- A list of Sole Use Roads,
- A list of DNR/BPA Joint Use Roads,
- A list of Third Party Joint Use Roads, and
- Corresponding GIS files.

Reclassification of Roads. Should a Party's need for or use of a road significantly change, the Parties shall meet to discuss reclassifying the road and reapportioning responsibilities under this Agreement.

Road Responsibilities.

Sole Use Roads. BPA shall maintain all Sole Use Roads in accordance with the standards listed in the Road Standards section of this Agreement. BPA shall assume all costs for inspections, road maintenance and road improvements on Sole Use Roads.

Road Improvements. BPA shall pay for the removal of fish passage barriers and the replacement of approximately thirty (30) culverts of those culverts listed on Exhibit B (Culvert Spreadsheet) before October 31, 2016. BPA's replacement of these crossings constitutes BPA's full responsibility for sharing in Road Improvements until October 31, 2016. After October 31, 2016, the Parties will share costs for Road Improvements as follows:

- Equally on DNR/BPA Joint Use Roads.
- DNR ninety (90) percent and BPA ten (10) percent on Third Party Joint Use Roads.

BPA shall pay all the costs of Road Improvements when building a new transmission line within an existing easement. DNR and BPA will share costs for Road Improvements associated with re-builds and re-construction of existing transmission lines based upon the road classification. The Parties will negotiate the cost share for Road Improvements associated with the grant of a new easement. BPA shall share costs for Large Capital Road Improvements associated with a timber sale based upon the road classification, but shall not share in other Road Improvements or Road Maintenance accomplished through a timber sale.

DNR shall not charge fees for using DNR roads where BPA does not otherwise have authorized access when BPA uses such roads for rock hauling to improve Joint Use Roads. Damage to any part of the road system resulting from BPA rock hauling shall be paid by BPA.

Maintenance. BPA shall pay DNR thirty thousand and no/100 dollars (\$30,000) per year for five (5) years beginning October 31, 2012, for its cost share of DNR maintenance on Joint Use Roads with the first payment due on that date. This negotiated cost share is based upon an estimate of total miles of Joint Use Roads, DNR's maintenance cost per mile for such roads and BPA's use of Joint Roads. The annual amount of BPA's cost share for Joint Use Road maintenance shall be reviewed by the Parties, and revised if necessary, prior to October 30, 2017 when better data is available.

DNR shall use BPA's maintenance cost share payment fund for the sole purpose of maintaining Joint Use Roads.

BPA and DNR shall enter into an appropriate road agreement that allows BPA to make its annual maintenance payment to DNR no later than October 31, 2012. DNR shall submit a general maintenance schedule to BPA as needed to support the agreement.

Coordinating Road Projects. After October 30, 2017, a Party who desires to initiate a Road Improvement project, where joint funding is needed, shall complete the Access Road Work Request Form. This form shall be submitted to the other Party, preferably one year prior to beginning a project for Road Improvements, and no less than ninety (90) days prior to any project. The Party receiving the request shall have thirty (30) days to agree to the estimates and design or shall contact the initiating Party with concerns. The Parties will make every effort to respond to such a request in a timely manner and will not unreasonably deny such a request.

If Road Improvements are required in response to a change in federal law that only applies to BPA, BPA shall be solely responsible for such Road Improvements.

Sharing Costs. After October 30, 2017, costs for all road projects may be shared by performing in-kind work or by one Party paying its share after the other Party performs the work. When one Party requires a higher standard of road than the other Party, the higher standard will be used. The Party not requiring the higher standard will share cost as if the road was built to the minimally acceptable standard except when the higher standard is necessary to meet environmental requirements for stream crossings.

Road Agreements. The Parties shall negotiate and execute mutually acceptable road agreements required to implement any cost sharing addressed in this Agreement.

Notifications and Approval for Road Improvements. BPA shall not perform Road Improvement projects without prior approval from DNR. At least ninety (90) days prior to any Road Improvement project proposed by BPA within an easement area, BPA shall submit an Access Road Work Request Form for DNR's review and approval. If requested, BPA will provide available site, design, permitting, and scheduling information. Failure to obtain DNR approval prior to beginning the project may result in BPA performing additional work, mitigation or payment of damages to DNR. BPA may perform Road Maintenance activities on Sole Use Roads, at BPA's expense, without additional approval from DNR.

Road Repairs. BPA shall repair any damage to Sole Use Roads regardless of cause, except DNR shall repair damage directly caused by its use. BPA shall share in the costs of damage caused by unauthorized use on Joint Use Roads in proportion to BPA's use of such roads. If the Parties cannot agree on proportionate use, then DNR will pay ninety percent (90%) and BPA will pay ten percent (10%) of the road repairs. Each Party shall repair any damage to a road, regardless of the road classification, caused from its own use.

Road Standards. All road work performed under this Agreement by BPA shall comply with the applicable Storm Water Management Manual for Eastern Washington dated September 2004, or the 2005 Storm Water Management Manual for Western Washington, and Bonneville Power Administration Transmission Engineering Standards for Access Roads or the equivalent then in effect in order to:

1. Protect water quality and avoid sediment loading into water bodies;
2. Protect sensitive areas and reduce ecosystem impacts;

3. Maintain natural channels, natural stream flow, and maintain passage for aquatic species;
4. Control surface water on the road;
5. Stabilize the driving surface;
6. Evaluate unauthorized use that may damage the road and take steps to curtail such use;
7. Implement needed slope stabilization measures and reduce mass wasting;
8. Establish compatible vegetation on disturbed areas; and
9. Avoid and control the spread of noxious weeds.

If BPA's Sole Use Roads do not meet the above standards and it is not an emergency, DNR will notify BPA of the non-compliance and give BPA ninety (90) days, or other time frame as mutually agreed upon by the Parties, to comply with the applicable standard(s). If BPA fails to correct the deficiencies within the required time frame after receipt of the DNR notice, DNR will have the right, but not the obligation, to bring the Sole Use Road up to applicable standard(s). BPA shall reimburse DNR for all costs associated with the corrective action.

Limited Emergency Response for Road Conditions. In the event that a road condition is discovered by DNR or BPA on a Sole Use Road that requires immediate attention to avoid damage to a public resource or is a public safety issue, the Party identifying the condition shall contact the other Party by phone and follow-up within forty-eight (48) hours with notification. The notification shall include the location and a description of the emergency work along with any follow-up actions that will be taken by the Party that identifies the condition. Limited emergency action may be taken by either Party to mitigate the emergency. All emergency road improvements shall comply with applicable federal, state and local laws. BPA shall be responsible for all costs associated with emergency responses on Sole Use Roads except DNR, or DNR's authorized users, shall pay BPA for such costs when the road condition is caused by DNR or its authorized users.

Herbicide Use on Roads. BPA shall only use herbicides approved for use by the Washington State Department of Agriculture and BPA's approved pesticide list. BPA shall notify DNR prior to using the approved herbicides on State Lands.

Abandonment of Roads. The Parties shall jointly agree upon the abandonment of Joint and Sole Use Roads, a timeline for abandonment and each Party's responsibilities associated with abandonment. For Sole Use Roads, BPA shall submit abandonment plans to DNR thirty (30) days prior to abandonment for DNR approval. BPA's completed road abandonment is subject to DNR inspection and approval. If the abandonment does not meet the abandonment plan requirements approved by DNR, BPA shall perform any additional work required to obtain DNR's approval of the abandonment as complete. Upon successful completion of the road abandonment, DNR shall provide written acceptance to BPA of abandonment and both Parties shall cooperate to amend the affected easement as necessary. Failure by BPA to obtain DNR approval of abandonment may result in DNR performing work to properly complete the abandonment at BPA's expense.

Fording Streams. BPA shall exercise extreme care when fording streams so as not to cause stream turbidity and stream bank damage. On type "F" (fish bearing) streams, BPA will not create new

fords where fords do not currently exist. BPA shall make a reasonable effort to identify its existing fords on fish bearing streams prior to May 31, 2012. Once a type "F" stream is identified and within three years of the execution of this Agreement, BPA shall take one of the following remedial measures: discontinue use of the ford, harden the ford, or install a bridge or a culvert for stream passage. BPA shall remediate as soon as possible, but no later than three (3) years after discovery, any additional type "F" stream fords identified after May 31, 2012.

Gates. BPA shall maintain all BPA gates to ensure they are in working order and that DNR and DNR's authorized users have access. BPA shall provide room in its gate lock boxes or a locking mechanism to allow DNR and its authorized users' independent access. Any damage to gates caused by DNR or its authorized users shall be their responsibility. DNR shall provide BPA access through DNR gates on Joint Use Roads and DNR shall maintain such gates to ensure they are in working order.

Environmental and Resource Protection

Waste. BPA shall not deposit refuse, garbage, or other waste matter, or use, store, generate, process, transport, handle, release, or dispose of any hazardous substance, or other pollutants in or on State Lands except in compliance with all applicable laws.

BPA shall immediately contact DNR by the most expeditious means and follow-up with a notification if BPA becomes aware of any release or threatened release of hazardous substance on State or adjacent lands. For purposes of this section, "hazardous substance" means any substance or material as those terms are now or hereafter defined or regulated under any applicable federal, state, or local law including but not limited to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 42 USC 9601 et seq.), or the Washington Model Toxic Control Act (MTCA, RCW 70.105D.010).

If a release of hazardous substance that exceeds the threshold limits of any applicable regulatory standard occurs in, on, under, or above State Lands arising out of any action or omission of BPA, BPA shall, at BPA's sole expense, promptly take all actions necessary or advisable to clean up, contain, and remove the hazardous substance in accordance with applicable laws. Any independent cleanup measures (without direct regulatory oversight) will be accomplished to the reasonable satisfaction of DNR. All other cleanup plans shall be submitted to DNR for review and comment prior to implementation (except in emergency situations BPA may take reasonable and appropriate actions). Any cleanup plan managed by DNR shall be submitted to DNR at least thirty (30) days prior to implementation of the plan. BPA shall hold DNR and its authorized users harmless for any release action that is attributable to BPA.

Clean Water Act. BPA is subject to the federal Clean Water Act (CWA) enforced by the Washington State Department of Ecology (DOE) through its delegated authority. BPA shall perform its activities on State Lands in a manner to prevent entry, or spillage of solid matter, contaminants, debris, and other pollutants and wastes into flowing water, dry watercourses, lakes, ponds, and underground water sources. Activities near streams or other bodies of water shall not cause the water turbidity to exceed State DOE water quality standards for the stream. BPA shall not block or divert water courses unless by permit. When DNR is aware of actual or potential noncompliance with applicable CWA requirements by BPA that affect water quality, DNR will notify BPA and DOE. BPA shall work with DOE and notify DNR of any remedial actions or mitigation measures required by DOE or BPA to cure the problem.

Endangered Species Act Compliance. DNR has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address State Land management issues relating to compliance with the Federal Endangered Species Act (ESA). Some of the operations and maintenance activities to be carried out under easements granted to BPA are located on State Lands covered by the HCP pursuant to clause 16.2 of the Implementation Agreement (HCP Lands). The HCP Lands, as shown on Exhibit C, are subject to the relevant commitments of the HCP, and Incidental Take Permit Nos. 812521 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services.

In order to assist DNR's compliance with the HCP, BPA agrees to immediately notify DNR if it locates any live, dead, injured, or sick specimens of any federally listed threatened or endangered species, or nests, on HCP Lands. BPA also agrees to notify DNR upon discovery of any federally listed fish species found in streams or bodies of water classified as non-fish bearing on HCP Lands. In all circumstances, notification must occur as soon as possible after discovery. BPA agrees to assist DNR with safeguarding the well-being of any live, injured or sick specimens of any federally listed threatened or endangered species discovered, until DNR can determine the proper disposition of such specimens.

The Parties agree to work cooperatively with the Services to identify and implement any required mitigation measures relating to the compliance with the HCP and ESA that will meet the Parties' mutual responsibilities. BPA shall implement, at its sole cost, those mitigation measures required due to its activities.

If anadromous fish utilize the stream, such fish shall not be blocked from migrating in the stream nor shall their spawning areas be disturbed or muddied by BPA; provided, however, these requirements will not apply to BPA when BPA has a permit that allows for such activities. BPA shall comply with appropriate statutory requirements associated with threatened and endangered species when working in, across or near streams.

Any questions BPA may have about the ITP should be directed to the contact noted in the Contact Notification section (Exhibit D: Contacts for Notifications). BPA shall ensure its contracts on HCP Lands contain the above requirements.

If BPA conducts ESA surveys on State Lands not covered by the HCP, BPA will coordinate such surveys with DNR.

Emergency Response within HCP Lands. When a transmission line emergency occurs on HCP Lands and the emergency jeopardizes the continued existence of endangered species or results in the destruction of designated critical habitat and requires immediate corrective action by BPA, BPA shall:

1. Notify the applicable federal regulatory agencies (e.g., United States Fish and Wildlife Service, United States Army Corps of Engineers, National Oceanic and Atmospheric Administration) with jurisdiction over the resource(s) potentially affected by the emergency and plan for corrective actions/mitigation measures as soon as possible.
2. Notify DNR of the emergency immediately following notification to federal regulatory agencies. BPA shall consider any DNR recommended mitigation measures.

3. Take all necessary corrective actions with no requirement to obtain advance authorization from DNR.
4. Upon request by DNR, meet onsite to review the completed corrective actions/mitigation measures. Absent an onsite review, BPA shall identify and provide DNR with all corrective actions/mitigation measures taken. DNR shall review the completed work and shall identify any situations resulting in potential noncompliance with the HCP by BPA that may require additional mitigation. Thereafter, the Parties will cooperate to develop a mutually agreed upon mitigation plan and implementation schedule within sixty (60) calendar days, or other mutually agreed time frame. BPA shall implement, at its sole cost, BPA's mitigation requirements arising from its activities. Consultation with applicable federal regulatory agencies may be required.

Aquatic Lands. For purposes of this section, Aquatic Lands are defined as a category of State Lands to include all state-owned tidelands, shore lands, harbor areas, and the beds of navigable waters that are administered by DNR and as further defined in RCW 79.105.060. Where the maintenance of easement areas across Aquatic Lands creates significant environmental impacts, BPA shall notify DNR and consider DNR's inputs on implementing habitat stewardship measures in the NEPA process. Habitat stewardship measures may include: protecting shade; limiting compaction and disruption of sediments; limiting the disruption of littoral movement (the natural movement of sediments); and limiting underwater noise that can disrupt important aquatic species when they are most vulnerable.

Geology. BPA shall avoid disturbing unstable features by using best practices to decrease the risk of triggering shallow, rapid or deep-seated landslides. Best practices include not disturbing the toes of steep slopes, moving water away from high risk areas and limiting ground disturbing activities. BPA shall notify and coordinate with DNR when unstable features, evidence of slope failure, soil slumping, debris torrents, or situations that may activate landslides are discovered that may impact State Lands, improvements or infrastructure. Coordination shall include scheduling and attending onsite meetings, consultations with DNR geologists and program experts, and developing mutually agreeable mitigation or corrective action plans.

Special Lands. DNR manages designated Natural Resource Conservation Areas (NRCAs) and Natural Area Preserves (NAPs) (collectively referred to as "Natural Areas") to protect unique ecosystems found across the landscape. Often these irreplaceable Natural Areas contain rare, threatened or endangered flora and fauna. The uniqueness of the Natural Areas requires additional care to protect sensitive species.

BPA transmission line easements encumber the following eight Natural Areas: Devil's Lake NRCA, Ellsworth Creek NRCA, West Tiger NRCA, Rattlesnake Mountain NRCA, Columbia Falls NAP, Table Mountain NRCA, Columbia Hills NAP and Middle Fork Snoqualmie NRCA. BPA shall enter into a vegetation management agreement with DNR for each of the named Natural Areas to meet the Parties' respective objectives. The vegetation management agreements shall, at a minimum, address notification, herbicide use, vegetation removal, contact information, maps, and disturbance mitigation plans. Where applicable, DNR will notify BPA when adjacent land ownership is being managed with similar goals of conservation or preservation (e.g., Columbia Hills Natural Area with State Parks as the adjacent owner) and will work with BPA to jointly coordinate with other state agencies.

The Parties shall either execute the individual vegetation management agreements or develop schedules for completing these agreements for each of the eight Natural Areas no later than December 31, 2013.

Cultural Resources. BPA is subject to the National Historic Preservation Act of 1966 (“NHPA” or “Act”). Section 106 of the Act requires federal agencies to consider the effects of projects they carry out, approve, or fund. BPA is the lead agency for all of its easement activities that may involve cultural resources on State Lands. DNR is subject to chapter 27.44 RCW (Indian graves and records) which may have different requirements for the protection of native Indian burial sites or graves and human remains than federal law. BPA shall notify DNR when a native Indian burial site, grave or human remains is found on State Lands and cooperate with DNR to ensure DNR compliance with state law. DNR agrees to notify BPA when a native Indian burial site, grave or human remains is found on a BPA easement area to assist BPA compliance with federal law.

Fire Prevention. BPA shall take all reasonable measures to prevent and minimize the start and spread of fire on or adjacent to BPA easement areas located in the State of Washington. Measures shall include ensuring all vehicles carry a fire extinguisher of at least a 5 B/C rating and a serviceable shovel, following BPA safety operating procedures which include compliance with the substantive requirements of the current Washington Administrative Code (WAC) 332-24-301 (Industrial restrictions) and WAC 332-24-405 (Spark emitting requirements), and any other requirements as specified in this Agreement. If BPA modifies its safety operating procedures as it relates to compliance with the WAC referenced, BPA shall coordinate with DNR.

BPA shall follow best practices to address accumulations of slash, logs or trimmings from vegetation removal operations that pose a hazard for wildfire spread or ignition. Best practices include scattering, chipping or the arrangement of concentrations of logs or trimmings in a manner as to not create a continuous extreme hazard fuel bed.

DNR shall have the right, but not the duty, to notify BPA of fire hazards created by BPA activities that need to be controlled on the easement area and adjacent State land. Within one month of such notification, or other mutually agreed upon time period, BPA shall remediate the fire hazard created by BPA, or provide an acceptable plan for such fire hazard remediation.

Each year, DNR shall provide BPA an updated “Annual DNR Fire Contact Sheet” or similar document as shown in Exhibit E that lists the contact numbers and locations of fire dispatch centers in Washington State. BPA agrees to distribute the information to field staff and contractors as appropriate.

Use of BPA Easement Areas

Vegetation Management Agreements. Except as otherwise provided for in this Agreement, a Vegetation Management Agreement, substantially in the form of Exhibit F, shall be used to document agreement for DNR’s use of a BPA transmission line easement area for agriculture when DNR agrees it is necessary to prevent unreasonable interference with Grantee’s easement rights.

Vegetation Clearance Near Structures. When DNR leases a transmission line easement area to third parties for agricultural purposes, DNR shall ensure no vegetation other than grasses are planted by DNR or DNR’s authorized users within fifty (50) feet of any transmission line structure whether wood pole or lattice steel. The fifty (50) foot requirement is measured from the point where the outside edge of the structure enters the earth; provided, however, BPA will perform bare ground

management within ten feet of wood poles in fire prone areas consistent with BPA requirements. Direct seeding is allowed within fifty (50) feet of transmission line structures. DNR or DNR's authorized users shall keep the area clear and properly maintained to enable BPA vehicle access to structures. BPA shall be responsible for vegetation clearance at all other times.

Third Party Use Coordination. BPA utility corridors across State Lands create the potential for third parties to use the corridor and/or infrastructure for authorized and unauthorized uses. The Parties will work towards solutions to prevent unauthorized uses and will coordinate to properly authorize new users.

Third Party Use. Third party use may consist of installing their own lines, equipment, or appurtenances on BPA existing infrastructure on BPA easements on State Lands. If a BPA easement does not authorize third party use, BPA shall only authorize third party use (1) if the third party use is compatible with BPA operations; and, (2) the third party has provided BPA with written authorization from DNR as the underlying landowner for the proposed third party use within the easement area.

To meet the above requirements, BPA will determine if the proposed third party activity is compatible with BPA operations, and if so, BPA shall refer the third party to DNR to obtain the necessary authorization and notify DNR of the third party request within ten (10) days of such referral. BPA agrees to provide DNR with copies of any Land Use Agreements where BPA grants rights to third parties on State Lands.

Unauthorized Use and Access. Unauthorized use of easement areas can create safety, road maintenance, and environmental problems for both Parties. Problems associated with unauthorized use include but are not limited to garbage dumping, damage to infrastructure, off road vehicle or vehicle travel in undesired areas, water quality impacts, the spread of noxious weeds, and increased wildfire risk. The Parties shall develop a work plan that will identify problem areas, provide for workable solutions, and allocate resources commensurate with their respective responsibility to cooperatively manage unauthorized uses of easement areas. This may include but is not limited to the installation of gates, re-routing or blocking access points. The work plan shall clearly identify how use will be managed and the responsibilities of each Party. This may include working collaboratively with law enforcement to address specific enforcement problems. Timelines for these work plans are identified in the Implementation section of this Agreement.

Designated Public Use and Recreation. DNR periodically addresses plans for recreation and public use on State Lands. The planning is a collaborative process with user groups, adjacent landowners and members of the public. When areas managed by DNR contain a BPA transmission line corridor, DNR will seek input from BPA to plan for appropriate recreation development. A BPA representative, when requested by DNR, may serve as a planning committee member to inform the committee about the impacts of the proposed recreation on BPA easements, make appropriate recommendations and provide timely feedback.

Damages, Risk Allocation and Costs

Damages. It is in the best interest of both Parties to limit the destruction or damage to real or personal property that may result from BPA easements on State Lands. BPA shall compensate DNR only for damage caused by BPA which results from its use or occupancy on and adjacent to an easement area. Damages shall not exceed \$1,000,000 for any one occurrence for purposes of this Damages section. In lieu of compensation to DNR for property damage, BPA may repair any

property damages caused by BPA, subject to the reasonable satisfaction of DNR. Damages resulting from existing BPA easements may include but are not limited to:

1. BPA's unreasonable interference with DNR's reserved rights. Where DNR has granted reserved rights to third parties, BPA shall coordinate with DNR on the apportionment of any damage settlement. BPA shall be responsible for obtaining damage settlement signatures from the third parties.
2. Loss of DNR reserved rights for Conservation Reserve Program lands, when compensation has not already been paid by BPA, due to BPA's direct or indirect acts or omissions.
3. Any material breach of a BPA easement on State Lands that causes damages to DNR.
4. Any noncompliance with applicable federal, state or local law by BPA that causes damage to DNR.
5. Documented fire suppression costs.
6. Claims for BPA damage to and restoration of State Lands, state assets, valuable materials, as defined by RCW 79.02.010(14), and improvements such as loss of timber or agricultural crops, and damage to roads, gates or fences. This does not include vegetation removal that is consistent with BPA's easement rights (non-compatible vegetation) or the exercise of BPA's easement rights.

In any potential DNR claim for damages that requires the location of a BPA easement area or boundary on State Lands, BPA shall be responsible for locating the damaged area on the ground and producing an acceptable exhibit map, produced under the direction of a Professional Land Surveyor, which correctly shows the damaged area in relation to BPA's boundaries.

Tort Liability. DNR is covered by tort liability provisions in Washington State statute and BPA is covered in Federal statute. Unless otherwise specified in this Agreement and to the extent permitted by their respective state and Federal tort liability law, DNR and BPA shall be responsible for all claims costs, damages and expenses suffered due to each Party's own actions or omissions in the performance of the obligations under this Agreement. The provisions of this section shall survive the termination of this Agreement.

Hold Harmless and Indemnification. To a significant extent, BPA relies on contractors and other authorized third parties to inspect, construct, maintain and repair its easements. Both Parties desire to reduce their liability to the extent possible. Accordingly, BPA shall include a hold harmless and indemnification clause in any contract or third party authorization substantially in the form described below, whenever BPA allows its contractors or other non-federal third parties to exercise BPA's rights under an easement covered by this Agreement.

"To the fullest extent permitted by law, Contractor [authorized third party] shall indemnify, defend (with counsel acceptable to State's Attorney General) and hold harmless the State of Washington, acting by and through the Department of Natural Resources (DNR), its officials, agents and employees, from and against all claims arising out of or resulting from the performance of the Contract [Permit] on DNR-managed lands including but not limited to the use, storage, generation, processing, transportation, handling, disposal, release, or threatened release of any hazardous substance or materials. Contractor's [authorized third party's]

obligation to indemnify, defend, and hold harmless includes any claim by Contractor's [authorized third party's] agents, employees, representatives, or any subcontractor or its employees. "Claim" as used in this agreement means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Contractor [authorized third party] expressly agrees to indemnify, defend, and hold harmless DNR for any claim arising out of or incident to Contractor's [authorized third party's] performance or failure to perform the Contract [Permit]. Contractor's [authorized third party's] obligation to indemnify, defend, and hold harmless DNR shall not be eliminated or reduced by any actual or alleged concurrent negligence of DNR or its agents, agencies, employees and officials. Contractor [authorized third party] waives its immunity under Title 51 RCW (Industrial insurance) to the extent it is required to indemnify, defend and hold harmless DNR and its officials, agents or employees."

Insurance. BPA is a self-funded federal agency that satisfies DNR's insurance requirements. For purposes of this section, "contractor" is defined as any non-federal employees, agents, contractors, licensees, lessees, purchasers of timber or other profits, and their agents, who are authorized by BPA to exercise any of BPA's easement rights.

DNR requires that all contractors obtain liability insurance policies while operating under the authority of any easement on State Lands. BPA shall require all contractors to obtain the same liability insurance policy and to comply with all State of Washington workers' compensation statutes and regulations by incorporating the following or substantially similar language in its contracts or other authorizing instrument:

"The limits of insurance, which may be increased by DNR as deemed necessary, shall not be less than as follows: Commercial General Liability (CGL) insurance with a limit of not less than \$1,000,000 per each occurrence. If such CGL insurance contains aggregate limits, the general aggregate limits shall be at least twice the "each occurrence" limit, and the products-completed operations aggregate limit shall be at least twice the "each occurrence" limit.

Employer's liability ("Stop Gap") insurance, and if necessary, commercial umbrella liability insurance with limits not less than \$1,000,000 each accident for bodily injury by accident or \$1,000,000 each employee for bodily injury by disease.

Business Auto Policy (BAP) insurance, and if necessary, commercial umbrella liability insurance with a limit of not less than \$1,000,000 per accident, with such insurance covering liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later versions of CA 00 01. The [contractor] waives all rights against DNR for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

Contractor shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of the contractor. Except as prohibited by law, contractor waives all rights of subrogation against State for recovery of damages to the extent they are covered by workers compensation, employer's liability, commercial general liability or commercial umbrella liability insurance.

All insurance must be purchased on an occurrence basis and should be issued by companies admitted to do business within the State of Washington and have a rating of A- or better in the most recently published edition of Best's Reports. Any exception shall be reviewed and approved in advance by the Risk Manager for DNR. If an insurer is not admitted, all insurance policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW (Unauthorized insurers) and Chapter 284-15 WAC (Surplus line insurance.)

The State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as an additional insured on all general liability, excess, and umbrella insurance policies. Before using any said rights granted herein, [contractor] shall furnish DNR with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements specified above.

Certificate(s) must reference the Memorandum of Agreement DNR number 92-088448 preferably under the certificate section titled "Description of Operations/Locations/Vehicle".

DNR shall be provided written notice before cancellation or non-renewal of any insurance referred to herein, as prescribed in statute (Chapter 48.18 RCW (The insurance contract) or Chapter 48.15 RCW (Fees and taxes)).

[Contractor] must comply with all insurance requirements stated herein. Failure of [contractor] to comply with insurance requirements does not limit the [contractor's] liability or responsibility.

All insurance provided in compliance with this [contract][other authorizing instrument] shall be primary as to any other insurance or self-insurance programs afforded to or maintained by DNR. [Contractor] shall waive all rights against DNR for recovery of damages to the extent that any claim for damages is covered by [contractor's] general liability or umbrella insurance required by this [contract][authorizing instrument].

By requiring insurance herein, DNR does not represent that coverage and limits will be adequate to protect [contractor] and such coverage and limits shall not limit [contractor's] liability under the indemnities and reimbursements granted to DNR in this [contract][authorizing instrument]."

Administrative Cost Recovery. DNR may recover reasonable costs arising from this Agreement or BPA operations within and outside an existing easement that impacts State Land management resulting in significant administrative time and expenditures of DNR resources (Cost Recovery). Cost Recovery may not include periodic DNR administrative inspections where no management issues are found from BPA activities or DNR actions that facilitate the exercise of DNR's reserved rights such as:

1. Actions taken by DNR in conflict with BPA's easement rights.
2. Non-emergency actions that need to be taken by DNR to maintain winter log hauling activities on Joint Use Roads.
3. Non-emergency actions taken by DNR without notification when required by this Agreement.

4. Noxious weed control that exceeds county weed board requirements.

Examples of activities for Cost Recovery may include but are not limited to the implementation of mitigation actions and the resolution of:

1. Violations of Federal law, or the DNR HCP applicable to BPA operational activities.
2. Issues related to BPA's non-compliance with the terms and conditions of easements including acts and omissions.
3. Issues related to BPA's operational mandates from new electrical, clearing or safety standards affecting DNR land management obligations.
4. Consultations where both Parties' representatives, such as realty specialists, engineers, biologists, timber managers meet to resolve significant issues caused by BPA acts or omissions.
5. Remedial or emergency actions taken by DNR when time is of the essence to further avoid property or resource damage, or other liability (subject to notification to BPA within forty-eight (48) hours after the remedial action). Remedial action will not exceed what is necessary to mitigate the immediate harm.

Cost Recovery includes but is not limited to actual costs for personnel, contractors, consultants, goods, lodging, per diem, and transportation. Cost Recovery is not intended to compensate DNR for participating in dispute resolution.

DNR shall submit a claim for costs already incurred or, when time permits, a notice of claim for a potential Cost Recovery to BPA describing the reasons for the claim including a reasonably detailed itemized list of expected actions and an estimate of costs.

Upon receipt of the Cost Recovery claim or notice of claim, BPA shall respond in a timely manner by:

1. Identifying any additional information needed.
2. Identifying procedures and associated time schedules that will be taken to complete the Cost Recovery process.
3. Proposing alternatives to the Cost Recovery claim, if appropriate.
4. Providing an explanation if the Cost Recovery claim is denied in part or in whole.

DNR may initiate the Dispute Resolution Process in this Agreement if the Cost Recovery claim is denied by BPA in part or in whole.

Cooperation

Coordination Meetings. The Parties agree to schedule meetings annually for roads and on an as-needed basis for other issues, either in person or by teleconference, to resolve concerns and to

implement and update this Agreement. Either Party may request, organize and schedule a meeting. Meetings may occur at different levels of responsibility as outlined below.

Executive Level. These meetings are on an as needed basis and typically address statewide issues and relationships. The meetings are intended to address management or administrative issues that impact the Parties' respective rights and obligations. These meetings may result in amendments to the Agreement, agency procedures or coordination with other agencies. Executive managers will typically initiate these meetings.

Mid-manager Level. These meetings are initiated on an as needed basis to support resolution of operational level issues that may affect more than one Region, Division or District. These meetings are usually jointly initiated at the manager level.

Operational Level. These meetings are scheduled annually or on an as needed basis. The meetings are intended to jointly plan and coordinate activities, report on completed and active projects, reconcile accounts and share information. Of particular importance are road and capital projects. DNR Region Engineers, DNR Region Rights-of-way Specialists, BPA Access Road Engineer and BPA Natural Resource Specialists schedule these meetings. Because the Parties are not organized similarly by geography or organizational responsibilities, the Parties will encourage efficiency by meeting with representatives from all affected organizational units when a project or concern involves multiple organizational units or to plan multiple projects associated with specific funding. These meetings may also be informal or driven by necessity to address emergent or emergency needs. Annual meetings concerning roads should be scheduled for February to ensure coordination of spring and summer activities.

Discussion topics for road meetings may include but are not limited to:

- Review access road work requests,
- Needed road crossings,
- DNR- maintained road crossings,
- A list of roads to be abandoned,
- Authorized public use concerns,
- Unauthorized use concerns,
- Weed control issues,
- Safety concerns,
- BPA and DNR accomplishments, and
- Planned projects for the upcoming year

Meeting Responsibilities. The Parties will designate one person (Lead) to take responsibility for organizing, scheduling and facilitating meetings. The Lead will ensure an agenda representing both Parties' issues is prepared and distributed to all appropriate representatives in advance of the meeting. The Lead will locate and schedule a central meeting location, provide a note-taker and facilitate the meeting. The Lead will ensure that notes are taken and distributed to the Parties for review and approval within one week of the meeting. The meeting notes will include the date, location, attendees, summary of each issue or project discussed at the meeting, status of each issue or project, responsibilities agreed upon by the attendees and deadlines.

On-site Meetings. On-site meetings are Operational Level meetings called to quickly resolve a site-specific problem. Each on-site meeting will result in informal conference notes that include

the date, location, attendees, summary of each issue or project discussed at the meeting, status of each issue or project, responsibilities agreed upon by the attendees and deadlines. The Lead will ensure that notes are taken and distributed to the Parties for review and approval within one week of the meeting.

Meetings with Other Agencies. The Parties may invite other agencies to provide input on an issue. These agencies may be responsible for regulating one or both Parties. The Parties agree to attend meetings with other agencies when requested subject to reasonable notice. Each meeting will include the creation of informal conference notes, if more formal notes are not issued by the other agency, that include the date, location, attendees, summary of each issue or project discussed at the meeting, status of each issue or project, responsibilities agreed upon by the attendees and deadlines. The Lead will ensure that notes are taken and distributed to the Parties for review and approval within one week of the meeting.

Research. The Parties will share and work collaboratively on mutually beneficial research associated with an integrated approach to the management of vegetation on BPA transmission line easements. Such research may evaluate the effectiveness of treatments, low growing vegetation compatible with the Parties' needs, integration of native forage for increased gathering opportunities, and other opportunities as the Parties deem appropriate.

Notification. Notifications assist the Parties in meeting the terms of this Agreement. Where practicable, notifications will provide sufficient time to ensure cooperation and to proactively respond to any potential conflicts with their management activities. Notices should contain an adequate description of the area impacted to allow the receiving Party to locate the area without additional information.

Any notices (excluding NEPA and SEPA notices) referenced in this Agreement shall be in writing and may be delivered personally, e-mailed with acknowledgement of receipt from recipient, or mailed first class return receipt requested. Informal notices may be through phone, email or personal contact. When time is of the essence and the required notification is not practical, a Party may provide informal notice to the appropriate representative(s) of the other Party followed by notification as soon as possible.

DNR and BPA shall provide notice to the applicable contacts (representatives) identified in Exhibit D (Contacts for Notifications) attached to this Agreement.

BPA shall notify DNR prior to conducting any planned, non-emergency, ground disturbing or vegetation management activities.

DNR shall notify BPA prior to conducting any operational, maintenance or land management activities that have the potential to impact BPA easements or facilities. Examples include:

- Timber sales,
- When DNR trust land is designated as a NAP or a NRCA,
- New leases when the prior land use changes,
- Changes resulting in a significant increase in public use of State Lands, and
- Significant changes in the management of a NAP or NRCA.

Notifications regarding activities that impact specific areas of land shall include sufficient information to allow easy identification of the site by utilizing the GIS database, such as an

orthophoto map indicating the location of the planned activity. After notification and upon request from the notifying Party, the other Party shall identify and provide information on any active or planned land management or transmission line activities that may potentially impact or conflict with the activity described in the notice, road and gate access to be used, and appropriate contacts.

Both Parties shall review any notifications provided under the Agreement to ensure the appropriate representatives of each Party have been included. The Parties will work together to improve notification processes when problems are identified.

NEPA and SEPA notices shall follow the process designated by law.

Dispute Resolution. The Parties shall use their best efforts and good faith to resolve all disputes arising from this Agreement or any BPA easement on State Lands at the lowest level. In the event field representatives of the Parties are unable to resolve a dispute, the Parties may invoke the following process:

1. **Dispute Notice.** The Party disputing the outcome may invoke the dispute resolution process by sending a dispute notice (Dispute Notice) to the Party contacts identified in Exhibit D (Contacts for Notification). The Dispute Notice shall include a statement of the dispute along with supporting documentation and proposed resolution.
2. **Dispute Response.** The other Party has thirty (30) calendar days from receipt of the Dispute Notice to respond (Dispute Response). The Dispute Response shall include either an acceptance of the proposed resolution or an alternative resolution along with supporting documentation. The Dispute Response shall include a proposed location and meeting date which shall be within thirty (30) days of the Dispute Response (Dispute Meeting).
3. **Dispute Meeting.** The Parties shall meet to resolve the dispute in whole or in part. The Parties shall memorialize the Dispute Meeting in writing using the Record of Dispute Resolution Form attached as Exhibit G.
4. **Designated Representatives.** In the event the Parties are unable to resolve the dispute using this process, the representatives designated below shall meet within sixty (60) days to resolve the dispute (Designated Representatives).

BPA: Vice-President, Transmission Services
Bonneville Power Administration
P.O. 491, T-DITT-2
Vancouver, WA 98666-0491
360.418.2122

DNR: Department Supervisor
Washington State Department of Natural Resources
P.O. Box 47001
Olympia, WA 98504-7001
360.902.1000

5. **Executive Process.** In the event the Designated Representatives are unable to resolve the dispute, the Administrator for BPA and the Commissioner of Public Lands for DNR shall

meet within sixty (60) days to resolve the dispute. This process does not preclude the exercise of other legal rights by DNR or BPA including claims in an appropriate federal court.

GIS Data Sharing. DNR and BPA mutually benefit from keeping their shared electronic Geographic Information System (GIS) data current. Providing updated information to one another on a regular basis ensures both Parties have, to the extent practicable, current information to make informed management decisions. Though the Parties will use their best efforts to ensure the accuracy of GIS data, neither Party warrants nor guarantees the accuracy or reliability of its data. The following data layers shall be updated and shared by the Parties on an annual or more frequent basis, subject to their availability:

- DNR Regions (CADASTRE.REGION_SV),
- DNR Hydro (ROPA.WCHYDRO, ROPA.WBHYDRO),
- DNR State Land Forest Roads (ROPA.ROAD),
- DNR HCP Lands (ROPA.HCP_LANDS),
- DNR NAPs & NRCAs (CADASTRE.FW_JURISDICTION_SV),
- DNR Managed (Surface) Lands (ROPA.PARCEL_SV),
- DNR Facilities (state_wkctrs_2008),
- DNR Geologic Hazard Information,
- BPA Acquired Access Roads,
- BPA Transmission Lines And Towers, and
- BPA Right-of-way Corridors.

Access to Washington Natural Heritage Program (WNHP) data is not addressed under this Agreement because BPA purchases access to WNHP GIS data on an annual basis.

Other Commitments

Survey Markers. BPA shall not destroy any land survey corner monuments and/or reference points (including but not limited to corner markers, witness objects, or line markers) without prior written approval from DNR, which shall not be unreasonably withheld. Monuments or reference points that must necessarily be disturbed or destroyed during road construction or maintenance activities must be adequately referenced and replaced, at BPA's cost, under the direction of a Professional Land Survey or licensed in Washington, in accordance with all applicable state law in effect at the time of construction, including but not limited to RCW 58.24, and all DNR regulations pertaining to preservation of such monuments and reference points.

Forest Practices. Forest practices activities, regulated under Title 222 WAC (Forest Practices Board), govern forest and forest road management for non-federal land owners in Washington State. BPA, as a federal agency, is not required to obtain a Forest Practices Permit or consult with DNR Forest Practices for any of its operations including the felling of danger trees. However, when BPA fells danger trees outside of its easement area on land regulated by DNR Forest Practices, the landowner may have a Forest Practices obligation.

BPA shall include information in landowner notification letters for danger tree felling that specifically states the landowner may have a Forest Practices Permit obligation. DNR's Forest Practices Program and BPA staff shall jointly develop content for the notification letter.

BPA shall notify DNR's Forest Practices Division of annual or individual danger tree removal plans on lands regulated by DNR Forest Practices. The Forest Practices Division notification should be sent to the appropriate DNR designee referenced in the Notification section.

Requirements for Future BPA Easements. BPA agrees that the following sections from this Agreement provide guidance for the development of future easements and agreements between the Parties: Danger Trees, Noxious Weed Control and Management, Herbicide Use, Herbicide Use Around Water, Livestock, Fences, Roads, Waste, Clean Water Act, Fire Prevention, Third Party Use, Damages, Tort Liability, Hold Harmless and Indemnification, Insurance, Administrative Cost Recovery, Dispute Resolution and Survey Markers. As a matter of process, BPA agrees to use the above referenced sections as a starting point or first draft for future easement templates.

Implementation

The following chart is intended to identify some of the actions required by this Agreement that cannot be implemented immediately upon execution of the Agreement along with time lines to complete such actions.

Section/Action	Target Completion Date	Specifics to address	Agency Contacts (lead agency in bold)
Fording Streams/Identify road fords on type F streams and remedy the crossing as appropriate	Identification 05/31/2012 Remediation 03/30/2015	<ul style="list-style-type: none"> • BPA will identify forded streams on State Lands • BPA will provide remedies, if needed to harden the ford, replace the crossing with a structure, or abandon the crossing. 	DNR-Engineering Assistant Division Manager for Forest Roads, Alex Nagygyor, 360.902.1162 BPA- Access Road Manager, Todd Nicholson, 360.619.6525
GIS Data Sharing/Establish GIS data protocols	6/30/2012	<ul style="list-style-type: none"> • Establish GIS data sharing frequency and content 	DNR- Forest Resources and Conservation Division, Data Steward for Forest Resources, Eric Aubert, 360.902.1377 BPA- Lead Geographer Doug Wittren, 360.619.6606

Section/Action	Target Completion Date	Specifics to address	Agency Contacts (lead agency in bold)
Classification of Roads/Identification of Joint and Sole Use Roads	12/31/2012	<ul style="list-style-type: none"> • Identify Joint and Sole Use Roads on all State Lands • Create shared GIS database • Update Forest Practices for road with federal jurisdiction applied 	<p>DNR-Engineering Assistant Division Manager for Forest Roads, Alex Nagygyor, 360.902.1162</p> <p>DNR-Forest Practices Assistant Division Manager for Operations, Donelle Mahan, 360.902.1396</p> <p>BPA-Vegetation and Access Road Manager, Chuck Sheppard, 360.418.2786</p>
Requirements for Future BPA Easements/Inclusion of DNR insurance, indemnification, and tort liability requirements in BPA contracts	12/31/2012	<ul style="list-style-type: none"> • Include insurance, indemnification and tort liability requirements as agreed for all contractors that operate on State Lands 	<p>DNR- Asset and Property Management Division, Rights-of-way Program Manager, Janet Ballew, 360.902.1685</p> <p>BPA-Vegetation and Access Road Manager, Chuck Sheppard, 360.418.2786</p>
Road Responsibilities/Road maintenance payment agreement	12/31/2012	<ul style="list-style-type: none"> • Road agreement that allows BPA to make its annual maintenance payment. 	<p>DNR-Engineering Assistant Division Manager for Forest Roads, Alex Nagygyor, 360.902.1162</p> <p>BPA-Vegetation and Access Road Manager, Chuck Sheppard, 360.418.2786</p>

Section/Action	Target Completion Date	Specifics to address	Agency Contacts (lead agency in bold)
Unauthorized Use and Access/Unauthorized use of easement areas	12/31/2012	<ul style="list-style-type: none"> • Identification of high problem areas • Plan to control or mitigate problems at identified sites • Implementation for increased gates 	<p>DNR-Asset and Property Management Assistant Division Manager for Recreation, Mark Mauren, 360.902.1407</p> <p>BPA-Vegetation and Access Road Manager, Richard Heredia, 360.619.6398</p>
Special Lands/Special Lands Agreements	12/31/2013	<ul style="list-style-type: none"> • Execute the individual vegetation management agreements or develop schedules for completing these agreements for each of the eight Natural Areas. 	<p>DNR- Asset and Property Management Assistant Division Manager for Natural Areas and Heritage, Pene Speaks, 360.902.1916</p> <p>BPA-Vegetation and Access Road Manager, Chuck Sheppard, 360.418.2786</p>
Vegetation Clearance Near Structures/Update leases	12/31/2014 and as leases expire	<ul style="list-style-type: none"> • Includes updating DNR leases to reserve 50' from structures 	<p>DNR- Asset and Property Management Division, Leasing Program Manager, Pat Ryan, 360.902.1873</p> <p>BPA- Vegetation and Access Road Manager, Chuck Sheppard, 360.418.2786</p>

General Provisions

Effective Date. The Effective Date of this Agreement shall be the date on which the last Party executes this Agreement. The Effective Date will be inserted on the fifth page of the Agreement when such date is determined.

Exhibits. All exhibits referenced in this Agreement are incorporated as part of the Agreement.

Headings. The headings in this Agreement are for convenience only, and are not intended to, and shall not be construed to, limit, enlarge, or affect the scope or intent of this Agreement nor the meaning of any of its provisions.

Amendments. This Agreement may be amended by mutual agreement of the Parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the Parties. When there is a substantial change in statutes or regulations that interfere with the Parties' ability to comply with this Agreement, the Parties will negotiate in good faith an amendment to this Agreement.

Waiver. A failure by either Party to exercise its rights under this Agreement shall not preclude that Party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement. Waiver of any default or breach shall not be deemed to be a waiver of any subsequent default or breach. Any waiver shall not be construed to be a modification of the terms of this Agreement unless stated to be such in writing and signed by personnel authorized to bind each of the Parties.

References. All references in this Agreement to statutes, rules, regulations, guidelines, manuals, standards, HCP, best practices, Environmental Impact Statements, etc. (individually referred to as "Reference" and collectively referred to as "References") are intended to apply to the References as written or hereafter amended. If a Reference no longer exists or is substantially modified, the Parties will mutually agree upon a substitute Reference or terms as necessary to implement this Agreement. Until the Parties adopt a substitute Reference or terms, the Reference that existed upon the Effective Date of this Agreement will govern, unless there is a change in law or regulation.

Severability. If any term or condition of this Agreement is held invalid, such invalidity shall not affect the validity of the other terms or conditions of this Agreement.

Billing and Payment. When BPA is required to pay DNR under this Agreement, DNR shall use its standard billing practices and invoice BPA with reference to the DNR Easement number and BPA Lead Tract Number. The invoice shall include an explanation for the billing, how the costs were calculated and any supporting documentation. BPA shall pay DNR in accordance with the Prompt Payment Act (P.L. 97-177). DNR will follow the Cost Recovery process when applicable. When DNR is required to pay BPA under this Agreement, BPA shall use its standard billing practices and invoice DNR with reference to the DNR Easement number and BPA Lead Tract Number. The invoice shall include an explanation for the billing, how the costs were calculated and any supporting documentation. DNR shall pay BPA within thirty (30) days of receipt of a properly documented invoice.

No Third Party Rights or Liabilities. This Agreement does not create any third party rights or liabilities.

All Writings Contained Herein. This Agreement contains all the terms and conditions agreed upon by the Parties. No other understanding, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind any of the Parties hereto.

IN WITNESS WHEREOF, the Parties have executed this Agreement.

BONNEVILLE POWER ADMINISTRATION,
DEPARTMENT OF ENERGY, UNITED STATES OF
AMERICA

Dated: 3/08, 2012



Stephen J. Wright

Administrator and CEO
P.O. Box 3621
Portland, OR 97208-3621

503.230.3000

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Dated: 3/16, 2012


Peter Goldmark

Commissioner of Public Lands
1111 Washington St. SE
Olympia, WA 98504-7001

360.902.1000

Seal of Commissioner of Public Lands

Approved as to Form this 17th day of
February, 2012 by
Michael J. Rollinger
Assistant Attorney General
State of Washington

Exhibit A: Access Road Work Request

BPA F 8630.01e
(02-07)
Page 1

U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

Electronic Form
Approved by
Forms Mgmt. 02/06/2007

ACCESS ROAD WORK REQUEST

Submit all planned access road requests on this form. Fill-in and check all applicable information pertaining to your access road request, submit to your regional coordinator for review. The regional coordinator will send an electronic copy¹ to the Access Road Project Manager – (Katie Rodd, TF-DOB-1).

REGION	LINE OPERATING NAME	
INITIATED BY	PROJECT LOCATION (Mile/Structure)	ESTIMATED LENGTH OF ROAD WORK
ROUTING	MAINTENANCE REQUEST FOR: <input type="checkbox"/> On R/W <input type="checkbox"/> Off R/W	ESTIMATED PROJECT COST & Type of Estimate (Field, TOE, Pre-Bid)
PHONE NUMBER	REQUESTED ACTION <input type="checkbox"/> New Road <input type="checkbox"/> Existing Road <input type="checkbox"/> Road Relocation	
DATE SUBMITTED	Regional PRIORITY	TRACKING NUMBER

DESCRIPTION OF REQUESTED ACTION (Check all that apply)

<p>ROAD MAINTENANCE NEEDS (identified work to maintain road at original design characteristics).</p> <p><input type="checkbox"/> General Maintenance (blade-shape-additional surface material)</p> <p><input type="checkbox"/> Road Drainage (culver, water-bars, side ditches)</p> <p><input type="checkbox"/> Road Stream Crossing (culver, bridge) (e.g., in-kind replacement)</p> <p>ROAD CONSTRUCTION NEEDS (identified work to construct new roads, improve roads beyond existing design standards, or repair catastrophic failures).</p> <p><input type="checkbox"/> Road Construction or Improvement (New Alignment, Re-Alignments, or Widening).</p> <p><input type="checkbox"/> Road Stabilization or Slide Repair</p> <p><input type="checkbox"/> Road Stream Crossing needs (culvert, bridge)(e.g. exceeding original design, major structural improvement, or replacement for catastrophic loss).</p> <p>Other Road needs (briefly describe):</p>	<p>ROAD ACQUISITION NEEDS</p> <p><input type="checkbox"/> Acquisition only, no construction</p> <p><input type="checkbox"/> Acquisition with construction (only capital projects)</p> <p><input type="checkbox"/> Release Rights to Road # _____</p> <p>Is on-ROW access available? YES <input type="checkbox"/> NO <input type="checkbox"/></p> <p>If road is being used without legal rights describe historical use and landowner agreement in the "Request Narrative".</p> <hr/> <p>Who Contacted Landowner and date of last contact:</p> <hr/> <p>Contact information of apparent Landowner (Name, address & Phone No.)</p> <p>1) _____</p> <p>2) _____</p> <p>3) _____</p> <hr/> <p>Line Design Name and Map Serial Number</p>
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Describe alternative routes of access that were considered in conjunction with this request.

¹ When forms have non-electronic attachments, send a hardcopy of this form and attachment in addition to the electronic form

OFFICIAL USE ONLY

Exhibit B: Culvert Spreadsheet

Crossing	DNR Region	Line Name	Towers	Twp-Rge-Sec
Oly-1	Olympic	PA-Sappho	20/4-20/5	T31N R5W-34
Oly-2	Olympic	Famt-PA	8/5-8/6	T29N R3W-11
Oly-3	Olympic	Shlt-Famt	54/4-54/3	T28N R1W-30
Oly-4	Olympic	Famt-PA	5/3-5/4	T29N R2W-20
Oly-5	Olympic	Shelt-Famt	48/2-48/3	T27N R2W-25
Oly-6	Olympic	Shelt-Famt	46/9-47/1	T27N R2W-36
SP-1	South Puget	RKYR-MPLV	100/1-100/2	T23N R9E-34
SP-2	South Puget	RKYR-MPLV	100/4-101/1	T23N R9E-27
SP-3	South Puget	RKYR-MPLV	111/3-111/4	T23N R7E-12
SP-4	South Puget	RKYR-MPLV	112/4-112/5	T23N R7E-11
SP-5	South Puget	RKYR-MPLV	118/2-118/3	T23N R7E-11
SP-6	South Puget	RKYR-MPLV	113/2-113/3	T23N R7E-11
SP-7	South Puget	RKYR-MPLV	115/3-115/4	T23N R7E-21
SP-8	South Puget	RKYR-MPLV	118/2-118/3	T23N R7E-30
SP-9	South Puget	SCH-RAV	64/4-65/1	T21N R8E-25
SP-10	South Puget	SCH-RAV	63/2-63/3	T21N R9E-31
SP-11	South Puget	SCH-RAV	63/2-63/3	T21N R9E-31
SP-12	South Puget	SCH-RAV	60/4-61/1	T20N R9E-4
SP-13	South Puget	SCH-RAV	60/3-60/4	T20N R9E-3
SP-14	South Puget	SCH-RAV	59/5-60/1	T20N R9E-10
SP-15	South Puget	Oly-Gcoul	65/4-65/3	T20N R8E-15
NW-1	Northwest	Mon-Cust	58/3-58/4	T36N R5E-7
NW-2	Northwest	Mury-Cust	56/4-56/5	T36N R5E-18
NW-3	Northwest	Mon-Cust	53/5-53/6	T36N R5E-32

Crossing	DNR Region	Line Name	Towers	Twp-Rge-Sec
NW-4	Northwest	Mury-Cust	22/1-22/2	T34N R5E-17
NW-5	Northwest	Mon-Cust	13/2-13/3	T29N R6E-16
NW-6	Northwest	ChJo-Mone	113/2-113/1	T28N R8E-36
NW-7	Northwest	ChJo-Mone	113/2-113/1	T29N R9E-31
NW-8	Northwest	ChJo-Mone	112/6-113/1	T28N R9E-31
NW-9	Northwest	ChJo-Mone	107/2-107/3	T27N R9E-13
PC-1	Pacific Cascade	Nbonn-Ross	15/1-15/2	T2N R6E-9
PC-2	Pacific Cascade	Nbonn-Ross	12/5-12-6	T3N R8E-16
PC-3	Pacific Cascade	MCNY-ROSS	132/1-132/2	T2N R5E-11
PC-4	Pacific Cascade	Nbonn-Ross	148/1-148/2	T2N R5E-18
SE-1	Southeast	Grand Coulee- Shultz No.1	81/1	T20N R21E-16

Exhibit C: HCP Lands

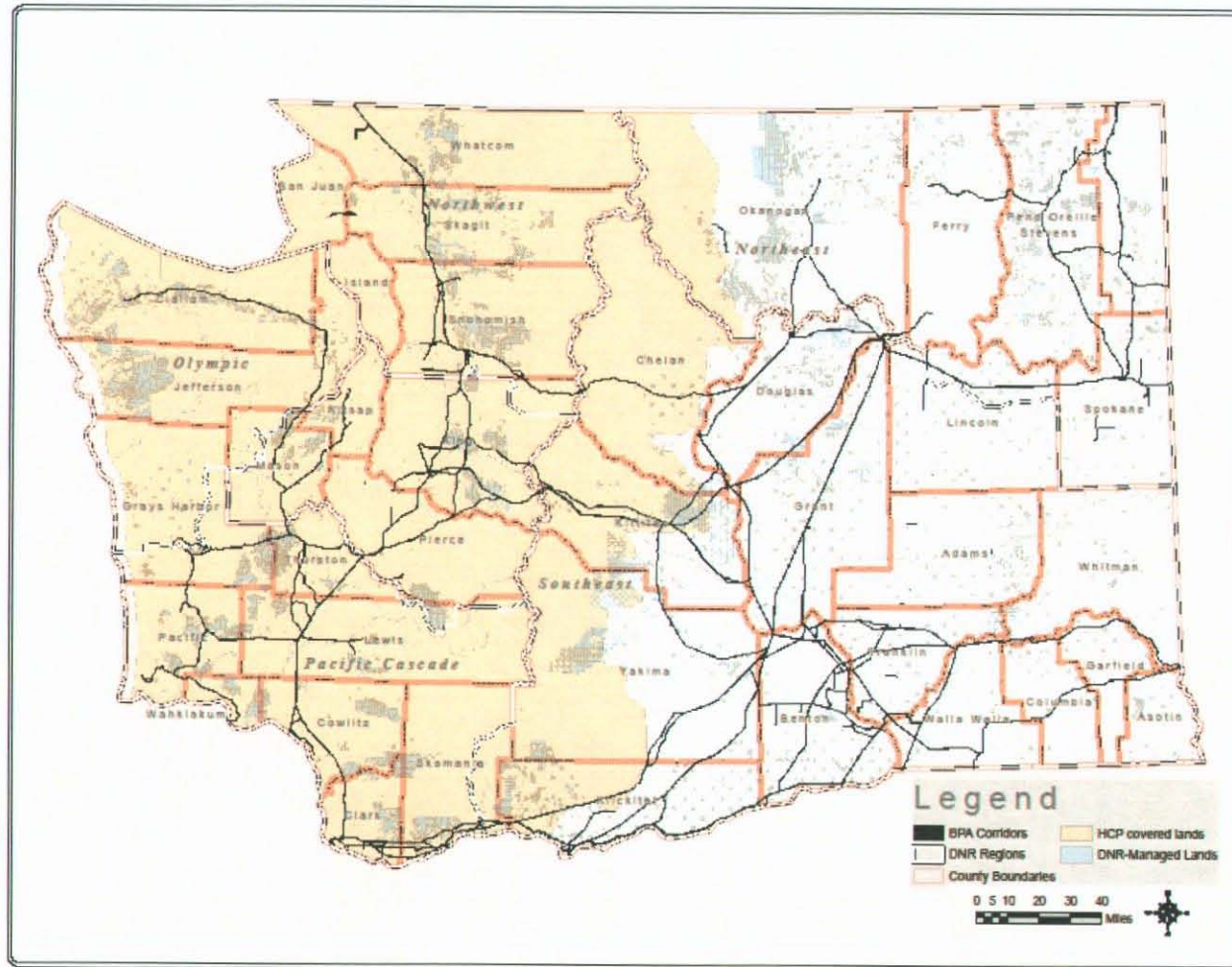


Exhibit D: Contacts for Notifications

Notification Category	BPA official	DNR official	Remarks
Dispute Resolution	Vice President Transmission Services Bonneville Power Administration P.O. Box 491, T-DITT-2 Vancouver, WA 98666-0491 (360) 418-2122	Department Supervisor Washington Department of Natural Resources 1111 Washington St. SE PO Box 47001 Olympia, WA 98504-7001 (360) 902-1000	
SEPA or NEPA Notifications	Manager Pollution Prevention Joseph Sharpe Bonneville Power Administration 905 N.E. 11th Ave, MS-KEP-4 Portland, OR 97237	Environmental Review and Legal Affairs Manager Washington Department of Natural Resources 1111 Washington St. SE PO Box 47015 Olympia, WA 98504-7015 (360) 902-1600	
Natural Area Preserves, Natural Resource Conservation Areas, Special Use	Manager Pollution Prevention Joseph Sharpe Bonneville Power Administration 905 N.E. 11th Ave, MS-KEP-4 Portland, OR 97237	Natural Areas and Heritage Manager Washington Department of Natural Resources 1111 Washington St. SE PO Box 47016 Olympia, WA 98504-7016 (360) 902-1600	

Notification Category	BPA official	DNR official	Remarks
Uplands Management-leases, easement questions and correspondence, vegetation management, danger trees	Supervisory Realty Specialists Marian Wolcott 905 N.E. 11th Ave, MS-TER-3 Portland, OR 97237	Send to the appropriate Region office titled to "State Lands Assistant Region Manager" With a copy to: Rights-of-way Program Manager Washington Department of Natural Resources 1111 Washington St. SE PO Box 47014 Olympia, WA 98504-7014 (360) 902-1600	
Aquatic Lands	Supervisory Realty Specialists Marian Wolcott 905 N.E. 11th Ave, MS-TER-3 Portland, OR 97237	Send to the appropriate Region office titled to "State lands Assistant Region Manager" With a copy to: Environmental Review Coordinator- Aquatic Division Washington Department of Natural Resources 1111 Washington St. SE PO Box 47014 Olympia, WA 98504-7014 (360) 902-1100	
Forest Practices	Supervisory Realty Specialists Marian Wolcott 905 N.E. 11th Ave, MS-TER-3 Portland, OR 97237	Send to the appropriate Region Office titled to "Resource Protection Assistant Region Manager"	Any time work is occurring outside of the right-of-way for danger tree removal or applying herbicides

Notification Category	BPA official	DNR official	Remarks
Access Roads	Supervisory Civil Engineer James Burges 7600 NE 41st Street, MS-TERG TPP-4 Vancouver, WA 98662	Send to the appropriate Region office titled to "State lands Assistant Region Manager"	
Southeast Region	Supervisory Natural Resource Specialist/District Natural Resource Specialists Charles Sheppard 5411 NE Highway 99, MS- DOB1 Vancouver, WA 98666	Washington Department of Natural Resources 713 Bowers Road Ellensburg, WA 98926-9301 (509) 925-8510	For operations in the Region
Northeast Region	Supervisory Natural Resource Specialist/District Natural Resource Specialists Charles Sheppard 5411 NE Highway 99, MS- DOB1 Vancouver, WA 98666	Washington Department of Natural Resources 225 S. Silke Road Colville, WA 99114-9369 (509) 684-7474	For operations in the Region
Northwest Region	Supervisory Natural Resource Specialist/District Natural Resource Specialists Charles Sheppard 5411 NE Highway 99, MS- DOB1 Vancouver, WA 98666	Washington Department of Natural Resources 919 N. Township St Sedro Woolley, WA 98284 (360) 856-3500	For operations in the Region

Notification Category	BPA official	DNR official	Remarks
Olympic Region	Supervisory Natural Resource Specialist/District Natural Resource Specialists Charles Sheppard 5411 NE Highway 99, MS- DOB1 Vancouver, WA 98666	Washington Department of Natural Resources 411 Tillicum Lane Forks, WA 98331 (360) 374-2800	For operations in the Region
Pacific Cascade Region	Supervisory Natural Resource Specialist/District Natural Resource Specialists Charles Sheppard 5411 NE Highway 99, MS- DOB1 Vancouver, WA 98666	Washington Department of Natural Resources 601 Bond Road P.O Box 280 Castle Rock, WA 98611-0280 (360) 577-2025	For operations in the Region
South Puget Region	Supervisory Natural Resource Specialist/District Natural Resource Specialists	Washington Department of Natural Resources 950 Farman Ave N Enumclaw, WA 98022	For operations in the Region

Exhibit E: Annual DNR Fire Contact Sheet

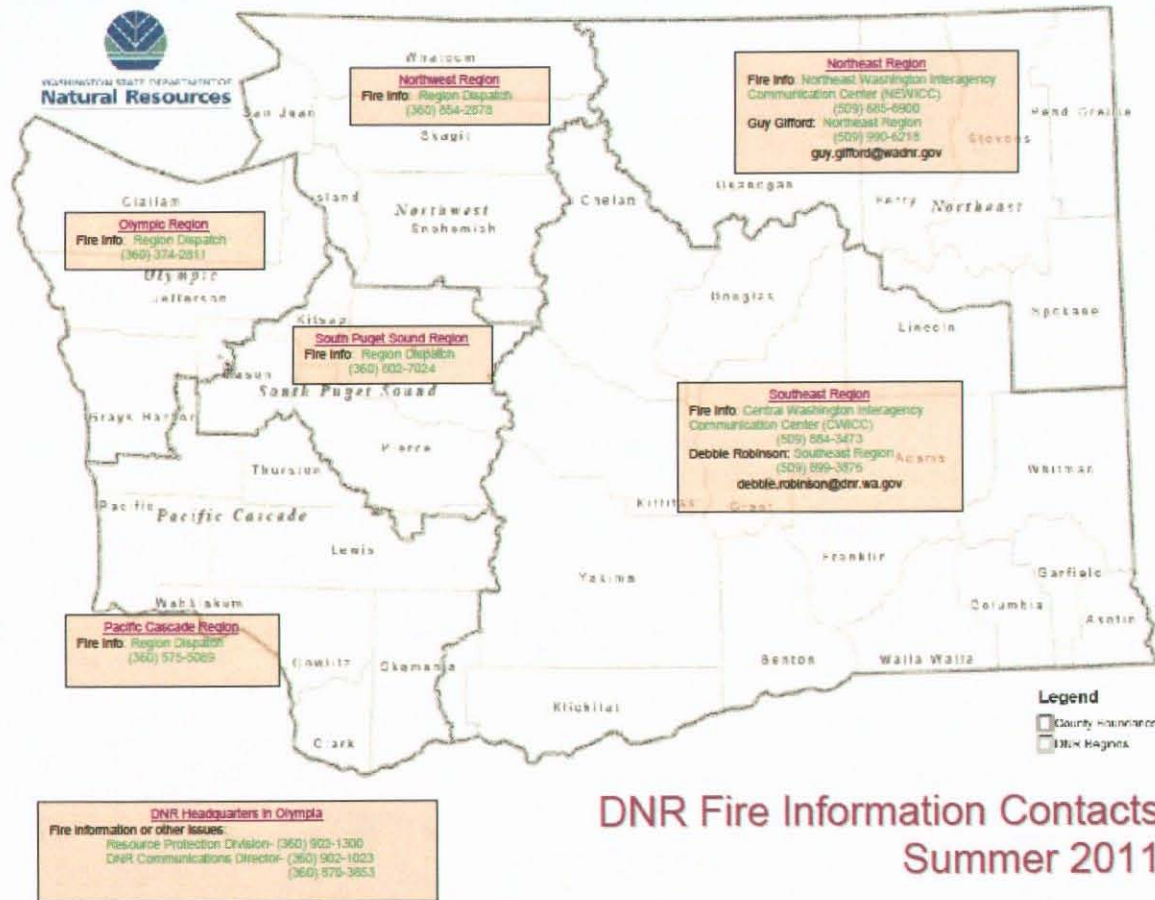


Exhibit F: Vegetation Management Agreement

AFTER RECORDING, RETURN TO
Bonneville Power Administration
TERR-3
P.O. BOX 3621
PORTLAND, OR 97208-3621

VEGETATION AGREEMENT

Case Number:

Grantor(s): USA, Bonneville Power Administration and Washington State Department of Natural Resources
Grantee(s): USA, Bonneville Power Administration and Washington State Department of Natural Resources
Legal Description:
Assessor's Property Tax Parcel or Account Number:
Cross Reference:

DNR File No.:
BPA Tract No.:

This Vegetation Agreement (Agreement) is made by and between the STATE OF WASHINGTON, acting by and through the Department of Natural Resources (State), and THE UNITED STATES OF AMERICA, acting through the Department of Energy, Bonneville Power Administration (BPA), collectively referred to as the "Parties."

I. RECITALS

1. State owns _____
2. By virtue of that easement between State and BPA dated _____, and recorded in _____ County under AFN _____ on _____, BPA has a perpetual easement for (insert easement purpose) _____ across (insert legal description) in _____ County, Washington, hereafter "Easement Area."
3. The Easement Area is a portion of BPA Tract Number _____
4. BPA has erected and operates a transmission line within the Easement Area (referred to as "Transmission Line") as shown on Exhibit A.
5. Vegetation that grows too close to a high-voltage transmission line can create cascading electrical power outages leaving millions of people without power. Vegetation can also create a public safety hazard. Vegetation does not have to touch power lines to be dangerous. In the case of high-voltage transmission lines, if circumstances are right, electricity can jump or arc between wires and vegetation or other objects connected to the ground that are up to 15 feet away. If electricity flows through vegetation to the ground, that vegetation essentially becomes "electrified", and anyone who touches it can be seriously injured or even killed.
6. The North American Electric Reliability Corporation (a national regulatory body that oversees reliability of the U.S. power grids) requires BPA to maintain and comply with specific standards for managing vegetation under or adjacent to its electric transmission lines. BPA developed vegetation clearance standards as required by NERC and WECC. These standards require that the vegetation under and adjacent to BPA's high-voltage transmission lines must be managed to keep clear a distance of 25 feet between the lowest point that the high-voltage transmission lines will sag (the point of maximum sag) and swing under extreme conditions so that the closest point of the vegetation to the transmission lines will always be greater than 25 feet (vegetation clearance requirement). When power lines carry more electric load, they normally heat up, which causes the wire to

expand and sag. In the summer, for example, when the air is hot and customers demand for electricity is high, lines can sag several feet lower than at other times of the year.

7. The Vegetation Agreement Area as shown on Exhibit A, attached to this document and made a part hereof, is the same geographic area as the Easement Area. There are roads within the Vegetation Agreement Area, as shown on Exhibit A, that are used by one or both parties, hereafter "Spur Roads.

Now therefore the parties agree as follows:

II. GENERAL PROVISIONS

1. This Agreement covers the Vegetation Agreement Area as shown on Exhibit A.
2. BPA's vegetation clearance requirement is determined by a variety of factors and influences (e.g., operational conditions, BPA standards as well as national reliability and safety standards, physical attributes associated with the transmission facilities or the right-of-way, etc.). If future changes to any of these factors result in a modification to the vegetation clearance requirement and thus require changes to the height of vegetation prescribed in Section III. ___ of this Agreement, BPA may unilaterally modify this Agreement subject to the payment of compensation to State as set forth in Section IV.2 below if the modification causes damages. Such modification will be in writing. In the alternative, either State or BPA may elect to terminate this Agreement. Should either party elect to terminate this Agreement, BPA shall compensate State for any damages caused by such termination in accordance with Section IV.2 below.
3. The vegetation authorized by this Agreement is limited to (insert use of easement area) "(insert name of use)" as described on Exhibit A. The (name of use) does not include areas required to be kept clear of vegetation as identified under Section III. ___ and Spur Roads.
4. State, may elect to terminate this Agreement at any time, for any reason.
5. Failure by BPA to take corrective measures, when the vegetation has exceeded the heights specified under Section III. ___, shall not waive BPA's ability to take any vegetation management actions it considers necessary at some later date in the future.
6. This Agreement shall be assignable by State and their successors in interest subject to thirty (30) days written notice to BPA, such notice to contain the name, address and phone number of the assignee, and use of an assignment and assumption agreement substantially in the form attached hereto as Exhibit B. State shall provide copies of the assignment and assumption agreement within five (5) business days of the effective date of such agreement.
7. In the event that damages are caused by events, persons or other entities outside the scope of this Agreement, each Party shall be responsible for their proportional share of the damages. In the event that the Parties cannot agree to their proportional share of the damages, the Parties agree to utilize the Dispute Resolution Process attached as Exhibit C. The Dispute Resolution Process shall not apply to material breaches referenced in Section ___.

III. STATE'S 'S RESPONSIBILITIES

State shall:

(Describe vegetation clearance requirements including height restrictions.)

IV. BPA'S RESPONSIBILITIES

BPA shall:

1. Provide thirty (30) days written prior notification to State of any construction or changes to its facilities or changes to reliability or safety standards that require modification or termination of this Agreement. This 30 day notification does not apply to incidents involving threats to public safety or transmission system reliability or to non-ground disturbing routine maintenance activities or inspections. However, BPA shall notify State within

fourteen (14) days after taking actions involving threats to public safety or transmission system reliability if that action disturbs the ground or vineyard vegetation.

2. Compensate State for their proportionate share of damages to vegetation and associated infrastructure permitted under this Agreement, provided such damage was caused by BPA, or BPA's employees or agents. BPA shall also compensate State for the early termination of this Agreement as provided for in Section II.2 above provided that State will not be entitled to compensation if State is in material breach of Section(s) _____ of this Agreement and BPA has notified State of such breach in accordance with Section ___ below and the non-compliance has not been corrected within the allotted time. However, if the non-compliance is not completed within the fifteen (15) calendar days for good cause, the parties may, by mutual agreement, extend the time to correct the deficiencies. In the event that the deficiency was not corrected within the allotted time, and BPA decides to terminate this agreement. BPA will provide timely notice to State of its decision to terminate. In the event BPA owes State for vegetation or infrastructure damage, the payment for such damage shall be made on the basis of a damage estimate prepared in accordance with the BPA and DNR Appraisal MOU dated July 29, 2010.

If State decides to terminate the Vegetation Agreement of their own volition, and not resulting from an action taken by BPA, then BPA will not be responsible for any damages resulting from the termination.

3. In the event of a material breach of any of the sections referenced in Section ____, above, provide State with a written notice of non-compliance. Exceeding vegetation height restrictions shall always be considered such a material breach. BPA will identify which terms and conditions are in non-compliance and State will be allowed fifteen (15) calendar days from receipt of the notice of non-compliance to correct the deficiencies identified in the notice. If State fails to cure the material breach of Section III. ___ in the allotted time, BPA may cut to the ground, trim, remove, destroy and dispose of said vegetation without liability. BPA shall only be required to give such notification of a material breach as identified Section ___ above two times in any given ten year period. If State cures the deficiencies within the allotted time (or mutually agreed upon time extension), the Agreement shall remain in effect. However, if a material breach remains uncured past the allotted time without mutual agreement, or State commits more than two material breaches (even with cure) within any ten year period, then the Agreement and any rights established therein shall terminate upon timely written notice to State.
4. In the event of a final determination of payment for damages, consistent with the Dispute Resolution Process described in Exhibit C, if applicable, non-payment of such damages owed by State to BPA may result in termination of this Agreement by BPA, at its sole discretion.

V. EFFECTIVE DATE OF THE AGREEMENT

This Agreement will become effective when signed by both parties. The date this Agreement is signed by the last Party (as indicated by the date associated with that party's signature) will be deemed to be the effective date of this Agreement.

Dated: _____, 20__

State of Washington
Washington State Department of Natural Resources

(Insert Name)
Commissioner of Public Lands
(Insert address and phone)

Dated: _____, 20__

United States of America
Bonneville Power Administration
Department of Energy

(Insert Name)
Manager, Real Property Services
(Insert address and phone)

Approved as to form January __, 20__ by
_____, Assistant Attorney General
for the State of Washington

STATE ACKNOWLEDGEMENT

State of Washington

County of Thurston

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute the instrument and acknowledged it as the Commissioner of Public Lands, and administrator of the Department of Natural Resources of the State of Washington to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument

Dated: _

(Signature)

(Seal or stamp)

(Print Name)

Notary Public in and for the State of Washington, residing at

My appointment expires _____.

OFFICIAL/FIDUCIARY ACKNOWLEDGMENT

State of Oregon

County of Multnomah

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute said instrument in such official or representative capacity and acknowledged it as the Manager, Real Property Services of Bonneville Power Administration to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: _____

(Seal or stamp)

(Signature)

(Print Name)

Notary Public in and for the State of Washington, residing at

_____.

My appointment expires _____.

**Exhibit A
Easement Area**

Exhibit B
Agreement Assignment and Assumption Agreement

ASSIGNMENT AND ASSUMPTION OF A VEGETATION AGREEMENT

This Assignment and Assumption of a Vegetation Agreement (the "Assignment") is made and entered into this _____ day of _____, 20___, by and between the State of Washington, acting by and through the Department of Natural Resources ("Assignor") and _____ ("Assignee").

Recitals

- A. WHEREAS, Assignor and Assignee entered into an [Exchange Agreement][Purchase and Sale Agreement] dated _____ [the "Exchange Agreement"] [the "Purchase and Sale Agreement"]; and
- B. WHEREAS, Assignor is a party to a vegetation agreement dated _____, 201_ , made by and between Assignor, and The United States of America, acting through the Department of Energy, Bonneville Power Administration (the "Vegetation Agreement"), which is attached hereto and incorporated by reference as Exhibit A.
- C. WHEREAS, the [Exchange Agreement][Purchase and Sale Agreement] provides that Assignor's interest in the Vegetation Agreement is to be assigned to Assignee, and Assignee is to assume all of Assignor's responsibilities under the Vegetation Agreement; and
- D. WHEREAS, Assignor desires to assign to Assignee all of its right, title, and interest as the Assignor under the Vegetation Agreement and Assignee desires to accept such assignment and assume all of Assignor's obligations under the Vegetation Agreement.

NOW THEREFORE, for the valuable consideration, including the entering into of the [Exchange Agreement][Purchase and Sale Agreement], the receipt and sufficiency of which are hereby acknowledged, it is understood and agreed as follows:

Effective as of the Closing of the transactions contemplated by the [Exchange Agreement][Purchase and Sale Agreement] ("Effective Date"), Assignor hereby assigns to Assignee all of Assignor's right, title, and interest as to the Assignor under the Vegetation Agreement.

Assignee acknowledges it has completely read and understands the Vegetation Agreement including the vegetation clearance requirements, safety concerns and responsibilities of each party to the Vegetation Agreement.

Assignee hereby accepts the foregoing assignment and transfer and agrees to faithfully perform all covenants, stipulations, agreements, and obligations of the Assignor under the Vegetation Agreement.

The provisions of this Assignment and Assumption Agreement are subject, in all respects, to the terms and conditions of the [Exchange Agreement][Purchase and Sale Agreement] and all of the representations and warranties, covenants and agreements of the parties thereto contained therein. All of the terms of the [Exchange Agreement][Purchase and Sale Agreement] relating to this Assignment and Assumption Agreement shall survive the execution and delivery of this Assignment and Assumption Agreement, to the extent indicated in the [Exchange Agreement][Purchase and Sale Agreement].

Assignee hereby indemnifies and holds harmless Assignor from and against any and all claims, causes of action or damages (including attorney's fees, expenses of litigation and costs of appeal), if any, arising out of Assignee's assumption of Assignor's rights and obligations pursuant to the Vegetation Agreement which arise after the date hereof. Assignor hereby indemnifies and holds harmless Assignee from and against any and all claims, causes of action or damages (including attorney's fees, expenses of litigation and costs of appeal), if any, arising out of liabilities incurred or Assignor's failure to perform any condition or covenant of the Vegetation Agreement which arose prior to the date hereof.

This Agreement may be executed in counterparts, each of which shall be deemed to be an original instrument. All such counterparts together shall constitute a fully executed Agreement. This Agreement may be executed by facsimile sent to the Closing Agent, with the original signature page delivered to the Closing Agent within five (5) business days of execution.

This Agreement is not intended to confer upon any person other than the parties hereto any rights or remedies hereunder.

This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this Assignment and Assumption of the Vegetation Agreement to be executed on the day and year first above written.

ASSIGNOR
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Date: _____

Title

ASSIGNEE

Name

Date: _____

Title

Exhibit A: Vegetation Agreement

Cc: BPA

Exhibit C
Dispute Resolution

In the event the Parties are unable to resolve a dispute arising from this Agreement, the Party disputing the outcome may invoke the dispute resolution process by sending a dispute notice to the Party Contacts identified below within thirty (30) calendar days of receipt of the other Party's determination which it disputes (Dispute Notice).

Party Contacts:

BPA: Supervisory Realty Specialist
Bonneville Power Administration
905 N.E. 11th Ave
Portland, OR 97208-3621
Phone: (503) 230-5529

STATE: Southeast Region Manager
Washington State Department of Natural Resources
713 Bowers Road
Ellensburg WA 98926-9301
Phone: (509) 925-8510

The Dispute Notice will include a summary of each Party's position. Within thirty (30) calendar days of receipt of the Dispute Notice, the Parties will arrange a dispute meeting to discuss and resolve the Party's concerns (Dispute Meeting). In the event the Parties resolve the dispute, the activities as agreed upon by the Parties shall be memorialized in writing prior to the close of the meeting. In the event the resolution includes the payment of funds, such payment shall be made within thirty (30) calendar days or other reasonable timeframe as required to facilitate State's payment approval processes.

In the event the Parties are unable to resolve the issue, the designated representatives identified below will confer to resolve the issue (Designated Representatives). The Designated Representatives will use their best efforts and exercise good faith to resolve such issues.

Designated Representatives:

BPA: Manager, Real Property Services
Bonneville Power Administration
P.O. Box 3621, TER-3
Portland, OR 97208-3621
Phone: (503) 230-5520

STATE: Southeast Region Manager
Washington State Department of Natural Resources
713 Bowers Road
Ellensburg WA 98926-9301
Phone: (509) 925-8510

In the event the Designated Representatives are unable to resolve the disputed issue, the issue shall be elevated for resolution consistent with delegated authorities. If they are unable to resolve the issue, the dissatisfied Party may pursue any available legal or equitable remedy.

Exhibit G: Record of Dispute Form

Record of Dispute Resolution Meeting

Date and Time of Dispute Resolution Meeting:

Location of Dispute Resolution Meeting:

Name of Person/Agency Completing Form:

Agency Initiating Dispute Resolution Process:

Attendees:

Name	Title	Agency

Summary of Dispute:

--

Attachments (include copies of Dispute Notice and Response and any other documentation related to dispute):

People Directly Involved in this Dispute Resolution Prior to Meeting:

Name	Title	Agency

Actions Taken Prior to Meeting (include dates and actual costs if applicable):

--

Issue(s) Resolved (include scope, proposed schedule and estimated costs if applicable):

Issue	Resolution

Unresolved Issue(s):

Issue	Steps to Resolution	Due Date

Signatures of Key Agency Representatives:

(Print Name, Title and Agency Below Signature Line) (Date)

(Print Name, Title and Agency Below Signature Line) (Date)

(Print Name, Title and Agency Below Signature Line) (Date)