

## **Exhibit U Public Services**

### **Boardman to Hemingway Transmission Line Project**



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*Amended Preliminary Application for Site Certificate*

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- Attachment U-1. Communications with Public Service Providers
- Attachment U-2. Transportation and Traffic Plan
- Attachment U-3. Fire Prevention and Suppression Plan

## ACRONYMS AND ABBREVIATIONS

Amended Project Order	First Amended Project Order, Regarding Statutes, Administrative Rules and Other Requirements Applicable to the Proposed Boardman to Hemingway Transmission Line (December 22, 2014) application for site certificate
ASC	Bureau of Land Management
BLM	Energy Facility Siting Council
EFSC or Council	Erosion and Sediment Control Plan
ESCP	Federal Aviation Administration
FAA	Idaho Power Company
IPC	kilovolt
kV	milepost
MP	National Forest
NF	Oregon Administrative Rule
OAR	Oregon Department of Environmental Quality
ODEQ	Boardman to Hemingway Transmission Line Project
Project	Rangeland Fire Protection District
RFPD	recreational vehicle
RV	Smith Travel Research
Smith Travel	United States Forest Service
USFS	

1 **Exhibit U**  
2 **Public Services**

3 **1.0 INTRODUCTION**

4 Exhibit U provides evidence showing that the construction and operation of the Boardman to  
5 Hemingway Transmission Line Project (Project), taking into account mitigation, is not likely to  
6 result in a significant adverse impact to the ability of public and private providers within the  
7 analysis area to provide the following services: sewers and sewage treatment, water, storm  
8 water drainage, solid waste management, housing, traffic safety, police and fire protection,  
9 health care, and schools.

10 **2.0 APPLICABLE RULES AND AMENDED PROJECT ORDER**  
11 **PROVISIONS**

12 **2.1 General Standards for Siting Facilities**

13 The Public Services Standard at Oregon Administrative Rule (OAR) 345-022-0010 provides, in  
14 relevant part:<sup>1</sup>

15 *(1) . . . to issue a site certificate, the Council must find that the construction and*  
16 *operation of the facility, taking into account mitigation, are not likely to result in significant*  
17 *adverse impact to the ability of public and private providers within the analysis area*  
18 *described in the project order to provide: sewers and sewage treatment, water, storm*  
19 *water drainage, solid waste management, housing, traffic safety, police and fire*  
20 *protection, health care and schools.*

21 **2.2 Site Certificate Application Requirements**

22 OAR 345-021-0010(1)(u) provides Exhibit U must include the following Information regarding  
23 significant potential adverse impacts of construction and operation of the Project on the ability of  
24 public and private providers in the Analysis Area to provide certain services:

25 *(A) The important assumptions the applicant used to evaluate potential impacts.*

26 *(B) Identification of the public and private providers in the analysis area that would likely*  
27 *be affected.*

28 *(C) A description of any likely adverse impact to the ability of the providers identified in*  
29 *(B) to provide the services listed in OAR 345-022-0110.*

30 *(D) Evidence that adverse impacts described in (C) are not likely to be significant, taking*  
31 *into account any measures the applicant proposes to avoid, reduce or otherwise mitigate*  
32 *the impacts.*

33 *(E) The applicant's proposed monitoring program, if any, for impacts to the ability of the*  
34 *providers identified in (B) to provide the services listed in OAR 345-022-0110.*

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<sup>1</sup> Subsection (2) of OAR 345-022-0010 relates to power generating facilities, and Subsection (3) relates to certain facilities subject to expedited Energy Facility Siting Council (EFSC or Council) review. Because the Project does not include a power generating facility and IPC has not requested expedited EFSC review, Subsections (2) and (3) of OAR 345-022-0010 do not apply to the Project.

## 2.3 Amended Project Order Provisions

The Amended Project Order states that the Project site certificate application must include all of the information provided for in OAR 345-021-0010(1)(u). Additionally, the Amended Project Order includes the following discussion:

*The application shall include an analysis of the impact of the proposed project on all public and private services listed in OAR 345-022-0110, within the analysis area, including estimated facility related traffic during construction and operation and the potential impact on traffic safety. Description of traffic impacts should include proposed transportation routes for the transport of heavy equipment and shipments of facility components during construction, including proposed ground and air transportation routes within the analysis area. The application should also include an analysis of potential facility-related impacts to fire protection services, including fire protection on forestland and rangeland.*

*The application shall demonstrate that the proposed facility will not result in significant adverse impact to the ability of public and private providers within the analysis area to provide those services.*

(Amended Project Order, Section III(u)).

## 3.0 ANALYSIS

### 3.1 Analysis Area

The analysis area for Exhibit U includes all areas within the Site Boundary, which is defined as “the perimeter of the site of a proposed energy facility, its related or supporting facilities, all temporary laydown and staging areas, and all corridors and micro-siting corridors proposed by the applicant” (OAR 345-001-0010(55)). The Site Boundary encompasses the following facilities in Oregon:

- The Proposed Route, consisting of 270.8 miles of new 500-kilovolt (kV) electric transmission line, removal of 12 miles of existing 69-kV transmission line, rebuilding of 0.9 mile of a 230-kV transmission line, and rebuilding of 1.1 miles of an existing 138-kV transmission line;
- Four alternatives that each could replace a portion of the Proposed Route, including the West of Bombing Range Road Alternative 1 (3.7 miles), West of Bombing Range Road Alternative 2 (3.7 miles), Morgan Lake Alternative (18.5 miles), and Double Mountain Alternative (7.4 miles);
- One proposed 20-acre station (Longhorn Station);
- Ten communication station sites of less than ¼-acre each and two alternative communication station sites;
- Permanent access roads for the Proposed Route, including 206.3 miles of new roads and 223.2 miles of existing roads requiring substantial modification, and for the Alternative Routes including 30.2 miles of new roads and 22.7 miles of existing roads requiring substantial modification; and
- Thirty-one temporary multi-use areas and 299 pulling and tensioning sites of which four will have light-duty fly yards within the pulling and tensioning sites.

The Project features are fully described in Exhibit B and the Site Boundary for each Project feature is described in Exhibit C, Table C-24. The location of the Project features and the Site Boundary is outlined in Exhibit C.

## 3.2 Methods

The following analysis is primarily based on secondary data compiled from federal, state, and local government agencies. State and local governments were contacted for data on potentially affected public services, including sewers and sewage treatment, water, stormwater drainage, solid waste management, police and fire protection, health care, and schools.

The potential effects of the Project are evaluated with respect to the ability of public and private providers within the analysis area to provide sewers and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools. Key Project-related variables used in this analysis include projected construction and operations employment, traffic volumes, and waste generation.

## 3.3 Assumptions Used to Evaluate Potential Impacts

OAR 345-021-0010(1)(u)(A): The important assumptions by the applicant used to evaluate potential impacts.

### 3.3.1 Construction Activity Impact Assumptions

This analysis assumes that the Proposed Route (or an Alternative Route) selected for development will be constructed in two, approximately 150-mile-long spreads built concurrently. Spread 1 will cover mileposts 0 to 150 and Spread 2 will cover mileposts 150 to 299. Moreover, the analysis assumes the maximum number of workers and potential effects that could occur at a given time.

Table U-1 identifies, by construction spread, the counties affected by the Proposed Route. The analysis area includes portions of 10 counties, 5 of which are in Oregon: Morrow, Umatilla, Union, Baker, and Malheur in Oregon; 2 counties in Washington; and 3 counties in Idaho. Unless otherwise noted, the following discussions focus on the portions of the analysis area located in Oregon and do not address the portions in Idaho or Washington.

**Table U-1. Construction Spread and Affected Counties**

Construction Spread	Miles (Proposed Route)	Miles (Alternative Route)	Counties <sup>1</sup>
1	150	19 (Morgan Lake) 2 (West of Bombing Range Road)	Morrow, Umatilla, Union, Baker
2	145	8 (Double Mountain)	Baker, Malheur, Owyhee

<sup>1</sup> Morrow, Umatilla, Union, Baker, and Malheur counties are in Oregon; Owyhee County is in Idaho.

This analysis assumes that approximately 25 percent of the projected workforce will be hired locally (i.e., normally reside within commuting distance of the job sites), and will likely commute to and from their homes to work each day. The remaining 75 percent of the workforce will either temporarily relocate to the counties or commute in from their permanent residences and stay in overnight lodging. Positions most likely to be filled by local workers include clearing and road building crews, material haulers, restoration, and security.

Less than 10 percent of the workers temporarily relocating would be expected to be accompanied by their families. Some workers, like the construction foremen and inspectors, will stay the length of the Project, but many workers will be employed for 4 to 6 months. In addition, workers employed on linear Projects tend to relocate along the line as necessary, staying in each location for a short period. For these reasons, workers on these types of Projects do not typically bring children, but may bring their significant others if they do not have dependents.

1 Although it is considered unlikely, for the purposes of this analysis, 10 percent of relocating  
 2 workers are assumed to be accompanied by their families, including school-aged children. Based  
 3 on data compiled by the U.S. Census Bureau (2009) as part of the 2008 American Community  
 4 Survey, the average relocating family is assumed to consist of two adults and one school-aged  
 5 child. Projected employment and potential population change are presented for the peak  
 6 construction period by construction spread in Table U-2. Data for Construction Spread 2 are only  
 7 for the portion of the spread—approximately 121 miles—in Oregon. Projected totals in Table U-2  
 8 do not include the labor force that will be employed to construct the Idaho portion of the Project.

9 **Table U-2. Projected Workers and Population Change during Peak Construction**

Workers	Proposed Route		Alternative Routes		
			Double Mountain	Morgan Lake	West of Bombing Range Road <sup>1</sup>
	Spread 1 <sup>2</sup>	Spread 2 <sup>3</sup>	Spread 2	Spread 1	Spread 1
Commute to Job Site Daily <sup>4</sup>	61	49	2	8	1
Move to the Project Area alone <sup>5</sup>	164	131	5	21	1
Move to the Project Area with family <sup>5</sup>	18	15	1	2	0
<b>Total</b>	<b>243</b>	<b>194</b>	<b>8</b>	<b>32</b>	<b>2</b>
<b>Population</b>					
2015 Population (Analysis Area) <sup>6</sup>	129,516	46,385	30,380	25,790	11,190
Number of People Temporarily Relocating <sup>7</sup>	182	146	8	31	2
As a Percent of 2015 Population	0.1%	0.3%	0.0%	0.1%	0.0%

<sup>1</sup> The numbers would be the same for both West of Bombing Range Road Alternatives 1 and 2.

<sup>2</sup> Estimates for Construction Spread 1 assume that the labor demands for this portion of the transmission line and the proposed Longhorn Station will peak at the same time. The Proposed Route transmission line labor force is estimated to peak at 201 workers; the station labor force is expected to peak at 42 workers.

<sup>3</sup> Estimates for Construction Spread 2 are for the portion of the spread—approximately 121 miles—in Oregon. These estimated totals do not include the labor force that will be employed to construct the Idaho portion of the Project.

<sup>4</sup> 25 percent of the average and peak workforce is expected to commute to and from the job site each day.

<sup>5</sup> 75 percent of the average and peak workforce is expected to temporarily relocate to the Project area. 10 percent of workers temporarily relocating are assumed to be accompanied by their families for the purposes of analysis.

<sup>6</sup> Population data are from the 2015 Census. Total population for Construction Spread 1 is for Morrow, Umatilla, Union, and Baker counties. Total population for Construction Spread 2 is for Baker and Malheur counties (U.S. Census Bureau 2015b). To be conservative, the total population of Baker County is included in both Construction Spreads 1 and 2.

<sup>7</sup> The number of people temporarily relocating assumes that 75 percent of the projected peak construction workforce will temporarily relocate to the Project area, with 10 percent of that total accompanied by their families (assuming an average family size of two adults and one child) (U.S. Census Bureau 2009).

10 Very few, if any, of the non-local workers employed during the construction phase of the Project  
 11 would be expected to permanently relocate to the area. Employment associated with the Project  
 12 will be temporary, and the availability of similar employment opportunities in the area in the  
 13 future is uncertain.



1 Information regarding the amount of water needed during construction and operations is  
2 included in Exhibit O, Section 3.4. Information regarding estimated quantities of solid waste and  
3 wastewater is included in Exhibit V, Section 3.3. No permanent sewage facilities will be required  
4 for the Project. Idaho Power Company (IPC) will contract with sanitary service providers to  
5 supply and service portable temporary toilets needed during construction. Vehicle trip  
6 generation estimates are included in Attachment U-2, Section 3.1.1.

### 7 **3.3.2 Operations and Maintenance Activity Impact Assumptions**

8 Current IPC staff will be primarily responsible for operations and maintenance of the new  
9 transmission line and associated facilities. One additional part-time position may be filled locally.  
10 No current employees will be required to relocate to the area.

## 11 **3.4 Affected Public and Private Services**

12 OAR 345-021-0010(1)(u)(B): Identification of the public and private providers in the analysis  
13 area that would likely be affected.

14 This section identifies the public and private service providers in the five Oregon counties within  
15 the analysis area that would likely be affected by the Project. In addition, this section  
16 summarizes the current level of demand for and capacities of these service providers, as  
17 appropriate. This baseline information is subsequently used in Section 3.5, which assesses the  
18 potential impacts of the Project on these service providers. Sources of information are cited in  
19 the text. In cases where information was provided via personal communication, individual  
20 records of conversation are included in Attachment U-1.

21 **Public Services Condition 1:** *Prior to construction, the site certificate holder shall*  
22 *consult with public utilities or private providers operating within existing rights-of-ways to*  
23 *minimize impact to such.*

24 **Public Services Condition 10:** *During operation, the site certificate holder shall*  
25 *continue to consult with public utilities or private providers operating within existing*  
26 *rights-of-ways to minimize impacts to such.*

### 27 **3.4.1 Sewer and Water Services**

28 As described in Exhibit V, Section 3.3.2.1, temporary sanitation during construction activities will  
29 consist of portable toilets located at multi-use areas and construction sites. Operation of the  
30 Project will include a restroom facility at the Longhorn Station. This facility will be connected to  
31 the City of Boardman's water and sewer systems. Exhibit O provides a description of the  
32 sources of water that have been identified for the Project.

### 33 **3.4.2 Stormwater Drainage**

34 The Project will not cross areas served by stormwater drainage providers. Exhibit I provides a  
35 description of the state and federal stormwater requirements.

### 36 **3.4.3 Solid Waste Management**

37 Solid waste generated during construction will be disposed of at landfills located near the  
38 Project. Landfills located near the Project include those in Morrow, Baker, and Malheur counties  
39 in Oregon. In addition, a fourth landfill, Clay Peak Landfill, is located in Idaho, about 5 miles east  
40 of Ontario, Oregon. These landfills are listed in Table U-3, which also identifies the current  
41 volume of waste each landfill currently receives (tons per day), as well as the amount of waste  
42 each landfill is permitted to receive (tons per day), as indicated in Attachment U-1A. Lytle  
43 Boulevard Landfill in Malheur, Oregon, has indicated that it is limited to receiving 20 tons of  
44 waste per day and thus is not available to accept Project waste.

1 **Table U-3. Landfills**

Facility Name	County	Current Volume of Waste Received (Tons/Day)	Current Volume of Waste Permitted to Receive (Tons/Day)
Finley Buttes Landfill	Morrow, OR	1,923 tons	No permitting restriction
Baker Sanitary Landfill	Baker, OR	50 to 60 tons	No permitting restriction
Lytle Boulevard Landfill	Malheur, OR	15 to 16 tons	20 tons
Clay Peak Landfill	Payette, ID	184 tons	No permitting restriction

Sources: Henry 2016; Large 2016; Schmidt 2016

2 **3.4.4 Housing**

3 Housing estimates are presented in Table U-4 for the five Oregon counties within the analysis area.  
 4 Data on housing units are estimates for 2014 prepared by the U.S. Census Bureau (2015a,  
 5 2015b). The Census Bureau defines a housing unit as a house, apartment, mobile home or  
 6 trailer, group of rooms, or single room occupied or intended to be occupied as separate living  
 7 quarters.

8 **Table U-4. Housing Data**

Geographic Area	Total Housing Units	Rental Vacancy Rate (%)	Units Available for Rent	For Seasonal, Recreational, or Occasional Use <sup>1</sup>
Baker County	8,832	3.7	96	803
Malheur County	11,654	6.0	262	310
Morrow County	4,442	6.6	80	309
Umatilla County	29,667	3.4	366	383
Union County	11,495	7.9	319	361

<sup>1</sup> Housing units for seasonal, recreational, or occasional use are generally considered to be vacation homes. They are not included in the estimated number of housing units available for rent.

Sources: U.S. Census Bureau 2015a, 2015b

9 The availability of temporary housing varies seasonally and geographically within the counties in  
 10 the analysis area. Demand for temporary housing is generally greatest during the tourism  
 11 season in the summer. Statewide in Oregon, the average hotel and motel occupancy rate in  
 12 2009 was 63.2 percent in June compared to 38.3 percent in December, with an annual average  
 13 rate of 53.9 percent (Travel Oregon 2009a, 2009b). A review of more recent, publicly available  
 14 hotel and motel occupancy data suggests that statewide occupancy rates are currently higher  
 15 than they were in 2009, with an estimated statewide year-to-date occupancy rate of 70.3  
 16 percent in September 2016 (OTC 2016). Hotel and motel occupancy rates also vary by region,  
 17 with occupancy rates in Oregon generally higher in the Portland Metro area. Table U-5 presents  
 18 data on hotels and motels.

19 **Table U-5. Hotels and Motels**

Geographic Area	Number of Hotels <sup>1</sup>	Number of Rooms <sup>1</sup>	Estimated Number of Available Rooms <sup>2</sup>
Baker County	3	161	48
Malheur County	8	578	172
Morrow County	2	100	30
Umatilla County	16	1,153	342
Union County	3	131	39

<sup>1</sup> Data includes hotels, motels, and bed and breakfasts with 15 or more rooms.

<sup>2</sup> Average number of rooms based on 2016 statewide average hotel occupancy rate (i.e., 70.3 percent).

Sources: Smith Travel Research 2009, 2011; Travel Oregon 2009a.

1 These data, compiled by Smith Travel Research (Smith Travel) for hotels, motels, and bed and  
 2 breakfast inns with 15 or more rooms, suggest there is limited temporary accommodation  
 3 available in Baker, Morrow, and Union counties. Smith Travel identified 16 hotels with a  
 4 combined total of 1,153 rooms in Umatilla County, mainly in Pendleton and Hermiston. In  
 5 Malheur County, Smith Travel identified a total of 8 hotels, with a combined total of 578 rooms.

6 Temporary accommodation is also available in the form of recreational vehicle (RV) and other  
 7 types of campsites in the Project vicinity. Comprehensive data are not available on these types  
 8 of resources, but a review of information from TravelOregon.com identified approximately 705  
 9 RV spaces located in RV parks in or near Oregon communities located within 25 miles of the  
 10 Project (Table U-6). These data are for participating businesses only and do not necessarily  
 11 represent all the RV spaces within 25 miles of the proposed transmission line or the number of  
 12 spaces that could be available for use during Project construction.

13 **Table U-6. Recreational Vehicle Parks**

Name	City	County	Total Spaces
Mt. View Holiday Trav-L-Park	Baker City	Baker	87
Oregon Trails West RV Park	Baker City	Baker	50
Lake Owyhee State Park	Adrian	Malheur	64
Country Campground	Ontario	Malheur	15
Boardman Marina & RV Park	Boardman	Morrow	63
Driftwood RV Resort & Park, LLC	Boardman	Morrow	103
Hat Rock Campground Good Sam Park	Hermiston	Umatilla	60
Umatilla County Fair Grounds	Hermiston	Umatilla	30
Lookout RV Park	Pendleton	Umatilla	34
Eagle's Hot Lake RV Resort	La Grande	Union	100
Rendezvous RV Resort	La Grande	Union	99

14 Source: Travel Oregon 2009b

### 15 **3.4.5 Traffic Volume**

#### 16 **3.4.5.1 Vehicle Traffic**

17 Table U-7 summarizes traffic volume data from the Oregon Department of Transportation for  
 18 federal and state highways near the Project. These are the greatest vehicle traffic volumes that  
 19 IPC expects the Project will encounter. Traffic levels on minor highways and smaller roads near  
 20 the Project are generally much lower than those identified in Table U-7.

21 **Table U-7. Annual Average Daily Traffic Volumes**

Route	Location <sup>1</sup>	Highway/ Route Number	Highway/ Route Milepost	Location Description	2011 AADT	2014 AADT
Proposed Route/West of Bombing Range Road Alternatives <sup>2</sup>	Near milepost (MP) 1 in Morrow County	I-84 (Old Oregon Trail No. 6)	168.55	Boardman Jct. Automatic Traffic Recorder, Sta. 25- 008, 0.60 mile southeast of Columbia River Highway No. 2 Interchange (US730)	13,200	14,700
Proposed Route	Near MP 22 in Morrow County	Oregon 207 (Lexington- Echo Highway No. 320)	13.62	0.10 mile southwest of Grieb Lane	810	730

<b>Route</b>	<b>Location<sup>1</sup></b>	<b>Highway/ Route Number</b>	<b>Highway/ Route Milepost</b>	<b>Location Description</b>	<b>2011 AADT</b>	<b>2014 AADT</b>
Proposed Route	Near MP 30 in Morrow County	I-84 (Old Oregon Trail No. 6)	183.16	0.30 mile east of Hermiston Highway Interchange (OR207)	11,200	11,700
Proposed Route	Near MP 34 in Morrow County	I-84 (Old Oregon Trail No. 6)	193.83	0.30 mile east of Lexington-Echo Highway Interchange	14,600	14,700
Proposed Route	Near MP 47 in Morrow County	OR-74 (Happner Highway No. 52)	72.7	Morrow-Umatilla County Line	80	70
Proposed Route	Near MP 65 in Umatilla County	U.S. 395 (Pendelton-John Day Highway No. 28)	14.64	0.09 mile south of Old Highway 395	2,800	2,800
Proposed Route	Near MP 84 in Umatilla County	I-84 (Old Oregon Trail No. 6)	238.27	0.50 mile west of Meacham Interchange	9,300	9,800
Proposed Route	Near MP 90 in Umatilla County	I-84 (Old Oregon Trail No. 6)	244.12	0.30 mile east of Kamela-Mt. Emily Road Interchange	9,300	9,800
Proposed Route	Near MP 95 in Umatilla County	I-84 (Old Oregon Trail No. 6)	249.34	0.40 mile east of Glover Interchange	9,400	9,900
Proposed Route/Morgan Lake Alternative	Near MP 100 in Umatilla County	OR-244 (Ukiah-Hilgard Highway No. 341)	46.82	0.40 mile south of Old Oregon Trail (I-84)	620	580
Proposed Route/Morgan Lake Alternative	Near MP 101 in Umatilla County	I-84 (Old Oregon Trail No. 6)	253.43	0.60 mile east of Ukiah-Hilgard Highway Interchange (OR244)	9,900	10,200
Proposed Route/Morgan Lake Alternative	Near MP 105 in Union County	I-84 (Old Oregon Trail No. 6)	260.27	North La Grande Automatic Traffic recorder, Sta. 31-007, 1.05 miles east of La Grande-baker Highway No. 66 (US30), North La Grande Interchange	8,900	8,800
Proposed Route/Morgan Lake Alternative	Near MP 115 in Union County	I-84 (Old Oregon Trail No. 6)	272.19	Ladd Summit Automatic Traffic Recorder, Sta. 31-008, 1.72 miles northwest of Ladd Canyon Road	9,300	9,800
Proposed Route	Near MP 127 in Union County	OR-237 (La Grande-Baker Highway No. 66)	32.19	0.10 mile east of Old Oregon Trail (I-84)	1,300	1,500

Route	Location <sup>1</sup>	Highway/ Route Number	Highway/ Route Milepost	Location Description	2011 AADT	2014 AADT
Proposed Route	Near MP 147 in Baker County	OR-86 (Baker-Copperfield Highway No. 12)	2.75	0.01 mile east of West Airport Road	1,200	1,500
Proposed Route	Near MP 150 in Baker County	I-84 (Old Oregon Trail No. 6)	303.74	0.40 mile north of Campbell Street Interchange (OR7)	8,600	9,400
Proposed Route	Near MP 171 in Baker County	I-84 (Old Oregon Trail No. 6)	327.83	0.40 mile south of Durkee Interchange	8,200	8,700
Proposed Route	Near MP 184 in Baker County	I-84 (Old Oregon Trail No. 6)	338.41	0.30 mile south of Jordan Creek Interchange	8,700	8,800
Proposed Route	Near MP 198 in Malheur County	I-84 (Old Oregon Trail No. 6)	353.47	Huntington Automatic Traffic Recorder, Sta. 23-016, 1.47 miles south of Baker-Malheur County Line	8,600	9,000
Proposed Route	Near MP 206 in Malheur County	I-84 (Old Oregon Trail No. 6)	362.45	0.30 mile south of Moore's Hollow Interchange	8,200	8,800
Proposed Route	Near MP 217 in Malheur County	U.S. 26 (John Day Highway No. 5)	270.64	0.10 miles southeast of Road "D"	1,100	1,100
Proposed Route/ Double Mountain Alternative	Near MP 236 in Malheur County	U.S. 20 (Central Oregon Highway No. 7)	238.62	0.16 mile west of Vale-West Highway	1,600	1,600
Proposed Route	Near MP 257 in Malheur County	OR-201 (Succor Creek Highway No. 450)	11.72	North city limits of Adrian	1,200	1,300
Proposed Route	Near MP 265 in Malheur County	OR-201 (Succor Creek Highway No. 450)	20.09	0.02 mile west of Homedale Spur	330	380

<sup>1</sup> MP refers to transmission-line mileposts (from Sept. 2016 geographic information system route layer).

<sup>2</sup> The numbers would be the same for both West of Bombing Range Road Alternatives 1 and 2.

AADT – average annual daily trips

Source: ODOT Traffic Volume Tables (2011, 2014)

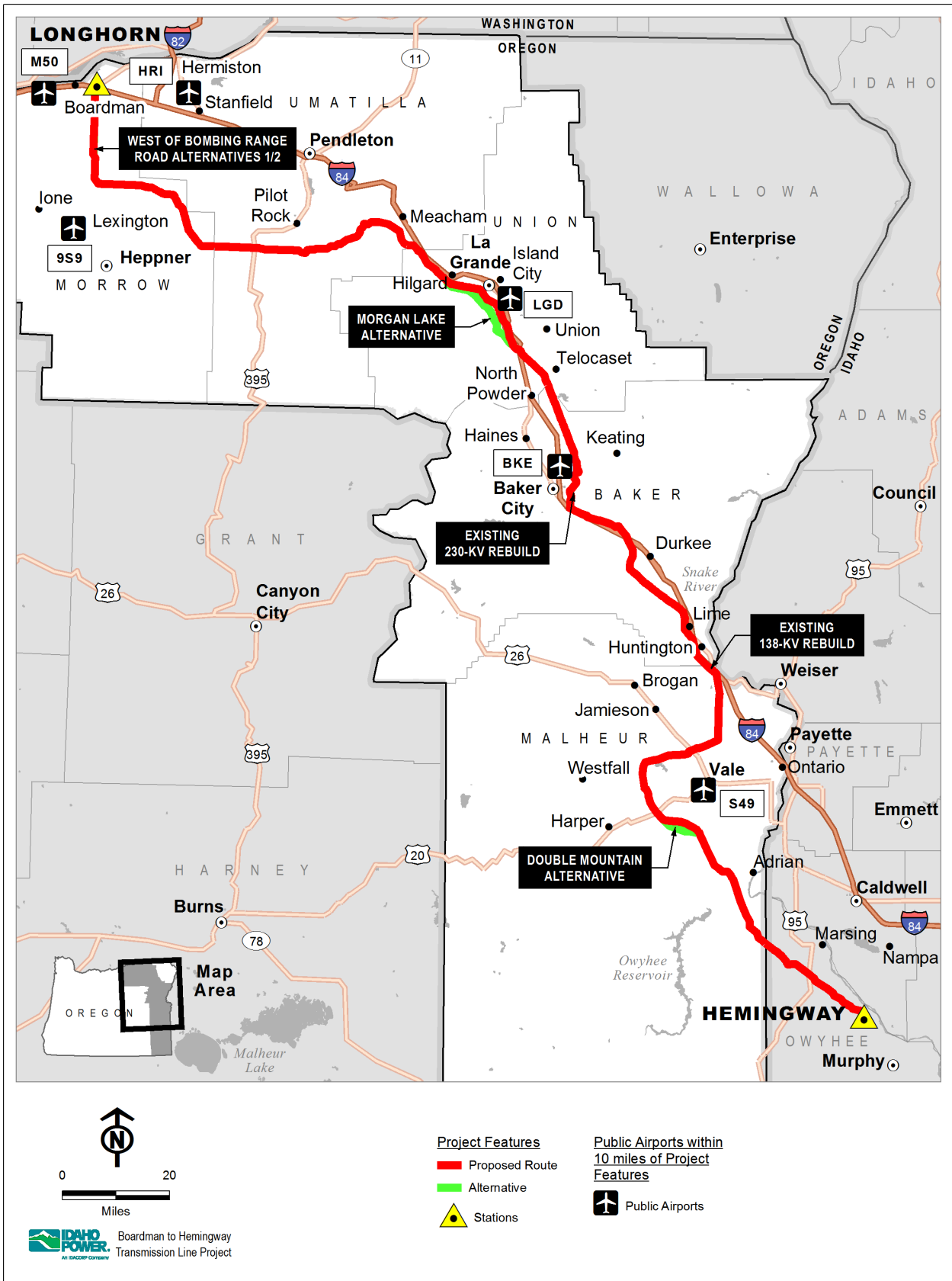
1 **3.4.5.2 Air Traffic**

2 During construction helicopter operations may be staged out of multi-use areas, as described in  
 3 Exhibit B, Section 3.3.2. There are six municipal airports within 10 miles of project features as  
 4 shown in Table U-8 and Figure U-1. Current flight volume out of these airports is not reported by  
 5 the Federal Aviation Administration (FAA) or the State of Oregon Department of Aviation. Airport  
 6 constraints while siting the project were considered (see Exhibit B, Table B-2 2008-2010 Siting  
 7 Constraints Table).

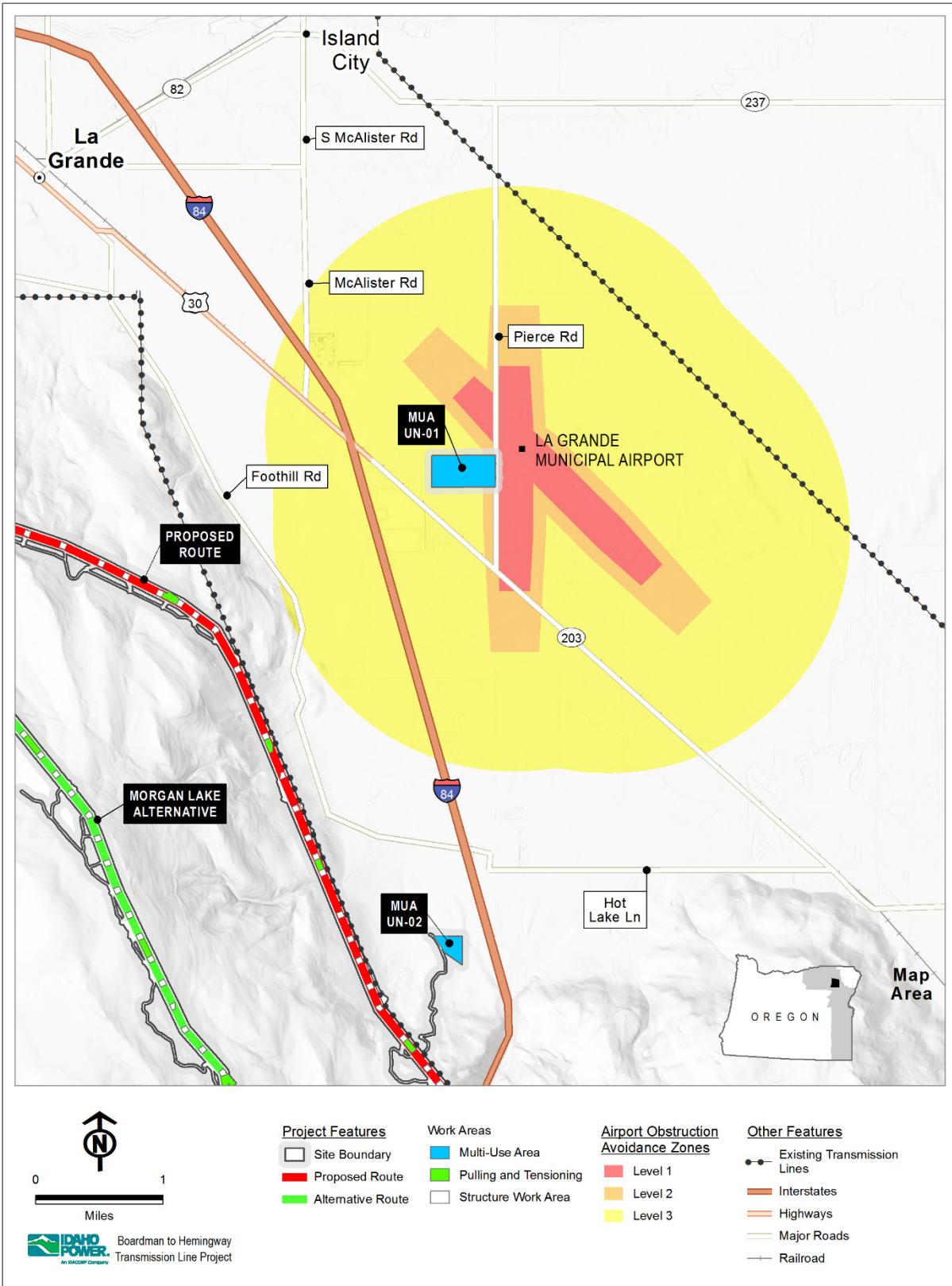
8 Multi-use area UN-01 is located adjacent to the La Grande Municipal Airport within the least  
 9 restrictive obstruction area. Though it is not in the flight path of either runway, it is on the other  
 10 side of Pierce Road across from the main airport facilities, and is less than 0.2 mile from runway  
 11 16/34. Multi-use area UN-02 is approximately 3.1 miles south-southwest of the end of runway  
 12 16/34, and is on the opposite side of the Interstate (Figure U-2). In Baker County, multi-use BA-  
 13 01 is approximately 2.4 miles northeast of the Baker City Municipal Airport and the end of  
 14 runway 17/35, and 2.4 miles north-northeast of runway 8/26. Multi-use BA-02 is approximately  
 15 3.5 miles south of the airport and runway 13/31 (Figure U-3). Other than multi-use UN-01, none  
 16 of the other multi-use areas are within an obstruction restriction zone.

17 **Table U-8. Airport Locations**

<b>Airport Name</b>	<b>Code</b>	<b>County</b>	<b>Distance (miles)</b>
Boardman Airport	M50	Morrow	9.1
Hermiston Municipal Airport	HRI	Umatilla	5.7
Lexington Airport	9S9	Morrow	9.4
La Grande Municipal Airport/Union County Airport	LGD	Union	2.5
Baker City Municipal Airport	BKE	Baker	3.1
Miller Memorial Airport	S49	Malheur	7.3

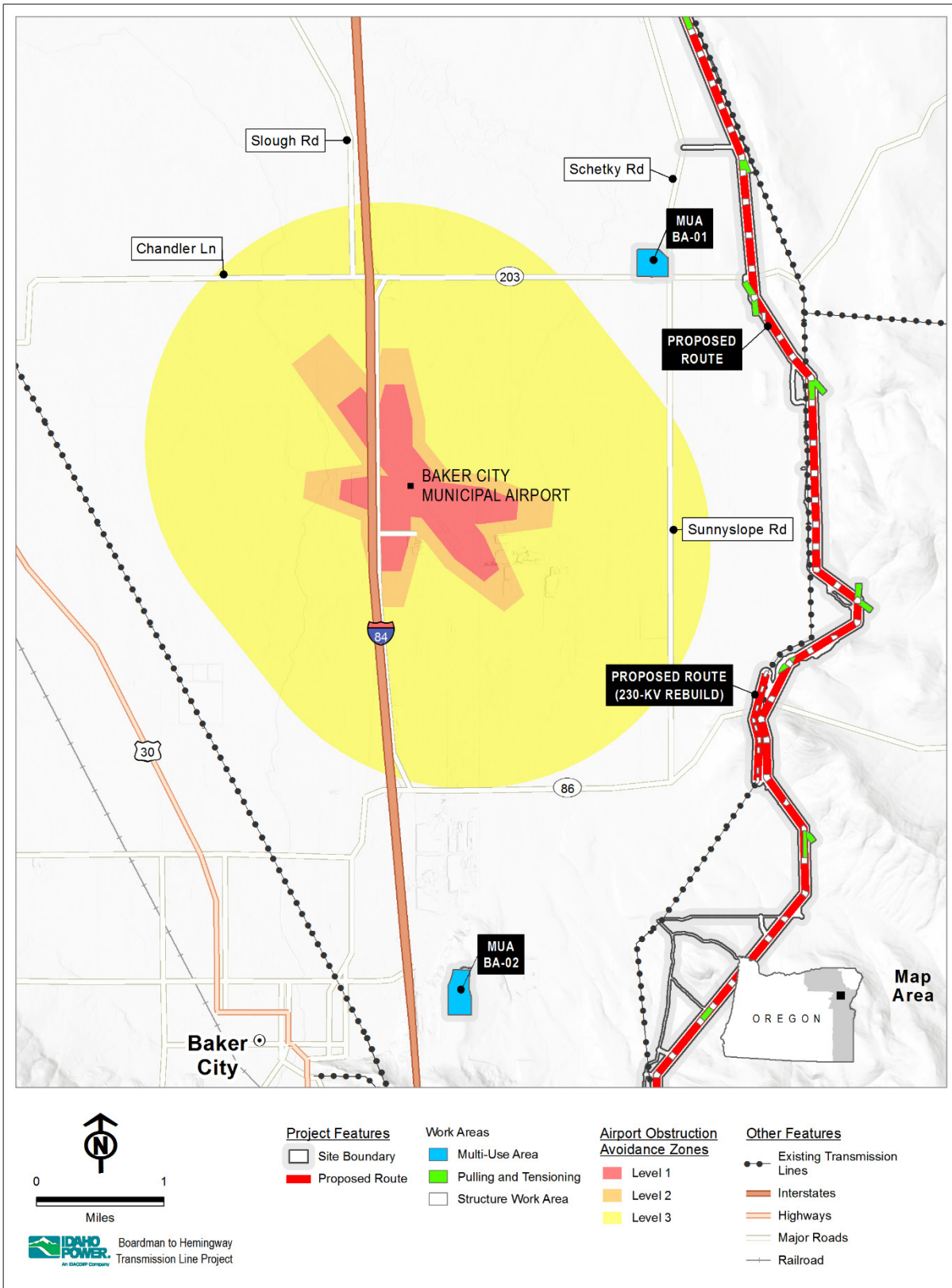


1  
2 **Figure U-1. Airport Locations**



1  
2 **Figure U-2. La Grande Municipal Airport**





1  
2 **Figure U-3. Baker City Municipal Airport**

### 1 **3.4.6 Police and Fire Protection**

#### 2 **3.4.6.1 Police**

3 Five county sheriff's departments are within the Oregon portion of the analysis area. The  
 4 Oregon portion of the analysis area also includes United States Forest Service (USFS) and  
 5 Bureau of Land Management (BLM)-managed lands, which are subject to federal law  
 6 enforcement. Table U-9 presents staffing levels for the sheriff's departments that responded to  
 7 requests for information. Information is also provided for the BLM law enforcement office with  
 8 jurisdiction over BLM-managed lands within the analysis area. Response times from local  
 9 sheriff's stations and USFS/BLM law enforcement offices to the Site Boundary will vary  
 10 depending on the time of day, the priority and location of the emergency, and whether law  
 11 enforcement personnel were already patrolling the area.

12 **Table U-9. Law Enforcement**

Department	Number of Law Enforcement Personnel
Morrow County Sheriff	17 full-time employees
Umatilla County Sheriff	7 deputies (3 within the project area)
Union County Sheriff	Not provided <sup>1</sup>
Baker County Sheriff	7 deputies
Malheur County Sheriff	16 team members
BLM Law Enforcement Office	2 rangers

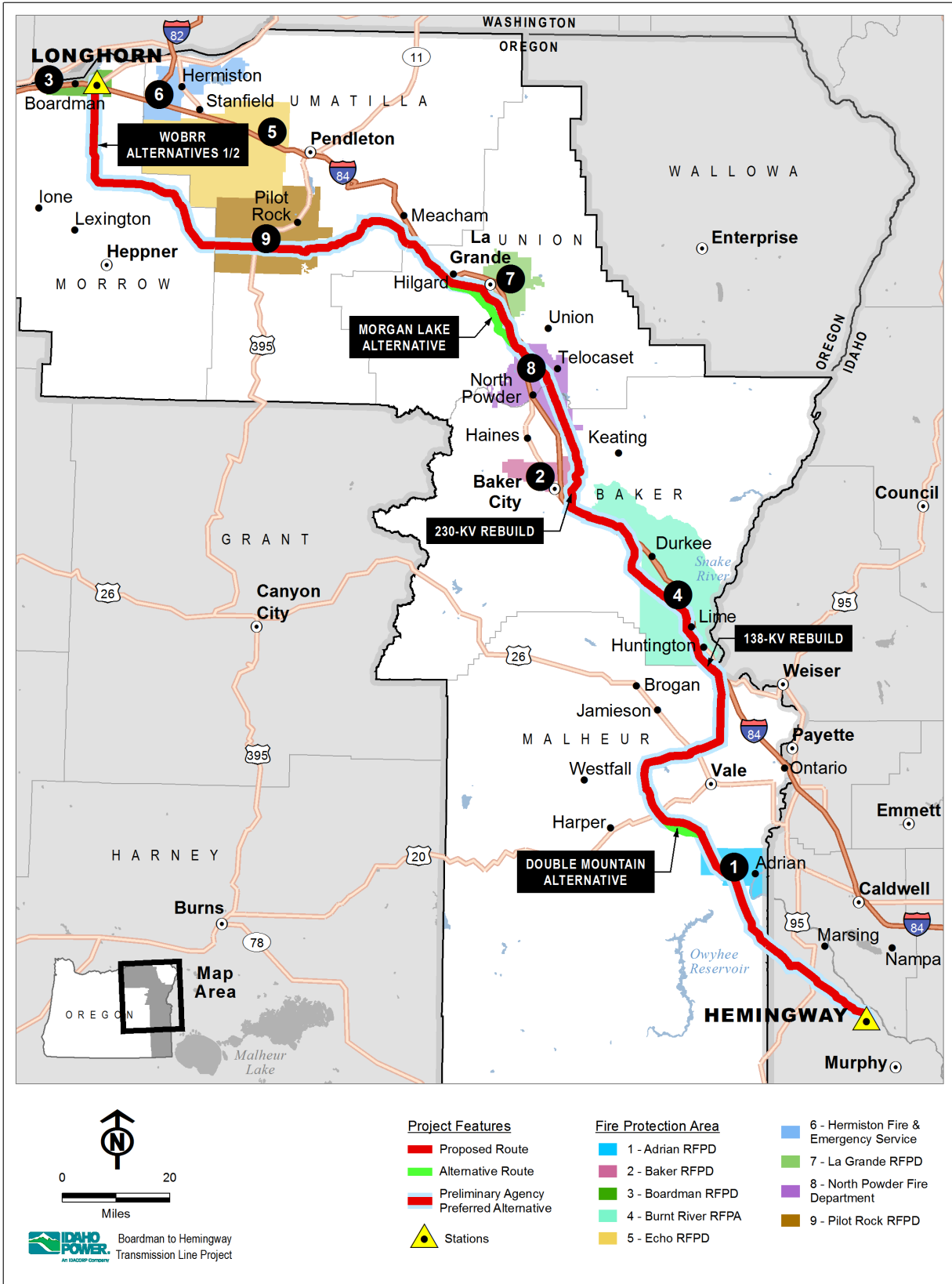
<sup>1</sup> The Umatilla County, Union County, and Baker County Sheriff's offices did not respond to several requests for information in 2016.

Sources: Matlack 2016; Wolfe 2016; Diehl 2011; Southwick 2014; Straub 2016

#### 13 **3.4.6.2 Fire**

14 Federal agencies are responsible for fire suppression efforts on federal lands in the analysis  
 15 area, including BLM-managed and National Forest (NF) lands. The State of Oregon is  
 16 responsible for fire suppression on state lands. The Oregon Department of Forestry is the  
 17 primary wildland fire protection agency on forested private and state lands and much of the non-  
 18 forested lands. Municipal fire departments and rural and rangeland fire districts are the primary  
 19 responders for incidents on private land. An overview map of fire protection areas in relation to  
 20 the Project is included as Figure U-4.

21 Most the land within the Site Boundary, approximately 72 percent, is privately owned. The BLM  
 22 manages about 25 percent of the land in the Site Boundary, with the remaining 3 percent  
 23 managed by other federal (USFS and U.S. Bureau of Reclamation) or State agencies. The BLM  
 24 has jurisdiction over fire suppression on BLM-managed lands; the USFS has jurisdiction over  
 25 fire suppression on NF lands.



1  
2 **Figure U-4. Fire Protection Areas**  
3

1 For private lands within the Site Boundary, fire protection and response falls to one of the 9  
 2 organizations listed in Table U-10. Table U-10 summarizes staffing levels, equipment, and  
 3 response times for those departments that responded to requests for information. Contact with  
 4 the Oregon State Fire Marshal's office confirmed that this is a complete list of the fire  
 5 departments with jurisdiction over lands within the Site Boundary (Vetter 2016).

6 Not all lands in the Site Boundary fall within a designated fire district. In those cases, the closest  
 7 or best situated fire district responds to fires. Mutual aid agreements have been established  
 8 between local fire districts and adjacent counties to pool resources, ensure cooperation  
 9 between these entities, and prevent fires on a county and state level instead of isolating efforts  
 10 to local districts (Martin 2016; Hessel 2016; Morgan 2016; Weitz 2016). As a result of these  
 11 mutual aid agreements, the fire district that responds to a fire may not be the district that the fire  
 12 occurs in, or even the closest district; instead, response is based on the district that is best  
 13 situated and suited to respond. In addition, fire protection agencies in Idaho may be the best  
 14 positioned to respond to a fire along portions of the Project in Malheur County, Oregon.

15 Response times to the Site Boundary vary depending on the time of day, the priority of the  
 16 emergency/call and the location of the emergency and the type of available access. Most of the  
 17 fire districts crossed by the Site Boundary comprise volunteers, and in some cases, it takes  
 18 considerable time to collect and mobilize an entire fire crew. In addition, much of the analysis  
 19 area includes open remote lands where access is limited. A fire in one of these areas may not  
 20 be immediately identified. However, once a fire has been identified, the fire districts responding  
 21 to requests for information have indicated that average response times range from about 8 to 40  
 22 minutes, depending on the location (Table U-10).

23 **Table U-10. Fire Departments, Rural Fire Protection Districts, and Rangeland Fire**  
 24 **Protection Associations**

Department	County	Number of Fire-Fighters	Equipment	Response Time
Boardman Rural Fire Protection District	Morrow	7 paid; 12 volunteers	(3) type 1 interface engines (off-road); (2) type 1 engines; (1) type 1 tender with a 3,000 gallon tank; (1) type 6 engine	0.5 hour south-route; 10 minutes north-route.
Hermiston Fire and Emergency Services	Umatilla	27 paid 8 interns 25 volunteers	(6) engines; (1) ladder truck; (5) tenders; (5) brush engines; (1) medium rescue; (6) ambulances (1) mass casualty trailer; (5) command vehicles; (2) hazmat vehicles	5-6 minutes
Echo Rural Fire Department	Umatilla	22 volunteers	(7) brush rigs; (3) tankers; (4) pumpers	20-25 min. near Pilot Rock; 40 min. in other areas

Department	County	Number of Fire-Fighters	Equipment	Response Time
Ione Rural Fire Department	Umatilla	12 volunteers	(2) pumpers; (1) tender; (4) brush rigs; (2) type 6 brush rigs; (2) type 3 rigs	Response times depend on the volunteers
Pilot Rock Rural Fire Protection District	Umatilla	25 volunteers	(2) type 1 engines (1) type 2 engine (4) type 6 brush rigs (1) tender (1) four-wheel drive truck (1) quick response unit	At least 30 minutes
North Powder Fire Department	Union	17 volunteers	(2) type 6 brush rig (1) 2 tender (1) type 1 truck (1) type 3 truck (1) 5,000-gallon tank-trailer (1) D5 dozer	12-15 minutes
La Grande Rural Fire Protection District	Union	2 paid; 23 volunteers	(2) command vehicles; (3) type 1 engines; (2) brush trucks; (1) 3,000-gallon water tender; (1) medium duty rescue vehicle.	4-8 minutes
Oregon Department of Forestry	Union, Baker, Umatilla, Morrow, Malheur	8 permanent staff, 50 summer seasonals	(20) type 6 wildland engines; (2) single air tankers; (1) type 2 helicopter; (2) dozers.	15-30 minutes
Burnt River Rangeland Fire Protection Association	Baker	Not provided <sup>1</sup>	Unknown <sup>1</sup>	Not provided <sup>1</sup>
Baker Rural Fire Protection District	Baker	22 volunteers	(3) structure trucks; (1) compressed air foam system truck; (2) 4,200-gallon tenders; (1) heavy rescue truck; (3) command vehicles; (4) brush trucks. <sup>1</sup>	8-14 minutes
Adrian Rural Fire Protection District	Malheur	12 volunteers	(1) 1,000-gallon pumper engine; (1) 3,000-gallon tender truck; (1) heavy truck with an 800-gallon tank; (1) light truck with a 300-gallon tank.	20-25 minutes

N/A – Not Applicable

<sup>1</sup> The Burnt River Rangeland Fire Protection District (RFPD) was unable to be reached, no contact information available. The Burnt River RFPD is not listed on the Oregon Fire Agency List (OSFM 2017).

Sources: Enright 2017; Hessel 2016; Martin 2016; Morgan 2016; Neeley 2016; Rogelstad 2016, Stanton 2017; Webb 2016; Weitz 2016; Wooldridge 2017

### 1 3.4.7 Health Care

2 Several medical facilities serve the communities in the analysis area. Minor injuries are treated  
3 at local medical facilities or emergency rooms. Three major hospitals capable of treating serious  
4 injuries are located within the five counties in the Oregon portion of the analysis area: Saint  
5 Anthony Hospital in Pendleton, Grande Ronde Hospital in La Grande, and Saint Alphonsus  
6 Medical Center in Ontario.

- 7 • **Saint Anthony Hospital** is a Level III hospital licensed for 49 beds, 5 of which are  
8 intensive care beds. The hospital employs<sup>2</sup> about 80 nurses, and 30 physicians have  
9 staffing privileges. Medical transportation is provided by Life Flight. One Life Flight  
10 helicopter is stationed at the hospital and one is stationed at the Pendleton airport. The  
11 hospital also has access to a fixed-wing craft. Flight times between the hospital and the  
12 Project area are about 15 minutes for the portions of the Project located near Pilot Rock,  
13 and 40 minutes for areas located further east. Per hospital staff, patients suffering major  
14 injuries, such as severed limbs or electrical burns, are stabilized at Saint Anthony Hospital  
15 and then transported to a regional hospital for treatment (Blanc 2016).
- 16 • **Grande Ronde Hospital** is a Level IV hospital licensed for 25 beds, 6 of which are  
17 intensive care beds. The hospital employs about 137 nurses, and 45 physicians have  
18 staffing privileges. Medical transportation is provided by Airlink. An Airlink fixed-wing  
19 craft is stationed at the local airport, and flight times between the airport and the Project  
20 area are about 20 to 90 minutes. Patients suffering major injuries, such as severed limbs  
21 or electrical burns, are stabilized at Grande Ronde Hospital and then transported to a  
22 regional hospital for treatment (Puckett 2016).
- 23 • **Saint Alphonsus Medical Center** is a Level II hospital that is licensed for 49 beds, 6 of  
24 which are intensive care beds. The hospital employs about 100 nurses, and 80 to 90  
25 physicians have staffing privileges. Medical transportation is provided by Life Flight. A  
26 Life Flight helicopter is stationed at the Ontario airport, and flight times between the  
27 hospital and the Project area are about 20 to 30 minutes (Hart 2016).

### 28 3.4.8 Schools

29 The analysis area includes multiple school districts. The school districts likely to be impacted  
30 are identified by county in Table U-11, which also identifies current student enrollment and  
31 student/teacher ratios, as well as enrollment trends for the eight school districts that responded  
32 to requests for information. All eight of these districts indicated that enrollment has been either  
33 flat or declining in recent years with current trends expected to continue (Table U-11).  
34 Student/teacher ratios for the 2015-2016 school year ranged from 5 students per teacher in the  
35 Huntington School District 16J to 24 students per teacher in the Vale School District 084 (Table  
36 U-11).

37 **Table U-11. School Districts**

School District	County	Student Enrollment in 2015-2016	Student/Teacher Ratio 2015-2016	Enrollment Trends
Morrow School District 001	Morrow	2,238	21	flat
Ione School District	Morrow	197	11.5	increasing
Pilot Rock School District 002	Umatilla	372	14	declining

<sup>2</sup> The levels identified in the above descriptions are the applicable trauma hospital designations. Trauma facilities in Oregon are designated as Level I, II, III, or IV. Level I and II centers offer the highest level of care. Level III trauma centers provide initial evaluation and stabilization, including surgical intervention, of severely injured patients. Level IV trauma centers provide resuscitation and stabilization of severely injured patients prior to transferring the patient to a higher level trauma system hospital (Oregon Health Authority 2012).

School District	County	Student Enrollment in 2015-2016	Student/Teacher Ratio 2015-2016	Enrollment Trends
La Grande School District 001	Union	2,203	18.6	increasing
Union School District 005	Union	335	15	declining
Baker School District	Baker	1,692	16	flat to declining
Huntington School District 16J	Baker	64	5	flat
Vale School District 084	Malheur	912	24	increasing
Nyssa School District 026	Malheur	1,124	Not provided <sup>1</sup>	slightly increasing
Adrian School District 061	Malheur	281	16	increasing

<sup>1</sup> This information was not available on the Oregon State Website.

Sources: Allison 2016; Clark 2016; Costello 2016; Dentinger 2016; Dolan 2016; Guerri 2016; Morrow 2016; ODE 2016; Stelk 2016; Vandever 2016

### 3.5 Potential Impacts on Public and Private Providers

OAR 345-021-0010(1)(u)(C): A description of any likely adverse impact to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110.

#### 3.5.1 Sewer and Water Services

As described in detail in Exhibit V, the Project will contract with wastewater service providers to dispose of sanitary waste from portable toilets, as well as small quantities of excess slurry, at an off-site sewage/wastewater treatment facility. Exhibit V provides details on the type and volume of wastewater that will be generated by the Project and describes how the Project will comply with federal, state, and local statutes and regulations related to wastewater.

The Boardman wastewater treatment facility, which is located less than 2 miles west of the proposed Longhorn Station, will not be adversely affected by the Project. If small quantities of Project wastewater from portable toilets and excess slurry are disposed of at the Boardman wastewater treatment facility, the quantities will be insufficient to result in facility impacts (see Exhibit V for details on Project wastewater management).

Construction of the Project will require approximately 36.5 million gallons of water. Water will be required for dust control, foundation construction, station construction, and communication station construction. Water will be obtained from contracted municipal sources and trucked to the construction sites. Representatives for each of the identified municipal water suppliers have stated that they have adequate supplies to meet project needs. Additional detail on Project water use and suppliers is presented in Exhibit O.

Operation of the Project will require approximately 11,000 gallons of water and will generate an equal amount of wastewater annually for operation of a restroom facility at the Longhorn Station. This facility will be connected to the City of Boardman's water and sewer system. Operation of the restroom facility will not affect the ability of the City of Boardman to provide water and sewer services to its existing and future users.

#### 3.5.2 Stormwater Drainage

The Project is not expected to affect the ability of public and private service providers to provide stormwater drainage services. Construction and operation of the Project will not require construction or expansion of stormwater drainage facilities.

1 Exhibit V describes how the Project will comply with all federal, state, and local statues and  
2 regulations related to stormwater management. Construction stormwater will be managed in  
3 accordance with the terms of the Project Erosion and Sediment Control Plan as described in  
4 Exhibit I, Attachment I-3. Permanent stormwater structures will minimize Project operation-  
5 related erosion and sedimentation using stormwater best management practices.

### 6 **3.5.3 Solid Waste Management**

7 Exhibit V – Solid Waste and Wastewater Minimization provides detailed information on the type  
8 and amount of solid waste that will be generated by the Project. Solid waste generated will  
9 include broken insulators, scrap conductor, other metallic scraps, empty wooden spools, as well  
10 as general construction waste such as crates, pallets, and paper wrappings used to protect  
11 equipment during shipping. It is estimated approximately 80 percent (2,813,005 cubic yards  
12 [843,902 tons]) of vegetation waste will be mulched and spread around on the ground in the Site  
13 Boundary. The remaining 20 percent (703,251 cubic yards [210,975 tons]) will be disposed of  
14 off-site. This waste will likely be disposed of at various landfills located along the Project's length  
15 and, therefore, no single landfill will be expected to accommodate the entire waste-load  
16 generated by Project construction. Operations of the Project are expected to generate no or  
17 minimal amounts of solid waste. See Exhibit V for more detailed information on the type and  
18 volume of solid waste that will be generated and the amount recycled by the Project.

19 Construction and operation of the Project is not expected to have an adverse impact on solid  
20 waste management. Landfills were identified near the project in Morrow, Baker, and Malheur  
21 counties, Oregon. Representatives from two of these landfills (Finley Buttes, Baker Sanitary)  
22 each indicated that their facility has adequate capacity to receive all the waste generated by the  
23 Project (Henry 2016; Large 2016) (see Attachment U-1A). These landfills are distributed along  
24 the Proposed Route, located at the north end, about 12 miles south of Boardman, Oregon  
25 (Finley Buttes), midway along the route in Baker County, Oregon (Baker Sanitary), and near the  
26 south end in Malheur County, Oregon (Lytle Boulevard Landfill).

27 A representative from the third landfill, Clay Peak Landfill, located near Payette, Idaho, indicated  
28 that the facility has no permitting restriction and would be able to accept waste from the Project  
29 (Schmidt 2016). Each of these landfills indicated that they would appreciate advanced notice of  
30 receiving waste, so that they could have waste cells built out in time to receive the Project  
31 waste.

32 As described in Attachment U-1A, IPC contacted these landfills to verify that they have  
33 adequate capacity to receive Project solid waste.

### 34 **3.5.4 Housing**

35 No adverse impacts to housing are anticipated as a result of the Project. An estimated 25  
36 percent of the projected construction workforce is expected to be hired locally and will likely  
37 commute to and from their homes to work each day. The remaining 75 percent of the workforce  
38 will temporarily relocate to the Project construction area, with 10 percent assumed to be  
39 accompanied by their families. These data are summarized by construction spread for the  
40 Oregon portion of the Project in Table U-2. Workers temporarily relocating will generally be  
41 expected to reside in or near larger communities where more housing options and services are  
42 available.

43 Temporary housing resources are discussed in Section 3.4.4 and summarized in Tables U-4  
44 and U-5. Review of the rental housing units and hotel and motel rooms that will normally be  
45 vacant and available for rent suggests that there will be sufficient housing resources available  
46 for rent in the two groups of counties that will be crossed by the proposed construction spreads,  
47 with additional resources available in other neighboring and nearby counties.



1 Additional projects are anticipated near the Project as population growth continues across  
2 Oregon. Associated road and commercial development are likely to occur in the foreseeable  
3 future, as well as maintenance and upgrading of the existing infrastructure. Gradual habitat and  
4 water quality improvements may also occur within the Project area over time, as federal, state,  
5 and private conservation and habitat enhancement efforts are implemented.

6 Counties within the Project analysis area have adopted Transportation System Plans, which  
7 identify transportation system deficiencies and needed improvements over a 20-year time  
8 horizon. The county Transportation System Plans identify general road, rail, bicycle, or  
9 pedestrian transportation system improvements near the Project.

10 Project construction activities will span a broad geographic area and involve crews working in  
11 multiple locations. Construction activities will not persist in any one area for a long period. Thus,  
12 competition for local housing is not anticipated to be substantial between this Project and other  
13 potential projects with overlapping construction activities.

14 Rental housing resources in the counties crossed by Construction Spread 1 (Morrow, Umatilla,  
15 Union, and Baker counties) include at least 17,954 rental units with about 1,700 of these units  
16 currently vacant. Hotel and motel resources in these counties include at least 1,545 rooms; and  
17 569 of these rooms are on average vacant and available for rent. Assuming construction  
18 workers are willing to travel an hour or more to work each way, additional resources are  
19 available in the Tri-Cities of Richland, Kennewick, and Pasco, Washington, which are located  
20 within commuting distance of at least some parts of Construction Spread 1. Comparison of the  
21 projected housing needs to available housing (rental units, hotel/motels) suggests that available  
22 housing is more than adequate to meet the projected housing needs during construction of  
23 Construction Spread 1.

24 Rental housing resources in the Oregon counties crossed by Construction Spread 2 (Baker and  
25 Malheur counties) include at least 6,388 rental units, with about 613 of these units currently  
26 vacant. Hotel and motel resources in these counties include at least 739 rooms, and 272 of  
27 these rooms are on average vacant and available for rent (see Tables U-4 and U-5). Additional  
28 resources are available in the cities of Boise and Nampa, located about an hour's drive east of  
29 the portion of the Proposed Route in Malheur County, Oregon. Comparison of the projected  
30 housing needs to available housing (rental units, hotel/motels) suggests that available housing  
31 is more than adequate to meet the projected housing needs during construction of Construction  
32 Spread 2.

33 There will be no new demand for housing during the operation phase of the Project. The  
34 existing IPC staff who will be responsible for operation and maintenance of the new  
35 transmission line and associated facilities already reside in the area. One additional part-time  
36 position may be filled locally.

### 37 **3.5.5 Traffic Safety**

#### 38 **3.5.5.1 Vehicle Traffic Safety**

39 Potential project impacts to traffic safety could result from increased traffic from construction  
40 workers commuting to and from work sites, equipment and material deliveries, and fill and water  
41 hauling. The transportation of equipment and materials to the site and haul of waste material  
42 from the site during construction will cause short-term increase in the use of local roadways  
43 during the construction period. This increased use could impact transportation and access by  
44 disrupting local traffic due to over-sized, slow-moving vehicles on smaller roadways and  
45 increased vehicular traffic from construction personnel. IPC will coordinate with private road  
46 owners prior to construction. Project design features will require implementation of a traffic  
47 management plan that will serve to reduce potential traffic delays as a result of the Project.

1 Preliminary haul routes are identified in Table U-12. These routes were identified based on  
 2 anticipated multi-use areas. A detailed draft Transportation and Traffic Plan has been prepared  
 3 for the Project and is included in Attachment U-2. Vehicle trip generation estimates are included  
 4 in Attachment U-2, Section 3.1.1. Traffic safety is addressed in Attachment U-2, Section 4.2.

5 **Table U-12. Preliminary Project Haul Routes**

Multi-use Area <sup>1</sup>	County	Major Routes	Local Routes
MO-01, MO-02, MO-03, MO-04, MO-05	Morrow	I-84, OR 207, OR 74, US 730	Big Butter Creek Lane, Butter Creek Road
UM-01, UM-02, UM-03, UM-04, UM-05, UM-06, UM-07	Umatilla	I-84, I-82, US 395, OR 74	Lamb Road, Big Butter Creek Road, Parker Rd, Southwest Birch Street, East Birch Creek Road, McKay Creek Road, Ross Road
UN-01, UN-02, UN-03, UN-04	Union	I-84, OR 203, OR 234	Pierce Road, Foothill Road, Olsen Road, Bagwell Road, North Powder River Lane
BA-01, BA-02, BA-03, BA-04, BA-05, BA-06	Baker	I-84, US 30, OR 203	Campbell Street, Atwood Road, Sunset Lane, Hill Creek Road, Oxman Ranch Road, Durkee Road, Rye Valley Lane
MA-01, MA-02, MA-03, MA-04, MA-05, MA-06, MA-07, MA-08, MA-09, MA-10	Malheur	I-84, US 20, US 26, OR 201, OR 415	Love Reservoir Road, Old Oregon Trail, 2nd Boulevard South, Russell Road, 4th Boulevard South, Bishop Road, 5th Avenue East, Graham Boulevard, Loop Rd, Rock Canyon Road, Cow Hollow Road, Owyhee Tunnel Road, Succor Creek Road
OW-01, OW-02, OW-03, OW-04, OW-05	Owyhee (Idaho)	US 95, OR 78	In Idaho: Sage Road, Nelson Lane, State Line Road, Johnstone Road, Coyote Grade Road, Clark Road, Wilson Cemetery Lane

<sup>1</sup> Multi-use areas are numbered as shown in Exhibit C, Attachment C-2. The Double Mountain, Morgan Lake, and West of Bombing Range Road Alternatives 1 and 2 routes would not require separate multi-use areas; the Double Mountain Alternative Route would use MA-05 and MA-06, the Morgan Lake Alternative Route would use UN-01 and UN-02, and the West of Bombing Range Road Alternative Routes would use MO-01 or MO-02.

6 As discussed in Attachment U-2, Project construction activities will be dispersed along the  
 7 Proposed Route and impacts to any one location are expected to be short term.

8 The operations phase will have little impact on local and regional traffic. Trips will be limited to  
 9 occasional ground inspections of the transmission line, and infrequent maintenance of the  
 10 transmission line and stations. Most inspections will be conducted aerially. If major maintenance  
 11 and repair work requires lane restrictions and/or roadway closures, IPC will coordinate with  
 12 landowners to allow emergency access to private property.

### 13 3.5.5.2 Air Traffic Safety

14 There are no expected Project impacts to air traffic or safety from Project-related helicopter use  
 15 from multi-use areas. The Oregon Department of Aviation and the FAA do not require a flight  
 16 plan to be filed; this indicates that temporary helicopter use for construction would not create an  
 17 air traffic or safety issue at the regional airports within the Project area.

1 IPC will require its construction contractor to develop a Helicopter Use Plan that will address the  
2 helicopter operations during construction and include information regarding the type of  
3 helicopter use, duration of helicopter use, flight data management, and other requirements of  
4 both the Oregon Department of Aviation and the FAA. The Helicopter Use Plan will identify that  
5 if the helicopters will be lifting external loads and carrying them over roads or residences they  
6 might need to complete a congested area plan and provide that to the FAA. The Helicopter Use  
7 Plan will also specify that as a courtesy, IPC/aviation contractor should provide notices to  
8 airmen regarding the location and nature of work being performed. This notice would be posted  
9 at each of the airports in the vicinity of the project to alert other aviators of the location and  
10 timing of Project helicopter activities. IPC proposes the following site certificate condition  
11 providing for the development of the Helicopter Use Plan:

12 **Public Services Condition 2:** *Prior to construction, the site certificate holder*  
13 *shall submit to the department for its approval a Helicopter Use Plan, which*  
14 *identifies or provides:*  
15 *a. The type of helicopters to be used;*  
16 *b. The duration of helicopter use;*  
17 *c. Roads or residences over which external loads will be carried;*  
18 *d. Multi-use areas and light-duty fly yards containing helipads shall be located: (i)*  
19 *in areas free from tall agricultural crops and livestock; (ii) at least 500 feet from*  
20 *organic agricultural operations; and (iii) at least 500 feet from existing dwellings*  
21 *on adjacent properties; and*  
22 *e. Flights shall occur only between sunrise and sunset.*

23 **Public Services Condition 6:** *During construction, the site certificate holder*  
24 *shall conduct all work in compliance with the Helicopter Use Plan referenced in*  
25 *Public Services Condition 2.*

26 Considering the development of a Helicopter Use Plan by IPC's construction contractor that will  
27 follow all Oregon Department of Aviation and FAA requirements and IPC's proposed limits on  
28 helicopter use, the Project is not expected to have significant adverse impacts on air traffic.

### 29 **3.5.6 Police and Fire Protection**

#### 30 **3.5.6.1 Police**

31 The Project, considering IPC's Transportation and Traffic Plan (Attachment U-2), is not  
32 expected to have significant adverse impacts on police service. The potentially affected sheriff's  
33 departments that responded to requests for information indicated that, while Project construction  
34 sites could be a target for crimes (primarily theft of materials or equipment) and a temporary  
35 influx of construction workers could result in short-term increases in traffic incidents and other  
36 disturbances, the Project is unlikely to require additional law enforcement resources or facilities  
37 (Diehl 2011; Straub 2016; Wolfe 2016) (see Attachment U-1B). Morrow County expects  
38 temporary increased traffic impacts that would require speed trailers, signage, and other  
39 measure to increase safety (Matlack 2016).

40 During Project operation, new access roads and the transmission line and associated facilities  
41 could place increased demands on local law enforcement but these impacts are not expected to  
42 be significant. Access roads on private land will have some form of access control (gate, barrier,  
43 signage) as preferred by the property owner. These access controls are assumed to be an  
44 effective deterrent against trespassing; therefore, no increased demands are anticipated for  
45 local law enforcement. No access control is proposed for improved existing roads on BLM-  
46 managed and NF lands. New roads will or will not have access control based on travel  
47 management plan designations for the area, and the likelihood of access control being effective.  
48 Improved existing roads and some open new roads on BLM-managed and NF lands are not

1 anticipated to increase demands on law enforcement because they are not anticipated to result  
2 in a significant increase in public use.

3 Transmission lines, stations, and associated facilities could be targets of intentional destructive  
4 acts, such as sabotage, terrorism, vandalism, and theft. Such acts include firing at insulators,  
5 powerlines, transmission towers, or station equipment; vandalism; and theft of equipment,  
6 supplies, tools, or materials. Of these acts, vandalism and thefts are most common.

7 Transmission support structures will be constructed in such a way that displacement would be  
8 extremely difficult. Physical deterrents such as fencing, cameras, and signs at stations will be  
9 employed to prevent theft, vandalism, and unauthorized access. Use of these deterrents during  
10 Project operation will minimize any demands on local law enforcement services.

11 In the event of intentional destructive acts, operational protocols will be implemented with  
12 detailed procedures in accordance with the Proponents' emergency response procedures. The  
13 communication that would occur with local authorities would be dependent on the type of  
14 emergency that arose. For major incidents, 911 would be called; for vandalism and theft, the  
15 local Sheriff's office would be contacted. Contact information for federal, state, and county  
16 emergency contact information; helicopter emergency response; spill reporting; and hospitals  
17 closest to the transmission line route will be listed by geographical area in the emergency  
18 response procedures.

### 19 3.5.6.2 Fire

20 The Project, considering IPC's Fire Prevention and Suppression Plan (Attachment U-3), is not  
21 expected to have significant adverse impacts on fire protection services. Construction of the  
22 new transmission line will take place year-round, when weather and construction restrictions  
23 permit. Most activities will occur during summer when the weather is hot and dry. Much of the  
24 proposed construction will occur in grassland and shrub-dominated landscapes where the  
25 potential for naturally occurring fire is high. Project construction-related activities, including the  
26 use of vehicles, chainsaws, and other motorized equipment, will likely increase this potential risk  
27 in some areas within the Site Boundary. Fire hazards can also be related to workers smoking,  
28 refueling, and operating vehicles and other equipment off roadways. Welding on broken  
29 construction equipment could also potentially result in the combustion of native materials near  
30 the welding site.

31 To reduce the potential for construction-related fires, IPC has developed a draft Fire Prevention  
32 and Suppression Plan to ensure that fire prevention and suppression measures are carried out  
33 in accordance with federal, state, and local regulations (Attachment U-3). By implementing  
34 these measures, the Project will not increase fire ignitions, and therefore will not impact  
35 sagebrush steppe and native grasslands. The final plan will incorporate input from the  
36 construction contractor to ensure coordination with local firefighters and emergency responders  
37 for effective emergency response.

38 Transmission line structures used to support overhead transmission lines must meet the  
39 requirements of the Public Utility Commission of Oregon Construction Standards and the  
40 National Electrical Safety Code. Fire hazards causing wildfire ignitions are more prevalent for  
41 distribution and lower-voltage transmission lines than for higher-voltage transmission lines, such  
42 as those being employed for the Project. The steel towers proposed for the Project will not burn  
43 and are designed to dissipate lightning strikes. The integrity of the grounding and other  
44 hardware will be tested on a regular basis during scheduled maintenance, thereby minimizing  
45 the potential for fire ignitions.

46 Right-of-way maintenance in forested areas will reduce the risk that combustible materials  
47 would come into contact with the conductors and ignite a fire. Transmission line protection and  
48 control systems will be incorporated into the system and are designed to detect faults (such as

1 arcing from debris contacting the line) and will rapidly shut off power flow (in 1/60th to 3/60th of  
2 a second) if arcing is detected.

3 Local fire protection agencies were contacted in order to solicit their input regarding the potential  
4 impact of the Project on their ability to serve their communities (see Attachment U-1C). Most of  
5 these agencies indicated that the Project will not adversely impact their districts. For example,  
6 the Deputy Fire Management Officer for the BLM (which will be responsible for fire suppression  
7 on approximately 25 percent of the lands within the Site Boundary) indicated that the Project will  
8 not impact their ability to suppress fires or require additional fire suppression resources.  
9 However, conversations with local fire protection agencies indicated that three of these  
10 agencies have concerns about potential impacts of the Project on their districts.

11 The Oregon Department of Forestry Rangeland Coordinator expressed concern regarding the  
12 risk of fighting fires near energized transmission lines, because electricity could arc through the  
13 smoke and strike firefighters (Vetter 2016). This issue is typically addressed by waiting for an  
14 electric transmission line to be de-energized before attempting to suppress fires in the  
15 immediate vicinity. This issue will be addressed through IPC coordination with local fire and  
16 emergency response agencies.

17 A representative of the Oregon Department of Forestry expressed concern about the potential  
18 for forest land being converted to grazing land because their revenue would drop and that new  
19 roads would mean better access and more potential fire starts (Hessel 2016). Access is  
20 addressed in the Transportation and Traffic Plan (Attachment U-2) and impacts are not  
21 expected.

22 The Fire Chief for the North Powder Fire Department indicated that an increased risk of fire  
23 during the summer could impact his department and their equipment could need to be upgraded  
24 to address this potential increase in fire risk (Martin 2016).

25 Wildfires are a concern in the general Site Boundary area. IPC believes that during facility  
26 construction and operation the abilities of the rural fire districts and the BLM and USFS to  
27 provide fire protection services within the Site Boundary will be enhanced for the following  
28 reasons:

- 29 • Establishment of Project roads that will reduce response time, serve as potential fuel-  
30 breaks and point of attack for firefighting personnel;
- 31 • Presence of earthmoving equipment within the Site Boundary during construction; and
- 32 • Presence of water trucks within the Site Boundary during construction.

33 The concerns of these local fire protection agencies include traffic, access, and safety issues,  
34 and mitigation for each are included in Attachment U-2, Section 4.2.1.

35 Attachment U-3 establishes standards and practices for the Project to minimize risk of human-  
36 caused fire ignition and, in case of fire, provide for immediate suppression. Construction and  
37 operations crews will implement the Fire Prevention and Suppression Plan, so that the Project  
38 will not increase the risk of fire. Construction workers and maintenance personnel are not  
39 trained firefighters and are not expected to fight fires. However, qualified equipment operators,  
40 at the direction of Incident Command, may use construction equipment to assist local firefighting  
41 efforts when safe to do so. Because the Project will not increase the risk of fire, the  
42 development of an "Interagency Fire Center" is not necessary to protect the electric  
43 transmission line.

44 During operations, the Project will comply with federal safety standards, including minimizing fire  
45 risk by implementing periodic vegetative clearing. Vegetative management will address fuel

1 loading near the Project per applicable safety codes. Vegetation management is discussed in  
2 detail in Exhibit P1, Attachment P1-4.

3 The Project may limit accessibility to helicopters or other aerial fire response equipment, but this  
4 impact will be localized. The improvement of existing access roads and the addition of new  
5 access roads for the Project will improve access for emergency responders (including fire  
6 fighters) near the Project. Improved access may lead to shorter emergency response times.

7 Based on the measures taken to minimize the risk of project-related fires, as well as planned  
8 coordination between IPC and local fire agencies aimed at ensuring no adverse impacts to  
9 these agencies resources or ability to serve the communities occur, the Project is not expected  
10 to have an adverse impact to fire protection services.

### 11 3.5.6.3 Health Care

12 Construction and operation of the Project is not expected to have an adverse impact on health  
13 care providers. Workers suffering minor injuries will be treated at local medical facilities or  
14 emergency rooms. Workers suffering more serious injuries, were they to occur, will be taken to  
15 one of the major hospitals in the project vicinity. Conversations with staff from these hospitals—  
16 Saint Anthony Hospital, Grande Ronde Hospital, and Saint Alphonsus Medical Center—indicate  
17 that these hospitals have adequate capacity and the Project should not adversely impact these  
18 medical facilities or their ability to serve local communities (Blanc 2016; Puckett 2016; Hart  
19 2016) (see Attachment U-1D).

### 20 3.5.6.4 Schools

21 Project construction is assumed for the purposes of analysis to involve two construction spreads  
22 that will be built concurrently (Table U-1). If 10 percent of the non-local workers would relocate  
23 with their families, up to 18 children may need to be enrolled in local schools along Construction  
24 Spread 1 and up to 13 children along Construction Spread 2 (Table U-2). The likelihood that  
25 construction workers will temporarily relocate their families to the area is low and the school  
26 districts that responded to enquiries all indicated that they will be able to accommodate  
27 additional students (see Attachment U-1E). Therefore, the Project is not expected to have an  
28 impact on schools.

29 Existing IPC staff will be primarily responsible for operation and maintenance of the new  
30 transmission line and associated facilities. One additional part-time position may be filled locally.  
31 No existing employees will be required to relocate to the Site Boundary and there will be no  
32 impact on school enrollment.

## 33 3.6 Mitigation

34 OAR 345-021-0010(1)(u)(D): Measures the Applicant Proposes to Avoid, Reduce or  
35 Otherwise Mitigate the Impacts: Evidence that adverse impacts described in (C) are not likely  
36 to be significant, taking into account any measures the applicant proposes to avoid, reduce  
37 or otherwise mitigate the impacts.

38 IPC has developed site-specific measures to avoid, reduce, or otherwise mitigate any potentially  
39 significant impacts so that the Project can ultimately be constructed, operated, and maintained  
40 without a significant adverse impact.

### 41 3.6.1 Sewer and Water Services

42 Sanitary wastewater from portable toilets will be handled by a sanitary system subcontractor  
43 used to provide the sanitary facilities. This service will consist of scheduled removal of the  
44 sanitary waste using a vacuum truck and disposal in accordance with the sanitary system

1 subcontractor's permits. To ensure proper management and disposal of construction-related  
2 waste water, IPC proposes that the Council include the following condition in the site certificate  
3 providing that IPC will prepare a waste management plan to be implemented during  
4 construction of the Project:

5 **Waste Minimization Condition 1:** *Prior to construction, the site certificate holder*  
6 *shall develop a construction waste management plan, to be implemented during all*  
7 *phases of facility construction, which includes at a minimum the following details:*

- 8 a. *Specification of the number and types of waste containers to be maintained*  
9 *at construction sites and construction yards;*  
10 b. *Description of waste segregation methods for recycling or disposal; and*  
11 c. *Names and locations of appropriate recycling and waste disposal facilities,*  
12 *collection requirements, and hauling requirements to be used during*  
13 *construction.*

14 *The certificate holder shall maintain a copy of the construction waste*  
15 *management plan onsite and shall provide to the Oregon Department of Energy*  
16 *a report on plan implementation in the 6-month construction report required*  
17 *pursuant to OAR 345-026-0080(1)(a).*

18 Operation of the restroom facility at the Longhorn Station that will be connected to the City of  
19 Boardman's water and sewer system will not result in any impact to the City's ability to continue  
20 to provide services. Therefore, no mitigation for the restroom facility is proposed.

### 21 **3.6.2 Stormwater Drainage**

22 The Project is not expected to affect the ability of public and private service providers to provide  
23 stormwater drainage services. Construction and operation of the Project will not require  
24 construction or expansion of stormwater drainage facilities. To ensure the same, the Project's  
25 draft Erosion and Sediment Control Plan (ESCP; see Exhibit I, Attachment I-3) provides certain  
26 erosion and sediment control measures and Best Management Practices to be implemented  
27 during Project construction and operations. To ensure the protective measures set forth in the  
28 draft ESCP are incorporated into the final ESCP and to ensure compliance with the final ESCP,  
29 IPC proposes that the Council include the following conditions in the site certificate providing for  
30 the same:

31 **Soil Protection Condition 3:** *Prior to construction, the site certificate holder*  
32 *shall submit to the department a copy of an ODEQ-approved construction-related*  
33 *final Erosion and Sediment Control Plan (ESCP). The protective measures*  
34 *described in the draft ESCP Plan in ASC Exhibit I, Attachment I-3, shall be*  
35 *included as part of the construction-related final ESCP Plan, unless otherwise*  
36 *approved by the department.*

37 **Soil Protection Condition 6:** *During construction, the site certificate holder shall*  
38 *conduct all work in compliance with the final ESCP referenced in Soil Protection*  
39 *Condition 3.*

### 40 **3.6.3 Solid Waste Management**

41 As discussed above, construction and operation of the Project is not expected to have  
42 an adverse impact on solid waste management. Nonetheless, as provided for in *Waste*  
43 *Minimization Condition 1*, IPC will prepare a construction waste management plan to  
44 ensure proper management and disposal of construction-related solid waste.

### 1 **3.6.4 Housing**

2 As discussed above in Section 3.5.4, no adverse impacts to housing are anticipated as a result  
3 of the Project. Accordingly, no mitigation measures are required to address housing impacts.

### 4 **3.6.5 Traffic Safety**

5 The draft Transportation and Traffic Plan (see Attachment U-2) presents the measures IPC will  
6 use to mitigate potential Project impacts related to traffic and traffic safety. For example, the  
7 draft Plan provides that IPC's construction contractor will implement the following protective  
8 measures (see Attachment U-2, Section 4.2.1):

- 9 • Coordinating the timing and locations of road closures in advance with emergency  
10 services such as fire, paramedics, and essential services such as mail delivery and  
11 school buses.
- 12 • Maintaining emergency vehicle access to private property.
- 13 • Developing plans as required by county or state permits to accommodate traffic where  
14 construction would require closures of state or county-maintained roads for longer  
15 periods.
- 16 • Posting caution signs on county and state-maintained roads, where appropriate, to alert  
17 motorists of construction and warn them of slow traffic.
- 18 • Using traffic control measures such as traffic control flaggers, warning signs, lights, and  
19 barriers during construction to ensure safety and to minimize localized traffic congestion.  
20 These measures will be required at locations and during times when trucks will be  
21 entering or exiting highways frequently.
- 22 • Using chase vehicles as required (or police vehicles, if required by the Oregon  
23 Department of Transportation) to give drivers additional warning.
- 24 • Notifying landowners prior to the start of construction near residences.
- 25 • Fencing construction areas near residences at the end of the construction day, and  
26 restoring residential roads damaged by construction activities as soon as possible.
- 27 • Installing access control devices at locations shown in the Road Classification Guide and  
28 Access Control Plan (see Exhibit B, Attachment B-5).

29 To ensure the protective measures set forth in the draft Transportation and Traffic Plan are  
30 incorporated into the final Transportation and Traffic Plan and to ensure compliance with the  
31 final Transportation and Traffic Plan, IPC proposes that the Council include the following  
32 conditions in the site certificate providing for the same:

33 ***Public Services Condition 3:*** *Prior to construction, the site certificate holder*  
34 *shall finalize, and submit to the department for its approval, a final Transportation*  
35 *and Traffic Plan. The protective measures as described in the draft*  
36 *Transportation and Traffic Plan in ASC Exhibit U, Attachment U-2, shall be*  
37 *included and implemented as part of the final Transportation and Traffic Plan.*

38 ***Public Services Condition 7:*** *During construction, the site certificate holder shall*  
39 *conduct all work in compliance with the final Transportation and Traffic Plan*  
40 *referenced in Public Services Condition 3.*

### 41 **3.6.6 Police and Fire Protection**

42 The draft Fire Prevention and Suppression Plan (see Attachment U-3) lists the mitigation  
43 measures IPC will employ to reduce the potential risk of fire within the Site Boundary. In  
44 addition, IPC will work with local fire protection and emergency response service providers to



1 address the need for any additional resources during the construction and operations phases of  
2 the Project. To ensure the protective measures set forth in the draft Fire Prevention and  
3 Suppression Plan are incorporated into the final Fire Prevention and Suppression Plan and to  
4 ensure compliance with the final Fire Prevention and Suppression Plan, IPC proposes that the  
5 Council include the following conditions in the site certificate providing for the same:

6 **Public Services Condition 4:** *Prior to construction, the site certificate holder*  
7 *shall finalize, and submit to the department for its approval, a final Fire*  
8 *Prevention and Suppression Plan. The protective measures as described in the*  
9 *draft Fire Prevention and Suppression Plan in ASC Exhibit U, Attachment U-3,*  
10 *shall be included and implemented as part of the final Fire Prevention and*  
11 *Suppression Plan.*

12 **Public Services Condition 8:** *During construction, the site certificate holder*  
13 *shall conduct all work in compliance with the final Fire Prevention and*  
14 *Suppression Plan referenced in Public Services Condition 4.*

15 IPC will require its construction contractor to develop an Environmental and Safety Training  
16 Plan that will include specific rules of conduct applicable to workers and management of work  
17 sites. The plan will include measures for securing multi-use areas and work sites when not in  
18 use (locked gates, portable items secured in locked storage containers) and  
19 drug/alcohol/firearm policies with clear consequences for violations. As explained in  
20 Sections 3.4.4 and 3.5.4, existing short-term housing for the Project work force is available near  
21 the Project; IPC does not anticipate that Project-specific housing, such as temporary on-site  
22 worker camps, will be required. Accordingly, the measures described in Exhibit U and the  
23 Environmental and Safety Training Plan will serve to mitigate the concerns raised by Sheriff's  
24 departments in Attachment U-1B. IPC proposes that the Council include the following condition  
25 in the site certificate providing that IPC finalize an Environmental and Safety Training Plan prior  
26 to construction:

27 **Public Services Condition 5:** *Prior to construction, the site certificate holder*  
28 *shall submit to the department for its approval an Environmental and Safety*  
29 *Training Plan, which shall address:*  
30 *a. Measures for securing multi-use areas and work sites when not in use; and*  
31 *b. Drug/alcohol/firearm policies with clear consequences for violations.*

32 **Public Services Condition 9:** *During construction, the site certificate holder*  
33 *shall conduct all work in compliance with the Environmental and Safety Training*  
34 *Plan referenced in Public Services Condition 5.*

### 35 3.7 Monitoring

36 OAR 345-021-0010(1)(u)(E) – Proposed Monitoring: The applicant's proposed monitoring  
37 program, if any, for impacts to the ability of the providers identified in (B) to provide the  
38 services listed in OAR 345-022-0110.

39 No significant impacts to the ability of public and private service providers to provide public  
40 services are anticipated and, therefore, no monitoring program is planned.

## 4.0 IPC'S PROPOSED SITE CERTIFICATE CONDITIONS

IPC proposes the following site certificate conditions to ensure compliance with the Public Services Standard:

### Prior to Construction

**Public Services Condition 1:** Prior to construction, the site certificate holder shall consult with public utilities or private providers operating within existing rights-of-ways to minimize impact to such.

**Public Services Condition 2:** Prior to construction, the site certificate holder shall submit to the department for its approval a Helicopter Use Plan, which identifies or provides:

- a. The type of helicopters to be used;
- b. The duration of helicopter use;
- c. Roads or residences over which external loads will be carried;
- d. Multi-use areas and light-duty fly yards containing helipads shall be located: (i) in areas free from tall agricultural crops and livestock; (ii) at least 500 feet from organic agricultural operations; and (iii) at least 500 feet from existing dwellings on adjacent properties; and
- e. Flights shall occur only between sunrise and sunset.

**Public Services Condition 3:** Prior to construction, the site certificate holder shall finalize, and submit to the department for its approval, a final Transportation and Traffic Plan. The protective measures as described in the draft Transportation and Traffic Plan in ASC Exhibit U, Attachment U-2, shall be included and implemented as part of the final Transportation and Traffic Plan.

**Public Services Condition 4:** Prior to construction, the site certificate holder shall finalize, and submit to the department for its approval, a final Fire Prevention and Suppression Plan. The protective measures as described in the draft Fire Prevention and Suppression Plan in ASC Exhibit U, Attachment U-3, shall be included and implemented as part of the final Fire Prevention and Suppression Plan.

**Public Services Condition 5:** Prior to construction, the site certificate holder shall submit to the department for its approval an Environmental and Safety Training Plan, which shall address:

- a. Measures for securing multi-use areas and work sites when not in use; and
- b. Drug/alcohol/firearm policies with clear consequences for violations.

**Waste Minimization Condition 1:** Prior to construction, the site certificate holder shall develop a Construction Waste Management Plan, which addresses:

- a. The number and types of waste containers to be maintained at construction sites and construction yards;
- b. Waste segregation methods for recycling or disposal;
- c. Names and locations of appropriate recycling and waste disposal facilities, collection requirements, and hauling requirements to be used during construction;
- d. Recycling steel and other metal scrap;
- e. Recycling wood waste;
- f. Recycling packaging wastes such as paper and cardboard;
- g. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler or by using facility equipment and personnel to haul the waste;

1           *h. Segregating all hazardous and universal wastes such as used oil, oily rags*  
2           *and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-*  
3           *cadmium batteries for disposal by a licensed firm specializing in the proper*  
4           *recycling or disposal of hazardous and universal wastes; and*  
5           *i. Discharging concrete truck rinse-out within foundation holes, completing truck*  
6           *wash-down off-site, and burying other concrete waste as fill on-site whenever*  
7           *possible.*

8           **Soil Protection Condition 3:** *Prior to construction, the site certificate holder*  
9           *shall submit to the department a copy of an ODEQ-approved construction-related*  
10           *final Erosion and Sediment Control Plan (ESCP). The protective measures*  
11           *described in the draft ESCP Plan in ASC Exhibit I, Attachment I-3, shall be*  
12           *included as part of the construction-related final ESCP Plan, unless otherwise*  
13           *approved by the department.*

#### 14           **During Construction**

15           **Public Services Condition 6:** *During construction, the site certificate holder*  
16           *shall conduct all work in compliance with the Helicopter Use Plan referenced in*  
17           *Public Services Condition 2.*

18           **Public Services Condition 7:** *During construction, the site certificate holder shall*  
19           *conduct all work in compliance with the final Transportation and Traffic Plan*  
20           *referenced in Public Services Condition 3.*

21           **Public Services Condition 8:** *During construction, the site certificate holder*  
22           *shall conduct all work in compliance with the final Fire Prevention and*  
23           *Suppression Plan referenced in Public Services Condition 4.*

24           **Public Services Condition 9:** *During construction, the site certificate holder*  
25           *shall conduct all work in compliance with the Environmental and Safety Training*  
26           *Plan referenced in Public Services Condition 5.*

27           **Waste Minimization Condition 2:** *During construction, the site certificate holder*  
28           *shall conduct all work in compliance with the Construction Waste Management*  
29           *Plan referenced in Waste Minimization Condition 1.*

30           **Waste Minimization Condition 3:** *During construction, the site certificate holder*  
31           *shall provide to the department a report on the implementation of the*  
32           *Construction Waste Management Plan referenced in Waste Minimization*  
33           *Condition 1 in the 6-month construction report required pursuant to OAR*  
34           *345-026-0080(1)(a).*

35           **Soil Protection Condition 6:** *During construction, the site certificate holder shall*  
36           *conduct all work in compliance with the final ESCP referenced in Soil Protection*  
37           *Condition 3.*

#### 38           **During Operation**

39           **Public Services Condition 10:** *During operation, the site certificate holder shall*  
40           *continue to consult with public utilities or private providers operating within*  
41           *existing rights-of-ways to minimize impacts to such.*

## 1 5.0 CONCLUSIONS

2 Exhibit U includes the application information provided for in OAR 345-021-0010(1)(u). Further,  
3 the evidence set forth in Exhibit U establishes that the Project, taking into account mitigation, is  
4 not likely to result in a significant adverse impact to the affected public service providers  
5 consistent with the Public Services Standard at OAR 345-022-0110.

## 6 6.0 COMPLIANCE CROSS-REFERENCES

7 Table U-13 identifies the location within the application for site certificate of the information  
8 responsive to the application submittal requirements in OAR 345-021-0010(u), the Public  
9 Services Standard at OAR 345-022-0110, and the relevant Amended Project Order provisions.

10 **Table U-13. Compliance Requirements and Relevant Cross-References**

Requirement	Location
<b>OAR 345-021-0010(1)(u)</b>	
Exhibit U. Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of public and private providers in the analysis area to provide the services listed in OAR 345-022-0110, providing evidence to support a finding by the Council as required by OAR 345-022-0110. The applicant shall include:	
(A) The important assumptions by the applicant used to evaluate potential impacts	Exhibit U, Section 3.3
(B) Identification of the public and private providers in the analysis area that would likely be affected	Exhibit U, Section 3.4
(C) A description of any likely adverse impact to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110	Exhibit U, Section 3.5
(D) Evidence that adverse impacts described in (C) are not likely to be significant, taking into account any measures the applicant proposes to avoid, reduce or otherwise mitigate the impacts	Exhibit U, Section 3.6
(E) The applicant's proposed monitoring program, if any, for impacts to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110	Exhibit U, Section 3.7
<b>OAR 345-022-0110</b>	
(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.	Exhibit U, Section 3.6
<b>Amended Project Order Provisions</b>	
The application should include an analysis of the impact of the proposed transmission line on all public and private services listed in OAR 345-022-0110, within the analysis area, including estimated facility-related traffic during construction and operation and the potential impact on traffic safety. Description of traffic impacts should include proposed transportation routes for the transport of heavy equipment and shipments of facility components during construction. The application must demonstrate that the proposed facility will not result in significant adverse impact to the ability of public and private providers within the analysis area to provide those services.	Throughout Exhibit U and Attachments

## 1 **7.0 RESPONSE TO COMMENTS FROM REVIEWING AGENCIES**

2 Table U-14 provides information responsive to the public comments set forth in the Amended  
3 Project Order.

### 4 **Table U-14. Reviewing Agency Comments**

<b>Comments</b>	<b>Location</b>
A commenter expressed concern that the proposed facility will impact the Owyhee Project 69 kV transmission line. Other comments were received from operators of transmission lines, communication lines, and pipelines was concerned about possible line crossings and interference with existing right of ways (commenters included Chevron Pipe Line Company, Frontier Telephone, and MCI). Exhibit U shall address impacts to any such existing facilities, especially when crossing existing right of ways, and provide evidence of consultation with the public utilities or private providers operating such lines.	Exhibit U, Section 3.4,
Commenters expressed concern about the proposed project's impacts on the ability of service providers to respond to wildfires due to interference with aerial firefighting; limited accessibility in remote areas especially susceptible to wild fires; and lack of equipment available to rural fire protection districts. Exhibit U shall identify the fire protection service providers within the analysis area for public services and provide evidence of consultation with the providers concerning fire protection and response plans during construction and operations. Potential impacts to such providers, and proposed mitigation for such impacts, shall also be included in Exhibit U.	Exhibit U, Section 3.4.6, Section 3.5.6, Section 3.6.6
Commenters expressed concern that local emergency responders and service 1 providers are ill-equipped to respond to security threats to the transmission line. Exhibit U must identify local emergency response agencies within the analysis area for public services and provide evidence of consultation with the providers concerning security response plans during construction and operations. Potential impacts to such providers, and proposed mitigation for such impacts, shall be included in Exhibit U.	Exhibit U, Section 3.4.6, Section 3.5.6, Section 3.6.6

## 5 **8.0 REFERENCES**

- 6 Allison, S. 2016. Adrian School District 061. Personal Communication between Suzy Cavanagh  
7 (Tetra Tech) and Stephanie Allison (Deputy Clerk/Business Manager); October 24, 2016.
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11 (Tetra Tech) and Mindy Clark (District Clerk); October 24, 2016.
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13 Tech) and David Henry (President); October 27, 2016.
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20 Cavanagh (Tetra Tech) and Sam Martin (Fire Chief); October 12, 2016.
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22 Tech) and Kenneth W. Matlack (Morrow County Sheriff); October 18, 2016.
- 23 Morgan, V. 2016. Ione Rural Fire Protection District. Personal Communication between Suzy  
24 Cavanagh (Tetra Tech) and Virgil Morgan (Fire Chief); October 12, 2016.
- 25 Morrow, B. 2016. Vale School District 084. Personal Communication between Suzy Cavanagh  
26 (Tetra Tech) and Beth Morrow (Superintendent and Administrator); October 24, 2016.
- 27 Neeley, R. 2016. Pilot Rock Rural Fire Department. Personal Communication between Suzy  
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17 Suzy Cavanagh (Tetra Tech) and Scott Stanton (Fire Chief); January 17, 2017.
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- 40 Webb, R. 2016. Adrian Rural Fire Protection District. Personal Communication between Suzy  
41 Cavanagh (Tetra Tech) and Chief Robert Webb; October 19, 2016.

- 1 Weitz, D. 2016. Baker Rural Fire Protection District. Personal Communication between Suzy  
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4 Tech) and Brian E. Wolfe (Malheur County Sheriff); November 8, 2016
- 5 Wooldridge, L. 2017. La Grande Rural Fire Protection District. Personal Communication between  
6 Suzy Cavanagh (Tetra Tech) and Larry Wooldridge (Fire Chief); January 16, 2017.



**ATTACHMENT U-1**  
**COMMUNICATIONS WITH PUBLIC SERVICE PROVIDERS**

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## **U-1A Contacts with Solid Waste Facilities**

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**Tetra Tech Telephone Conversation Record**

Call To: David Henry	Date: 10/27/16
Association: Baker Sanitary Landfill	Title: President
Phone #: (541) 523-2626	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Baker Sanitary Landfill	

*I left a message introducing myself and mentioned that I had spoken to him about a year ago about the capacities of the Baker Sanitary Landfill. I stated that I would like to go over the information he provided last year to verify it and to provide updated numbers of expected waste.*

I spoke to David Henry about the capacities of the Baker Sanitary Landfill in Baker, County OR (located in Baker City).

He said that they would be able to accommodate any waste generated by the project. He said that last year, the low amount they accepted was about 60 to 70 tons of waste a day and the high amount was about 200 tons of waste a day. They have no permitted limit on the amount of waste they can accept a day. He said that the facility has an indefinite storage life, and noted that they do not accept hazardous waste. He stated that they would need to hire more operators during the project construction window. He stated that he would like to receive notice ahead of construction so that they can hire adequate staff to accommodate the project waste as well as ensure cells are planned in advance of receiving the waste.

**Tetra Tech Telephone Conversation Record**

Call To: Dean Large	Date: 10/27/16
Association: Finley Buttes Landfill	
Phone #: (503) 288-7844 ext.318	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Finley Buttes Landfill	

I spoke with Dean Large about the capacities of the Finley Buttes Landfill in Morrow County OR (located in Boardman).

He confirmed prior numbers that they receive about 700,000 tons of waste a year and have about 200 years of life. There is not a permit limitation on the amount of waste they can take.

I stated that the current estimate of waste expected for Finley Buttes Landfill is 116,962 tons of waste, which would equate to approximately 468 tons per day for about 8 months.

Mr. Large stated that they would be able to accept the waste generated by the project, and it would have no impact on their facility's operation. He stated that a year's notice prior to receiving the waste would be appreciated to make sure they have cells built out; however, that is not mandatory.

**Tetra Tech Telephone Conversation Record**

Call To: Tracy Schmidt	Date: 11/3/16
Association: Clay Peak Landfill	Title: Office Manager
Phone #: (208) 642 6036	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Clay Peak Landfill	

I spoke with Tracy Schmidt about the capacities of the Clay Peak Landfill in Payette County, ID (located in Payette).

She requested I send her an email with the type of waste and amounts of waste so that she could discuss it with Alan Scharbrough (Landfill Supervisor). I sent her an email on 10/27/16 stating that the amount of waste expected to go to Clay Peak Landfill is 155,002 tons over an approximate 7-month period, or about 775 tons/day for 7 months.

Tracy returned the email which stated that they have the potential to accept waste from the project and would may need to hire additional waste screeners when they start to receive the project waste which will be reflected in the fees.

## **U-1B Contacts with Police Departments**

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**Tetra Tech Telephone Conversation Record**

Call To: Sheriff Brian E. Wolfe	Date: 11/8/16
Association: Malheur County Sheriff	Title: Sheriff
Phone #: (541) 473-5126	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Malheur County Sheriff department	

I spoke with Sheriff Wolfe about the capacities of the Malheur County Sheriff department.

He said that they have 63 team members, 72 volunteer members of search and rescue, and 24 volunteers on the Sheriff’s advisory committee. He stated that he did not expect the project to affect the way they respond to other emergencies or require additional training. He thought that additional planning would likely be required.



**Tetra Tech Telephone Conversation Record**

Call To: Sheriff Kenneth W. Matlack	Date: 10/18/16
Association: Morrow County Sheriff	Title: Sheriff
Phone #: (541) 473-5126	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Morrow County Sheriff department	

I spoke with Sheriff Matlack about the capacities of the Malheur County Sheriff department.

Morrow and Umatilla counties have a radio district (emergency communication services) except Milton-Freewater. One call center is in Heppner and the other in Pendelton – they are separate but redundant. There are 10 people in dispatch, 17 full-time employees including the sheriff offices for law enforcement services (detectives, emergency services person), 5 to 6 people in reserve unit, and 5 temporary employees. They do not have 24-hour services – there is not coverage from 4:00 a.m. to 8:00 a.m.

Sheriff Matlack expect significant impacts to their department, especially near where the project would cross roads and highways due to increased traffic impacts. The State Police only have 4 people to assist with traffic and crashes, so Morrow County would have to respond. There are not enough people. Other concerns are copper wire and things that could be stolen. If there are thefts, his department will investigate even if Idaho Power has their own security. The construction of the project will attract people, which will affect other properties (if there is theft at the construction site(s) then other properties will likely have an increase in theft).

What they have done on other projects such as Tower Road is to supplement the Sheriff's department. The windmill projects have been vandalized, copper theft, etc., and nearby farms with central pivot irrigation have had wires and things stolen.

Mr. Matlack also stated that temporary construction traffic would require speed trailers, signage, and other measure to increase safety.

**Tetra Tech Telephone Conversation Record**

Call To: Lieutenant Glen Diehl	Date: 5/2/11
Association: Umatilla County Sheriff	Title: Criminal Division Commander
Phone #: (541) 966-3600	
Message Taken By: John Crookston	
Subject: Capacities of the Umatilla County Sheriff department	

I spoke with Lieutenant Glen Diehl about the capacities of the Umatilla County Sheriff department.

I told him that the project would likely have an average work force of 124 (93 non-locals) during construction, with a peak force of 211 (158 non-locals), with construction beginning sometime in 2013 at a speed of about 1.5 miles per week. He said that the project would not likely result in a need for additional resources, as long as the project does not close roads or the developers leave valuables at job sites. However, he said that the project would have a significant effect on his department if these events happened, or if a man-camp is developed instead of workers living in hotels and communities, as these camps typically result in problems for the department. In addition, he expressed concern about thefts occurring at the project, and asked how the company intended to provide private security at construction sites. I told him that I did not know.

He also said that the national average for sheriff departments is 1.5 to 1.8 officers per 1,000 residents; however, in Umatilla County, the ratio is 0.34 officers to 1,000 residents. I asked him if this meant that the project would impact them and result in a need for additional deputies. He said that his department did not have money to hire additional deputies, and that the project would not impact them as long as the above criteria was met.

He said that they have 7 patrol deputies, but only 3 would cover the project area. He said that response times would vary. It could take several hours during the day, and that they would not respond to theft calls at night, so response time would be the next day in these instances. For life threatening calls, their response time would range from 20 minutes to 1 hour.

**Tetra Tech Telephone Conversation Record**

Call To: Sheriff Mitch Southwick	Date: 10/16/14
Association: Baker County Sheriff	Title: Sheriff
Phone #: (541) 523-6415	
Message Taken By: Patricia Williams	
Subject: Capacities of the Baker County Sheriff	

I spoke with Sheriff Mitch Southwick about the capacities of the Baker County Sheriff Department. He stated that they have seven patrol deputies and search and rescue volunteers.

He said that the project could have a short-term impact on his department during construction but not as much after construction. He did not foresee any current or expected future constraints on their resources that affect the ability of the department to respond to emergencies or disturbances related to the project.

**Tetra Tech Telephone Conversation Record**

Call To: Renee Straub	Date: 11/10/16
Association: BLM	Title: Vale District Project Coordinator
Phone #: (541) 473-3144	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the BLM law enforcement	

I spoke with Renee Straub about the capacities of the BLM Vale District law enforcement. She verified that the information below from 2014 is still valid.

She said that if there were additional locked gates, it would affect the ability of their department to provide services and respond to emergencies in the future as well as affect the way they respond to other emergencies not directly involving the proposed project. Additional roads could increase public access which could increase vandalism.

She said that there are no current or expected future constraints on their resources that they anticipate would affect the ability of their department to respond to emergencies or disturbances related to the proposed project.

## **Email Communication**

From: Straub, Renee L. [rstraub@blm.gov]  
Sent: Friday, March 30, 2012 8:29 AM  
To: Crookston, John  
Cc: Georgeson, Keith; English, Aaron  
Subject: B2H Project BLM and USFS Law Enforcement Questions

John,

I hope this answers your questions.

The current staffing level of the Boise District Office is 4 Rangers. The staffing level of the Vale District Office is 2 Rangers.

Estimated response time to the project area. It depends on which part of the power line and where we are responding from – in other words, there is not an answer to this question.

Impacts on resources. The major impact would be the road that is constructed along the power line route. Recreationist and hunters will use the road to gain access to more areas. Also, from a Homeland Security viewpoint, there will be another critical infrastructure on BLM land. If there was a terrorist threat, it may require additional manpower for protection.

Renee Straub  
B2H – Vale District Project Coordinator  
Assistant Field Manager  
Malheur Field Office, Vale District  
100 Oregon St. Vale, Oregon 97918  
541-473-6289 - Office  
541-473-6213 - FAX

## **U-1C Contacts with Fire Departments**

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**Tetra Tech Telephone Conversation Record**

Call To: Scott Stanton	Date: 01/17/17
Association: Hermiston Fire and Emergency Services	Title: Fire Chief
Phone #: (541) 567-8822	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Echo Rural Fire Department	

I spoke with Scott Stanton (Fire Chief) about the Hermiston Fire and Emergency Services. I introduced myself and the project to Chief Stanton and explained to him that a temporary multi-use area about 20 acres in size was currently planned for the northeast corner of the I-82 and I-84 interchange, which is on the western edge of his district.

Mr. Stanton provided a description of the services they provide and stated that there are not any factors that he would expect to affect the ability of their department to provide services and respond to emergencies in the future unless access is restricted. He stated that it is unlikely that the project would have an impact on their department since the transmission line is not in their district. He said that there are the current or expected future constraints on their resources that he would anticipate to affect the ability of the department to respond to emergencies or disturbances related to the proposed project are that they are consistently understaffed, district wide. He stated they can be delayed in response time during times of high call volume, but other than normal call volume, it is hard to say if there are any current or expected future constraints. He stated that the proposed project would not affect the way they respond to other emergencies not directly involving the proposed project.

**Tetra Tech Telephone Conversation Record**

Call To: Dan Weitz	Date: 10/13/16
Association: Baker Rural Fire Protection District	Title: Fire Chief
Phone #: (541) 403-2160	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Baker Rural Fire Protection District	

I spoke with Mr. Weitz about the capacities of the Baker Rural Fire Protection District.

Mr. Weitz verified that they have three stations, one of which is located along I-84. They are an all-volunteer department, with about 22 current volunteers. They have three structure trucks, one compressed air foam system (CAFS) truck, two 4,200-gallon tenders, one heavy rescue truck, three command vehicles (two off-road rescue for medical services), and four brush trucks. The response time to the project area would vary; under NFPA 1920, they have to have 14 minute or less response time at least 90 percent of the time. However, the response could take longer due to the rural nature of the transmission location depending on where the line ends up.

He said that the project would not likely have an adverse impact on the Baker Rural Fire Protection District.



**Tetra Tech Telephone Conversation Record**

Call To: Janie Enright	Date: 01/17/17
Association: Echo Rural Fire Department	Title: Assistant Fire Chief
Phone #: (541) 376 8536	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Echo Rural Fire Department	

I spoke with Janie Enright (Assistant Fire Chief) about the Echo Rural Fire Department.

She said that there are not any factors that she would expect to affect the ability of their department to provide services and respond to emergencies in the future and that it is unlikely that the project would have an impact on their department. She said that there are no current or expected future constraints on their resources that she would anticipate to affect the ability of the department to respond to emergencies or disturbances related to the proposed project. She stated that the proposed project would not affect the way they respond to other emergencies not directly involving the proposed project.

**Tetra Tech Telephone Conversation Record**

Call To: Joe Hessel	Date: 11/3/16
Association: Oregon Department of Forestry	Title: Rangeland Coordinator
Phone #: (541) 963-3168	
Message Taken By: Suzy Cavanagh	
Subject: ODF and the Boardman to Hemingway Project	

I spoke with Joe Hessel who stated that the ODF NE Oregon district covers all of Union, Baker, Wallowa, and Umatilla counties and portions of Malheur, Grant, and Morrow counties.

They cover about 2 million acres and have offices in La Grande, Pendleton, Wallowa, and Baker City. They have 8 permanent fire manager staff, 50 summer seasonals who operate twenty type 6 (wildland) engines, 2 single engine air tankers, one type 2 helicopter on contract, and two dozers. They also enact the Forest Practices Act on private land.

He stated that they have agreements with all of their neighbors.

He stated that any potential fire starts begin to chip away at their resources, but it is hard to quantify right now. There would be a budget impact in that they are funded by the general fund of Oregon and by the landowners. The rate they pay is determined on the land type – either timber or grazing land. As the transmission line gets built on private land, if there is a change of timber land to grazing land, their revenue would drop. It could affect the level of protection elsewhere. New roads mean better access and more potential fire starts. There are requirements in permitting that need to be mentioned.

**Tetra Tech Telephone Conversation Record**

Call To: Marvin Vetter	Date: 10/12/16
Association: Oregon Department of Forestry	Title: Rangeland Coordinator
Phone #: (541) 477-5658/(541) 912-6695	
Message Taken By: Suzy Cavanagh	
Subject: ODF and the Boardman to Hemingway Project	

Mr. Vetter stated that there are now 22 rangeland fire protection associations (RFPAs) statewide. There are about 850 volunteers, 350 pieces of water handling equipment, and 47 dozers statewide. In the project area, there are 6 RFPAs in Harney County, 5 in Malheur County and 3 in Baker County. There are no RFPAs in Union, Umatilla, or Morrow counties – those counties rely on ODF, BLM, and USFS.

He said that they have agreements with BLM and ODF. Mr. Vetter stated that the factors that he would expect to affect the ability of their department(s) to provide service and respond to emergencies in the future would be increased fire risk. With more roads and construction activities means more activity but also provides roads for fire management. After construction he thought there would be an increased risk to fire fighters because if there is a fire near a transmission line, they have to wait for the line to be de-energized before fire suppression could begin. He said that having a transmission line would change the way they coordinate with landowners and other agencies in the event of a fire because it throws another dimension into the fire suppression effort.

He stated that the proposed project would require their department to do a refresher training on fighting fires near transmission lines.

He stated that the Burnt River Rangeland Fire Protection Association is based in Durkee, but that there is no Durkee Rural Fire Protection District.

**Tetra Tech Telephone Conversation Record**

Call To: JB Brock	Date: 10/12/16
Association: Union County Emergency Services-Fire Department (not specific to fire)	Title: Emergency Manager
Phone #: (541) 963-1009	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Union County Emergency Services	

I spoke with JB Brock, Emergency Manager, about Union County Emergency Services.

He is the Emergency Coordinator, so the folks that he coordinates with have the services. He stated that the City of La Grande would provide medical. He also provided the names of Joe Hessel with the Oregon Department of Forestry and Mr. Brett Ruby at the Wallowa-Whitman National Forest Baker City Regional Office as additional points of contact for fire services in Union County.

From his perspective, vegetation management in the right-of-way is important and may affect the ability to provide services; there should be fuel load management. Steel lattice structures would be best from a fire-fighting perspective because wood poles burn.

He stated that volunteer fire departments (rural fire protection districts) have a hard time finding volunteers due to budget constraints, similarly to budget constraints at the state and federal level. The wildland fires are getting bigger and cost more to fight. He stated that during construction it would be challenging in a rural location for ambulance calls. It would require local coordination of emergency response plans. Operation of the project has the potential for impacts.

He stated that the project (transmission line) could limit the ability on initial attack if fire fighters have to wait for power lines to be de-energized. For example, if there is land without a transmission line, the fire can be acted on quickly. If there is land with a transmission line, it could take longer.

**Tetra Tech Telephone Conversation Record**

Call To: Sam Martin	Date: 10/12/16
Association: North Powder Rural Fire Department	Title: Fire Chief
Phone #: (541) 898-2520	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the North Powder Rural Fire Department	

I spoke with Chief Sam Martin about the capacities of the North Powder Rural Fire Department.

He said that they have 1 station. They have 17 volunteers. They have two Type-6 brush trucks, one tender, one Type 1 truck, one Type 3 truck, one 5,000 gallon tank-trailer, and one D5 dozer.

He said that they would likely experience some minor B2H project-related impacts during summer while construction happens, but did not anticipate any impacts during operation. He was uncertain of the level of impact. I asked him if he anticipated that the impact might require them to hire additional staff or equipment. He said that it might, as the equipment is very old.

Response times to the project area would be about 12 to 15 minutes.

I told him that the project would progress at about 1.5 miles a week. He said that the project would likely be in his district for about 30 weeks then.

He said that they have a mutual aid agreement with adjacent counties, fire districts, and federal/state agencies; therefore, someone would fight fires in the “no-man’s-land”.

**Tetra Tech Telephone Conversation Record**

Call To: Virgil Morgan	Date: 10/12/16
Association: Ione Rural Fire Protection District	Title: Fire Chief
Phone #: (541) 422-7504	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Ione Rural Fire Protection District	

I spoke with Virgil Morgan (Fire Chief) about the capacities of the Ione Rural Fire Protection District.

He said that they have 12 volunteer fire fighters, two pumper engines, one tender, two type 2 brush rigs and two type three brush rigs. He said that there are no factors that he would expect to affect the ability of their department to provide services and respond to emergencies in the future. He stated that the proposed project would not affect the way they respond to other emergencies, not directly involving the proposed project and that a transmission line would not change the way they would respond to a nearby fire emergency or coordinate with other landowners and agencies. He stated that the proposed project would not induce or require their department to do any additional training or planning.

**Tetra Tech Telephone Conversation Record**

Call To: Chief Mark Rogelstad	Date: 11/3/16
Association: Boardman Rural Fire Protection District	Title: Chief
Phone #: (541) 481-3473	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Boardman Rural Fire Protection District	

I spoke with Chief Mark Rogelstad about the capacities of the Boardman Rural Fire Protection District.

He said that they have 7 paid fire-fighters and about 12 volunteers and they are hard pressed to provide services and respond to emergencies. He said that there are not any factors that he would expect to affect the ability of their department to provide services and respond to emergencies in the future. He stated that there are no current or expected future constraints on their resources that he would anticipate to affect the ability of their department to respond to emergencies or disturbances related to the proposed project. He stated that the proposed project would not affect the way they respond to other emergencies, not directly involving the proposed project and that a transmission line would probably not change the way they would respond to a nearby fire emergency. He said that the proposed project would not change the way they coordinate with landowners or other agencies or require their department to do additional training or planning.

**Tetra Tech Telephone Conversation Record**

Call To: Chief Robert “Bob” Webb	Date: 10/19/16
Association: Adrian Rural Fire Protection District	Title: Chief
Phone #: (541) 372 2464; (541) 372-2220	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Adrian Rural Fire Protection District	

I spoke with Chief Robert Webb about the capacities of the Adrian Rural Fire Protection District.

He said that they have 1 station. They have a 1,000 gallon pumper engine, a 3,000 tender, a heavy brush truck with an 800 gallon tank, and a light brush truck with a 300 gallon tank. They are an all-volunteer department and try to maintain 15 volunteers, but currently have 12 volunteers. They also have 4 EMTs and 8 to 10 first responders. They house this medical team, but the medical team is funded through the county ambulance service. He said that their response time to the project area is hard to predict as he is uncertain exactly where the project would be, but it would likely be around 20 to 25 minutes.

He said that they do not respond to fires on BLM lands unless requested by the BLM. The BLM have their own fire teams, but they do not respond to vehicle fires.

He said that they have a cooperation agreement with adjacent fire districts, which ensures a collaborative response to emergency needs. This agreement is called the “Snake River Valley Mutual Aid Association” and includes all of the fire districts in Malheur County, and parts of Owyhee and Baker County.

He does not expect an adverse impact to their department, in that he does not expect that the project would result in a need for additional staff or equipment.



**Tetra Tech Telephone Conversation Record**

Call To: Larry Wooldridge	Date: 1/16/17
Association: La Grande Rural Fire Protection District	Title: Fire Chief
Phone #: (541) 963 6895	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the La Grande Rural Fire Protection District	

I spoke with Chief Larry Wooldridge about the capacities of the La Grande Rural Fire Protection District.

He said that they have 1 station. They have 25 personnel: 2 paid (himself and a seasonal whom they have kept full-time) and the rest volunteers. They have 2 people in the station all of the time. They have 2 command vehicles, 1 medium duty rescue vehicle, 3 fire engines, 1 tender, and 2 brush rigs. Response times to the project area would be between 4 to 8 minutes.

The project would cross the very southwestern corner of their district.

He did not anticipate an impact to his department resulting from the project.

**Tetra Tech Telephone Conversation Record**

Call To: Ron Neeley	Date: 11/18/16
Association: Pilot Rock Rural Fire Department	Title: Fire Chief
Phone #: (541) 379-1295 (cell)	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Pilot Rock Rural Fire Department	

I spoke with Ron Neeley about the capacities of the Pilot Rock Rural Fire Department.

He said that it is an all-volunteer department that has 25 members. They have two Type 1 engines (Class A), one Type 2 engine, four brush rigs (Type 6), and quick response unit (ambulance but no transport), a 3,000-gallon tender, and one four-wheel-drive rig.

They have a mutual aid agreement with the Pendleton Fire Department and Oregon Department of Forestry. He stated that the proposed project may affect the way they respond to other emergencies in that the project is very rural, so if they had to respond near the project, it would be at least 30 minutes or more to get back to town to respond to other emergencies.

He stated that grass fires are mostly from frequent lightning strikes and they could have fire under the transmission line which would be an issue. He also stated that there is a danger of lines coming down, even if it is a remote danger.

**Tetra Tech Telephone Conversation Record**

Call To: Bret Ruby	Date: 10/27/16
Association: Wallowa-Whitman National Forest (NF) Fire Management Office	Title: Fire Staff Officer
Phone #: (541) 523-1207	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Wallowa-Whitman NF Fire Management Office	

I spoke with Bret Ruby about the capacities of the Wallowa-Whitman NF Fire Management Office.

He said that it is an all-volunteer department that has 25 members. They have two Type 1 engines (Class A), one Type 2 engine, four brush rigs (Type 6), and quick response unit (ambulance but no transport), a 3,000-gallon tender, and one four-wheel-drive rig.

They have a many agreements in place, but the Wallowa-Whitman NF is their boundary.

He stated that where the line is planned in the existing Wallowa-Whitman NF utility corridor, there would be minimal impact because there is already a corridor with a transmission line in it.

## **U-1D Contacts with Medical Facilities**

---

**Tetra Tech Telephone Conversation Record**

Call To: Larry Blanc	Date: 10/24/16
Association: St. Anthony Hospital	Title: Director of Communication
Phone #: (541) 966-0528	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of St. Anthony Hospital	

I spoke with Larry Blanc (Director of Communication) about the capacities of the St. Anthony Hospital in Pendleton, Oregon.

He said that they have a brand new hospital in Pendleton with about 300 full-time employees, they have 25 beds and are licensed for 49 in the critical access hospital. He said they have two life-flight helicopters, one is stationed in Pendleton for faster response time.

He stated that there were no factors that he would expect to affect the ability of their department to provide services and respond to emergencies in the future. He said that there are no current or expected future constraints on their resources that he would anticipate would affect the ability of their department to respond to emergencies or disturbances related to the proposed project. He said that the proposed project would not affect the way they respond to other emergencies, not directly involving the proposed project and that it would not induce or require their department to do additional training or planning.

**Tetra Tech Telephone Conversation Record**

Call To: Bonnie Puckett	Date: 11/3/16
Association: Grande Ronde Hospital	Title: Credentialing Coordinator
Phone #: (541) 963-1466	
Message Taken By: Suzy Cavanagg	
Subject: Capacities of the Grande Ronde Hospital	

I spoke with Bonnie Puckett (Credentialing Coordinator) about the capacities of the Grande Ronde Hospital in La Grande, Oregon.

I told her that we were assuming that any major injuries that occur along the project east of Baker City would be treated at Saint Alphonsus Medical Center, while injuries west of Baker City would be treated at Grande Ronde Hospital in La Grande, Oregon. She said that this was entirely not accurate, and that they (Grande Ronde) would likely only deal with injuries that occur between Baker City and Pendleton. Saint Anthony's would treat injuries that occurred between Pendleton and Boardman.

She said that they utilize Airlink to transport patients. Airlink has an airplane stationed at the local airport, and response times to the project area would range from 20 to 90 minutes.

She said that they are a Critical Assess Hospital (which is a federal designation for rural hospitals). They are a level IV hospital, and are licensed for 25 beds (6 of which are critical care beds). They employ 137 nurses, and have staffing privileges with 45 physicians.

She said that any patients suffering from major injuries (e.g., electrical burns or severed limbs) would be stabilized at Grande Ronde Hospital, and then transported to adjacent hospitals for treatment. Adjacent hospitals would include the burn center, OHSU, or Legacy in Portland, and Saint Al's in Boise.

She does not anticipate that construction and operation of the project would impact the Grande Ronde Hospital, and they would be able to deal with any emergencies that arise from the project. She also noted that they have disaster protocols in place to deal with any unexpected influx of injuries to the hospital.

**Tetra Tech Telephone Conversation Record**

Call To: Ken Hart	Date: 10/28/16
Association: Saint Alphonsus Medical Center	Title: VP of Operations
Phone #: (541) 881 7011	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Saint Alphonsus Medical Center	

I spoke with Ken Hart (Vice President of Operations) about the capacities of the Saint Alphonsus Medical Center in Ontario, Idaho.

I told him that we were assuming that any major injuries that occur along the project east of Baker City would be treated at Saint Alphonsus Medical Center, while injuries west of Baker City would be treated at Grande Ronde Hospital in La Grande, Oregon. He said that this was likely accurate. He said that Life Flight helicopters are stationed at Saint Alphonsus Medical Center in Ontario, Idaho, and flight times from the hospital to the project area (east of Baker City) would be on average 20 to 30 minutes.

He said that Saint Alphonsus Medical Center is a level II hospital. It is licensed for 49 beds, 6 of which are intensive care beds. They have on average 23 patients in the hospital, with 2 to 3 in the intensive care beds. He said that Saint Alphonsus Medical Center is the designated trauma center for Idaho, and would be able to treat any injuries that occur during construction and operation of the project. In addition, they are a Center for Emergency Preparedness, which means that they conduct disaster drills which prepare staff for emergencies.

The have about 450 full-time employees including 100 nurses and staffing privileges with 80 to 90 physicians.

He said that the project would not impact their ability to serve the community.

## **U-1E Contacts with School Districts**

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**Tetra Tech Telephone Conversation Record**

Call To: Stephanie Allison	Date: 10/24/16
Association: Adrian School District	Title: Administrative Assistant
Phone #: (541) 372-2335	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Adrian School District	

I spoke with Stephanie Allison (Administrative Assistant) about the capacities of the Adrian School District.

She said that the school district’s enrollment has been increasing for the last few years. I told her that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. She said that they would be able to accommodate these new students.

She stated that student enrollment numbers for the 2015-2016 school year were 281 for K-12 and that the student/teacher ratio was 16:1.

**Tetra Tech Telephone Conversation Record**

Call To: Cheryl Costello	Date: 10/24/16
Association: Morrow School District	Title: Executive Secretary/H.R. Assistant
Phone #: (541) 989-8202	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Morrow School District	

I spoke with Cheryl Costello (Executive Secretary/H.R. Assistant) about the capacities of the Morrow School District.

She email information indicating that they had 2,238 students in the 2015-2016 school year with a student/teacher ratio of 21 to 1.

**Tetra Tech Telephone Conversation Record**

Call To: Darla Vandever	Date: 11/3/16
Association: Ione School District	Title: Secretary/Receptionist
Phone #: (541) 422-7131	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Melba Joint School District	

I spoke with Darla Vandever (Secretary Treasurer) about the capacities of the Ione School District.

She said that the school’s student enrollment has had a slight increase. She stated that there were 197 students enrolled for the 2015-2016 school year with a student to teacher ratio of 11.5 to 1.

**Tetra Tech Telephone Conversation Record**

Call To: Sherri Guerri	Date: 10/24/16
Association: Huntington School District 16J	Title: Administrative Assistant
Phone #: (541) 869-2204	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Huntington School District	

I spoke with Shelly Guerri (Administrative Assistant) about the capacities of the Huntington School District.

She said that the school’s student enrollment has been flat for the last few years, but increased this year.

She stated that they had 64 students in the 2015-2016 school year with a student/teacher ratio of 5 to 1 and that kindergarten and first grades are combined.

**Tetra Tech Telephone Conversation Record**

Call To: Beth Morrow	Date: 10/24/16
Association: Vale School District 084	Title: Superintendent and Administrator
Phone #: (541) 473-0201	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Vale School District	

I spoke with Beth Morrow (Superintendent and Administrator) about the capacities of the Vale School District.

She said that the school’s student enrollment has increased slightly due to open enrollment.

She stated that they had 912 students during the 2015-2016 school year with a student to teacher ratio of about 23-25 to 1.

**Tetra Tech Telephone Conversation Record**

Call To: Reta Dolan	Date: 11/7/2016
Association: La Grande School District	Title: Director of Curriculum
Phone #: (541) 663-3202	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the La Grande School District	

I spoke with Reta Dolan (Director of Curriculum) about the capacities of the La Grande School District.

She stated that I could access <http://www.ode.state.or.us/search/page/?id=1786> which shows Oregon school's report cards and enrollment for the last few years. The website indicated that student enrollment numbers were 2,203 for the 2015-2016 school year; student to teacher ratios were not available on the website. After reviewing data for the 2012-2013 and 2013-2014 school years, it appears that the student enrollment trend in the La Grande School District has been increasing in the last few years.

**Tetra Tech Telephone Conversation Record**

Call To: Cathy Stelk	Date: 10/24/16
Association: Pilot Rock School District 002	Title: District Secretary
Phone #: (541) 443-8291	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Pilot Rock School District	

I spoke with Cathy Stelk (District Secretary) about the capacities of the Pilot Rock School District.

She said that the school’s student enrollment has been declining and that they are down about 30 students from last year (2014-2015 school year).

She said that they had 372 students in the 2015-2016 school year, with a student teacher ratio (STR) of 14 to 1.

**Tetra Tech Telephone Conversation Record**

Call To: Ellen Dentinger	Date: 10/24/16
Association: Baker School District	Title: Superintendent
Phone #: (541) 524-2260	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Baker School District	

I spoke with Ellen Dentinger (Superintendent) about the capacities of the Baker School District.

She said that the school’s student enrolment has been flat for the last few years.

She said that they had about 1,692 students enrolled in the 2015-2016 school year, with a student to teacher ratio of about 16 to 1.



**Tetra Tech Telephone Conversation Record**

Call To: Mindy Clark	Date: 10/24/16
Association: Union School District 005	Title: District Clerk
Phone #: (541) 562-6115	
Message Taken By: Suzy Cavanagh	
Subject: Capacities of the Union School District	

I spoke with Mindy Clark (District Clerk) about the capacities of the Union School District.

She said that the school’s student enrollment has been declining over the last 10 years.

She said that they had 335 students in the 2015-2016 school year, with a student teacher ratio of 15 to 1.

**ATTACHMENT U-2  
TRANSPORTATION AND TRAFFIC PLAN**

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# Transportation and Traffic Plan

## Boardman to Hemingway Transmission Line Project



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*June 2017*

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Appendix B. Boardman to Hemingway – 2016 Updated Traffic Estimates

## ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily trip
ASC	Application for Site Certificate
ATV	all-terrain vehicle
BLM	U.S. Department of the Interior, Bureau of Land Management
BMP	Best Management Practice
CFR	Code of Federal Regulations
EIS	Environmental Impact Statement
ESCP	Erosion and Sediment Control Plan
FAA	Federal Aviation Administration
FPA	Forest Practices Act
IPC	Idaho Power Company
kV	kilovolt
LOS	level of service
NESC	National Electrical Safety Code
NWSTF	Naval Weapons System Training Facility
OAR	Oregon Administrative Rule
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
Plan	Transportation and Traffic Plan
Project	Boardman to Hemingway Transmission Line Project
ROW	right-of-way
US	U.S. Highway
USFS	U.S. Department of Agriculture, Forest Service
V/C	volume-to-capacity

## 1.0 INTRODUCTION

This Transportation and Traffic Plan (Plan) provides preliminary transportation information related to the Oregon portion of the Boardman to Hemingway Transmission Line Project (Project). Information provided includes existing traffic conditions, the potential impacts of the Project, and Idaho Power Company's (IPC's) proposed measures to mitigate these potential impacts.

This Plan outlines the measures that IPC and contractor(s) will implement during Project construction. Contractors will be required to submit detailed traffic and transportation plans to IPC that are consistent with the provisions in this Plan. This Plan will be submitted to and approved by the appropriate federal, state, and local agencies with authority to regulate use of public roads, and approved, prior to the issuance of a Notice to Proceed with construction. The construction contractor's plan will describe the following:

- Materials and equipment;
- Final material/equipment transportation routes;
- Total number of trips associated with delivery of materials and equipment;
- Total number of construction workers and their distribution throughout the construction schedule;
- Likely commuting routes and total number of trips for construction workers;
- Specific road improvements needed to allow use of transportation routes; and
- Construction Best Management Practices (BMPs) that will be required.

The timber contractor's plans will describe the transportation routes for logs and logging slash/biomass (if slash removal is required). Final mitigation measures will be developed in consultation with appropriate federal, state, and local agencies.

This Plan has been prepared as an attachment to Application for Site Certificate (ASC) Exhibit U, and is intended to provide information to meet ASC submittal requirements. This Plan also addresses Project Order comments from the Oregon Department of Energy (ODOE 2012 and 2014 amendment) by:

- Estimating facility-related traffic during construction and operation and potential impacts on traffic safety;
- Describing proposed transportation routes for the transport of heavy equipment and shipments of Project components during construction, including proposed ground and air transportation routes within the analysis area; and
- Evaluating Project impacts to the ability of public and private providers to provide those services.

### 1.1 Regulatory Framework

The Project will comply with applicable federal, state, and local transportation regulations. IPC will impose on its construction contractor(s) the responsibility to meet all applicable legal requirements.

Regulations related to roads, railroads, and airports are described in this section. Additional resource-related regulations including vehicle air emissions, stream crossing standards to protect fish, and PACFISH and INFISH directions (i.e., interim strategies for managing

1 anadromous fish-producing watersheds in Oregon and other states, and inland native fish  
2 strategy for the Pacific Northwest, and other U.S. Department of Agriculture Forest Service  
3 [USFS] regions) and Oregon Department of Fish and Wildlife fish passage requirements, are  
4 addressed in Exhibits E, P1, Q, and BB.

5 IPC and/or the construction contractor(s) will be required to obtain encroachment permits or  
6 similar legal agreements from the public agencies responsible for affected roadways and other  
7 applicable rights-of-way (ROWs). The contractor will be responsible for all oversize and  
8 overweight permits required for the delivery of construction materials and subcontractor  
9 components.

### 10 **1.1.1 Federal**

#### 11 **1.1.1.1 Federal Aviation Administration**

12 Helicopter flight operations will operate under the control of the Federal Aviation Administration  
13 (FAA).

14 As described under Title 14 Code of Federal Regulations (CFR) Part 77, the FAA is also  
15 concerned with the following:

- 16 • Any construction or alteration exceeding 200 feet above ground level or
- 17 • Any construction or alteration:
  - 18 – Within 20,000 feet (3.79 miles) of a public-use or military airport that exceeds a 100:1
  - 19 sloping surface from any point on the runway of each airport with at least 1 runway
  - 20 more than 3,200 feet
  - 21 – Within 10,000 feet (1.89 miles) of a public-use or military airport that exceeds a 50:1
  - 22 sloping surface from any point on the runway of each airport with its longest runway
  - 23 no more than 3,200 feet
  - 24 – Within 5,000 feet of a public-use heliport that exceeds a 25:1 sloping surface

25 These regulations do not apply to private landing strips. Project construction cranes will exceed  
26 200 feet in height and therefore, IPC must obtain a Notice of Proposed Construction or  
27 Alteration from the FAA. Information regarding the Notice of Proposed Construction or Alteration  
28 needed for the Project is contained in Section 3.3 of Exhibit E. None of the other conditions are  
29 anticipated to apply to this Project.

#### 30 **1.1.1.2 National Electrical Safety Code**

31 Railroad/overhead utility crossing will conform to the National Electrical Safety Code (NESC):

- 32 • The height of rail car should be assumed to be 23 feet.
- 33 • Structures supporting power must be 50 feet out from the centerline of main running  
34 tracks, centralized traffic-control sidings, and heavy tonnage spurs. Locations adjacent  
35 to industry tracks must provide at least 30 feet of clearance from the centerline of tracks  
36 when measured at right angles. If located adjacent to curved tracks, the clearance must  
37 be increased at the rate of 1.5 inches per degree of curved track.
- 38 • Regardless of the voltage, unguyed poles must be located a minimum distance from the  
39 centerline of any track equal to the height of the pole above the groundline plus 10 feet.  
40 If guying is required, the guys must be placed in such a manner as to keep the pole from  
41 leaning/falling in the direction of the tracks.



- 1 • Structures for 34.5 kilovolts (kV) and higher must be located off the railroad ROW.
- 2 • Crossings will not be installed within 500 feet of the end of railroad bridges or 300 feet
- 3 from the centerline of culverts or switch areas.

#### 4 *1.1.1.3 United States Department of the Navy*

5 Low-level approach routes at the Naval Weapons System Training Facility (NWSTF) located in  
6 Boardman, Oregon, establish a height restricted approach zone to the west of the facility.  
7 Structures are prohibited from intruding more than 100 feet above ground level into the  
8 restricted zone. The Proposed Route near the proposed Longhorn Station and the two  
9 alternatives (West of Bombing Range Road Alternative 1 and West of Bombing Range  
10 Alternative 2), which cross the approach zone, will include structures at or below the 100-foot  
11 requirement; other Project facilities avoid the approach zone (Figure 1).

#### 12 *1.1.1.4 Bureau of Land Management and U.S. Department of Agriculture Forest* 13 *Service*

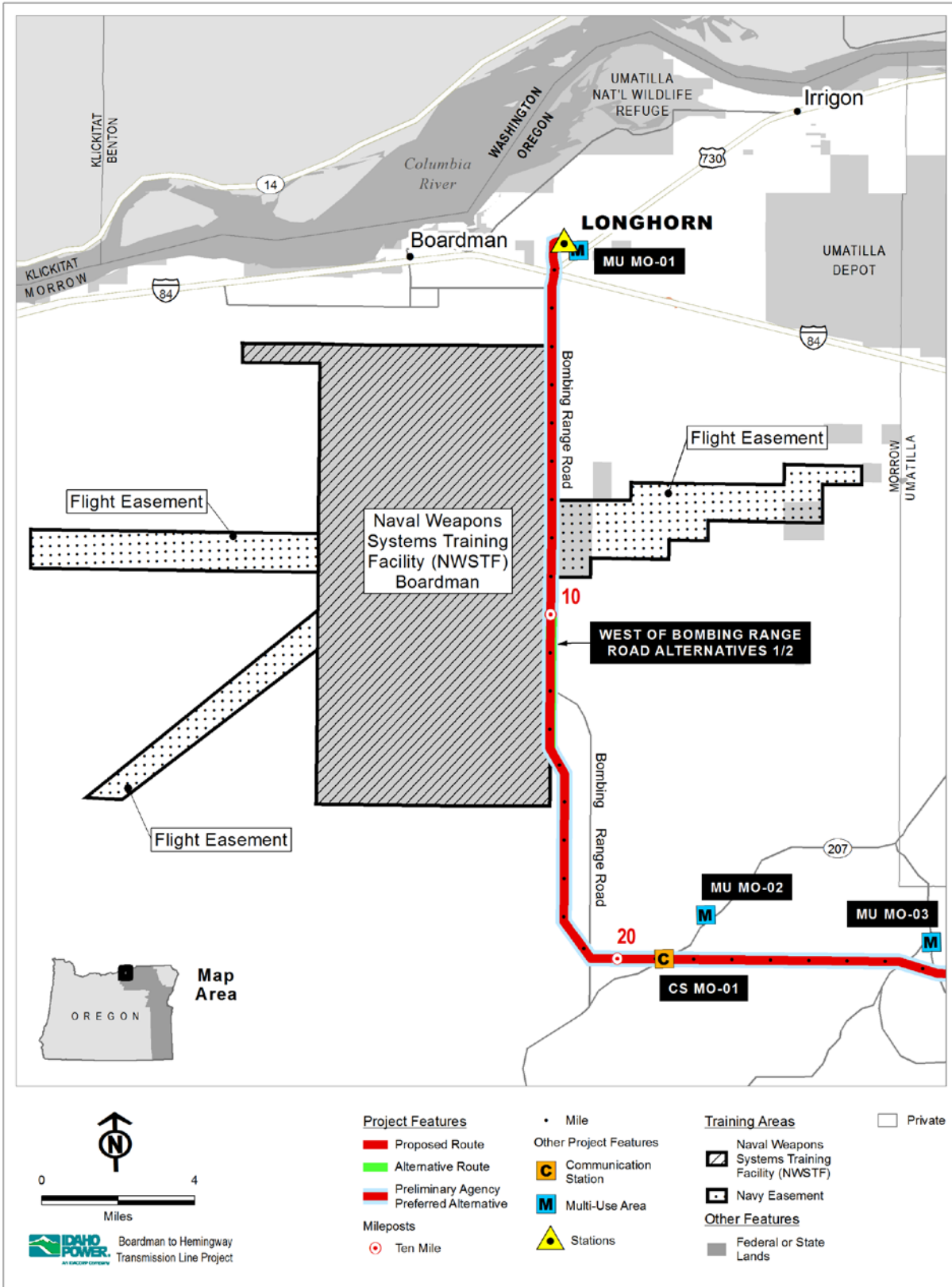
14 On federal lands, agency roads meet the minimum standards of width, alignment, grade,  
15 surface, etc. found in the Bureau of Land Management (BLM) Manual Section 9113 (BLM 1985)  
16 and/or USFS Handbooks 7709.56—Road Preconstruction Handbook (USFS 1986), 7709.57—  
17 Road Construction Handbook (USFS 1992), and 7709.58—Transportation System Maintenance  
18 Handbook (USFS 2009). These requirements are not anticipated to apply to Project two-track  
19 roads or to routes for all-terrain vehicles (ATVs) or utility terrain vehicles.

20 On January 12, 2001, the USFS issued the final National Forest System Road Management  
21 Rule. This rule revises regulations concerning the management, use, and maintenance of the  
22 National Forest Transportation System. The final rule is intended to help ensure additions to the  
23 National Forest System road network are needed for resource management and use; that  
24 construction, reconstruction, and maintenance of roads minimize adverse environmental  
25 impacts; and that unneeded roads are identified and decommissioned. The 2005 Travel  
26 Management Rule revised regulations at 36 CFR Parts 212, 251, 261, and 295 to require  
27 designation of roads, trails, and areas for motor vehicle use on all national forests.

28 To comply with the road and travel management rules, the Wallowa-Whitman National Forest  
29 prepared a Travel Management Plan. The draft Environmental Impact Statement (EIS) was  
30 released for public review in June 2009, and the record of decision and final EIS were released  
31 in February 2012 (USFS 2012). The decision amends the 1990 Wallowa-Whitman National  
32 Forest Land and Resource Management Plan (USFS 1990).

33 BLM resource management plans and USFS land and resource management plans provide  
34 direction on road management along with other resources that govern roads on federal lands.  
35 Both the USFS and BLM have access and travel management plans that designate areas for  
36 motorized use, prohibit some uses to protect resources, or limit road use to certain times of the  
37 year for resource protection. Off-highway vehicle use is further discussed in ASC Exhibit T.

38 IPC and its contractor(s) will comply with applicable standards and guidelines described in this  
39 section, except where IPC requests Project-specific amendments to those standards. New  
40 roads that do not become BLM or USFS roads and remain under IPC's or private landowner  
41 jurisdiction may not be constructed to all BLM and USFS standards.



1

2 **Figure 1. Naval Weapons System Training Facility Approach Zone**

### 1 **1.1.2 State**

2 Oregon Administrative Rule (OAR) 734-055-0005 requires an encroachment permit from the  
3 State of Oregon Department of Transportation (ODOT) Highway Division to construct pole lines,  
4 which include poles, wires, guys, anchors, and related fixtures. The rule applies to and governs  
5 the location, installation, construction, maintenance, and use of pole lines and other operations  
6 on the state highway ROW and properties under the jurisdiction of the ODOT. The ODOT  
7 District Manager reviews permit applications for the following:

- 8 • Accommodation of utility facilities with no adverse effect on traffic safety, operation,  
9 maintenance, and aesthetic quality of the highway system;
- 10 • Incorporation of the appropriate industry code standards and American Association of  
11 State Highway and Transportation Officials (AASHTO) publications;
- 12 • Placement of utility installations in reasonable locations for construction and  
13 maintenance; and
- 14 • Safe and unimpaired use of the highway.

15 Motor carriers transporting oversize or overweight loads in Oregon must obtain an over-  
16 dimension variance permit when a truck and/or truck-trailer combination exceeds vehicle limits  
17 under Oregon Revised Statutes (ORS) 818. Continuous Trip Permits include Heavy Haul  
18 Permits, issued annually for nondivisible loads 98,000 pounds or less when operating over legal  
19 axle limits, and Extended Weight Permits, issued annually for divisible loads from 80,001 to  
20 105,500 pounds. Single Trip Permits are issued for nondivisible loads when axle weights  
21 exceed legal limits. In summary, a permit is needed for a single, nondivisible load when any of  
22 the following applies:

- 23 • Width of the load or hauling equipment exceeds 8 feet, 6 inches;
- 24 • Height of vehicle or combination of vehicle and load exceeds 14 feet;
- 25 • Any single axle exceeds 20,000 pounds;
- 26 • Any tandem axle exceeds 34,000 pounds;
- 27 • Gross combination weight exceeds 80,000 pounds;
- 28 • Front overhang exceeds 4 feet beyond the front bumper;
- 29 • Load greater than 40 feet, exceeding 5 feet beyond the end of the semi-trailer, or load  
30 less than or equal to 40 feet, exceeding one-third of the wheelbase of the combination,  
31 whichever is less;
- 32 • Gross weight of a group of axles exceeds those in the ODOT legal weight tables; and
- 33 • Vehicle combination length exceeds that authorized by ODOT.

34 Unless operating with a front and rear pilot vehicle, warning lights as described in OAR 734-  
35 082-0036 are required when width exceeds 10 feet on two-lane highways or 12 feet on four-lane  
36 highways. Loads exceeding 12 feet on two-lane highways must use a front pilot vehicle. For any  
37 loads exceeding the following dimensions, a Super Load permit is required:

- 38 • Over 16 feet wide on the Interstate;
- 39 • Over 14 feet wide on any state two-lane highway;
- 40 • Over 17 feet high on any highway;
- 41 • Mobile with a box width over 14 feet wide and/or overall width greater than 15 feet; and
- 42 • Overall length greater than 150 feet.

1 In Oregon, activities on non-federal forest lands must also comply with the Oregon Forest  
2 Practices Act (FPA) rules, Oregon Revised Statute 527, and its attendant rules, OAR chapter  
3 629, divisions 605 through 665. These rules will apply to portions of the Project that cross forest  
4 lands. Under the Oregon FPA, strict regulations govern the location, construction, maintenance,  
5 and repair of roads on non-federal forest lands. Roads must avoid marshes, meadows, drainage  
6 channels, riparian areas and, when possible, steep terrain. The FPA also restricts some road  
7 construction methods and use of heavily rutted or mud-covered roads to prevent sediment  
8 runoff on non-federal forest lands during periods of wet weather (OAR 629-625-0040 through  
9 0440 and -0700). For construction, including temporary roads and additional temporary  
10 workspace, activities on non-federal forest lands are also subject to weather restrictions in  
11 accordance with the FPA. Operating in inclement weather in mountainous forest terrain is  
12 subject to shut down, as is the repetitive use of heavy trucks and equipment on existing  
13 unpaved forest roads during wet weather.

14 Where a road must cross a fish-bearing stream, culverts and bridges must be engineered to  
15 comply with the Oregon Department of Fish and Wildlife's Fish Passage Program to allow fish  
16 passage and to pass flood flows without damage. Since August 2001, the owner or operator of  
17 an artificial obstruction located in waters in which native migratory fish are currently or were  
18 historically present must address fish passage requirements prior to certain trigger events. Laws  
19 regarding fish passage are found in ORS 509.580 through 910 and in OAR 635, Division 412.  
20 Roads, adjacent ditches, and culverts must be maintained regularly to prevent landslides and  
21 avoid erosion and runoff that might enter streams. The project Transportation and Traffic Plan  
22 and Erosion and Sediment Control Plan (ESCP) (required for the Oregon portion) will include  
23 road maintenance measures to prevent and avoid erosion and runoff

24 IPC and its contractor(s) will comply with applicable state regulations described in this section.

### 25 **1.1.3 County and Other Agencies**

26 The Project would build access roads or stage materials in five Oregon counties. IPC reviewed  
27 applicable transportation system plans for information on existing road conditions and traffic and  
28 congestion levels. These include:

- 29 • Morrow County 2005 Transportation System Plan (Morrow County 2012)
- 30 • Umatilla County Transportation System Plan (Umatilla County 2002)
- 31 • Union County Transportation System Plan (Union County 1999)
- 32 • Baker County Transportation System Plan (Baker County 2005)
- 33 • Malheur County Transportation System Plan (Malheur County 2000)

34 The Morrow County Planning Department Zoning Ordinance requires a traffic impact analysis  
35 for projects generating more than 400 passenger car equivalent trips per day (Article 3, Section  
36 3.010).

37 The Umatilla County Development Code (Section 152.019) requires a traffic impact analysis  
38 under several conditions, including when a project increases site traffic volume generation by  
39 250 or more average daily trips (ADT) or when the use of adjacent gravel-surfaced county roads  
40 by vehicles exceeding 10,000-pound gross vehicle weights increases by 20 or more vehicles  
41 per day.

42 The Union County Land Division Regulations (Article 25) states that traffic analysis and  
43 mitigation must be undertaken if a proposed project may impose an undue burden on the public  
44 transportation system. Projects generating up to 100 vehicle trips per day are reviewed locally

1 by ODOT, Region 5. Proposals generating between 100 and 400 vehicle trips per day are  
2 reviewed by an ODOT Traffic Engineer. Proposals generating over 400 vehicle trips per day are  
3 required to submit a traffic impact study.

4 The Baker County Zoning and Subdivision Code (Section 340.07 of the Transportation  
5 Standards) requires a traffic impact study under various conditions, including when a  
6 development generates 25 or more peak-hour trips or 250 or more daily trips.

7 The Malheur County Development Code (Section 21.6-5.3, Traffic Impact Analysis) indicates  
8 that developments likely to generate more than 400 ADTs, the applicant may be requested to  
9 provide a traffic impact study or traffic counts to demonstrate the level of impact to the  
10 surrounding street system.

11 The number of trips that the Project is estimated to generate is described in Section 3 of this  
12 Plan. Exhibit K evaluates potential traffic impacts from the Project relative to substantive criteria  
13 and county code provisions identified by Morrow and Umatilla counties including transportation  
14 impacts analysis. Substantive criteria were not identified by other counties that the Project  
15 crosses, and thus are not addressed in Exhibit K.

16 Counties and other public agencies typically require that the placement of any structures on,  
17 over, or under roads require an encroachment permit, road-use permits, or other appropriate  
18 license for ROW occupancy.

19 In addition, an encroachment permit or similar authorization will be required from the applicable  
20 jurisdictional agency at locations where construction activities will occur within or above the  
21 public-road ROW. The specific requirements of the encroachment permit from the applicable  
22 transportation agencies are determined on a project-by-project basis. The encroachment permit  
23 issued by state and local jurisdictions may include the following requirements:

- 24 • Identify all roadway locations where special construction techniques (e.g., directional  
25 drilling or night construction) will be used to minimize impacts to traffic flow.
- 26 • Develop circulation and detour plans to minimize impacts to local street circulation. This  
27 may include the use of signing and flagging to guide vehicles through and/or around the  
28 construction zone.
- 29 • Schedule truck trips outside of peak morning and evening commute hours.
- 30 • Limit lane closures during peak hours to the extent possible.
- 31 • Include detours for areas potentially affected by project construction.
- 32 • Install temporary traffic-control devices as specified in the Manual of Uniform Traffic  
33 Control Devices for Streets and Highways (FHWA 2009 with 2012 amendments).
- 34 • Store construction materials only in designated areas.

35 If a construction method requires the closure of a state- or county-maintained road, a traffic  
36 control plan will be developed to accommodate traffic as required by a county or state permit.  
37 Encroachment permit requirements will be specified by the agency having jurisdiction.  
38 Enforcement of the terms of an encroachment permit will reduce impacts associated with short  
39 term road closures.

## 2.0 AFFECTED TRANSPORTATION SYSTEM AND TRAFFIC LEVELS

This section provides an overview of the transportation facilities likely to be affected by the Project, including descriptions of existing conditions and available traffic volumes on major highways.

### 2.1 Existing Roads, Bridges, and Railroads

The study area includes roads ranging from Interstate highways to two-track dirt roads, and bridges with a similar range of size and structural design. Appendix A contains a set of maps that shows major roads in relation to the Project.

The Project would cross the following federal and state highways, all of which would be used as transportation routes for Project materials and labor:

- Interstate 84 (I-84)
- U.S. Highway (US) 395
- Oregon 244
- Oregon 237
- Oregon 203
- Oregon 86
- US 20
- US 26
- Oregon 207
- Oregon 201
- US 95

Roads that form part of the State Highway Freight System near the Project include I-84, US 395, US 20, and US 95 (ODOT 2013). ODOT requires these roads to maintain less congestion than similar roads not designated as part of the State Highway Freight System (ODOT 1999). Portions of the Blue Mountain Scenic Highway (OR 74), the Elkhorn Scenic Byway (US 30), the Grande Tour Route (Oregon 237), the Hells Canyon Scenic Highway (Oregon 86), and the Snake River-Mormon Basin Back Country Byway (US 30) cross the Project (Exhibit C, Attachment C-2).

In Oregon, from Boardman to the southeastern extent of Baker County, the proposed and alternative routes roughly parallel I-84. US 20, 26, and 395 cross the Project in Oregon, between Little Valley and Hope, near Brogan, and near Pilot Rock, respectively.

According to Bureau of Transportation Statistics (2015), only one inventoried road bridge occurs within the Site Boundary, the eastbound I-84 bridge over Old Highway 30 (north of Durkee, Oregon). Outside of the Site Boundary, inventoried bridges are located on public roads and include Interstate highways, U.S. highways, state and county roads, as well as publicly accessible bridges on federal lands. Given the proximity of some bridges to Project facilities, these structures may be used as part of the Project for transport of workers and materials. No weight or other limitations have been identified on existing bridge crossings needed for Project construction because deliveries will follow legal weight limits and it is assumed that Interstate highways, U.S. highways, and state and county roads will meet applicable required standards.

Main rail lines operating in the region include Union Pacific and Oregon Eastern Railroad.

1 **2.2 Baseline Traffic Volumes**

2 Traffic volumes vary widely throughout the study area. Annual average daily traffic counts in  
 3 2014 for I-84 ranged from 10,000 to 15,000 vehicles between Boardman and Pendleton to  
 4 5,000 to 10,000 from Pendleton through the rest of the Project. Traffic counts on US 20, US 26,  
 5 and US 395 in the Site Boundary ranged from 0 to 2,500 vehicles (ODOT 2014). Traffic levels  
 6 on smaller local roads in the Site Boundary are lower than levels on these highways. Table 1  
 7 lists available average annual daily trips from ODOT for federal and state highways at locations  
 8 near the Project.

9 **Table 1. Traffic Volumes Near the Project**

Route	Location <sup>1</sup>	Highway/ Route Number	Highway/ Route Milepost	Location Description	2011 AADT	2014 AADT
Proposed Route/West of Bombing Range Road Alternatives <sup>2</sup>	Near milepost (MP) 1 in Morrow County	I-84 (Old Oregon Trail No. 6)	168.55	Boardman Jct. Automatic Traffic Recorder, Sta. 25-008, 0.60 mile southeast of Columbia River Highway No. 2 Interchange (US730)	13,200	14,700
Proposed Route	Near MP 22 in Morrow County	Oregon 207 (Lexington-Echo Highway No. 320)	13.62	0.10 mile southwest of Grieb Lane	810	730
Proposed Route	Near MP 30 in Morrow County	I-84 (Old Oregon Trail No. 6)	183.16	0.30 miles east of Hermiston Highway Interchange (Oregon 207)	11,200	11,700
Proposed Route	Near MP 34 in Morrow County	I-84 (Old Oregon Trail No. 6)	193.83	0.30 mile east of Lexington-Echo Highway Interchange	14,600	14,700
Proposed Route	Near MP 47 in Morrow County	Oregon 74 (Happner Highway No. 52)	72.70	Morrow-Umatilla County Line	80	70
Proposed Route	Near MP 65 in Umatilla County	US 395 (Pendleton-John Day Highway No. 28)	14.64	0.09 mile south of Old Highway 395	2,800	2,800
Proposed Route	Near MP 84 in Umatilla County	I-84 (Old Oregon Trail No. 6)	238.27	0.50 mile west of Meacham Interchange	9,300	9,800
Proposed Route	Near MP 90 in Umatilla County	I-84 (Old Oregon Trail No. 6)	244.12	0.30 mile east of Kamela-Mt. Emily Road Interchange	9,300	9,800
Proposed Route	Near MP 95 in Umatilla County	I-84 (Old Oregon Trail No. 6)	249.34	0.40 mile east of Glover Interchange	9,400	9,900

Route	Location <sup>1</sup>	Highway/ Route Number	Highway/ Route Milepost	Location Description	2011 AADT	2014 AADT
Proposed Route/ Morgan Lake Alternative	Near MP 100 in Umatilla County	Oregon 244 (Ukiah- Hilgard Highway No. 341)	46.82	0.40 mile south of Old Oregon Trail (I-84)	620	580
Proposed Route/ Morgan Lake Alternative	Near MP 101 in Umatilla County	I-84 (Old Oregon Trail No. 6)	253.43	0.60 mile east of Ukiah- Hilgard Highway (Oregon 244)	9,900	10,200
Proposed Route/ Morgan Lake Alternative	Near MP 105 in Union County	I-84 (Old Oregon Trail No. 6)	260.27	North La Grande Automatic Traffic Recorder, Sta. 31- 007, 1.05 miles east of La Grande–Baker Highway No. 66 (U.S. 30), North La Grande Interchange	8,900	8,800
Proposed Route/ Morgan Lake Alternative	Near MP 115 in Union County	I-84 (Old Oregon Trail No. 6)	272.19	Ladd Summit Automatic Traffic Recorder, Sta. 31- 008, 1.72 miles northwest of Ladd Canyon Road	9,300	9,800
Proposed Route	Near MP 127 in Union County	Oregon 237 (La Grande- Baker Highway No. 66)	32.19	0.10 mile east of Old Oregon Trail (I-84)	1,300	1,500
Proposed Route	Near MP 147 in Baker County	Oregon 86 (Baker- Copperfield Highway No. 12)	2.75	0.01 mile east of West Airport Road	1,200	1,500
Proposed Route	Near MP 150 in Baker County	I-84 (Old Oregon Trail No. 6)	303.74	0.40 mile north of Campbell Street Interchange (Oregon 7)	8,600	9,400
Proposed Route	Near MP 171 in Baker County	I-84 (Old Oregon Trail No. 6)	327.83	0.40 mile south of Durkee Interchange	8,200	8,700
Proposed Route	Near MP 184 in Baker County	I-84 (Old Oregon Trail No. 6)	338.41	0.30 mile south of Jordan Creek Interchange	8,700	8,800
Proposed Route	Near MP 198 in Malheur County	I-84 (Old Oregon Trail No. 6)	353.47	Huntington Automatic Traffic Recorder, Sta. 23-016, 1.47 miles south of Baker- Malheur County Line	8,600	9,000
Proposed Route	Near MP 206 in Malheur County	I-84 (Old Oregon Trail No. 6)	362.45	0.30 mile south of Moore's Hollow Interchange	8,200	8,800



Route	Location <sup>1</sup>	Highway/ Route Number	Highway/ Route Milepost	Location Description	2011 AADT	2014 AADT
Proposed Route	Near MP 217 in Malheur County	U.S. 26 (John Day Highway No. 5)	270.64	0.10 miles southeast of Road "D"	1,100	1,100
Proposed Route/ Double Mountain Alternative	Near MP 236 in Malheur County	U.S. 20 (Central Oregon Highway No. 7)	238.62	0.16 mile west of Vale-West Highway	1,600	1,600
Proposed Route	Near MP 257 in Malheur County	Oregon 201 (Succor Creek Highway No. 450)	11.72	North city limits of Adrian	1,200	1,300
Proposed Route	Near MP 265 in Malheur County	Oregon 201 (Succor Creek Highway No. 450)	20.09	0.02 mile west of Homedale Spur	330	380

<sup>1</sup> MP refers to transmission-line mileposts (from the September 2016 geographic information system route layer).

<sup>2</sup> The numbers would be the same for both West of Bombing Range Road Alternatives 1 and 2.

AADT – average annual daily trips

Source: ODOT 2011, 2014

1 **2.3 Volume-to-Capacity Ratios**

2 According to ODOT Transportation System Guidelines (ODOT 2008), roadway and road facility  
 3 congestion and performance standards may be expressed as level of service (LOS) standards  
 4 or as volume-to-capacity (V/C) ratios. LOS characterizes the performance of roads,  
 5 intersections, interchanges, and other transportation facilities. LOS ratings range from “A” (ideal  
 6 conditions, with free-flowing traffic) to “F” (complete failure or gridlock). V/C ratios are defined as  
 7 the peak traffic volume (vehicles/hour) on a highway section divided by the maximum volume  
 8 that the highway section can handle. The closer the V/C ratio is to 1.0, the more congested  
 9 traffic is.

10 The 1999 Oregon Highway Plan and later amendments (ODOT 1999) guide state highway  
 11 development and management for a 20-year planning horizon. In this plan, ODOT identified the  
 12 performance standards for state highways. The Plan’s highway mobility policy adopted V/C ratio  
 13 rather than LOS to measure highway performance because V/C ratio is a more precise and  
 14 consistent measure. Table 2 lists applicable maximum V/C ratio for peak hour operating  
 15 conditions from the 1999 Oregon Highway Plan (table last amended in May 2015). These  
 16 categories will apply to roads near Project multi-use areas.

17

1 **Table 2. ODOT Maximum Volume-to-Capacity Ratios for Peak Hour Operating**  
 2 **Conditions**

Highway Category	Inside Urban Growth Boundary <sup>1</sup>	Unincorporated Communities	Rural Lands
Interstate Highways	0.80 to 0.85	0.70	0.70
Freight Route on a State Highway <sup>2</sup>	0.80 to 0.90	0.70	0.70
Statewide (Not a Freight Route)	0.80 to 0.90	0.75	0.70
Expressway on a Regional or District Highway	0.85 to 0.90	0.75	0.70
Regional Highway	0.85 to 1.00	0.75	0.70
District/Local Interest Roads	0.90 to 1.00	0.80	0.75

Source: ODOT 1999

<sup>1</sup> An Urban Growth Boundary is defined as the area surrounding an incorporated city in which the city may legally expand its city limits. The Project passes near the Urban Growth Boundaries for Boardman, Pilot Rock, La Grande, North Powder, Baker City, and Huntington.

<sup>2</sup> Near the Project, these include I-84, US 395, US 20, and US 95 (ODOT 2013).

3 Existing V/C ratios for interstate, state, regional, and district highways, and local roads are  
 4 summarized in Table 3 based on information in local transportation system plans. The majority  
 5 of Project roads and intersections operate well below maximum acceptable V/C ratios  
 6 (maximums summarized in Table 2). Furthermore, based on local planning projections, road  
 7 congestion is not anticipated near the Project. The only roads that are projected to reach  
 8 maximum V/C ratios in the future are US 20/26 from Vale eastward to the Union Pacific Railroad  
 9 crossing (in Nyssa, Oregon) and on OR 201 from the Malheur River south to Cairo Junction.  
 10 Predicted volume increases could cause the LOS to decline temporarily on portions of these  
 11 highways.

12 **Table 3. Pre-Project Volume-to-Capacity Ratios**

Area	Year Evaluated for Existing V/C Ratio <sup>1</sup>	Existing V/C Ratio	Year Evaluated for Future V/C Ratio	Projected Future V/C Ratio <sup>2</sup>
Morrow County	2004	0.01 to 0.40	2024	0.02 to 0.66
Umatilla County	1996	0.01 to 0.69	2018	0.01 to 0.69
Union County	1998	0.01 to 0.40	2018	0.01 to 0.59
Baker County	2005	0.01 to 0.79 <sup>3</sup>	2025	0.01 to 1.48 <sup>4</sup>
Malheur County	1996	0.01 to 0.83 (LOS A to D) <sup>5</sup>	2017	0.01 to 0.97 (LOS A to E) <sup>6</sup>

Sources: Morrow County 2012; Umatilla County 2002; Union County 1999; Baker County 2005; Malheur County 2000.

<sup>1</sup> Existing V/C ratios were obtained from current county transportation plans. Each plan specifies the baseline year for traffic information. Those years are presented in this column.

<sup>2</sup> Projected future V/C ratios were obtained from current county transportation plans. Each plan specifies the projected future traffic levels. That information is presented in this column.

<sup>3</sup> Greatest projected V/C ratio outside of I-84/Hughes Lane is 0.17.

<sup>4</sup> Greatest projected V/C ratio outside of I-84/Hughes Lane is 0.39.

<sup>5</sup> Greatest projected LOS outside of US 20 and US 26 is A.

<sup>6</sup> Greatest projected LOS outside of US 20 and US 26 is A.

Note: LOS conversions to V/C ratio based on Umatilla County (2002) Table 4-3 Level of Service Criteria for Two-lane Highways.

## 3.0 POTENTIAL IMPACTS TO TRANSPORTATION SYSTEM AND TRAFFIC

This section describes the potential impacts of the Project to the transportation system and traffic levels. IPC's engineering contractor estimated traffic based on a series of assumptions including: crew sizes, crew productivity, lag time between work phases, material delivery strategies, and the spacing of multi-use areas (Appendix B). The line contractor may approach the Project in a different manner than assumed, which could increase or decrease the number of trips in the engineering contractor estimate. The assumptions included are the best reasonable estimate based on the contractor's experiences as an engineering firm working on transmission projects and their history as a transmission construction company.

### 3.1 Construction

During construction of the Project, the primary impact to the transportation system will be the generation of additional traffic. Multi-use areas will generally be the location of the heaviest construction-related traffic because they will be centralized hubs of activity within each construction segment. Construction equipment and materials will be transported from their sources to multi-use areas located approximately every 15 miles along the Project and then to approximately 1,200 individual tower construction sites, as well as the construction sites for the station and communication station sites. Construction equipment and materials for the existing substation will be staged at the substation. The Project will generate traffic related to construction workers commuting to the job sites. The Project also will require transport of logging equipment, logs, and logging slash from Project construction in forested areas.

The potential for impacts to traffic is greatest where construction will involve regular use of public roads between local communities and multi-use areas, such as I-84, US 20, Oregon State highways, and well-used local roads. Much of the heavy construction equipment, such as large excavators, cranes, feller bunchers, and track-rig equipment, generally will operate on the Project ROW or private access roads, except when heavy equipment is moved from one isolated section of line to another on public roads. These instances are limited and incidental to the overall traffic flow created by the Project. The larger potential impact to traffic levels is associated with daily trips in and out of multi-use areas by construction workers personal vehicles, material delivery vehicles, concrete trucks, and construction vehicles moving from work area to work area within the section.

#### 3.1.1 Trip Generation Estimates

##### 3.1.1.1 Anticipated Personal Vehicle Trips

Construction of the new transmission line is anticipated to last at least 36 months, with multiple construction crews working simultaneously. See Exhibit B, Section 3.6 for the construction schedule for the Project. Work is projected to begin simultaneously in more than one section with material marshaling, ROW clearing, and road and site work starting first, then foundation installation, tower erection, and wire stringing. The station expansion construction and the communication station work will begin on a schedule that will allow for completion at approximately the same timeframe as the transmission line. Construction activity is expected to start no earlier than 2020 and be completed for an in-service date that is expected to be no sooner than 2023. No work on the site as defined in 32 OAR 345-001-0010 will take place before the Energy Facility Siting Council issues a Site Certificate.

As described in Exhibit U, Section 3.3.1, IPC's engineering contractor separated the overall (Oregon and Idaho) Project into Construction Spread 1 (approximately milepost 0 to 150) and

1 Construction Spread 2 (approximately milepost 150 to 296.6), with construction on each spread  
 2 occurring simultaneously. For the purposes of traffic impacts, the two spreads are further  
 3 divided into smaller sections that are assumed to be sufficiently separate (geographically) so  
 4 that the use of local access routes will not overlap between smaller sections. In other words, the  
 5 traffic impacts will not be additive between adjacent sections.

6 Work crews will include those involved in construction activities, as well as workers providing  
 7 vehicle and equipment maintenance and repairs, refueling, dust control, construction inspection,  
 8 construction materials testing, and environmental compliance and surveying.

9 For each crew type, IPC’s engineering contractor estimated the quantity of personal vehicles,  
 10 construction pickups, and other construction equipment, as well as the number of one-way trips  
 11 per day. Two workers are assumed to carpool in each personal vehicle, making two one-way  
 12 trips daily—from lodging to the multi-use area each morning and from the multi-use area to  
 13 lodging each evening. Table 4 provides the numbers of vehicles, one-way trips on public roads  
 14 per day, and total trips per day associated with personal vehicle use. Table 5 lists nearby  
 15 communities where workers may lodge and local routes between those communities and each  
 16 multi-use area.

17 **Table 4. Personal Vehicle Trips per Day**

Construction Crew Type	Personal Vehicles		
	Number of Personal Vehicles (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	49	2	98
ROW Clearing	9	2	18
Road/Pads Grading	9	2	18
Foundations	11	2	22
Tower Lacing (assembly)	54	2	108
Tower Setting (erection)	27	2	54
Wire Stringing	29	2	58
Restoration	5	2	10
Blasting	5	2	10
Materials Management	10	2	20
Mechanic & Equipment Management	5	2	10
Refueling	5	2	10
Dust Control	5	2	10
Construction Inspection	5	2	10
Materials Testing	5	2	10
Environmental Compliance	5	2	10
Surveyors	5	2	10
<b>Total</b>			<b>486</b>

1 **Table 5. Preliminary Commuting Routes for Workers Lodging in Nearby**  
 2 **Communities**

<b>Multi-use Area<sup>1</sup></b>	<b>County</b>	<b>Nearby Community</b>	<b>Major Routes</b>	<b>Local Routes</b>
MO-01, MO-02, MO-03, MO-04, MO-05	Morrow	Hermiston, Boardman	I-84, OR 207, OR 74, US 730	Big Butter Creek Lane, Butter Creek Road
UM-01, UM-02, UM-03, UM-04, UM-05, UM-06, UM-07	Umatilla	Hermiston, Pilot Rock, Pendleton	I-84, I-82, US 395, OR 74	Lamb Road, Big Butter Creek Road, Parker Road, Southwest Birch Street, East Birch Creek Road, McKay Creek Road, Ross Road
UN-01, UN-02, UN-03, UN-04	Union	North Powder, Baker City, La Grande	I-84, OR 203, OR 234	Pierce Road, Foothill Road, Olsen Road, Bagwell Road, North Powder River Lane
BA-01, BA-02, BA-03, BA-04, BA-05, BA-06	Baker	Baker City, Durkee, Huntington	I-84, US 30, OR 203	Atwood Road, Campbell Street, Sunset Lane, Hill Creek Road, Oxman Ranch Road, Durkee Road, Rye Valley Lane
MA-01, MA-02, MA-03, MA-04, MA-05, MA-06, MA-07, MA-08, MA-09, MA-10	Malheur	Vale, Ontario, Adrian	I-84, OR 201, US 20, US 26, OR 415	Love Reservoir Road, Old Oregon Trail, 2nd Boulevard South, Russell Road, 4th Boulevard South, Bishop Road, 5th Avenue East, Graham Boulevard, Loop Road, Rock Canyon Road, Cow Hollow Road, Owyhee Tunnel Road, Succor Creek Road
OW-01 <sup>2</sup> , OW-02, OW-03, OW-04, OW-05	Owyhee (Idaho)	Homedale (Idaho), Marsing (Idaho)	US 95, OR 78	In Idaho: Sage Road, Nelson Lane, State Line Road, Coyote Grade Road, Clark Road, Wilson Cemetery Lane, Johnstone Road

<sup>1</sup> Multi-use areas are numbered as shown in Appendix A, and would be used for the Proposed Route. The alternative routes would not require separate multi-use areas. West of Bombing Range Alternatives 1 and 2 would use MO-01 or MO-02, the Morgan Lake Alternative would use UN-01 and UN-02, and Double Mountain Alternative would use MA-05 and MA-06.

<sup>2</sup> Multi-use areas listed in Owyhee County, Idaho, are only to provide context for the analysis related to the Oregon Project features.

3 Construction will generally occur between 7 a.m. and 7 p.m., Monday through Saturday.  
 4 Additional hours may be necessary to make up schedule deficiencies or to complete critical  
 5 construction activities. Given the early start times and late finish times, construction commuting  
 6 traffic likely will overlap with only a portion of local community peak traffic hours.

1    3.1.1.2    *Anticipated Construction Vehicle Trips*

2    IPC's construction contractors and suppliers will transport major Project components from their  
3    sources to the Project multi-use areas or directly to individual construction sites. Lattice tower  
4    components may be sourced from overseas, and would most likely be transported from  
5    Portland, Oregon, via truck or rail to multi-use areas and the existing substation. Other major  
6    project components such as conductors, optical ground wire, insulators and hardware will be  
7    sourced from domestic suppliers in various locations throughout the United States and would  
8    most likely utilize the National Interstate System to reach the vicinity of the Project. Locally  
9    sourced materials including concrete, reinforcing steel for foundations, rock and other  
10    incidentals will utilize State, County and local roads (The complete list of Project materials can  
11    be found in Exhibit G). Preliminary haul routes for Project components are shown on the figures  
12    in Appendix A, which also indicate the station location and multi-use areas.

13    Table 6 provides the numbers of vehicles, one-way trips on public roads per day, and total trips  
14    per day associated with construction vehicle use. Table 7 lists nearby communities where water  
15    could be obtained and local routes between those communities and each multi-use area.

16

1 **Table 6. Construction Vehicle Trips per Day**

Construction Crew Type	Construction Vehicles					
	Light Construction Vehicles			Heavy Construction Vehicles		
	Number of Pickups/ Mechanic Trucks (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)	Number of Other Vehicles	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Roads/ Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Material Delivery	20	8	160	12	2	24
Mechanic and Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
Environmental Compliance	9	6	54	0	0	0
Surveyors	5	3	30	0	0	0
<b>Totals</b>	–	–	<b>620</b>	–	–	<b>188</b>

1 **Table 7. Preliminary Routes for Hauling Water to Multi-use Areas**

Multi-use Area <sup>1</sup>	County	Anticipated Water Source	Major Routes	Local Routes
MO-01, MO-02, MO-03, MO-04, MO-05	Morrow	Boardman	I-84, OR 207, OR-74, US 730	Big Butter Creek Lane, Butter Creek Road
UM-01, UM-02, UM-03, UM-04, UM-05, UM-06, UM-07	Umatilla	Boardman, Pendleton	I-84, I-82, US 395, OR 74	Lamb Road, Big Butter Creek Road, Parker Road, Southwest Birch Street, East Birch Creek Road, McKay Creek Road, Ross Road
UN-01, UN-02, UN-03, UN-04	Union	La Grande	I-84, OR 203, OR 234	Pierce Road, Foothill Road, Olsen Road, Bagwell Road, North Powder River Lane
BA-01, BA-02, BA-03, BA-04, BA-05, BA-06	Baker	Baker City	I-84, US 30, OR 203	Atwood Road, Campbell Street, Sunset Lane, Hill Creek Road, Oxman Ranch Road, Durkee Road, Rye Valley Lane
MA-01, MA-02, MA-03, MA-04, MA-05, MA-06, MA-07, MA-08, MA-09, MA-10	Malheur	Ontario	I-84, OR 201, US 20, US 26, OR 415	Love Reservoir Road, Old Oregon Trail, 2nd Boulevard South, Russell Road, 4th Boulevard South, Bishop Road, 5th Avenue East, Graham Road, Loop Road, Rock Canyon Road, Cow Hollow Road, Owyhee Tunnel Road, Succor Creek Road
OW-01, OW-02, OW-03, OW-04, OW-05	Owyhee (Idaho)	Nampa	US 95, OR 78	In Idaho: Sage Road, Nelson Lane, State Line Road, Coyote Grade Road, Clark Road, Wilson Cemetery Lane, Johnstone Road

<sup>1</sup> Multi-use areas are numbered as shown in Appendix A, and would be used for the Proposed Route. The alternative routes would not require separate multi-use areas. West of Bombing Range Road Alternatives 1 and 2 would use MO-01 or MO-02, the Morgan Lake Alternative would use UN-01 and UN-02, and the Double Mountain Alternative would use MA-05 and MA-06.

2 **3.1.2 Construction Equipment and Traffic**

3 Construction access will occur at multi-use areas and individual construction sites along the  
 4 Proposed Route, resulting in dispersed construction traffic. Truck deliveries will normally occur  
 5 on weekdays between 7:00 a.m. and 7:00 p.m., avoiding peak hours as practicable.



1 The following is a summary of anticipated equipment to be used for each transmission-line  
2 construction activity.

- 3 • Survey work: pickup trucks or ATVs.
- 4 • Timber removal: pickup trucks, feller bunchers, dump trucks, wood chippers.
- 5 • Road construction: pickup trucks, bulldozers, motor graders, and water trucks.
- 6 • Hole digging, installation of directly embedded structures, or foundation installation:  
7 pickup trucks, 2-ton trucks, digger derrick trucks, hole diggers, bulldozers, concrete  
8 trucks, water trucks, cranes, hydro cranes, wagon rock drills, dump trucks, and front-end  
9 loaders.
- 10 • Hauling lattice steel members, tubular poles, braces, and hardware to the structure sites:  
11 steel haul trucks, carry alls, cranes, and forklifts.
- 12 • Assembly and erection of structures: pickup trucks, 2-ton trucks, carry alls, cranes, and a  
13 heavy lift helicopter.
- 14 • Wire installation: pickups, wire reel trailers, diesel tractors, cranes, 5-ton boom trucks,  
15 splicing trucks, three drum pullers, single drum pullers, tensioner, sagging dozers, carry-  
16 alls, static wire reel trailers, bucket trucks, and a light duty helicopter.
- 17 • Final cleanup, reclamation, and restoration: pickup trucks, 2-ton trucks, bulldozers,  
18 motor graders, dump trucks, front-end loaders, hydro-seed truck, and water trucks.

19 The highest level of traffic will be when the wire stringing operations begin while several other  
20 operations are occurring at the same time, which will likely include ROW clearing, installing  
21 foundations, hauling steel, and assembling and erecting structures. For the station work, the highest  
22 level of traffic will be during site grading and foundation installation. For the communication station  
23 sites, the highest level of traffic will be during grading and site preparation.

24 Detailed estimates of trips generated by transporting Project construction equipment will be provided  
25 by the construction contractor prior to construction.

### 26 **3.1.3 Traffic Related to Timber Removal**

27 In forested areas, the Project will require removal of timber from the Project ROW and for  
28 construction and improvement of access roads. Specific timber harvest plans have not been  
29 finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding  
30 transportation routes for harvested timber will be made following completion of a timber harvest  
31 plan, and the number of log truck tips will be estimated when the timber harvest plan has been  
32 finalized. Logging slash will remain onsite if possible. For additional discussion regarding  
33 removal of timber in forested areas, see Exhibit K, Attachment K-2, ROW Clearing Assessment.

### 34 **3.1.4 Impacts to V/C Ratios**

35 Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of  
36 approximately 1,294 daily one-way vehicle trips are expected within any one construction  
37 spread. To facilitate traffic and other analyses, the two construction spreads are divided into  
38 smaller sections based on similar construction windows and seasonal weather restrictions. Not  
39 all construction sections will have the same number of concurrent construction activities,  
40 depending on how the construction contractor sequences and executes the Project. Some  
41 sections will have fewer daily vehicle trips. For the purposes of the traffic analysis, the spreads  
42 are divided into five sections with multi-use areas that could have additive traffic impacts. The  
43 sections are assumed to have approximately equal levels of activity. The 1,294 daily one-way  
44 trips per spread divided over five sections of more concentrated traffic results in 259 daily one-

1 way vehicle trips per group of adjacent multi-use areas. The engineering contractor estimates  
2 that 50 percent of the construction vehicle trips (Table 6) will begin and end at work areas other  
3 than multi-use areas. This assumption reduces the number of one-way trips for each group of  
4 adjacent multi-use areas to 130 per day. Of these, 93 vehicles are anticipated to be less than  
5 10,000 pounds gross vehicle weight and 37 vehicles are anticipated to be greater than 10,000  
6 pounds gross vehicle weight.

7 These estimates were incorporated into a planning-level analysis of worst-case potential Project  
8 impacts on V/C ratios (Table 8). Existing peak traffic volumes and V/C ratios were identified or  
9 calculated for the routes most likely to be used by trucks hauling construction materials or logs,  
10 and by construction workers commuting to Project sites. Calculations were based on  
11 conservative assumptions detailed in the footnotes to Table 8. Existing V/C ratios on these  
12 routes range from 0.02 to 0.48. The numbers of daily vehicle trips related to Project construction  
13 were estimated and added to existing peak traffic volumes for each potential hauling or  
14 commuting route. Minor traffic from other Project sources, such as solid waste removal, is  
15 expected to be too minimal to affect traffic levels and was therefore not included in this analysis.  
16 Additional truck trips related to the delivery and removal of construction equipment during  
17 mobilization and demobilization are not expected to impact peak traffic levels, given that they  
18 will occur gradually over several weeks before and after the peak construction periods.

19 The resulting “with Project” traffic volumes were divided by road capacities for each route to  
20 arrive at the worst-case V/C ratios that could be expected, by route, during Project construction.  
21 These peak-hour, “with Project” V/C ratios range from 0.04 to 0.61, resulting from increases of  
22 0.01 to 0.13.

23 Each “with Project” V/C ratio was compared to ODOT’s maximum V/C ratio for that type of road  
24 (based on ODOT 1999; V/C ratios last amended in May 2015). Factoring in traffic levels  
25 generated from construction activities, none of the potential Project hauling or commuting routes  
26 exceed a maximum V/C ratio. Given the low V/C ratios on existing roads used by the Project  
27 and the relatively dispersed distribution of truck traffic and workers near any specific location at  
28 any given time, the additional Project traffic generated during construction is not anticipated to  
29 cause notable congestion or otherwise impact local communities.

1 **Table 8. Evaluation of Project Impacts on Volume-to-Capacity Ratios for Roads Potentially Used during Project Construction**

Multi-use Areas	Potential Hauling or Commuting Route	Road Classification <sup>1</sup>	Existing Peak Traffic Volume <sup>2</sup>	Road Capacity <sup>2</sup>	Existing V/C Ratio <sup>2</sup>	Estimated Daily Personal and Construction Vehicles	With Project Peak Traffic Volume <sup>3</sup>	With Project V/C Ratio <sup>4</sup>	Increase in V/C Ratio From Project Construction <sup>5</sup>	ODOT Maximum V/C Ratio <sup>6</sup>	V/C Ratio Exceeds ODOT Maximum with Project?
MO-01, MO-02, MO-03, MO-04, UM-01, UM-02	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	130	2,335	0.42	0.02	0.70	No
	I-82	Interstate Highway, Unincorporated Communities	2,640	5,500	0.48	130	2,770	0.50	0.02	0.70	No
	US 730	Statewide (Not a Freight Route), Rural Lands	990	2,475	0.40	130	1,120	0.45	0.05	0.70	No
	OR 207	Regional Highway, Rural Lands	56	1,110	0.05	130	186	0.17	0.12	0.70	No
	OR 74	Regional Highway, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.80 to 1.00	No
	US 395	Freight Route on a State Highway, Rural Lands	465	969	0.48	130	595	0.61	0.13	0.70	No
	Big Butter Creek Lane/Butter Creek Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Lamb Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
MO-05, UM-03, UM-04, UM-05, UM-06, UM-07	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	130	2,335	0.42	0.02	0.70	No
	US 395	Freight Route on a State Highway, Rural Lands	465	969	0.48	130	595	0.61	0.13	0.70	No
	OR 74	Regional Highway, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.80 to 1.00	No
	Parker Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Southwest Birch Street/East Birch Creek Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	McKay Creek Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Ross Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
UN-01, UN-02, UN-03, UN-04	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	130	2,335	0.42	0.02	0.70	No
	OR 234	District/Local Interest Road, Rural Lands	700	14,000	0.05	130	830	0.06	0.01	0.75	No
	Pierce Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Foothill Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Bagwell Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	North Powder River Lane	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Olsen Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
BA-01, BA-02, BA-03, BA-04, BA-05, BA-06, MA-01	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	130	2,336	0.42	0.02	0.70	No
	US 30	Freight Route on a State Highway, Rural Lands	2,200	9,565	0.23	130	2,330	0.24	0.01	0.70	No
	CR 203	District/Local Interest Road, Rural Lands	700	14,000	0.05	130	830	0.06	0.01	0.75	No
	Atwood Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Campbell St	District/Local Interest Roads, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Oxman Ranch Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Sunset Lane	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Hill Creek Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Durkee Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Rye Valley Lane	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Old Oregon Trail	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Love Reservoir Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
MA-02, MA-03, MA-04, MA-05, MA-06	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	130	2,335	0.42	0.02	0.70	No
	US 20	Freight Route on a State Highway, Rural Lands	165	1,625	0.10	130	295	0.18	0.08	0.70	No
	US 26	Statewide (Not a Freight Route), Rural Lands	120	6,000	0.02	130	250	0.04	0.02	0.70	No
	OR 201	Regional or District Highway, Rural Lands	180	1,625	0.11	130	310	0.19	0.08	0.70	No

Multi-use Areas	Potential Hauling or Commuting Route	Road Classification <sup>1</sup>	Existing Peak Traffic Volume <sup>2</sup>	Road Capacity <sup>2</sup>	Existing V/C Ratio <sup>2</sup>	Estimated Daily Personal and Construction Vehicles	With Project Peak Traffic Volume <sup>3</sup>	With Project V/C Ratio <sup>4</sup>	Increase in V/C Ratio From Project Construction <sup>5</sup>	ODOT Maximum V/C Ratio <sup>6</sup>	V/C Ratio Exceeds ODOT Maximum with Project?
MA-02, MA-03, MA-04, MA-05, MA-06 (continued)	East 5th Avenue	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Loop Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Graham Boulevard	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Rock Canyon Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	4th Boulevard South	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Bishop Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Russell Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	2nd Boulevard South	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Cow Hollow Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
MA-07, MA-08, MA-09, OW-01, OW-02, OW-03, OW-04, OW-05	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	130	2,335	0.42	0.02	0.70	No
	US 95	Freight Route on a State Highway, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.70	No
	Owyhee Tunnel Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Nelson Lane	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Succor Creek Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	State Line Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Sage Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Coyote Grade Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
	Wilson Cemetery Lane	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No
Johnstone Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	130	250	0.25	0.13	0.75	No	

<sup>1</sup> Road classifications were selected conservatively based on the most rural segment of each route (the segment with the smallest capacity).

<sup>2</sup> Existing peak traffic volumes, capacities, and V/C ratios (representing peak a.m. and p.m. conditions) were estimated using conservative assumptions with the methods described in ODOT's Highway Design Manual (ODOT 2012) or taken directly based on the exact road or roads with similar characteristics from local transportation plans. Where peak traffic volumes are unavailable, peak volumes are assumed to be 15 percent of average daily trips, based on the local transportation plans.

<sup>3</sup> "With Project" peak traffic volume is calculated by adding existing peak traffic volume plus the number of Project truck and car trips assumed to occur during the same timeframes.

<sup>4</sup> "With Project" V/C ratio is calculated by dividing the "with Project" peak traffic volume by the road capacity.

<sup>5</sup> The increase in V/C ratio from the Project is calculated by subtracting the existing V/C ratio from the "with Project" V/C ratio.

<sup>6</sup> From ODOT (1999).

Travel routes less than a mile from large roads and highways are addressed in Table 5 and 7 and are not in the V/C ratios in this table.

### 1 **3.1.5 Impacts to Local Services**

2 Potential impacts to local services and disruptions to public road ROWs are anticipated to be  
3 minimal. To the degree practicable, Project-related activities will be coordinated to avoid  
4 interfering with school buses, mail delivery vehicles, ambulances, paramedics, fire engines, or  
5 police vehicles. The Project does not overlap with public transportation systems, such as public  
6 bus routes. Impacts to railroads or pipelines are not anticipated because construction activities  
7 will not be performed on railroad ROWs or near pipelines. Furthermore, as described in Section  
8 3.1.4, Project-related traffic levels are not anticipated to result in congestion and Project  
9 activities will not delay response times for emergency services.

10 Delivery of large equipment and materials via truck could require temporary closures to selected  
11 local roads. However, multi-use areas and both tower and station construction sites are located  
12 away from high-use public roads, so any closures during construction are anticipated to have  
13 minimal impact on local communities. Two-lane roads would be most impacted by temporary  
14 closures because they provide only one lane of travel per direction. IPC's construction  
15 contractors will be required to coordinate the timing and locations of road closures in advance  
16 with local school districts, post offices, and emergency responders. In the event that emergency  
17 services are needed at a location where access is temporarily blocked by the construction zone,  
18 IPC's construction contractors will reopen access as quickly as possible. Most construction  
19 activities will take place outside of roadway ROWs with the exception of access road entry  
20 points and wire stringing. During wire stringing, temporary structures will be erected across  
21 highways and public roads to prevent conductors, socklines, or pulling wires from lying on  
22 roadways and disrupting traffic. Roads will not be closed during wire stringing.

23 These potential impacts from temporary road closures and construction activities are not  
24 anticipated to affect local communities because most Project activities involving short-term road  
25 closures will occur in remote areas, away from housing and other developments.

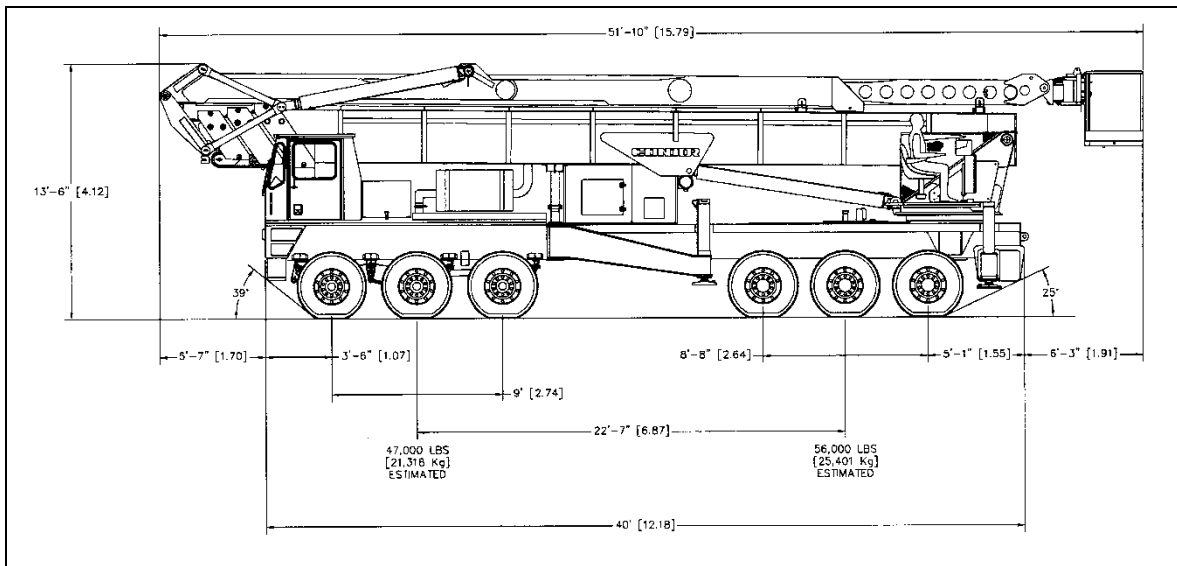
### 26 **3.1.6 Access Roads**

27 As described previously, construction of the Project will require vehicle, truck, and crane access to  
28 all construction areas. Most construction areas will be accessed using low-standard roads including  
29 those owned by private parties, counties, and state and federal agencies. Access to construction  
30 sites will require improvements to existing unpaved roads and construction of new access roads.  
31 IPC assumes that existing paved roads and bridges were designed to meet ODOT and other  
32 applicable standards and will therefore not require improvements prior to Project construction.

33 The Project and its related and supporting facilities in Oregon will involve permanent access roads,  
34 including 206 miles of new roads and 283 miles of existing roads. Exhibit C, Section 3.2 provides  
35 details on the miles of access roads needed for the Project. Tables C-2 through C-6 of Exhibit C  
36 provide details on the miles of new roads and existing roads that will need to be improved by county  
37 for the Proposed Route. Section 3.2.2 of Exhibit C provides the miles of new roads and existing  
38 roads needed for the alternative routes.

39 IPC has identified the minimum access-road requirements for transmission line and station  
40 construction and operation. A 14-foot-wide road surface (i.e., travel way) and 16- to 20-foot-wide  
41 road surface for turns were determined by the largest piece of equipment involved in construction  
42 (See Section 3.3.1 of Exhibit B). The critical vehicle for tower construction is an aerial lift crane. A  
43 typical unit is shown in Figure 2. Barriers to the movement of this specialized vehicle include roads  
44 that are too narrow or steep, have intersections with inadequate turning radii, or have inadequate  
45 surfaces. Other barriers would include existing narrow bridges or other existing road structures

1 (such as culverts) with inadequate cover. Where barriers are encountered, IPC’s construction  
 2 contractors will improve roads or construct new roads to allow passage.



3 **Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable**  
 4 **Length 52 Feet; Width 8 Feet 6 Inches)**

5 Typical minimum road-construction requirements for improvements to existing roads and for  
 6 new roads are shown in Exhibit B, Attachment B-5, Road Classification Guide and Access  
 7 Control Plan.

8 **3.1.7 Potential Damage to Existing Infrastructure**

9 Construction of the Project is not expected to result in damage to existing roads, bridges, or  
 10 overhead power distribution lines, as IPC’s construction contractors will be required to comply  
 11 with all conditions and requirements in road use permits or similar documents from local  
 12 jurisdictions and power distribution utilities. For example, by complying with ODOT regulations  
 13 for load limits, heavy loads will avoid impacts to existing roads that were designed to code.

14 **3.2 Operation**

15 Following Project construction, existing and new permanent access roads will be used by  
 16 maintenance crews and vehicles for inspection and maintenance of the new facilities. The  
 17 operations phase will have little to no effect to local and regional traffic. Trips will be limited to  
 18 regular inspection and maintenance of the transmission line and regular hauling of materials  
 19 would not occur. IPC will staff Project operations and maintenance with existing staff and will not  
 20 affect community peak hour traffic. One additional part-time position may be filled locally.  
 21 Project operations will not cause emergency access restrictions or impacts to area public transit  
 22 services, nor will they increase roadway hazards or cause damage to existing roads or bridges.  
 23 Any road- or railroad-overhead utility crossings would conform to the NESC, which would  
 24 prevent impacts during operations. Project operations would not interfere with railway  
 25 operations. Air-traffic patterns will not be affected by the placement of new structures or  
 26 conductors because the Project will not violate vertical obstruction prohibitions.

27 Temporary construction roads not required for future maintenance access will be restored as  
 28 described in Exhibit P1, Attachment P1-3, Reclamation and Revegetation Plan.

## 1 **4.0 MITIGATION**

2 This section describes potential mitigation strategies to address the impacts summarized in  
3 Section 3. IPC's construction contractor will be required to comply with all applicable federal,  
4 state, and local regulations and Project mitigation requirements.

5 IPC's construction contractor will prepare site-specific traffic and transportation plans which will  
6 be submitted to and approved by the appropriate federal, state, and local agencies with  
7 authority to regulate use of public roads. IPC will ensure that plans are approved prior to the  
8 issuance of a Notice to Proceed with construction.

9 The following strategies, physical improvements and operational procedures, will be applied to  
10 reduce transportation impacts of the Project depending on site-specific conditions.

### 11 **4.1 Physical Improvements**

12 As discussed in Section 3.1, IPC's construction contractor will need to improve some local roads  
13 to accommodate oversize truck deliveries. This work will involve improvements to road  
14 segments, intersections, and bridges, as needed. Any responsibility for IPC or IPC's  
15 construction contractors to rehabilitate or reconstruct roadways and structures during and after  
16 use will be stipulated in road-use permits or similar documents.

#### 17 **4.1.1 Construction Permits and Property Agreements**

18 The construction contractor will obtain encroachment permits or similar legal agreements from  
19 the public agencies responsible for affected roadways and other applicable ROWs. IPC will  
20 require its construction contractor(s) to ensure that all suppliers of Project equipment and  
21 materials obtain applicable oversize and overweight permits and comply with all permit  
22 requirements.

#### 23 **4.1.2 Road Standards and Maintenance**

24 For new access roads, the design of higher-standard roads will conform to the most current  
25 edition of AASHTO's Guidelines for Geometric Design of Very Low-Volume Local Roads, for  
26 Access Roads with an Anticipated Average Daily Traffic of Less than 400 Vehicles. Roads will  
27 meet USFS and BLM standards for roads that will be added to federal jurisdiction. Existing  
28 USFS and BLM roads which cannot be used in their existing condition will be brought up to  
29 these standards. For roads on state forest land, IPC will work with ODOT, Oregon Department  
30 of Forestry, and other agencies to ensure compliance with applicable road standards and to  
31 obtain any necessary special approvals. Roads that remain in IPC's jurisdiction may not be  
32 designed to all federal standards. Roads developed specifically for this Project that are identified  
33 by IPC as no longer necessary will be reclaimed as specified in the Reclamation and  
34 Revegetation Plan (Exhibit P1, Attachment P1-3).

#### 35 **4.1.3 BMPs for Erosion Control and Stormwater Drainage**

36 In Oregon, a completed ESCP is one of the required components of IPC's application for the  
37 National Pollutant Discharge Elimination System Construction Stormwater Permit (1200-C;  
38 Exhibit I, Attachment I-3). Erosion control and sedimentation measures, such as silt fences,  
39 water bars, culverts, sediment basins, and perimeter control, will be installed to minimize  
40 erosion during and subsequent to construction of the Project, as specified in the ESCP. IPC's  
41 construction contractors will be required to comply fully with the Project ESCP, including  
42 implementing approved BMPs during all road-related activities, including construction industry  
43 standard practices and BMPs for spill prevention and containment.

1 In addition, roads will be constructed so that proper drainage is not impaired and soil erosion is  
2 minimized. IPC's construction contractor will limit the use of access roads by trucks and other  
3 heavy equipment during wet weather. Existing culverts will be upgraded if they are damaged by  
4 the Project or cannot support construction traffic.

## 5 **4.2 Operational Procedures During Construction**

6 Safe operation of Project-related traffic depends not only on the condition and characteristics of  
7 affected roads, but also on procedures governing the time and frequency of deliveries of Project  
8 components and materials. To maximize safety and compatibility with background traffic flows,  
9 the following operational procedures will be implemented during Project construction.

### 10 **4.2.1 Traffic Control, Access, and Safety Measures**

11 Final haul routes will be selected prior to construction with consideration for potential impacts to  
12 localized traffic flow and emergency services. IPC will work with local firefighters, police  
13 departments, ambulance services, and other emergency responders to coordinate activities for  
14 effective emergency response. IPC will require the construction contractor to develop and  
15 implement an emergency response plan.

16 Construction vehicle traffic on public roadways will be limited to off-peak commuting times as  
17 practicable to minimize impacts on local commuters. To minimize conflicts between Project  
18 traffic and background traffic, movements of heavy trucks will be minimized to the extent  
19 practicable during these peak times.

20 To reduce traffic congestion and roadside parking hazards, multi-use areas will provide for  
21 parking for construction employee personal vehicles.

22 Movements of oversize trucks will be prohibited during peak times, to the extent practicable. If  
23 possible and in consideration of worker safety, such oversize deliveries will occur during other  
24 parts of the day, when background traffic tends to be lower, such as early morning and late  
25 afternoon. IPC will work with local law enforcement as appropriate to assist with Project  
26 deliveries.

27 In addition, IPC's construction contractor will implement the following measures:

- 28 • Coordinating the timing and locations of road closures in advance with emergency  
29 services such as fire, paramedics, and essential services such as mail delivery and  
30 school buses.
- 31 • Maintaining emergency vehicle access to private property.
- 32 • Developing plans as required by county or state permits to accommodate traffic where  
33 construction would require closures of state or county-maintained roads for longer  
34 periods.
- 35 • Posting caution signs on county and state-maintained roads, where appropriate, to alert  
36 motorists of construction and warn them of slow traffic.
- 37 • Using traffic control measures such as traffic control flaggers, warning signs, lights, and  
38 barriers during construction to ensure safety and to minimize localized traffic congestion.  
39 These measures will be required at locations and during times when trucks will be  
40 entering or exiting highways frequently.
- 41 • Using chase vehicles as required (or police vehicles, if required by ODOT) to give  
42 drivers additional warning.



- 1 • Notifying landowners prior to the start of construction near residences.
- 2 • Fencing construction areas near residences at the end of the construction day, and
- 3 restoring residential roads damaged by construction activities as soon as possible.
- 4 • Installing access control devices at locations shown in the Road Classification Guide and
- 5 Access Control Plan (Attachment B-5 to Exhibit B).

6 All Project personnel will be required to obey local speed limits and traffic restrictions to ensure  
7 safe and efficient traffic flow. Construction vehicles on un-posted project roads will travel at  
8 speeds that are reasonable and prudent for the conditions. In the interest of enhancing safety,  
9 IPC will work with ODOT and affected counties to establish reduced construction speed limits  
10 on impacted roads. These temporary reductions will improve safety throughout the work zones.  
11 IPC assumes that local and state law enforcement will enforce traffic regulations on public  
12 roads.

#### 13 **4.2.2 Fugitive Dust Mitigation**

14 Construction of the transmission lines and related facilities may generate a temporary increase  
15 in fugitive dust. IPC will require its construction contractor to apply dust suppression techniques,  
16 such as watering construction areas or removing dirt tracked onto a paved road as necessary to  
17 prevent safety hazards or nuisances on access roads and in construction zones near residential  
18 and commercial areas and along major highways and interstates.

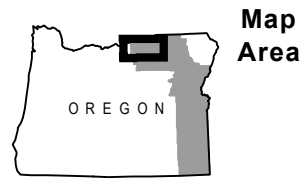
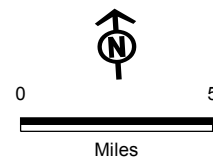
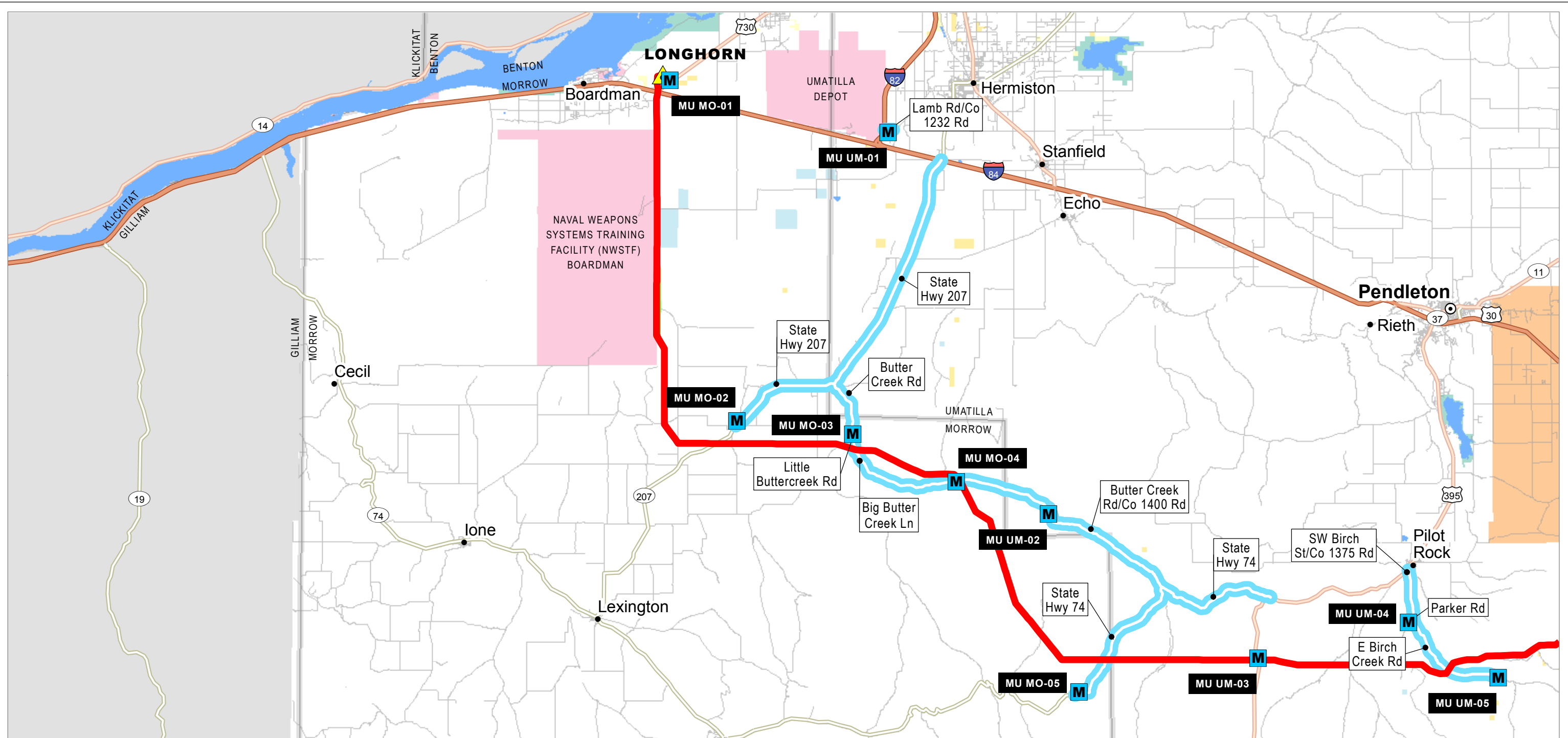
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**APPENDIX A**  
**BOARDMAN TO HEMINGWAY – PRELIMINARY HAUL ROUTES**

---



**Project Features**

- Proposed Route
- Alternative
- ▲ Stations
- M Multi-Use Area

**Transportation Features**

- Preliminary Haul Routes
- Public Roads
- Interstates
- Highways
- Major Roads
- Other Road

**Land Status**

- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service

- Military Reservation and Corps of Engineers
- Other Federal
- Private
- State or Local
- State or Local Wildlife, Parks and Recreation

**IDAHO POWER** Boardman to Hemingway Transmission Line Project  
An IDACORP Company

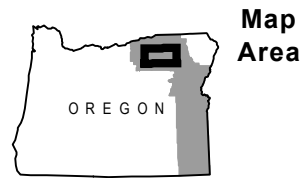
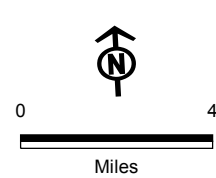
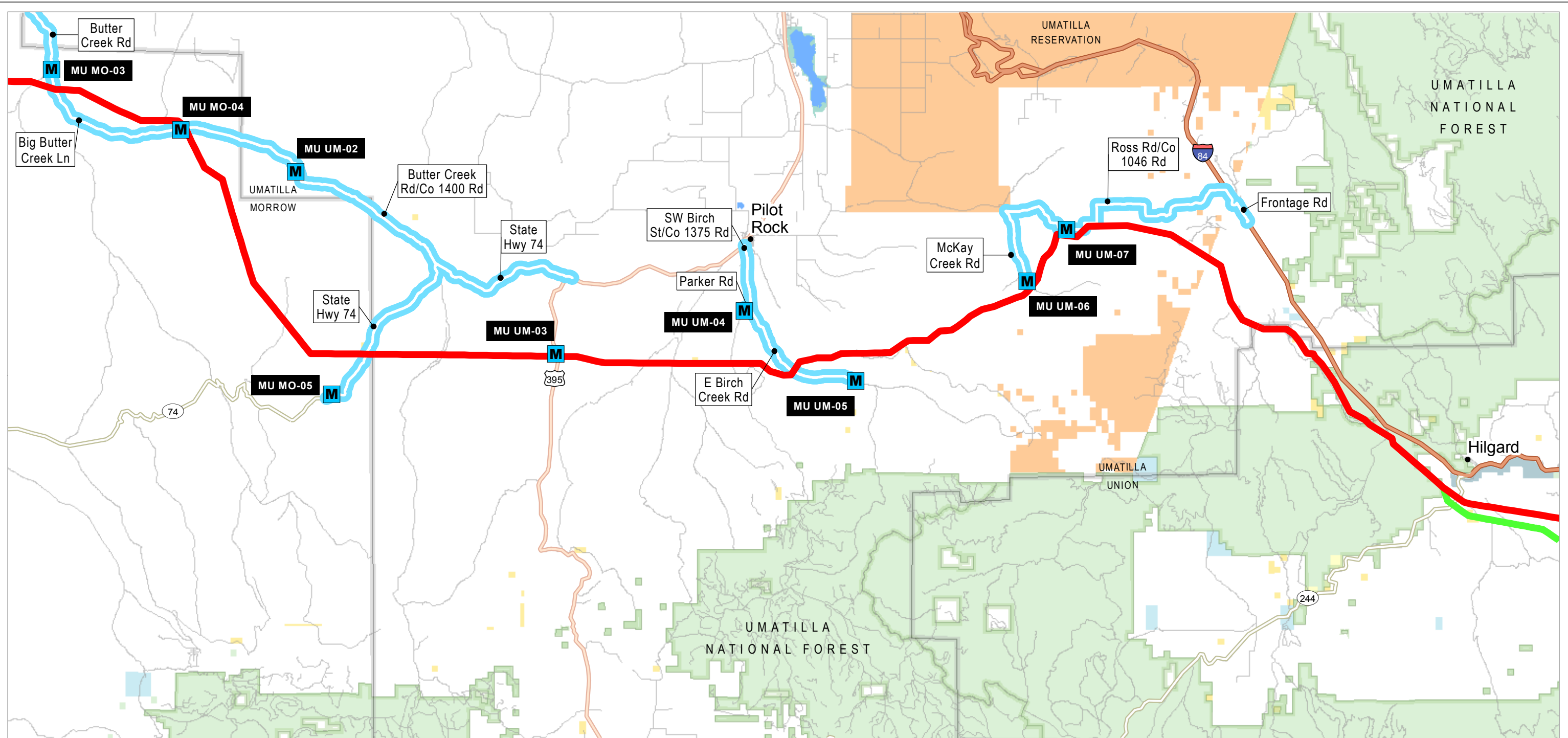
**Attachment U-2, Appendix A  
 Preliminary Haul Routes**

Morrow County

Map 1

Source(s): BLM, IPC, ODFW, ODOT, NPS, USCB/TIGER (2016), USDA, USFS, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

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**Project Features**

- Proposed Route
- Alternative
- M Multi-Use Area

**Transportation Features**

- Preliminary Haul Routes
- Public Roads
  - Interstates
  - Highways
  - Major Roads
  - Other Road

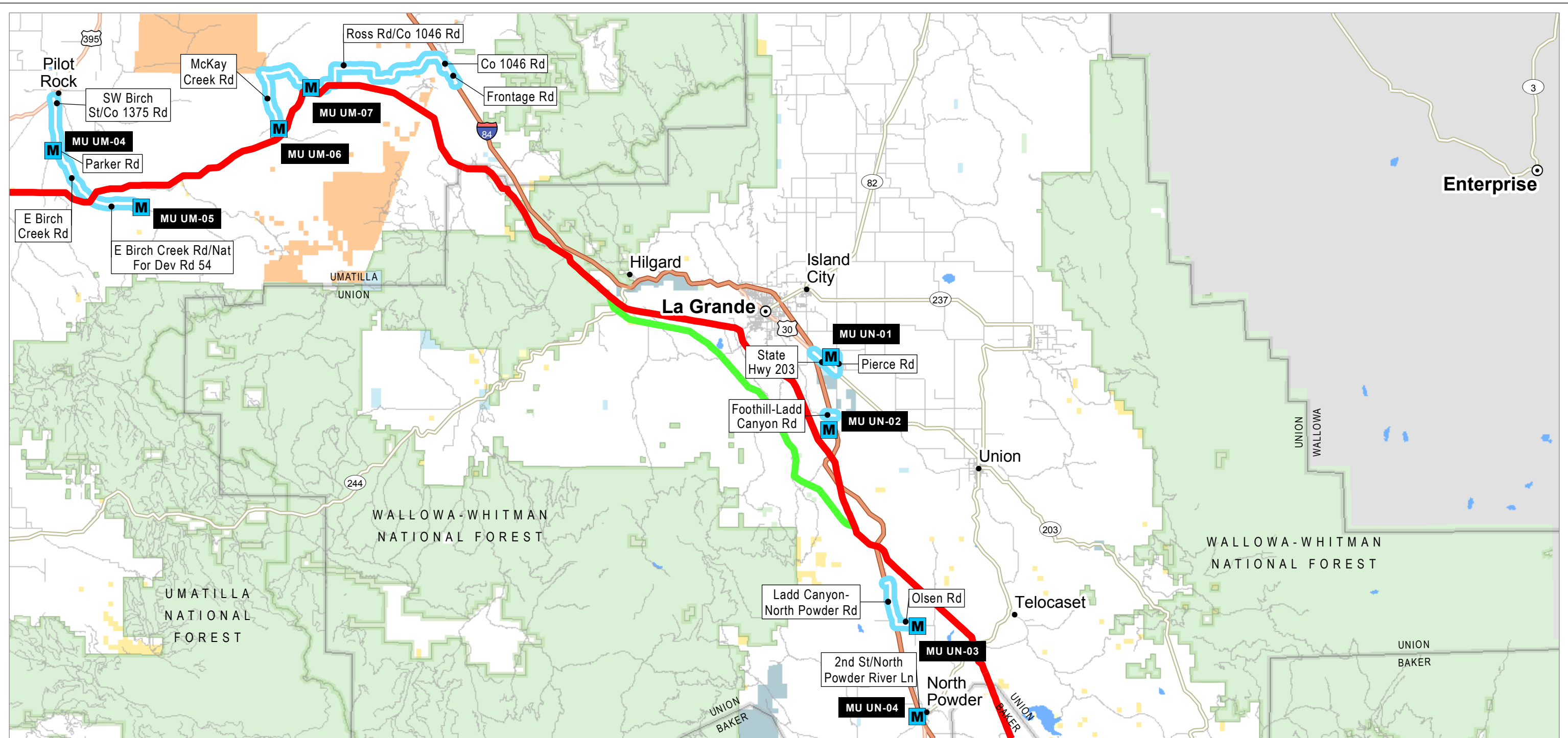
**Land Status**

- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service

- Forest Service
- Private
- State or Local
- State or Local Wildlife, Parks and Recreation

Source(s): BLM, IPC, ODFW, ODOT, NPS, USCB/TIGER (2016), USDA, USFS, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

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Enterprise

La Grande

Union

Telocaset

North Powder

WALLOWA-WHITMAN NATIONAL FOREST

WALLOWA-WHITMAN NATIONAL FOREST

UMATILLA NATIONAL FOREST

**IDAHO POWER** Boardman to Hemingway Transmission Line Project  
An IDACORP Company



- |   |   |  |  |
|---|---|--|--|
| <b>Project Features</b>   | <b>Transportation Features</b>  | <b>Land Status</b>   | <b>Forest Service</b>  |
| <span style="color: red;">—</span> Proposed Route   | <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">—</span> Preliminary Haul Routes      | <span style="background-color: orange; width: 15px; height: 10px; display: inline-block;"></span> Bureau of Indian Affairs   | <span style="background-color: #c8e6c9; width: 15px; height: 10px; display: inline-block;"></span> Forest Service                                |
| <span style="color: green;">—</span> Alternative  | <span style="border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Public Roads | <span style="background-color: yellow; width: 15px; height: 10px; display: inline-block;"></span> Bureau of Land Management  | <span style="border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Private   |
| <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">M</span> Multi-Use Area | <span style="border-bottom: 2px solid brown; width: 15px; display: inline-block;"></span> Interstates         | <span style="background-color: #fff9c4; width: 15px; height: 10px; display: inline-block;"></span> Bureau of Reclamation     | <span style="background-color: #bbdefb; width: 15px; height: 10px; display: inline-block;"></span> State or Local                                |
|   | <span style="border-bottom: 2px solid orange; width: 15px; display: inline-block;"></span> Highways           | <span style="background-color: #e0f2f1; width: 15px; height: 10px; display: inline-block;"></span> Fish and Wildlife Service | <span style="background-color: #cfe2f3; width: 15px; height: 10px; display: inline-block;"></span> State or Local Wildlife, Parks and Recreation |
|   | <span style="border-bottom: 2px solid gray; width: 15px; display: inline-block;"></span> Major Roads          |  |  |
|   | <span style="border-bottom: 1px solid gray; width: 15px; display: inline-block;"></span> Other Road           |  |  |

**Attachment U-2, Appendix A  
Preliminary Haul Routes**

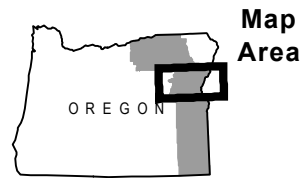
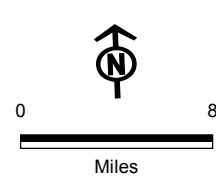
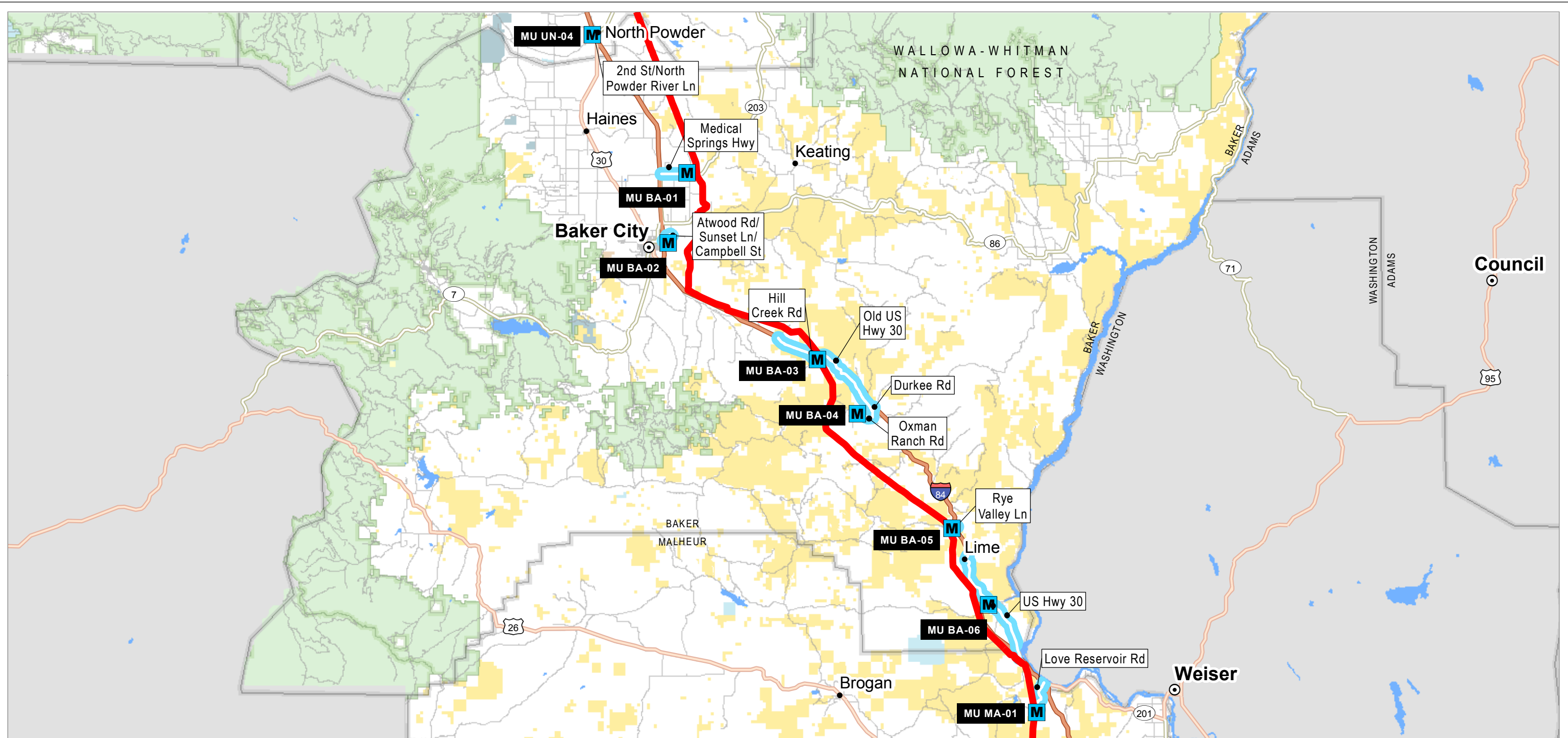
Union County

Map 3

Source(s): BLM, IPC, ODFW, ODOT, NPS, USCB/TIGER (2016), USDA, USFS, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

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**Project Features**

- Proposed Route
- M Multi-Use Area

**Transportation Features**

- Preliminary Haul Routes
- Public Roads
  - Interstates
  - Highways
  - Major Roads
  - Other Road

**Land Status**

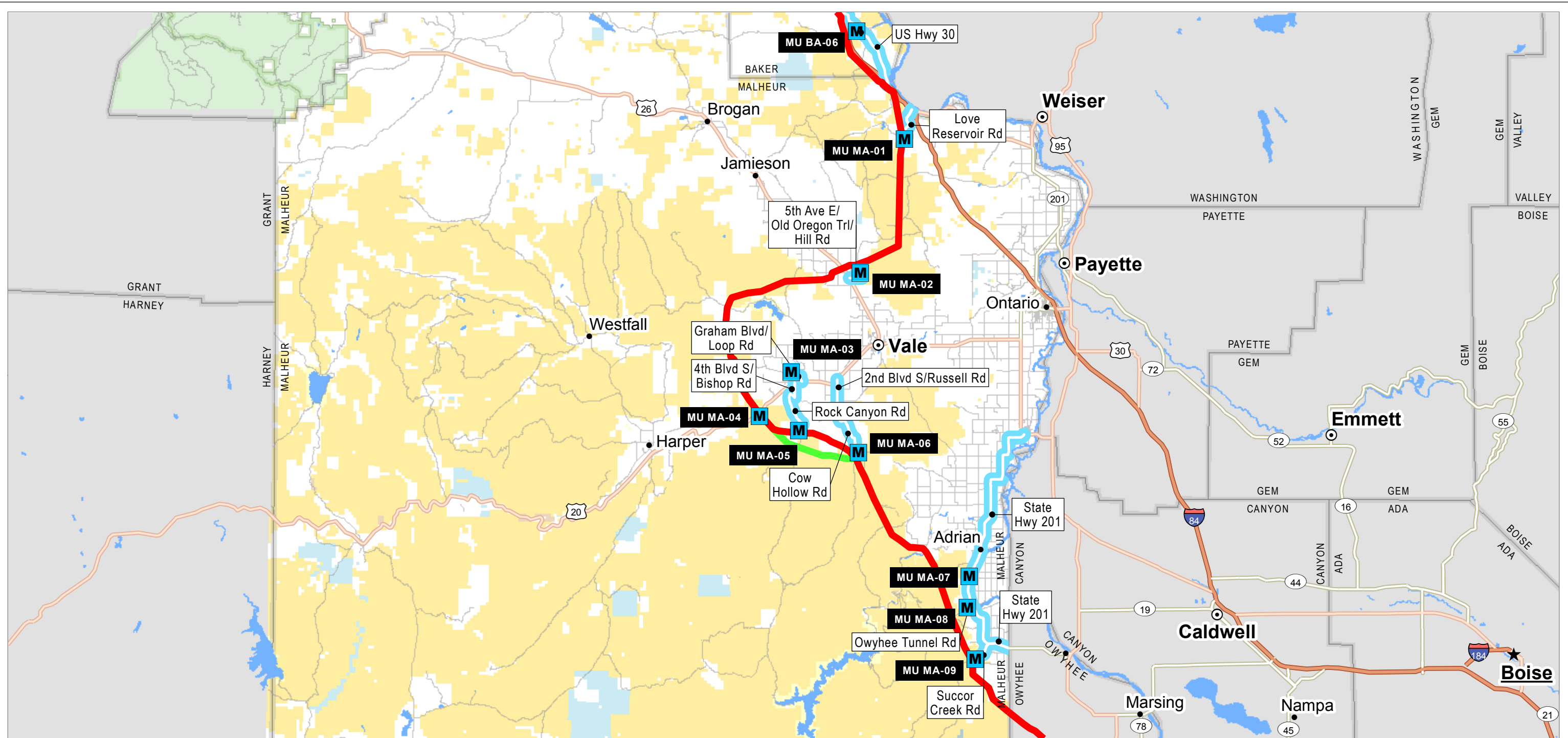
- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service

**Other Federal**

- Private
- State or Local
- State or Local Wildlife, Parks and Recreation

Source(s): BLM, IPC, ODFW, ODOT, NPS, USCB/TIGER (2016), USDA, USFS, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

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**Project Features**

- Proposed Route
- Alternative
- M Multi-Use Area

**Transportation Features**

- Preliminary Haul Routes
- Public Roads**
- Interstates
- Highways
- Major Roads
- Other Road

**Land Status**

- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service

**Other Federal**

- Private
- State or Local
- State or Local Wildlife, Parks and Recreation

Source(s): BLM, IPC, ODFW, ODOT, NPS, USCB/TIGER (2016), USDA, USFS, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

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**APPENDIX B  
BOARDMAN TO HEMINGWAY – 2016 UPDATED TRAFFIC  
ESTIMATES**

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**Updated Traffic Information (from HDR 2016)****Table B-1. Updated Numbers and Trips of Personal Vehicles<sup>1</sup>**

<b>Crew Type</b>	<b>Number of Personal Vehicles</b>	<b>Trips Per Day</b>	<b>Extended Total</b>
Substation Construction	49	2	<b>98</b>
ROW Clearing	9	2	<b>18</b>
Roads/Pad Grading	9	2	<b>18</b>
Foundations	11	2	<b>22</b>
Tower Lacing (assembly)	54	2	<b>108</b>
Tower Setting (erection)	27	2	<b>54</b>
Wire Stringing	29	2	<b>58</b>
Restoration	5	2	<b>10</b>
Blasting	5	2	<b>10</b>
Materials Management	10	2	<b>20</b>
Mechanic & Equipment Mgmt.	5	2	<b>10</b>
Refueling	5	2	<b>10</b>
Dust Control	5	2	<b>10</b>
Construction Inspection	5	2	<b>10</b>
Materials Testing	5	2	<b>10</b>
ENV Compliance	5	2	<b>10</b>
Surveyors	5	2	<b>10</b>
<b>Totals per 150-mile spread</b>			<b>486</b>

<sup>1</sup> Number of vehicles and trips are based on best professional judgment and the projected number of workers outlined in Table U-2 in Exhibit U. These vehicles are assumed to use public roads regularly to commute to various project locations and multi-use areas along the Proposed or Alternative Routes. Vehicle trips generated during peak construction are assumed to be similar for Spread 1 and Spread 2, as well as the Proposed and Alternative Routes.

**Table B-2. Updated Numbers and Trips of Construction Vehicles<sup>1</sup>**

<b>Crew Type</b>	<b>Light Construction Vehicles<sup>2</sup></b>	<b>Trips</b>	<b>Extended Total (Light)</b>	<b>Heavy Construction Vehicles<sup>3</sup></b>	<b>Trips</b>	<b>Extended Total (Heavy)</b>
Substation Construction <sup>4</sup>	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Road/Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Materials Delivery	20	8	160	12	2	24
Mechanic & Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
ENV Compliance	9	6	54	0	0	0
Surveyors	5	6	30	0	0	0
<b>Totals per 150-mile spread</b>	–	–	<b>620</b>	–	–	<b>188</b>

<sup>1</sup> Number of vehicles and trips are based on best professional judgment and the projected number of workers outlined in Table U-2 in Exhibit U. Vehicle trips generated during peak construction are assumed to be similar for Spread 1 and Spread 2, as well as the Proposed and Alternate routes.

<sup>2</sup> Light construction vehicles (<10,000 gross vehicle weight) are assumed to use public roads, project right-of-way and private access roads to move between various project locations and multi-use areas.

<sup>3</sup> Heavy construction vehicles (>10,000 gross vehicle weight) such as large excavators, cranes, feller bunchers and any tracked equipment are assumed to work only within the project right-of-way and on private access roads except when equipment is moved from one portion of the project area to another. These instances are limited and incidental to the overall traffic flow created by the Project.

<sup>4</sup> It is assumed that after construction of the substation is complete, daily traffic volumes on public roads will decrease by approximately 40 trips per day.

As described in Exhibit U, Section 3.3.1, IPC's engineering contractor separated the overall Project into Construction Spread 1 (approximately milepost 0 to 150) and Construction Spread 2 (approximately milepost 150 to 299), with construction on each spread occurring simultaneously. Based on Tables B-1 and B-2 and the assumptions described in the footnotes, the total number of one-way vehicle trips on public roads per spread is estimated to be 1,294 per day. Multi-use areas will be located approximately every 15 miles along the Project and will generally be the location of the heaviest construction related traffic as the multi-use area is the centralized hub of activity within a construction segment. For the purposes of traffic analysis, the two spreads are further divided into smaller sections capturing approximately several adjacent multi-use areas per section. The smaller sections are assumed to be sufficiently separate (geographically) so that the use of local access routes will not overlap between smaller sections.

In other words, the traffic impacts will not be additive between adjacent sections. Within one spread, IPC anticipates five smaller sections, and assumes that the 1,294 trips will be split roughly equally among these five sections, which results in 259 daily vehicle trips per group of multi-use areas with additive traffic impacts.

**ATTACHMENT U-3  
FIRE PREVENTION AND SUPPRESSION PLAN**

---

# Fire Prevention and Suppression Plan

## Boardman to Hemingway Transmission Line Project



*1221 West Idaho Street  
Boise, Idaho 83702*

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*June 2017*

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## **ACRONYMS AND ABBREVIATIONS**

BLM	Bureau of Land Management
IPC	Idaho Power Company
kV	kilovolt
ODF	Oregon Department of Forestry
ORS	Oregon Revised Statute
Plan	Fire Prevention and Suppression Plan
Project	Boardman to Hemingway Transmission Line Project
RFPA	Rural Fire Protection Association
RFPD	Rural Fire Protection District
ROW	right-of-way
UL	Underwriters Laboratories
USFS	United States Forest Service



## 1.0 INTRODUCTION

Idaho Power Company (IPC) is proposing to construct, operate, and maintain a high-voltage transmission line between Boardman, Oregon, and the Hemingway Station in southwestern Idaho, known as the Boardman to Hemingway Transmission Line Project (Project) as an extension of IPC's electrical system. The Project includes 270.8 miles of new single-circuit 500-kilovolt (kV) transmission line, removal of 12 miles of existing 69-kV transmission line, rebuilding of 0.9 mile of a 230-kV transmission line, and rebuilding of 1.1 miles of an existing 138-kV transmission line into a new right-of-way (ROW). The Project includes ground-disturbing activities associated with construction of transmission support structures; their associated construction work areas; pulling sites for tensioning conductors; access roads to each structure; multi-use areas; light-duty fly yards; communications stations; and stations. The Project crosses private land and public lands administered by the Bureau of Land Management (BLM), United States Forest Service (USFS), Bureau of Reclamation, Department of Defense, and the states of Idaho and Oregon.

This preliminary Fire Prevention and Suppression Plan (Plan) describes the framework for measures to be taken by IPC and its contractors (Contractor) to ensure fire prevention and suppression measures are carried out in accordance with federal, state, and local regulations. Measures identified in this Plan apply to work within the project area defined as the ROW; access roads; all work and storage areas, whether temporary or permanent; and other areas used during construction and operation of the Project.

### 1.1 Purpose

The risk of fire danger during transmission line construction is related to smoking, refueling activities, operating vehicles and other equipment off roadways, welding activities, and the use of explosive materials and flammable liquids. During operation, the risk of fire is primarily from vehicles and maintenance activities that require welding. Additionally, weather events that affect the transmission line could result in the transmission line igniting a fire.

This Plan establishes standards and practices to minimize risk of fire ignition and, in case of fire, provide for immediate suppression.

### 1.2 Oregon's Wildfire Protection System

The prevention and suppression of wildfires in eastern Oregon is carried out by the BLM, USFS, Oregon Department of Forestry (ODF) in conjunction with the Rangeland Fire Protection Associations (RFPA) and Rural Fire Protection Districts (RFPD), and local fire districts and agencies (Table 1). The agencies' activities are closely coordinated, primarily through the Pacific Northwest Wildfire Coordinating Group. Coordination of firefighting resources also occurs under Oregon's *Emergency Conflagration Act* that allows the state fire marshal to mobilize and dispatch structural firefighting personnel and equipment when a significant number of structures are threatened by fire and local structural fire-suppression capability is exhausted (ODEQ 2003).

**Table 1. Fire Suppression Responsibilities in Oregon**

Who	Where	Miles of Proposed Route
Bureau of Land Management	National System of Public Lands	67.7
Department of Defense	Naval Weapons Systems Training Facility Boardman	10.5
U.S. Forest Service	National Forest (NF) and National Grasslands	5.9
City fire departments and rural and rangeland fire protection districts in mutual aid with Oregon Department of Forestry	Structures in Oregon's wildland interface areas covered by mutual-aid agreements. Rangeland fire protection associations on rangeland areas of eastern Oregon outside of both a forest protection district and a rural fire district.	187

Source: ODEQ 2003; GIS Ownership\_Analysis\_20110804.xlsx.

### 1.3 Responsibilities and Coordination

This Plan will be implemented by IPC and the Contractor on the Project. IPC and the Contractor are responsible for providing all necessary fire-fighting equipment on the project site to their respective employees and operating under the requirements of this Plan. Prior to construction, the Contractor and IPC will contact the appropriate fire-control authorities to establish communications (including radio frequencies), obtain any required permits (such as burning or fire waiver permits prior to conducting any heavy equipment or burning activities), and/or fulfill other obligations as directed by fire-control authorities. The Contractor and IPC will also do the following:

- Ensure prevention, detection, pre-suppression, and suppression activities are in accordance with this Plan and federal, ODF, and county laws; ordinances; and regulations pertaining to fire.
- Accompany agency representatives on fire tool and equipment inspections and take corrective action upon notification of any fire-protection requirements not in compliance.
- Restrict operations on federal lands during conditions of high fire danger as described in Section 2.2, Restricted Operations.

As per Oregon Administrative Rule 345-022-0110, construction and operation of the Project and related mitigation are not likely to result in significant adverse impact to the ability of public and private providers to provide fire protection. Fire risk is anticipated to be low during Project operations, and therefore the fire prevention and suppression measures described in this Plan will be in effect from pre-construction to the end of restoration. These restrictions may change by advance written notice by fire-control authorities. However, required tools and equipment will be kept in serviceable condition and will be immediately available at all times.

## 2.0 FIRE PREVENTION MEASURES

### 2.1 Preconstruction and Construction

Methods and procedures to be implemented prior to and during construction, operation, maintenance, and termination of the Project to minimize the risk of fire are described in the following sections. The methods and procedures outlined below follow guidance in ODF's *Fire Prevention Rules*, OAR Chapter 629, Division 43 (ODF 2015).

### **2.1.1 Training**

The Contractor and IPC will train all personnel on the measures to take in the event of a fire. The Contractor and IPC will immediately proceed to control and extinguish any fire started resulting from their activity. The Contractor and IPC will also inform crew member of fire dangers, locations of extinguishers and equipment, and individual responsibilities for fire prevention and suppression during regular safety briefings. Smoking and fire rules also will be discussed with all field personnel during the Project's environmental training.

### **2.1.2 Smoking**

Smoking is prohibited except in areas a minimum of 10 feet in diameter that have been cleared and graded to bare soil. All burning tobacco and matches will be extinguished before discarding. Smoking is also prohibited while operating equipment or vehicles, except in enclosed cabs or vehicles.

Smoking is never permitted in any area designated by DANGER or NO SMOKING signs. Smoking is not permitted in these areas regardless of any other factor. Smoking is not permitted on the transmission line ROW. Smoking is only permitted on access roads, within vehicles, and in approved smoking areas as described previously.

### **2.1.3 Spark Arresters**

During construction, operation, maintenance, and decommissioning of the ROW, all equipment operating with an internal combustion engine will be equipped with federally-approved spark arresters. Spark arresters are not required on trucks, buses, and passenger vehicles (excluding motorcycles) equipped with an unaltered muffler or on diesel engines equipped with a turbocharger. Agency fire-inspection officers will have full authority to inspect spark arresters on Project equipment prior to its use on the Project on federal lands and periodically during construction.

### **2.1.4 Parking, Vehicle Operation, and Storage Areas**

In no case will motorized equipment, including worker transportation vehicles, be driven or parked outside the designated and approved work limits. Equipment parking areas, the ROW, staging areas, designated vehicle-parking areas, and small stationary engine sites—where permitted—will be cleared of all flammable material. Clearing will extend a minimum of 2 feet beyond the edge of the area to be occupied but not beyond the boundaries of the approved ROW, extra workspace, or ancillary site. Glass containers will not be used to store gasoline or other flammables.

### **2.1.5 Equipment**

All motor vehicles and equipment will carry at least 1 long-handled (48-inch minimum), round-point shovel with a blade no less than 8 inches wide; a double-bit ax or Pulaski (3.5 pounds or larger) with a handle of not less than 26 inches long; one 16–20 pound dry chemical fire extinguisher (with an Underwriters Laboratories [UL] rating of at least 5B or C); and 20–50 gallons of water with a mechanism to effectively spray the water. Individuals using power saws and grinders will have a shovel as described above, and an 8-pound capacity fire extinguisher immediately available. All equipment will be kept in a serviceable condition, stored in a clearly identified tool box, and readily available. Larger water supplies of 300 gallons or larger (self-propelled) or 500 gallons (not self-propelled) with a pump capable of providing 20 gallons or more discharge when pumping through 50 feet of hose and a ¼-inch-diameter nozzle will be made available as conditions warrant, as required by ODF. In some situations, ODF district may allow alternate methods that may provide equal or better suppression of fire.

All power saws will be equipped with an exhaust system which retains at least 90 percent of carbon particles as required by spark arrester guidance, be stopped while fueling, and moved at least 20 feet from the place of fueling before being restarted. Each power saw must have an 8-ounce or larger fire extinguisher and a route pointed shovel (8-inch-wide face and more than 26-inch handle) nearby for immediate use.

A watchman, with adequate facilities for transportation and communications to summon needed assistance, will conduct a continual observation of the area where power-driven machinery has been operated for up to 3 hours after power-driven machinery has been shut down for the day. If any fire is detected, the watchman must safely try to control and extinguish the fire and summon assistance as necessary. All power-driven machinery will be kept free of excess flammable material that could create a fire risk.

The Contractor and IPC shall maintain a list, to be provided to local fire-protection agencies, of all equipment that is either specifically designed for, or capable of, being adapted to fighting fires. The Contractor and IPC shall provide basic fire-fighting equipment on-site during construction, including fire extinguishers, shovels, axes, and other tools in sufficient numbers so each employee on-site can assist in the event of a fire-fighting operation.

### **2.1.6 Road Closures**

The Contractor and IPC will notify the appropriate fire-suppression agency of the scheduled closures prior to the open-cut crossing of a road. If required, the Contractor and IPC will construct a bypass prior to the open-cut installation of a road crossing, unless a convenient detour can be established on existing project-approved roads or within project-approved work limits. All bypasses will be clearly marked by the Contractor and IPC. During road closures, the Contractor and IPC will designate one person who knows the bypass to direct traffic. The Contractor and IPC will minimize, to the extent possible, the duration of road closures.

### **2.1.7 Refueling**

Fuel trucks will have a large fire extinguisher charged with the appropriate chemical to control electrical and gas fires. The extinguisher will be a minimum size 35-pound capacity with a minimum 30 BC rating. Power-saw refueling will be done in an area that has first been cleared of material that could catch fire.

### **2.1.8 Burning**

Contractor and IPC personnel are prohibited from burning slash, brush, stumps, trash, explosives storage boxes, or other Project debris unless specifically contracted to do so. No cooking or warming fires or barbecue grills will be allowed. Burn permits are required for all burning except camp fires during closed fire season on lands protected by ODF (Oregon Revised Statute [ORS] 447.515) and, once Regulated Use Closure has been executed, burning of any type is banned with no exceptions (ORS 447.535) (ODF 2015).

### **2.1.9 Flammable Liquids and Explosives**

The handling and use of explosives shall be conducted in strict conformance with all local, state, and federal regulations as detailed in IPC's Construction Specification on Blasting.

### **2.1.10 Communications**

The Contractor and IPC will be responsible for maintaining contact with fire-control agencies and will be equipped with a radio or cellular telephone so immediate contact with local fire-control agencies can be made. If cellular telephone coverage is not available, the Contractor and IPC will use the radio to contact their base, who will telephone emergency dispatch.

### **2.1.11 Welding**

One 5-gallon back-up pump will be required with each welding unit in addition to the standard fire equipment required in all vehicles. All equipment will be kept in a serviceable condition and readily available. Individuals using power saws and grinders will have a shovel as described above, and an 8-pound capacity fire extinguisher immediately available. During fire season, a spotter equipped with a shovel and a fire extinguisher will be required to be present if wildland fuels are present where work is being performed.

### **2.1.12 Fire Suppression**

The Contractor and IPC will take the following actions should a fire occur within the Project area during construction:

- Site personnel will aid in extinguishing a fire ignition before it gets out of control and take action that a prudent person would take to control the fire while still accounting for their own and others safety.
- Immediately notify the nearest fire-suppression agency of the fire location, action taken, and status (see Section 4.0).
- Immediately notify the Contractor and IPC of the fire location and action taken.
- Relinquish fire-suppression activities to agency fire-management officers upon their arrival.

If a reported fire is controlled, the Contractor and IPC will note the location and monitor the progress in extinguishing the fire. A Contractor's or IPC's employee will remain at the fire scene until it is fully extinguished. The extinguished fire will be monitored in accordance with procedures described in Section 2.3 of this document.

IPC acknowledges and understands the responsibilities of the landowner and operator for fire suppression on lands protected by ODF as referenced in ORS 477.064 through 477.125.

## **2.2 Restricted Operations**

The Contractor and IPC will restrict or cease operations in specified locations during periods of high fire danger at the direction of the land-management agency's closure order. Restrictions may vary from stopping certain operations at a given time to stopping all operations. IPC may obtain approval to continue some or all operations if acceptable precautions are implemented. A written waiver must be issued to the Contractor and IPC.

During periods of high fire danger, the Contractor and IPC will monitor daily for local restrictions. Restrictions are unique to each agency and are triggered by federal and state agency administration. As discussed in Section 1.2, the agencies' activities (including restrictions) are closely coordinated, primarily through the Pacific Northwest Wildfire Coordinating Group. It is the Contractor's and IPC's responsibility to ensure personnel are aware of and following area fire orders.

## **2.3 Monitoring**

The contractor will be responsible for compliance with all provisions of this Plan. In addition, federal, state, and local fire-control agencies may perform inspections in areas under their jurisdiction at their discretion.

## **3.0 OPERATION AND MAINTENANCE**

### **3.1 Operation**

During transmission line operation, the risk of fire danger is minimal. The primary causes of fire on the ROW result from unauthorized entry by individuals for recreational purposes and from fires started outside the ROW. In the latter case, authorities can use the ROW as a potential firebreak. During transmission line operation, access to the ROW will be restricted in accordance with jurisdictional agency or landowner requirements to minimize recreational use of the ROW.

### **3.2 Maintenance**

During maintenance operations, IPC or its Contractor will equip personnel with basic fire-fighting equipment, including fire extinguishers and shovels as described in Section 2.1.5, Equipment. Maintenance crews will also carry emergency response/fire control phone numbers.

IPC and/or a Contractor will implement the following measures during maintenance activities:

- Conduct inspections of the vehicle undercarriage before entering or exiting the project area to clear vegetation that may have accumulated near the vehicle's exhaust system.
- During BLM's Stage II Fire Restrictions, obtain an appropriate waiver and take appropriate precautions when conducting routine maintenance activities that involve an internal combustion engine, involve generating a flame, involve driving over or parking on dry grass, involve the possibility of dropping a line to the ground, or involve explosives. Precautions include a Fire Prevention Watch Person who will remain in the area for one hour following the cessation of that activity.

## **4.0 NOTIFICATION PROCEDURES**

Construction crew members will report all fires, whether extinguished or controlled. If the fire is uncontrolled, the Contractor will call the nearest fire-suppression agency (911) and the IPC inspector. Information regarding the location of the fire, property ownership, and closest access roads should be reported to 911 and IPC.

If a reported fire is controlled but not extinguished, the Contractor or IPC inspector will call to notify the nearest police/fire authorities using the non-emergency telephone line to alert them of the situation.

IPC will maintain and provide the Contractor with an up-to-date list of landowner and land management agency contacts along the transmission line ROW.

## **5.0 LITERATURE CITED**

ODEQ (Oregon Department of Environmental Quality). 2003. Oregon Natural Hazards Mitigation Plan. Revised August 19. Available online at: <http://www.deq.state.or.us/aq/burning/wildfires/neap/appendixD.pdf>

ODF (Oregon Department of Forestry). 2015. Fire Prevention Rules. Available online at: [http://arcweb.sos.state.or.us/pages/rules/oars\\_600/oar\\_629/629\\_043.html](http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_629/629_043.html)

OregonLaws.org. 2013. Available online at: <http://www.oregonlaws.org/ors/477.064>