Exhibit U
Public Services

Boardman to Hemingway Transmission Line Project

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Preliminary Application for Site Certificate

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ACRONYMS AND ABBREVIATIONS

Note: Not all acronyms and abbreviations listed will appear in this Exhibit.

°C	degrees Celsius
4WD	4-wheel-drive
A	ampere
A/ph	amperes/phase
AC	alternating current
ACDP	Air Contaminant Discharge Permit
ACEC	Area of Critical Environmental Concern
ACSR	aluminum conductor steel reinforced
AIMP	Agricultural Impact Mitigation Plan
AMS	Analysis of the Management Situation
aMW	average megawatt
ANSI	American National Standards Institute
APE	Area of Potential Effect
APLIC	Avian Power Line Interaction Committee
ARPA	Archaeological Resource Protection Act
ASC	Application for Site Certificate
ASCE	American Society of Civil Engineers
ASP	Archaeological Survey Plan
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
ATC	available transmission capacity
ATV	all-terrain vehicle
AUM	animal unit month
B2H	Boardman to Hemingway Transmission Line Project
BCCP	Baker County Comprehensive Plan
BCZSO	Baker County Zoning and Subdivision Ordinance
BLM	Bureau of Land Management
BMP	best management practice
BPA	Bonneville Power Administration
BOR	Bureau of Reclamation
C and D	construction and demolition
CAA	Clean Air Act
CadnaA	Computer-Aided Noise Abatement
CAFE	Corona and Field Effects
CAP	Community Advisory Process
CBM	capacity benefit margin
CFR	Code of Federal Regulations
CH	critical habitat
CIP	critical infrastructure protection
CL	centerline
cm	centimeter
cmil	circular mil
COA	Conservation Opportunity Area
CO_2e	carbon dioxide equivalent

COM Plan	Construction, Operations, and Maintenance Plan
CPCN	Certificate of Public Convenience and Necessity
cps	cycle per second
CRP	Conservation Reserve Program
CRT	cathode-ray tube
CRUP	Cultural Resource Use Permit
CSZ	Cascadia Subduction Zone
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
CWA	*Clean Water Act of 1972*
CWR	Critical Winter Range
dB	decibel
dBA	A-weighted decibel
DC	direct current
DoD	Department of Defense
DOE	U.S. Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
DPS	Distinct Population Segment
DSL	Oregon Department of State Lands
EA	environmental assessment
EDRR	Early Detection and Rapid Response
EIS	Environmental Impact Statement (DEIS for Draft and FEIS for Final)
EFSC or Council	Energy Facility Siting Council
EFU	Exclusive Farm Use
EHS	extra high strength
EMF	electric and magnetic fields
EPA	Environmental Protection Agency
EPC	Engineer, Procure, Construct
EPM	environmental protection measure
EPRI	Electric Power Research Institute
ERO	Electric Reliability Organization
ERU	Exclusive Range Use
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
ESU	Evolutionarily Significant Unit
EU	European Union
FAA	Federal Aviation Administration
FCC	Federal Communication Commission
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FFT	find, fix, track, and report
FLPMA	Federal Land Policy and Management Act
Forest Plan	Land and Resource Management Plan
FPA	Forest Practices Act
FSA	Farm Services Agency
FWS	U.S. Fish and Wildlife Service
G	gauss

GeoBOB	Geographic Biotic Observation
GF	Grazing Farm Zone
GHG	greenhouse gas
GHz	gigahertz
GIL	gas insulated transmission line
GIS	geographic information system
GPS	Global Positioning System
GRMW	Grande Ronde Model Watershed
GRP	Grassland Reserve Program
HAC	Historic Archaeological Cultural
HCNRA	Hells Canyon National Recreation Area
HPFF	high pressure fluid-filled
HPMP	Historic Properties Management Plan
HUC	Hydrologic Unit Code
Hz	hertz
I-84	Interstate 84
ICC	International Code Council
ICES	International Committee on Electromagnetic Safety
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDWR	Idaho Department of Water Resources
ILS	intensive-level survey
IM	Instructional Memorandum
INHP	Idaho Natural Heritage Program
INRMP	Integrated Natural Resources Management Plan
IPC	Idaho Power Company
IPUC	Idaho Public Utilities Commission
IRP	integrated resource plan
IRPAC	IRP Advisory Council
ISDA	Idaho State Department of Agriculture
JPA	Joint Permit Application
KCM	thousand circular mils
kHz	kilohertz
km	kilometer
KOP	Key Observation Point
kV	kilovolt
kV/m	kilovolt per meter
kWh	kilowatt-hour
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
lb	pound
LCDC	Land Conservation and Development Commission
LDMA	Lost Dutchman's Mining Association
LiDAR	light detection and ranging
LIT	Local Implementation Team

LMP	land management plan
LOLE	Loss of Load Expectation
LRMP	land and resource management plan
LUBA	Land Use Board of Appeals
LWD	large woody debris
m	meter
mA	milliampere
MA	Management Area
MAIFI	Momentary Average Interruption Frequency Index
MCC	Malheur County Code
MCCP	Morrow County Comprehensive Plan
MCE	Maximum Credible Earthquake
MCZO	Morrow County Zoning Ordinance
mG	milligauss
MHz	megahertz
mm	millimeter
MMI	Modified Mercalli Intensity
MP	milepost
MPE	maximum probable earthquake
MRI	magnetic resonance imaging
MVAR	megavolt ampere reactive
Mw	mean magnitude
MW	megawatt
µV/m	microvolt per meter
N_2O	nitrous oxide
NAIP	National Agriculture Imagery Program
NED	National Elevation Dataset
NEMS	National Energy Modeling System
NEPA	*National Environmental Policy Act of 1969*
NERC	North American Electric Reliability Corporation
NESC	National Electrical Safety Code
NF	National Forest
NFPA	National Fire Protection Association
NFS	National Forest System
NGDC	National Geophysical Data Center
NHD	National Hydrography Dataset
NHOTIC	National Historic Oregon Trail Interpretive Center
NHT	National Historic Trail
NIEHS	National Institute of Environmental Health Sciences
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries Division
NOI	Notice of Intent to File an Application for Site Certificate
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service

NRHP	National Register of Historic Places
NSR	noise sensitive receptor
NTTG	Northern Tier Transmission Group
NWGAP	Northwest Regional Gap Analysis Landcover Data
NWI	National Wetlands Inventory
NWPP	Northwest Power Pool
NWR	National Wildlife Refuge
NWSRS	National Wild and Scenic Rivers System
NWSTF	Naval Weapons Systems Training Facility
O_3	ozone
O&M	operation and maintenance
OAIN	Oregon Agricultural Information Network
OAR	Oregon Administrative Rules
OATT	Open Access Transmission Tariff
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
OHGW	overhead ground wire
OHV	off-highway vehicle
OPGW	optical ground wire
OPRD	Oregon Parks and Recreation Department
OPS	U.S. Department of Transportation, Office of Pipeline Safety
OPUC	Public Utility Commission of Oregon
OR	Oregon (State) Highway
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
ORWAP	Oregon Rapid Wetland Assessment Protocol
OS	Open Space
OSDAM	Oregon Streamflow Duration Assessment Methodology
OSHA	Occupational Safety and Health Administration
OSSC	Oregon Structural Specialty Code
OSWB	Oregon State Weed Board
OWC	Oregon Wetland Cover
P	Preservation
PA	Programmatic Agreement
pASC	Preliminary Application for Site Certificate
PAT	Project Advisory Team
PCE	Primary Constituent Element
PEM	palustrine emergent
PFO	palustrine forested
PGA	peak ground acceleration
PGE	Portland General Electric
PGH	Preliminary General Habitats
Pike	Pike Energy Solutions

PNSN	Pacific Northwest Seismic Network
POD	Plan of Development
POMU	Permit to Operate, Maintain and Use a State Highway Approach
PPH	Preliminary Priority Habitats
Project	Boardman to Hemingway Transmission Line Project
PSD	Prevention of Significant Deterioration
PSS	palustrine scrub-shrub
R	Retention
R-F	removal-fill
RCM	Reliability Centered Maintenance
RCRA	Resource Conservation and Recovery Act
ReGAP	Regional Gap Analysis Project
RFP	request for proposal
RLS	reconnaissance-level survey
RMP	resource management plan
ROD	Record of Decision
ROE	right of entry
RNA	research natural area
ROW	right-of-way
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SC	Sensitive Critical
SEORMP	Southeastern Oregon Resource Management Plan
SF6	sulfur hexafluoride
Shaw	Shaw Environmental and Infrastructure, Inc.
SHPO	State Historic Preservation Office
SLIDO	Statewide Landslide Inventory Database for Oregon
SMS	Scenery Management System
SMU	Species Management Unit
SPCC	Spill Prevention, Containment, and Countermeasures
SRMA	Special Recreation Management Area
SRSAM	Salmon Resources and Sensitive Area Mapping
SSURGO	Soil Survey Geographic Database
STATSGO	State Soil Geographic Database
SUP	special-use permit
SV	Sensitive Vulnerable
SWPPP	Stormwater Pollution Prevention Plan
T/A/Y	tons/acre/year
TDG	Total Dissolved Gas
TES	threatened, endangered, and sensitive (species)
TG	Timber Grazing
TMIP	Transmission Maintenance and Inspection Plan
TNC	The Nature Conservancy
tpy	tons per year
TSD	treatment, storage, and disposal
TV	television
TVES	Terrestrial Visual Encounter Surveys

TVMP	Transmission Vegetation Management Program
UBAR	Umatilla Basin Aquifer Restoration
UBWC	Umatilla Basin Water Commission
UCDC	Umatilla County Development Code
UCZPSO	Union County Zoning, Partition and Subdivision Ordinance
UDP	Unanticipated Discovery Plan
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Department of Agriculture, Forest Service
USGS	U.S. Geological Survey
UWIN	Utah Wildlife in Need
V/C	volume to capacity
V	volt
VAHP	Visual Assessment of Historic Properties
VMS	Visual Management System
VQO	Visual Quality Objective
VRM	Visual Resource Management
WAGS	Washington ground squirrel
WCU	Wilderness Characteristic Unit
WECC	Western Electricity Coordinating Council
WHO	World Health Organization
WMA	Wildlife Management Area
WOS	waters of the state
WOUS	waters of the United States
WPCF	Water Pollution Control Facility
WR	winter range
WRCC	Western Regional Climate Center
WRD	(Oregon) Water Resources Division
WRP	Wetland Reserve Program
WWE	West-wide Energy
XLPE	cross-linked polyethylene

Exhibit U
Public Services

1.0 INTRODUCTION

Exhibit U provides an analysis of public services for the Boardman to Hemingway Transmission Line Project (Project). Exhibit U demonstrates that the Project will comply with the approval standard for public services in accordance with Oregon Administrative Rule (OAR) 345-022-0022, based on the information provided pursuant to OAR 345-021-0010(1)(u), paragraphs (A) through (E).

Exhibit U demonstrates that the construction and operation of the Project, taking into account mitigation, are not likely to result in significant adverse impact to the availability of public services listed in OAR 345-022-0110.

2.0 APPLICABLE RULES AND STANDARDS

The Oregon Energy Facility Siting Council (EFSC or Council) public services standard is set forth in OAR 345-022-0010. Under OAR 345-022-0110, the Council must find through appropriate study that:

> *[t]he 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.*

To demonstrate compliance with this standard, and in accordance with OAR 345-021-0010(1)(u), Exhibit U must include 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 the standard. Specifically, Exhibit U must include:

> *(A) The important assumptions the applicant used to evaluate potential impacts;*
>
> *(B) Identification of the public and private providers in the analysis area that would likely be affected;*
>
> *(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;*
>
> *(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; and*
>
> *(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;*

Additionally, the Project Order requires Exhibit U to include the following specific information:

> *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, including proposed ground and air transportation routes within the analysis area. 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.

As documented in Table U-12 (Submittal Requirements Matrix), IPC has drafted Exhibit U to respond to each paragraph of OAR 345-021-0010(1)(u) described above, as well as the additional requirements set forth in the Project Order.

3.0 ANALYSIS

3.1 Analysis Area

Pursuant to the Project Order, the analysis area for Exhibit U is the area within the Site Boundary and 10 miles from the Site Boundary, which is defined in OAR 345-001-0010(55) 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 micrositing corridors proposed by the applicant." The Site Boundary for the Project includes the following related and supporting facilities in Oregon:

- Proposed Corridor: 277.2 miles of 500-kilovolt (kV) transmission line corridor, 5.0 miles of double-circuit 138/69-kV transmission line corridor, and 0.3 mile of 138-kV transmission line corridor.
- Alternate Corridor Segments: Seven alternate corridor segments consisting of approximately 134.1 miles that could replace certain segments of the Proposed Corridor. IPC has proposed these alternate corridor segments in order to allow flexibility for IPC and EFSC, as well as federal agencies, to reconcile competing resource constraints in several key locations.
- One proposed substation expansion of 3 acres; two alternate substation sites (one 3-acre substation expansion and one new 20-acre substation). IPC ultimately needs to construct and operate only one substation expansion or substation in the Boardman area.
- Eight communication station sites of less than one acre each in size; four alternate communication station sites along alternate corridor segments.
- Temporary and permanent access roads.
- Temporary multi-use areas, pulling and tensioning sites, and fly yards.

The features of the Project are fully described in Exhibit B, and the Site Boundary for each Project feature is described in Exhibit C, Table C-21. The location of the Project (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 Information Required by OAR 345-001-0010 (1)(u)

3.3.1 Assumptions Used to Evaluate Potential Impacts

OAR 345-021-0010(1)(u)(A) – Assumptions Used in the Evaluation of Impacts

The important assumptions by the applicant used to evaluate potential impacts.

3.3.1.1 Construction

This analysis assumes that the Proposed Corridor (or alternate corridor segments) selected for development will be constructed in two, approximately 150-mile-long spreads built concurrently (Construction Spread 1 from mileposts 0 to 150 and Construction Spread 2 from mileposts150 to 299). Moreover, the analysis assumes the maximum number of workers and potential effects that could occur at a given time.

Affected counties are identified for the Proposed Corridor by construction spread in Table U-1. The analysis area (10 miles from the Site Boundary) includes portions of 11 counties, 6 of which are in Oregon: Morrow, Umatilla, Union, Baker, Malheur and Gilliam. (In addition, the analysis area includes two counties in Washington and three 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 of the analysis area located in Idaho or Washington. IPC has concluded that services in Gilliam County would not be impacted by the Project, and therefore Gilliam County is not addressed in the analysis.[1]

Table U-1. Construction Spread and Affected Counties

Construction Spread	Proposed Corridor (Miles)	Counties[1]
1	150	Morrow, Umatilla, Union, Baker
2	150	Baker, Malheur, Owyhee

[1] Morrow, Umatilla, Union, Baker, and Malheur counties are located 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,

[1] The total population of Gilliam County is less than 2,000 people, compared with almost 130,000 in the remainder of the analysis area (U.S. Census Bureau 2011). Of the six Oregon counties in the analysis area, less than 3 percent of the analysis area is within Gilliam County. Within Gilliam County, the city nearest to the Site Boundary is Arlington, which is outside of the analysis area and approximately 11.7 miles from the Alternate Horn Butte Substation. Workers in that general area are more likely to lodge in nearby Boardman or Hermiston than in Arlington. The nearest schools in Gilliam County are Arlington Elementary School and Arlington High School, located outside of the analysis area and approximately 11.6 miles from the Alternate Horn Butte Substation. At this distance, the Project activities would not impact these schools. The nearest medical facility in Gilliam County is the Arlington Medical Center, outside the analysis area and approximately 11.8 miles from the Alternate Horn Butte Substation. Again, Project workers needing medical attention are likely to use Saint Anthony Hospital in Pendleton. Emergency responders likely would be dispatched from Hermiston or Pendleton and not from Gilliam County.

workers employed on linear Projects tend to relocate along the line as necessary, staying in each location for a fairly 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.

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

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

Workers	Construction Spread[1,2]	
	1	**2**
Commute to Job Site Daily [3]	61	44
Move to the Project Area alone [4]	164	120
Move to the Project Area with family [4]	18	13
Total	243	178
Population		
2010 Population (Analysis Area)[5]	128,944	47,447
Number of People Temporarily Relocating[6]	219	160
As a Percent of 2010 Population	0.2	0.3

[1] Estimates for Construction Spread 1 assume that the labor demands for this portion of the transmission line and the proposed Grassland Substation will peak at the same time. The transmission line labor force is estimated to peak at 183 workers; the substation labor force is expected to peak at 60 workers.
[2] Estimates for Construction Spread 2 are for the portion of that spread—approximately 121 miles—that will be located in Oregon. These estimated totals do not include the labor force that will be employed to construct the Idaho portion of the Project.
[3] 25 percent of the average and peak workforce is expected to commute to and from the job site each day.
[4] 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.
[5] Population data are from the 2010 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 2011). To be conservative, the total population of Baker County is included in both Construction Spreads 1 and 2.
[6] 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).

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

Information regarding the amount of water needed during construction and operations is included in Exhibit O, Section 3.3.2. Information regarding estimated quantities of solid waste and wastewater is included in Exhibit V, Section 3.3.1. No permanent sewage facilities will be required for the Project. IPC will contract with sanitary service providers to supply and service portable temporary toilets needed during construction. Vehicle trip generation estimates are included in Section 3.1.1 of Attachment U-2.

3.3.1.2 Operations and Maintenance

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

3.3.2 Affected Public and Private Services

OAR 345-021-0010(1)(u)(B) – Public and Private Providers Potentially Affected

Identification of the public and private providers in the analysis area that would likely be affected.

This section identifies the public and private service providers in the five counties within the analysis area. The following subsections address the categories of service providers identified in OAR 345-022-0110 in turn. In addition to identifying these providers, these subsections also summarize the current level of demand for and capacities of these service providers, as appropriate. This baseline information is subsequently used in Section 3.3.3, which assesses the potential impacts of the project on these service providers. Sources of information are cited in the text. In cases where information was provided via personal communication, individual Records of Conversation are included in Attachment U-1.

3.3.2.1 Sewer and Water Services

In the rural areas in the analysis area, sewers and sewage treatment and municipal water services are typically provided by incorporated communities. State and local agencies, including the Oregon Department of Environmental Quality (ODEQ), the county planning departments for the five counties in the analysis area, and the public works departments for towns located near the Project, were contacted to identify sewers and sewage treatment and water services that could be potentially affected by the Project. The ODEQ, the county planning departments for Morrow and Malheur counties, and city public works departments of Boardman, Pendleton, La Grande, and Baker City indicated that the Project will not cross any areas served by sewer and water service providers (Beyeler 2011; Draper 2011; Gedder 2011; Hartelly 2011; Johnson 2011; McLane 2011; Owen 2011; Paullus 2012; Williams 2011) (see Attachment U-1A). Exhibit O provides a description of the sources of water that have been identified for the Project.

3.3.2.2 Stormwater Drainage

Stormwater drainage services in the rural areas in the analysis area are typically provided by incorporated communities. Contact with the ODEQ and the county planning and city public works departments identified above indicated that the Project will not cross areas served by stormwater drainage providers.

3.3.2.3 Solid Waste Management

Solid waste generated during construction will be disposed of at landfills located near the Project. Landfills located near the Project include those in Morrow, Baker, and Malheur counties in Oregon. In addition, a fourth landfill, Clay Peak Landfill, is located in Idaho, about 5 miles east of Ontario, Oregon. The Oregon landfills are listed in Table U-3, which also identifies the current volume of waste each landfill currently receives (tons per day), as well as the amount of waste each landfill is permitted to receive (tons per day), where this information is available.

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	15,500 tons	20,000 tons

Sources: Freese 2011; Geedes 2011; Large 2011; Schmidt 2011

3.3.2.4 Housing

Housing estimates are presented in Table U-4 for the five Oregon counties within the analysis area.

Table U-4. Housing Data

Geographic Area	Housing Units 2010	Percent Change in Number of Units 2000 to 2010	Estimated Number of Rental Units[1]	Estimated Units Available for Rent[2]
Baker County	8,826	5	2,340	218
Malheur County	11,692	4	4,048	395
Morrow County	4,442	4	1,248	123
Umatilla County	29,693	7	10,467	1,024
Union County	11,489	8	3,899	335

[1] Numbers of rental housing units are estimated using total housing units from 2010 and the ratio of renter- to owner-occupied units identified for each area by the Census in the 2005-2009 American Community Survey.
[2] Housing units available for rent were estimated using rental vacancy rates for each area from the 2005-2009 American Community Survey.
Sources: U.S. Census Bureau 2000, 2011

The availability of temporary housing varies seasonally and geographically within the counties in the analysis area. Demand for temporary housing is generally greatest during the tourism season in the summer. Statewide in Oregon, the average hotel and motel occupancy rate in 2009 was 63.2 percent in June compared to 38.3 percent in December, with an annual average rate of 53.9 percent (Travel Oregon 2009a, 2009b). Hotel and motel occupancy rates also vary by region, with occupancy rates in Oregon generally higher in the Portland Metro area.

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

Table U-5. Hotels and Motels

Geographic Area	Number of Hotels[1]	Number of Rooms[1]	Estimated Number of Available Rooms[2]
Baker County	3	161	59
Malheur County	8	578	213
Morrow County	2	100	37
Umatilla County	16	1,153	424
Union County	3	131	48

[1] Data were compiled by Smith Travel Research and include hotels, motels, and B&Bs with 15 or more rooms.
[2] Average number of rooms are estimated based on the average hotel occupancy rate in Oregon in June 2009.
Sources: Smith Travel Research 2009, 2011; Travel Oregon 2009a

Temporary accommodation is also available in the form of recreational vehicle (RV) and other types of campsites in the Project vicinity. Comprehensive data are not available on these types of resources, but a review of information from TravelOregon.com identified approximately 800 RV spaces located in RV parks in or near Oregon communities located within 25 miles of the Project (Table U-6). These data are for participating businesses only and do not necessarily represent all the RV spaces within 25 miles of the proposed transmission line or the number of spaces that could be available for use during Project construction.

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
Rolling Hills Mobile Terrace & RV Park	Fairview	Multnomah	101
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

Source: TravelOregon 2011

3.3.2.5 Traffic Volume

Traffic volume data from the Oregon Department of Transportation (ODOT) for federal and state highways at locations near the Project are summarized in Table U-7. These are the greatest traffic volumes that IPC expects the Project will encounter. Traffic levels on minor highways and smaller roads near the Project are generally much lower than those identified in Table U-7.

Table U-7. Annual Average Daily Traffic Volumes

Location[1]	Highway/Route Number	Highway/ Route MP	ODOT Location Description	2009 AADT	2004 AADT
Near milepost (MP) 1 in Morrow County	I-84	159	0.30 mile west of Tower Road Interchange	10,900	10,800
Near MP 37 in Morrow County	I-84	183.16	0.30 mile east of Hermiston Highway (OR 207)	11,200	10,300
		193.83	0.30 miles east of Lexington-Echo Highway	14,500	14,700
Near MP 73 in Umatilla County	US 395	12.98	0.05 mile south of Stewart Creek	2,900	3,100
Near MP 107 in Umatilla County	I-84	253.43	0.60 mile east of Ukiah-Hilgard Highway (OR244)	9,700	10,600

Table U-7. Annual Average Daily Traffic Volumes (continued)

Location[1]	Highway/Route Number	Highway/ Route MP	ODOT Location Description	2009 AADT	2004 AADT
Near MP 112 in Union County	I-84	260.27	North La Grande Automatic Traffic Recorder, Sta. 31-007, 1.05 miles east of La Grande-Baker Highway No. 66 (US 30), North La Grande Interchange	8,500	8,900
Near MP 151 in Baker County	OR 203	36.86	Medical Springs Automatic Traffic Recorder, Sta. 01-007, 2.08 miles east of Old Oregon Trail Highway No. 6 (I-84)	210	230
Near MP 189 in Baker County	I-84	327.83	0.40 mile south of Durkee Interchange	8,200	7,900
Near MP 243 in Malheur County	US 20	200.96	0.5 mile east of Pole Creek Road	1,200	1,300
Near MP 243 in Malheur County	I-5	38.09	0.02 mile south of Wasco-Heppner Highway (OR 206), Walnut Street	1,600	1,500
Near MP 198 in Malheur County	OR 201	8.02	0.06 mile south of Owyhee Avenue	1,200	1,300

[1] MP refers to transmission-line mileposts (from the April 1, 2011 geographic information system route layer).
AADT – average annual daily trips; MO – milepost
Source: ODOT 2009

3.3.2.6 Police and Fire Protection

Police

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

Estimated response times range from 5 minutes to 1 hour for the Baker and Malheur County Sheriff Departments (Bentz 2011; Southwick 2011). The Umatilla County Sheriff's Department indicated that response times for non-emergency calls during the day could take several hours, and that non-emergency calls at night likely are not responded to until the next day. Response times for emergency calls (i.e., life-threatening situations) by the Umatilla County Sheriff's Department range from approximately 20 minutes to 1 hour (Diehl 2011).

Table U-8. Law Enforcement

Department	Number of Law Enforcement Personnel	Response time to Site Boundary
Morrow County Sheriff	Not provided[1]	Not provided[1]
Umatilla County Sheriff	7 deputies (3 within the project area)	20 min to next day
Union County Sheriff	Not provided[1]	Not provided[1]
Baker County Sheriff	8 deputies	5 min – 1 hr
Malheur County Sheriff	18 deputies	1 hr
BLM Law Enforcement Office	2 rangers	Not provided

[1] The Morrow County and Union County Sheriff's offices did not respond to several requests for information.
Sources: Bentz 2011; Diehl 2011; Southwick 2011; Straub 2012

Fire

Federal agencies are responsible for fire suppression efforts on federal lands in the analysis area, including BLM-managed and National Forest (NF) lands. The State of Oregon is responsible for fire suppression on state lands. Municipal fire departments and rural fire districts are the primary responders for incidents on private land.

The majority of the land within the Site Boundary, approximately 67 percent, is privately owned. The BLM manages about 31 percent of the land in the Site Boundary, with the remaining 2 percent managed by other federal (USFS and Bureau of Reclamation) or State agencies. The BLM has jurisdiction over fire suppression on BLM-managed lands; the USFS has jurisdiction over fire suppression on NF lands.

For private lands within the Site Boundary, fire protection and response falls to one of the 11 organizations listed in Table U-9. Table U-9 summarizes staffing levels, equipment, and response times for those departments that responded to requests for information. Contact with the Oregon State Fire Marshal's office confirmed that this is a complete list of the fire departments with jurisdiction over lands within the Site Boundary (Warner 2011).

Not all lands in the Site Boundary fall within a designated fire district. In those cases the closest or best situated fire district responds to fires (Enright 2011; Martin 2011; Wooldridge 2011). Mutual aid agreements have been established between local fire districts and adjacent counties to pool resources, ensure cooperation between these entities, and prevent fires on a county and state level instead of isolating efforts to local districts (Martin 2011; Payton 2011; Webb 2011). As a result of these mutual aid agreements, the fire district that responds to a fire may not be the district that the fire occurs in, or even the closest district, but the district that is best situated and suited to respond. In addition, fire protection agencies in Idaho may be the best positioned to respond to a fire along portions of the Project in Malheur County, Oregon.

Response times to the Site Boundary vary depending on the time of day, the priority of the emergency/call and the location of the emergency and the type of available access. Most of the fire districts crossed by the Site Boundary comprise volunteers, and in some cases it takes considerable time to collect and mobilize an entire fire crew. In addition, much of the analysis area includes open remote lands where access is limited. A fire in one of these areas may not be immediately identified. However, once a fire has been identified, the fire districts responding to requests for information have indicated that average response times range from about 8 to 40 minutes, depending on the location (Table U-9).

Table U-9. Fire Departments

Department	County	Number of Fire-Fighters	Equipment	Response Time
Boardman Rural Fire Protection District	Morrow	7 paid; 17 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 hr south-route; 10 min north-route.
Ione Rural Fire Protection District	Morrow	14 to 15 volunteers	(2) pumper engines (2,000 and 1,000 gallon tanks); (3) brush trucks; (1) tender with a 3,000 gallon tank	Not provided[1]
Echo Rural Fire Department	Umatilla	20 to 21 volunteers	(5) brush rigs; (3) tankers; (4) pumpers	20-25 min near Pilot Rock; 40 min in other areas
Pilot Rock Rural Fire Protection District	Umatilla	Not provided[1]	Unknown[1]	Not provided[1]
North Powder Fire Department	Union	16 volunteers	(1) type 6 brush rig (1) 2,500 gallon tender (1) 1,800 gallon tender (1) 1,500 gallon tender	12-15 min
La Grande Rural Fire Protection District	Union	1 paid; 20 volunteers	(3) type 1 engines; (1) brush truck; (1) 3,000-gallon water tender; (2) rescue vehicles.	10 min
Union Emergency Services-Fire Department	Union	15 volunteers	(2) ambulances; (1) rescue rig; (4) fire engines; (2) tankers; (1) brush truck.	11-12 min
Keating Rural Fire District	Baker	15 volunteers	(2) structure engines; (1) tender; (4) wildland engines.	25 min
Diamond Rural Fire Protection District	Baker	Not provided[1]	Unknown[1]	Not provided[1]
Baker Rural Fire Protection District	Baker	18 volunteers	(3) structure trucks; (2) 4,200 gallon tenders; (4) brush trucks.	8-14 min
Adrian Rural Fire Protection District	Malheur	14 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 min

N/A –Not Applicable

[1] The Ione, Diamond, and Pilot Rock Rural Fire Protection Districts did not respond to several requests for information.

Sources: Carter 2011, Enright 2011, Harper 2011, Johnson 2011, Martin 2011, Morgan 2011, Payton 2011, Rogelstad 2011, Skerjanec 2011, Webb 2011, Wooldridge 2011

3.3.2.7 Health Care

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

- **Saint Anthony Hospital** is a Level III hospital licensed for 49 beds, 5 of which are intensive care beds. The hospital employs[2] about 80 nurses, and 30 physicians have staffing privileges. Medical transportation is provided by Life Flight. A Life Flight helicopter is stationed at the hospital and the hospital also has access to a fixed-wing craft. Flight times between the hospital and the Project area are about 15 minutes for the portions of the Project located near Pilot Rock, and 40 minutes for areas located further east. According to hospital staff, patients suffering major injuries, such as severed limbs or electrical burns, are stabilized at Saint Anthony Hospital and then transported to a regional hospital for treatment (Blanc 2011).
- **Grande Ronde Hospital** is a Level IV hospital licensed for 25 beds, 6 of which are intensive care beds. The hospital employs about 175 nurses, and 45 physicians have staffing privileges. Medical transportation is provided by Airlink. An Airlink fixed-wing craft is stationed at the local airport, and flight times between the airport and the Project area are about 20 to 90 minutes. Patients suffering major injuries, such as severed limbs or electrical burns, are stabilized at Grande Ronde Hospital and then transported to a regional hospital for treatment (McCowan 2011).
- **Saint Alphonsus Medical Center** is a Level II hospital that is licensed for 49 beds, 8 of which are intensive care beds. The hospital employs about 100 nurses, and 80 to 90 physicians have staffing privileges. Medical transportation is provided by Life Flight. A Life Flight helicopter is stationed at the medical center, and flight times between the hospital and the Project area are about 20 to 30 minutes (Vachek 2011).

3.3.2.8 Schools

The analysis area includes multiple school districts. The school districts likely to be impacted are identified by county in Table U-10, which also identifies current student enrollment and student/teacher ratios, as well as enrollment trends for the eight school districts that responded to requests for information. All eight of these districts indicated that enrollment has been either flat or declining in recent years with current trends expected to continue into the future (Table U-10). Student/teacher ratios for the 2010-2011 school year ranged from 7.2 students per teacher in the Huntington School District 16J to 21 students per teacher in the La Grande School District 001 (Table U-10).

Table U-10. School Districts

School District	County	Student Enrollment in 2010-2011	Student/ Teacher Ratio 2010-2011	Enrollment Trends
Morrow School District 001	Morrow	2,200	16.8	flat
Pilot Rock School District 002	Umatilla	352	14.6	declining
La Grande School District 001	Union	2,204	21.0	declining
Union School District 005	Union	370	16.1	declining
Baker School District	Baker	2,000	19.6	flat to declining
Huntington School District 16J	Baker	71	7.2	declining
Vale School District 084	Malheur	878	16.9	declining
Nyssa School District 026	Malheur	Not provided[1]	Not provided[1]	Not provided[1]
Adrian School District 061	Malheur	242	13.8	flat

[1] The Nyssa School District 026 did not respond to several requests for information.
Sources: Allison 2011; Burrows 2011; Hogg 2011; Lowry 2011; Milburn 2011; Nunn 2011; Panike 2011; Stalk 2011; Wegener 2011; Wood 2011

[2] 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).

3.3.3 Potential Impacts on Public and Private Providers

OAR 345-021-0010(1)(u)(C) – Potential Impacts on Public and Private Providers

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.

3.3.3.1 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 statues and regulations related to wastewater. The Project once constructed will not require any sewer or water services during its operation.

The Boardman wastewater treatment facility, which is located less than 2 miles west of the proposed Longhorn Substation, 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 12-16 million gallons of water. Water will be required for dust control, foundation construction, substation construction, and communication site 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.

3.3.3.2 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.

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

3.3.3.3 Solid Waste Management

Exhibit V – Solid Waste and Wastewater provides detailed information on the type and amount of solid waste that will be generated by the Project. Solid waste generated will include broken insulators, scrap conductor, other metallic scraps, empty wooden spools, as well as general construction waste such as crates, pallets, and paper wrappings used to protect equipment during shipping. Approximately 80% of solid waste is expected to be recycled. The Project is expected to generate about 15,334 cubic yards of waste during construction (or about 117 cubic yards of waste per week). This waste will likely be disposed of at various landfills located along the Project's length and, therefore, no single landfill will be expected to accommodate the entire waste-load generated by Project construction. Operations of the Project are expected to generate no or minimal amounts of solid waste. See Exhibit V for more detailed information on

the type and volume of solid waste that will be generated and the amount recycled by the Project.

Construction and operation of the Project is not expected to have an adverse impact on solid waste management. Landfills were identified near the project in Morrow, Baker, and Malheur counties, Oregon. Representatives from two of these landfills (Finley Buttes, Baker Sanitary) each indicated that their facility has adequate capacity to receive all of the waste generated by the Project (Freese 2011; Large 2011) (see Attachment U-1B). These landfills are distributed along the Proposed Corridor, located at the north end, about 12 miles south of Boardman, Oregon (Finley Buttes), midway along the corridor in Baker County, Oregon (Baker Sanitary), and near the south end in Malheur County, Oregon(Lytle Boulevard Landfill).

A representative from the third landfill, Lytle Boulevard Landfill, located southeast of Vale, Oregon, indicated that the facility is close to its permitted daily capacity and will be able to only accept limited waste from the Project (Geedes 2011). Therefore, only limited waste from the Project will likely be sent to the Lytle Boulevard Landfill, with the remaining waste sent to other facilities.

As described in Exhibit V, IPC contacted these landfills to verify that they have adequate capacity to receive Project solid waste. Follow-up letters were sent to the landfill operators to request written confirmation that the facilities are available to receive Project solid waste. Copies of these letters are presented in Exhibit V, Attachment V-1.

3.3.3.4 Housing

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

Temporary housing resources are discussed in Section 3.3.2.4 and summarized in Tables U-4 and U-5. Review of the rental housing units and hotel and motel rooms that will normally be vacant and available for rent, suggests that there will be sufficient housing resources available for rent in the two groups of counties that will be crossed by the proposed construction spreads, with additional resources available in other neighboring and nearby counties.

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

A few specific projects that may overlap construction of the B2H Project include the Cascade Crossing Transmission Project (another electric transmission line), the Carty Lateral Project (proposed natural gas pipeline lateral), the Carty Generating Station (proposed natural gas-fueled combined cycle combustion turbine facility), and the Boardman Plant retrofits (possible retrofit from coal to bio-fuels). Counties within the Project analysis area have adopted Transportation System Plans, which identify transportation system deficiencies and needed improvements over a 20-year time horizon. The county Transportation System Plans identify general road, rail, bicycle, or pedestrian transportation system improvements in the vicinity of the Project.

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

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

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

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

3.3.3.5 Traffic Safety

Potential project impacts to traffic safety could result from increased traffic from construction workers commuting to and from work sites, equipment and material deliveries, and fill and water hauling. The transportation of equipment and materials to the site and haul of waste material from the site during construction will cause short-term increase in the use of local roadways during the construction period. This increased use could impact transportation and access by disrupting local traffic due to over-sized, slow-moving vehicles on smaller roadways and increased vehicular traffic from construction personnel. IPC will coordinate with private road owners prior to construction. Project design features will require implementation of a traffic management plan that will serve to reduce potential traffic delays as a result of the Project. Preliminary haul routes are identified in Table U-11. These routes were identified based on anticipated multi-use areas. A detailed draft Transportation and Traffic Plan has been prepared for the Project and is included in Attachment U-2. Vehicle trip generation estimates are included in Section 3.1.1 of Attachment U-2. Traffic safety is addressed in Section 4.2 of Attachment U-2.

Table U-11. Preliminary Project Haul Routes

Route Name	Multiuse Area[1]	County	Nearby Community	Preliminary Haul Routes	
				Major Routes	Local Routes
Proposed	MO-1	Morrow	Boardman	I-84	Tower Road (exit 159), Unnamed local roads
	MO-2	Morrow	Hermiston, Boardman	I-84, OR 207	OR 207, Doherty Road
	UM-1	Umatilla	Hermiston	I-84, I-82	Lamb Road (exit 10)
	UM-2	Umatilla	Hermiston, Pilot Rock	I-84, U.S. 395	OR 207 (exit 182), Big Butter Creek Road, OR 74
	UM-3	Umatilla	Pendleton, Pilot Rock	I-84, U.S. 395	Stewart Creek Road/Porter Road, NE 4th Street
	UN-1	Union/Baker	North Powder, Baker City, La Grande	I-84	OR 237 (exit 285), Coughanour Lane
	BA-1	Baker	La Grande, Baker City	I-84	OR 203 (exit 298)
	BA-2	Baker	Baker City, Durkee	I-84	Vandecar Road (exit 327), Lang Road, Hindman Road, Old U.S. 30
	MA-1	Malheur	Brogan, Vale	I-84, OR 201, U.S. 20 and 26	Malheur Reservation Road
	MA-2	Malheur	Ontario, Vale	I-84, U.S. 20,U.S 26	Unnamed local road
	MA-3	Malheur	Ontario, Nyssa Wilder (Idaho)	I-84, U.S. 20, U.S. 95	OR 201, OR 452/ID 18, Owyhee Ave, Owyhee Lake Road
	MA-4	Malheur	Ontario, Nyssa, Wilder (Idaho)	I-84, U.S. 20, U.S. 95	OR 201, OR 452/ID 18
Horn Butte	MO-1	Morrow	Boardman	I-84	Tower Road (exit 159), Unnamed local roads
	MO-2	Morrow	Hermiston, Boardman	I-84, OR 207	OR 207, Doherty Road
Longhorn	MO-2	Morrow	Hermiston, Boardman	I-84, OR 207	OR 207, Doherty Road
	MO-3	Morrow/Umatilla	Boardman	I-84, US 730	Boardman Canal Road, Unnamed local road
	MO-4	Morrow/Umatilla	Boardman	I-84	County Road 930/Paterson Ferry Road (exit 171), Poleline Road
	UM-1	Umatilla	Hermiston	I-84, I-82	Lamb Road (exit 10)
Flagstaff	BA-1	Baker	La Grande, Baker City	I-84	OR 203 (exit 298)

Table U-11. Preliminary Project Haul Routes (continued)

Route Name	Multi-use Area[1]	County	Nearby Community	Preliminary Haul Routes	
				Major Routes	Local Routes
Willow Creek	BA-3	Baker/Malheur	Baker City, Huntington	I-84	U.S. 30 (exit 353), Unnamed local road
	MA-5	Baker/Malheur	Brogan, Vale	I-84, OR 201, US 20 and 26	South Road L
Malheur S	MA-2	Malheur	Ontario, Vale	I-84, US 20, US 26	Unnamed local road
	MA-6	Malheur	Caldwell, Homedale	I-84, US 95, US 20, US 26	OR 201/ID 19, Succor Creek Road, Succor Creek Cutoff, Upper Tunnel Road, Unnamed local roads

[1] Multiuse areas are numbered as shown in Exhibit C, Attachment C-2. Where the same multi-use areas will be used for multiple routes, the table lists the same numbers for each route. The Glass Hill and Double Mountain alternate corridor segments would not require separate multi-use areas.

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

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

3.3.3.6 Police and Fire Protection

Police

The Project is not expected to have significant adverse impacts on police service. The potentially affected sheriff's departments that responded to requests for information indicated that, while Project construction sites could be a target for crimes (primarily theft of materials or equipment) and a temporary influx of construction workers could result in short-term increases in traffic incidents and other disturbances, the Project is unlikely to require additional law enforcement resources or facilities (Bentz 2011; Diehl 2011; Hoagland 2011; Southwick 2011) (see Attachment U-1C).

During Project operation, new access roads and the transmission line and associated facilities could place increased demands on local law enforcement but these impacts are not expected to be significant. Private access roads will be gated when requested by property owners, which will reduce the potential for trespass offenses (Attachment U-2). On BLM-managed and NF lands, some access roads may be gated, but not all. New access roads on BLM-managed and NF lands will not result in increased demands on federal law enforcement services.

Transmission lines, substations, and associated facilities could be targets of intentional destructive acts, such as sabotage, terrorism, vandalism, and theft. Such acts include firing at insulators, powerlines, transmission towers, or substation equipment; vandalism; and theft of equipment, supplies, tools, or materials. Of these acts, vandalism and thefts are most common. Transmission support structures will be constructed in such a way that displacement would be extremely difficult. Physical deterrents such as fencing, cameras, and signs at substations will be employed to prevent theft, vandalism, and unauthorized access. In the event of intentional

destructive acts, operational protocols will be implemented with detailed procedures in accordance with the Proponents' emergency response procedures. Use of these deterrents during Project operation will minimize any demands on local law enforcement services.

Fire

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

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

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

Right-of-way maintenance in forested areas will reduce the risk that combustible materials would come into contact with the conductors and ignite a fire. Transmission line protection and control systems will be incorporated into the system and are designed to detect faults (such as arcing from debris contacting the line) and will rapidly shut off power flow (in 1/60th to 3/60th of a second) if arcing is detected.

Local fire protection agencies were contacted in order to solicit their input regarding the potential impact of the Project on their ability to serve their communities (Carter 2011; Enright 2011; Harper 2011; Johnson 2011; Martin 2011; Morgan 2011; Payton 2011; Rogelstad 2011; Skerjanec 2011; Webb 2011; Wooldridge 2011) (see Attachment U-1D). Most of these agencies indicated that the Project will not adversely impact their districts. For example, the Deputy Fire Management Officer for the BLM (which will be responsible for fire suppression on approximately 24 percent of the lands within the Site Boundary) indicated that the Project will not impact their ability to suppress fires or require additional fire suppression resources. However, conversations with local fire protection agencies indicated that three of these agencies have concerns about potential impacts of the Project on their districts.

The Keating Rural Fire District Fire Chief expressed concern regarding the risk of fighting fires near energized transmission lines, because electricity could arc through the smoke and strike

firefighters (Harper 2011). This issue is typically addressed by waiting for an electric transmission line to be de-energized before attempting to suppress fires in the immediate vicinity. This issue will be addressed through IPC coordination with local fire and emergency response agencies.

A representative of the Union Emergency Services-Fire Department expressed concern about the potential for ongoing and new construction in Union County (including recent and proposed wind farm developments) to have adverse impacts on their resources and ability to serve the community (Johnson 2011). However, recent construction has not affected the Union Emergency Services-Fire Department to date, and they are currently well-equipped; therefore, the representative was uncertain whether this Project will impact their department (Johnson 2011).

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

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

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

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

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

During operations, the Project will comply with federal safety standards, including minimizing fire risk by implementing periodic vegetative clearing. Vegetative management will address fuel loading near the Project per applicable safety codes. Vegetation management is discussed in detail in Exhibit P, Attachment P-5.

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

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

3.3.3.7 Health Care

Construction and operation of the Project is not expected to have an adverse impact on health care providers. Workers suffering minor injuries will be treated at local medical facilities or emergency rooms. Workers suffering more serious injuries, were they to occur, will be taken to one of the major hospitals in the project vicinity. Conversations with staff from these hospitals—Saint Anthony Hospital, Grande Ronde Hospital, and Saint Alphonsus Medical Center—indicate that these hospitals have adequate capacity and the Project should not adversely impact these medical facilities or their ability to serve local communities (Blanc 2011; McCowan 2011; Vacheck 2011) (see Attachment U-1E).

3.3.3.8 Schools

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

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

3.3.4 Mitigation

OAR 345-021-0010(1)(u)(D) – Measures the Applicant Proposes to Avoid, Reduce or Otherwise Mitigate the Impacts

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.

Mitigation measures designed to address traffic safety are included in Section 4.2.1 of Attachment U-2.

IPC has also prepared a detailed Fire Prevention and Suppression Plan (see Attachment U-3) that lists the mitigation measures that will be employed to reduce the potential risk of fire within the Site Boundary. In addition, IPC will work with local fire protection and emergency response service providers to address the need for any additional resources during the construction and operations phases of the Project.

3.3.5 Monitoring

OAR 345-021-0010(1)(u)(E) – Proposed Monitoring

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.

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

4.0 CONCLUSIONS

IPC has provided evidence required by OAR 345-021-0010(1)(u). Based on evidence provided, IPC will not impact public services. Because of the dispersed nature of the construction phase, the low number of workers needed during the operations phase, and the absence of densely populated areas in much of the analysis area, the construction and operations of the Project are not likely to result in any significant adverse impact to the ability of public or private service providers to provide the services listed in OAR 345-022-0110. Accordingly, IPC complies with the Public Services approval standard.

5.0 SUBMITTAL AND APPROVAL COMPLIANCE MATRICES

Tables U-12 and U-13 provide cross references between Exhibit submittal requirements of OAR 345-021-0010 and the Council's Approval standards of OAR 345-022-0000 and where discussion can be found in the Exhibit.

Table U-12. Submittal Requirements Matrix

Requirement	Location
OAR 345-021-0010(1)(u)	
(u) **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	Section 3.3.1
(B) Identification of the public and private providers in the analysis area that would likely be affected	Section 3.3.2
(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	Section 3.3.3
(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	Section 3.3.4
(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	Section 3.3.5
Project Order Section V Comments	
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.	Section 3.3.3; Attachment U-2

Table U-13. Approval Standard

Requirement	Location
OAR 345-022-0110 Public Services	
(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.	Section 3.3
(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	Not Applicable because the Project will not produce power from wind, solar or geothermal energy.
(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	Not Applicable because the Project is not a special criteria facility.

6.0 RESPONSE TO COMMENTS FROM REVIEWING AGENCIES AND THE PUBLIC

Table U-14 provides cross references between comments cited in the Project Order from reviewing agencies and the public and where discussion, if applicable, can be found in the Exhibit.

Table U-14. Reviewing Agency and Public Comments

Reviewing Agency and Public Comments	Location
Project should evaluate crossings of existing utility ROWs, including gas and oil pipelines, communication lines, and existing electrical transmission lines.	Attachment C-2 of Exhibit C shows locations where the Project crosses these features.
Project would impact ability to respond to wild fires by limiting aerial accessibility, in an area susceptible to wild fires.	Section 3.3.3.6
Fire services are currently unequipped to respond to a fire associated with the Project in remote areas or forest land.	Section 3.3.3.6
Project should address security and terrorist attack threats to the transmission line, as local emergency service providers are currently unequipped to respond to such a threat.	Section 3.3.3.6
The Fire Defense Board requests mitigation by funding an “Interagency Fire Center” to be located at the Baker City Airport and the necessary equipment to share to cost of protecting the transmission line.	Section 3.3.3.6
Consider the potential for increased risk of human-caused fire during construction and maintenance of the transmission line and the potential impacts to sagebrush steppe and native grasslands.	Section 3.3.3.6; See Exhibit P
Consider the fact that when forest vegetation is cleared for powerlines it often results in a hazardous fuel condition with dense fire fuel close to the ground and readily available for combustion.	Section 3.3.3.6; See Exhibit P

7.0 REFERENCES

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ATTACHMENT U-1
COMMUNICATIONS WITH PUBLIC SERVICE PROVIDERS

TABLE OF CONTENTS

U-1A Contacts with Sewer and Wastewater

Tetra Tech Telephone Conversation Record

Call To: Barry Beyeler	Date: 8/15/2011
Association: City of Boardman Public Works	Title: Community Development Director
Phone #: (541) 481-9252	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Barry Beyeler (Community Development Director for Public Works) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. He said that he was unaware of any sewer or wastewater treatment facilities located near the project, with the exception of the Boardman Wastewater Treatment Facility, which is located near the Boardman Substation. As the project would be connecting to the Boardman Substation, the magnitude of impact that it might have on the Boardman Wastewater Treatment Facility would depend on how and where (i.e., what route they take) the project connects to this substation. The major impact in his opinion would be dead birds from line-strikes failing into the lagoons at the treatment facility.

Tetra Tech Telephone Conversation Record

Call To: Steve Draper	Date: 8/18/2011
Association: Pilot Rock Public Works	Title: Public Works Director
Phone #: (541) 379-2568	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Steve Draper (Public Works Director for the city of Pilot Rock) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. He said that their sewers and facilities extent to about 1.5 miles north of town, and that the project is located farther north than this. Therefore, there are no Pilot Rock sewer facilities located in areas that could be affected by the Project.

Tetra Tech Telephone Conversation Record

Call To: Craig Gedder	Date: 8/15/2011
Association: Malheur County	Title: Environmental Health Director
Phone #: (541) 473-5186	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Craig Gedder (Environmental Health Director for Malheur County) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. He said that the County would not be aware of any sewer or wastewater facilities, and that the DEQ might be a better point of contact.

Tetra Tech Telephone Conversation Record

Call To: Scott Hartelly	Date: 8/22/2011
Association: Union County Planning Dept.	Title: Associate Planner
Phone #: (541) 963-1014	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Scott Hartelly (Associate Planner for the Union County Planning Department) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. He said that the project is not located near any sewer or wastewater treatment facilities. The closest treatment lagoon in Union County is located near the intersection of Highway I-84 and 203 (near the southeast side La Grande), several miles from the project. The nearest trunk line is probably located about 1.5 miles from the project.

Tetra Tech Telephone Conversation Record

Call To: Carl Johnson	Date: 8/18/2011
Association: Umatilla County Planning Dept.	Title: Senior Planner
Phone #: (541) 278-6252	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Carl Johnson (Senior Planner for the Umatilla County Planning Dept.) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. I told her that I had already contacted the Public Works Dept. for Pendleton and Pilot Rock. She said that these were the two towns in Umatilla County that should be contacted, and that there would not be any additional sewer facilities or wastewater treatment facilities near the project in Umatilla County.

Tetra Tech Telephone Conversation Record

Call To: Carla McLane	Date: 8/15/2011
Association: Morrow County Planning Dept.	Title: Planning Director
Phone #: (541) 922-4624	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Carla McLane (Planning Director for the Morrow County Planning Dept.) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. She said that if the southern route was selected, then no facilities would be encountered in Morrow County. If the northern route was selected, then the Boardman Wastewater Treatment Facility could be impacted. I told her that I had spoken with the Community Development Director for the Boardman Public Works (Barry Beyeler) and he said that the potential impact to this facility would be related to dead birds from line-strikes failing into the lagoons at the treatment facility. She agreed with this assessment.

Tetra Tech Telephone Conversation Record

Call To: Michelle Owen	Date: 8/15/2011
Association: Baker City Public Works	Title: Public Works Director
Phone #: (541) 962-1325	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Michelle Owen (Public Works Director for Baker City Public Works) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. She said that there are no sewer systems near the project in the vicinity of Baker City. The closest wastewater treatment facility (near Baker City) is located at the intersection of Highway 30 and Imnaha Road (located about 1 mile north of Baker City limits, and about 4.75 miles west of the project).

Tetra Tech Telephone Conversation Record

Call To: Norman Paullus	Date: 8/15/2011
Association: La Grande Public Works	Title: Public Works Director
Phone #: (541) 962-1325	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Norman Paullus (Public Works Director of La Grande Public Works) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project. He said that the project would cross a water transmission line that travels from the south side of La Grande to the La Grande Reservoir, but that it would not cross any sewers or wastewater treatment facilities.

Tetra Tech Telephone Conversation Record

Call To: Heidi Williams	Date: 8/15/2011
Association: Oregon DEQ	Title: Plan Review Engineer
Phone #: (541) 541-276-4063	
Message Taken By: John Crookston	
Subject: Sewer and Wastewater treatment facilities along the B2H Project.	

I spoke with Heidi Williams (Plan Review Engineer for the Oregon DEQ) about the possibility of sewer and wastewater treatment facilities being located near the B2H Project (specifically those located along Malheur County, as this county was not sure of the facilities in this area). She said that she could not find any records of sewers or wastewater treatment facilities near the project in Malheur County; the facilities in this county are located in Vale and Nyssa (east of the project). I told her about the two wastewater facilities we knew about at this time along the project as a whole (i.e., in Boardman and Baker City) and asked her if she knew of any others along the project's length (in total). She said that she could not find any other records of sewers or wastewater treatment facilities along the rest of the project either.

U-1B Contacts with Solid Waste Facilities

Tetra Tech Telephone Conversation Record

Call To: Brent Freese	Date: 5/3/11
Association: Baker Sanitary Landfill	Title: General Manager
Phone #: (541) 403-2494	
Message Taken By: John Crookston	
Subject: Capacities of the Baker Sanitary Landfill	

I spoke with Brent Freese 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 he would call me back with the details of their facility.

He called me back on 5/9/11 and said that they accept 50 to 60 tons of waste a day, and 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.

Tetra Tech Telephone Conversation Record

Call To: Craig Geedes	Date: 4/26/11
Association: Lytle Boulevard Landfill	Title: Environmental Health Director
Phone #: (541) 473-5186	
Message Taken By: John Crookston	
Subject: Capacities of the Lytle Boulevard Landfill	

I spoke with Craig Geedes about the capacities of the Lytle Boulevard Landfill in Malheur, County ID (located in Vale).

He said that they are permitted to accept 20,000 tons of waste a day, and currently receive about 15,000 to 16,000 tons a day (did not know the total capacity of the facility). Therefore, they would not likely be able to accept much waste from the project. He said that the Clay Peak Landfill in Idaho would likely be able to accept the waste.

They are open on Tuesday to Thursday from 1 to 5, and on Saturday from 9 to 5.

Tetra Tech Telephone Conversation Record

Call To: Dean Large	Date: 4/26/11
Association: Finley Buttes Landfill	
Phone #: (503) 288-7844 ext.318	
Message Taken By: John Crookston	
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 said that they have two hundred million yards of storage, and have only used 8 million yards to date. They receive about 700,000 tons of waste a year. There is not a permit limitation on the amount of waste they can take. They would be able to accept the waste generated by the project, and it would have no impact on their facility's operation.

Tetra Tech Telephone Conversation Record

Call To: Tracy Schmidt	Date: 4/26/11
Association: Clay Peak Landfill	Title: Office Manager
Phone #: (208) 642 6036	
Message Taken By: John Crookston	
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 said that they do not have a permitted maximum amount of waste that they can accept per day. They currently accept about 500 to 700 tons a day (during the week, with somewhat less on the weekend). She said that they charge 30 dollars a ton for waste, unless it is hazardous (they accept asbestos) which is charged at 100 dollars a ton.

She referenced me to their website regarding the capacity of the landfill (http://www.payettecounty.org/landfill/WhoWeAre.htm). According to the website, they have a 2.4 million cubic yard capacity currently (in cell 1), but have plans to expand this in the future (5.3 in cell 2 and 19.9 in cell 3).

She said that they would be able to accept the waste generated by the project, and it would have no impact on their facility's operation.

U-1C Contacts with Police Departments

Tetra Tech Telephone Conversation Record

Call To: Sheriff Andrew P. Bentz	Date: 4/26/11
Association: Malheur County Sheriff	Title: Sheriff
Phone #: (541) 473-5125	
Message Taken By: John Crookston	
Subject: Capacities of the Malheur County Sheriff department	

I spoke with Sheriff Andrew P. Bentz about the capacities of the Malheur 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 have an adverse impact on his department's ability to serve the community.

He said that they have 18 criminal/patrol deputies, and they have jurisdiction over about 10,000 square miles. He said that they could reach any point along the project within about an hour.

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: 4/25/11
Association: Baker County Sheriff	Title: Sheriff
Phone #: (541) 523-6415	
Message Taken By: John Crookston	
Subject: Capacities of the Baker County Sheriff	

I spoke with Sheriff Mitch Southwick about the capacities of the Baker 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 could have a relatively large short-term impact on his department during construction (resulting from additional workers in the area), and a long-term small impact due to the increased access roads and project facilities. He said that he would not characterize it as a significant impact, but it would still be an impact. He said that he may need to hire some additional temporary workers (for the duration of the project's construction) or have the existing deputies charge additional overtime.

He said that they have 8 deputies. He said that the response time to the project area would vary depending on where the incident occurred and if a deputy was nearby. Incidents located near Baker City could be responded to in about 5 minutes, while those that occur near the County's border could take about an hour.

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-1D Contacts with Fire Departments

Tetra Tech Telephone Conversation Record

Call To: Bob Carter	Date: 4/26/11
Association: Marsing Rural Fire Department	Title: Secretary of Treasury
Phone #: (208) 896-5701	
Message Taken By: John Crookston	
Subject: Capacities of the Marsing Rural Fire Department	

I spoke with Bob Carter about the capacities of the Marsing Rural Fire Department.

He said that they have 1 station. They are an all-volunteer department, with 32 current volunteers. They have two engines (he did not know what type), two brush trucks, and four tenders. Response time to the project area would be about 15 minutes.

He said that the project would not likely have an adverse impact on the Marsing Rural Fire Department.

Tetra Tech Telephone Conversation Record

Call To: Janie Enright	Date: 4/26/11
Association: Echo Rural Fire Department	Title: Assistant Fire Chief
Phone #: (541) 376 8536	
Message Taken By: John Crookston	
Subject: Capacities of the Echo Rural Fire Department	

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

She said that they have 3 stations, and about 20 to 21 volunteer fire fighters. They have five brush rigs, three tankers, and four pumpers (she was not sure about the details of these rigs).

She said that the project would only be located in a small portion of their jurisdiction and that the response times to the project area would be about 20 to 25 minutes near Pilot Rock, and about 30 to 40 minutes in the other areas. She said that a large portion of Umatilla County, and likely much of the project's route through this county, is in a sense a "no-mans-land" which is not covered by a fire district. In these areas, it is likely that the closest district would fight fires that may occur in these uncovered areas. In addition, she said that they have a mutual aid agreement with adjacent districts.

She said that it is unlikely that the project would have an impact on their department.

Tetra Tech Telephone Conversation Record

Call To: John Call	Date: 5/2/11
Association: Oregon Fire Marshal	Title:
Phone #: (503) 378 3473	
Message Taken By: John Crookston	
Subject: Oregon Fire Marshal and the Boardman to Hemingway Project	

I spoke with John Call of the Oregon Fire Marshal office about the project, and asked him if he could identify the fire departments that would be crossed by the project.

He said that he did not know this information but that Assistant Chief Deputy Stacy Warner might (stacy.warner@state.or.us; 503-934-8252).

He told me that the Marshal's office does not have jurisdiction over the fire departments, instead, once local fire departments are certified and recognized by the state, they are assigned a number by the Marshal's office. The Marshal's office and the departments use this number to track fires that occur in the state.

Assistant Chief Deputy Stacy Warner of the Oregon Fire Marshal's Office (503-934-8252) called me back on 5/3/11. He said that they are aware of the Project, that most of the fire departments will likely tell us that they do not expect an impact, and that he has sent a map of the Project and our initial list of "impacted districts" to his crew chiefs to see if we have missed any districts in the area. He said that he would get back to us with any information he finds.

ONE OF THE CREW CHIEFS RESPONDED WITH THE FOLLOWING EMAIL (SENT FROM RICHARD.SMITH@STATE.OR.US):

Stacy,

The only others I can think of are the Durkee RFPA and the Diamond RFPA. These folks arn't fire departments providing structural protection, however, they do provide wildland suppression in their districts and it looks like this project goes through both of their districts.

Richard Smith
Deputy

Original Email Enquiry

>>> "Crookston, John" 05/02/11 4:21 PM >>>

Sir

We are assessing the potential impacts that the construction and operation of a proposed 500kV transmission line would have on local fire departments as part of the NEPA and Oregon State EFCES process. The project is called the Boardman to Hemingway Project and extends from Boardman in Morrow County, OR to Hemingway in Owyhee County, ID. I have attached a map of the project to this email for your reference.

In an attempt to determine the potential impact that this project could have on local fire departments, we have attempted to determine the departments whose jurisdiction the project would cross or come close to (within 10 miles), and then contact each of these department. So far, we have identified the following departments:

1) Boardman Rural Fire Protection District in Morrow County, OR
2) Ione Rural Fire Protection District in Morrow County, OR
3) Echo Rural Fire Department in Umatilla County, OR
4) Pilot Rock Rural Fire Protection District in Umatilla County, OR
5) La Grande Rural Fire Protection District in Union County, OR
6) Union Emergency Services-Fire Department in Union County, OR
7) Wallowa-Whitman National Forest Fire Management Office on the Wallowa-Whitman NF
8) Keating Rural Fire District in Baker County, OR
9) Baker Rural Fire Protection District in Baker County, OR
10) Adrian Rural Fire Protection District in Malheur County, OR
11) Homedale Fire Department in Owyhee County, ID
12) Marsing Rural Fire Department in Owyhee County, ID
13) BLM-administered lands under the BLM's Fire Management Officer

We are contacting you in order to determine if there are any additional departments that you may be aware of that we might have missed, as well as to find out if there are any un-official or non-designated fire departments within this area.

Tetra Tech Telephone Conversation Record

Call To: Chief Buzz Harper	Date: 4/19/11
Association: Keating Rural Fire District	Title: Chief
Phone #: (541) 519-8675	
Message Taken By: John Crookston	
Subject: Capacities of the Keating Rural Fire District	

I spoke with Chief Buzz Harper about the capacities of the Keating Rural Fire District.

He said that they have one station that serves about 132 square miles. The project would cross through their jurisdiction along the border of the Baker Rural Fire Protection District's jurisdiction east of I-84 near Baker City. They are an all-volunteer department, with 15 volunteers currently. The have 2 structure engines, a tender, and 4 wildland engines (three 1,000 gallon trucks and one Type 6). The response time to the project area would be about 25 minutes.

He said that the project would have an adverse impact on his department. Non-department related issues he raised included visual impacts and adverse effects to wildlife and hunting. He said that construction of the project may not impact them, but that operation of the project would have an adverse impact on his department. He is concerned that wildfires located near the project could produce smoke that would enclose the wires. The electricity could then arc through the smoke and hit fire fighters. As a result, they would be reluctant to fight fires located near the project. He did not express a concern regarding fiscal impacts on his department or need for additional equipment.

Tetra Tech Telephone Conversation Record

Call To: Daniel Johnson	Date: 4/26/11
Association: Union County Emergency Services-Fire Department	Title: Fire Fighter - EMT
Phone #: (541) 562 5758	
Message Taken By: John Crookston	
Subject: Capacities of the Union County Emergency Services-Fire Department	

I spoke with Daniel Johnson (Fire Fighter – EMT) about the capacities of the Union County Emergency Services-Fire Department.

He said that they have 15 total volunteer fire fighters, 3 of which are EMT. They have two ambulances, one rescue rig, four fire engines (he did not known what type), two tankers, and one brush truck. He said that response times to the project area would be about 11 to 12 minutes.

He said that they would have jurisdiction over the portion of the line south of the Wallowa-Whitman National Forest (NF) in Union County, and noted that the Island City Fire Department would likely have jurisdiction north of the NF

I asked him if construction and operation of the project could have an impact on their resources. He was uncertain if the project would have an impact on their department. He said that they are a small department, but they are well equipped. They have been having meetings about this very question, as wind farms have been being constructed in their county, and the developers of these facilities have been asking them the same questions. They did not know what to tell the wind farms, and as such, they did not know what to tell us. He said that, as they are an all-volunteer department, they cannot go out and hire additional crew whenever needed (they have to wait until people sign-up); therefore, even if they needed additional crew, there is little they could do about it.

Tetra Tech Telephone Conversation Record

Call To: Sam Martin	Date: 5/25/11
Association: North Powder Rural Fire Department	Title: Fire Chief
Phone #: (541) 898-2520	
Message Taken By: John Crookston	
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 16 volunteers. They have one type 1 brush truck and three tenders (one 2,500 gallon; one 1,800 gallon; and one 1,500 gallon).

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”.

Email Communication

From: Kelly Martin [mailto:skranch4@yahoo.com]
Sent: Monday, April 02, 2012 8:22 PM
To: Crookston, John
Subject: Re: Capacities of the North Powder Fire Department

John once again I want to apoligize for taking so long to get back to you. I have some of the info that you need and some that I am still working on. I am working on getting you a map of our district, as far as the average number of fires we go on in a year that would be about 22 fires. We have about 18 volunteers at this time, that can change at any point. We have 1 type 6 brush truck, it is more of a rescue type truck as it has a utility style type bed. We still have the three tenders that you already know about and have added a type 3 engine with a 600 gallon tank. As far as the additional crew and the additional apparataus I am still working on that also. I am not taking this lightly and want to give you correct info. on what additional things that we will need. Thank you for being patient with us and I will get you the rest of the information as soon as I can. This is from Sam Martin Fire Chief of the North Powder Rural Fire Department.

From: "Crookston, John" <John.Crookston@tetratech.com>
To: "SKranch4@yahoo.com" <SKranch4@yahoo.com>
Sent: Monday, February 13, 2012 3:27 PM
Subject: Capacities of the North Powder Fire Department

Sam

I spoke with you a while back about the potential impacts that the Boardman to Hemingway Transmission Line Project might have to the North Powder Fire Department. We were hoping to get a bit more information about your district. Can you forward us a map of the area that your district covers? Also, can you let us know about how many fires a year your district has to deal with?

Also, it has been a while since our last contact, so I was also hoping to see if anything has changed. You had told me back in 5/25/11, that your district employs about 16 volunteers, and that you have one type 1 brush truck and three tenders (one 2,500 gallon; one 1,800 gallon; and one 1,500 gallon). Is this still correct? Also, you said that if the project was constructed, you would need to hire additional crew, and maybe purchase additional equipment. Do you have an estimate for how many new fire-fighters or what new equipment you would need? Just a reminder: the project would be built at a rate of about 1.5 miles a week, and you said that based on this, it would be in your district for about 30 weeks.
Again, thank you for your time and assistance with this effort.

Email Communication

From: Kelly Martin [mailto:skranch4@yahoo.com]
Sent: Saturday, April 07, 2012 6:27 AM
To: Crookston, John
Subject: Fw: North Powder RFPD Map

Here is the map that I had ODF make for me on our fire district. If this is not a good enough map for Idaho Power please let me know because now that it is on their computer we can add some things like, topo., and color. We marked your existing line so that you could see where it goes thru us. I would also like to meet with whom ever I need to, to discuss what it is that they are expecting from us and what we need from them to protect any fires that may start from their line. Thank you for your patience and let me know who I will be talking to.

From,

Sam Martin, North Powder Rural Fire Department

----- Forwarded Message -----
From: KNIGHT Jamie <jamie.knight@state.or.us>
To: "skranch4@yahoo.com" <skranch4@yahoo.com>
Sent: Friday, April 6, 2012 4:25 PM
Subject: North Powder RFPD Map

Sam,

Take a look at this and see if it meets your needs. I didn't put any topography on it because I thought it busied it up too much. I can if you want to, so let me know if you want to make any changes. I should be in most of the day Monday!

Jamie Knight
National Fire Plan
Oregon Department of Forestry
La Grande Unit
(541)963-3168

Tetra Tech Telephone Conversation Record

Call To: Milly Miller	Date: 8/24/11
Association: Oregon Department of Forestry	Title: District Business Manager
Phone #: (541) 963-3168	
Message Taken By: John Crookston	
Subject: Extent of the Oregon Department of Forestry's jurisdiction	

I spoke with Milly Miller about the extent of the Oregon Department of Forestry's jurisdiction. She said that they fight fires on forest and grazing lands; however, they only deal with private lands that fall within their district. The only portion of the Project that falls within their District would be the area between La Grande and the National Forest (i.e., only a few miles). In this area, they work with the National Forest to treat fires. She said that it does not appear the project would fall within areas where they would have much of a jurisdictional authority over fires.

Tetra Tech Telephone Conversation Record

Call To: Virgil Morgan	Date: 4/26/11
Association: Ione Rural Fire Protection District	Title: Fire Chief
Phone #: (541) 422-7504	
Message Taken By: John Crookston	
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 14 to 15 volunteer fire fighters, and 1 station. They have two pumper engines (one with a 1,000 gallon tank and one with a 2,000 gallon tank), three brush trucks, and 1 tender with a 3,000 gallon tank. They have a mutual aid agreement with the cities of Hepner, Lexington, and Boardman. They also have a Bi-County Mutual Aid agreement with Umatilla County.

Response times to the project area are unknown, as he did not know where the project is located. I emailed him a map, and he said that he would get back to me.

He said that the project is unlikely to impact his department.

Tetra Tech Telephone Conversation Record

Call To: Captain Vince Payton	Date: 4/19/11
Association: Baker Rural Fire Protection District	Title: Captain
Phone #: (541) 523-4088	
Message Taken By: John Crookston	
Subject: Capacities of the Baker Rural Fire Protection District	

I spoke with Captain Vince Payton about the capacities of the Baker Rural Fire Protection District.

He said that they have 3 stations, one that is located along i-84. They are an all volunteer department, with 18 current volunteers. The have 3 structure trucks, 2 4,200 gallon tenders, and 4 brush trucks. The response time to the project area would vary, as they are a volunteer department. Response times to the area can range from 5 to 20 minutes, but would likely be on average 8 to 14 minutes.

He said that the project would only be located within their district for a small length (likely about 10 miles). Other districts would include the Keating Rural Fire district (contact Buzz Harper 541-519-8675). He also said that Baker County has a cooperating agreement between the various fire districts, called the County Fire Defense Agreement.

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: Chief Mark Rogelstad	Date: 4/26/11
Association: Boardman Rural Fire Protection District	Title: Chief
Phone #: (541) 481-3473	
Message Taken By: John Crookston	
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 4 stations. They have 7 paid fire-fighters and 17 volunteers. They have three type 1 interface engines (which are off-road capable), two type 1 engines (that are not off-road capable), one type 1 water tender with a 3,000 gallon tank, and one type 6 engine.

He said that the project would not result in a need for their department to hire additional staff or equipment. The project's impacts would be similar to any transmission line project, in that they would need to provide safety services if someone tried to climb the structures, as well as suppressing fires that may occur adjacent to the line.

Response time to the project would depend on which alternative was selected. Response times to the southern alternative would be about a half an hour, while response times to the northern alternative would be about 10 minutes.

Tetra Tech Telephone Conversation Record

Call To: Tracy Skerjanec	Date: 4/27/11
Association: BLM Fire Management Office	Title: Deputy Fire Management Officer
Phone #: (541) 473-3144	
Message Taken By: John Crookston	
Subject: Capacities of the BLM's Fire Management Office	

I spoke with Tracy Skerjanec (Deputy Fire Management Officer) about the capacities of the BLM's Fire Management Office.

He said that the project would not impact the BLM's ability to suppress fires in the area.

Tetra Tech Telephone Conversation Record

Call To: Chief Robert Webb	Date: 4/20/11
Association: Adrian Rural Fire Protection District	Title: Chief
Phone #: (541) 372 2464	
Message Taken By: John Crookston	
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, with 14 volunteers currently. 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: 4/27/11
Association: La Grande Rural Fire Protection District	Title: Fire Chief
Phone #: (541) 963 6895	
Message Taken By: John Crookston	
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 1 paid fire-fighter and 20 volunteers. They have three type 1 engines, one brush truck, one 3,000-gallon water tender, and two rescue vehicles. Response times to the project area would be about 10 minutes.

Very little of the district would be crossed by the project.

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

U-1E Contacts with Medical Facilities

Tetra Tech Telephone Conversation Record

Call To: Larry Blanc	Date: 4/25/11
Association: St. Anthony Hospital	Title: Director of Communication
Phone #: (541) 966-0528	
Message Taken By: John Crookston	
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.

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, injuries between Baker City and Pendleton would be treated at Grande Ronde Hospital, and injuries that occur between Pendleton and Boardman would be treated at St. Anthony Hospital. He said that this was accurate for the most part, but the separation would not be exactly at Pendleton, and injuries in this area could be treated by multiple hospitals.

He said that Life Flight helicopters are stationed at St. Anthony Hospital, and the hospital also has access to fixed wing planes. Injured workers could be transported to the hospital between 15 minutes (if near Pilot Rock) to 40 minutes (if near Cecil).

He said that St. Anthony Hospital is a level III hospital. It is licensed for 49 beds, 5 of which are intensive care beds. They have about 80 nurses and staffing privileges with 30 physicians.

He said that any patients suffering from major injuries (e.g., electrical burns or severed limbs) would be stabilized at St. Anthony Hospital, and then transported to adjacent hospitals for treatment. Adjacent hospitals would include Kadlec in Tri-Cites, Washington.

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

Tetra Tech Telephone Conversation Record

Call To: Kerri McCowan	Date: 4/21/11
Association: Grande Ronde Hospital	Title: Medical Staff Coordinator
Phone #: (541) 963-1466	
Message Taken By: John Crookston	
Subject: Capacities of the Grande Ronde Hospital	

I spoke with Kerri McCowan (Medical Staff 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 175 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: Paul Vachek	Date: 4/20/11
Association: Saint Alphonsus Medical Center	Title: Chief Financial Officer
Phone #: (541) 881 7011	
Message Taken By: John Crookston	
Subject: Capacities of the Saint Alphonsus Medical Center	

I spoke with Paul Vachek (Chief Financial Officer) 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, 8 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 100 nurses and staffing privileges with 80 to 90 physicians.

He said that the project would not impact their ability to serve the community. He also noted that they are currently expanding their services, and are hiring new staff and recruiting new

U-1F Contacts with School Districts

Tetra Tech Telephone Conversation Record

Call To: Stephanie Allison	Date: 4/26/11
Association: Adrian School District	Title: Administrative Assistant
Phone #: (541) 372-2335	
Message Taken By: John Crookston	
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 flat for the last few years (they gain and lose about 20 students every so often) 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.

I told her that, based on the NCES website, they had 242 students in the 2008-2009 school year, with a student/teacher ratio of 13.8. She said that this was accurate. She said that this ratio and number of students could also be applied to the 2009-2010 and the 2010-2011 school years.

Tetra Tech Telephone Conversation Record

Call To: Mark Burrows	Date: 4/26/11
Association: Morrow School District	Title: Superintendent
Phone #: (541) 989-8202	
Message Taken By: John Crookston	
Subject: Capacities of the Morrow School District	

I spoke with Mark Burrows (Superintendent) about the capacities of the Morrow School District.

He said that the school's student enrollment was growing until 05-06, after which it became flat. I told him that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. He said that they would be able to accommodate new students.

I told him that, based on the NCES website, they had 2,237 students in the 2008-2009 school year with a student/teacher ratio of 16.8; he said that this was accurate.

He said that they had about 2,200 students in the 2009-2010 and the 2010-2011 school years, and that the student teacher ratios were likely the same as the 2008-2009 year.

Tetra Tech Telephone Conversation Record

Call To: Norman Hogg	Date: 5/3/11
Association: Melba Joint School District	Title: Business Manager
Phone #: (208) 495-1141	
Message Taken By: John Crookston	
Subject: Capacities of the Melba Joint School District	

I spoke with Norman Hogg (Business Manager) about the capacities of the Melba Joint School District.

He said that the school's student enrollment had been growing, but has been flat recently. I told him that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. He said that they would be able to accommodate these new students, except for the elementary schools, which are close to capacity. He said that it would not likely be an issue as any students associated with the project would be spread out along the line (not all in their district) so it is very unlikely that their elementary schools would be impacted by the project except in the unlikely event that all new students ended up in their elementary schools.

I told him that, based on the NCES website, they had 750 students in the 2008-2009 school year with a student/teacher ratio of 17.3. He said that this ratio could be applied to the following school years as well, but that due to budget cuts they may be laying teachers off in the future. He said that student numbers in 2009-2010 were 735, and 2010-2011 were 740.

Tetra Tech Telephone Conversation Record

Call To: Miren Lowry	Date: 4/26/11
Association: Marsing Joint School District	Title: District Secretary
Phone #: (208) 896-4111	
Message Taken By: John Crookston	
Subject: Capacities of the Marsing Joint School District	

I spoke with Miren Lowry (District Secretary) about the capacities of the Marsing Joint School District.

She said that the District's student enrollment has been flat last few years. I told her that, based on the NCES website, they had 865 students in the 2008-2009 school year with a student/teacher ratio of 18.2. She said that the teacher level (i.e., number of teachers) has not changed since 2008-2009. There are 850 students enrolled in the 2010-2011 school year. She said that they could accommodate new students and noted that this would be easiest in the high schools, as some of the grades in the grade school level are close to capacity.

Tetra Tech Telephone Conversation Record

Call To: Eric Milburn	Date: 4/14/11
Association: Huntington School District 16J	Title: Superintendent of the Huntington School District 16J
Phone #: (541) 869-2204	
Message Taken By: John Crookston	
Subject: Capacities of the Huntington School District	

I spoke with Eric Milburn (Superintendent of the Huntington School District) about the capacities of the Huntington School District.

He said that the school's student enrollment has been declining for the last few years. I told him that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. He said that they would be able to accommodate new students.

I told him that, based on the NCES website, they had 86 students in the 2008-2009 school year with a student/teacher ratio of 8.8, and he said that this was accurate. He said that this ratio could be applied to the 2009-2010 school year, but that they had 71 students enrolled in the 2010-2011 school year with a 7.2 student teacher ratio.

Tetra Tech Telephone Conversation Record

Call To: Karen Nunn	Date: 4/14/11
Association: Vale School District 084	Title: Business Director
Phone #: (541) 473-0201	
Message Taken By: John Crookston	
Subject: Capacities of the Vale School District	

I spoke with Karen Nunn (Business Director) about the capacities of the Vale School District.

She said that the school's student enrollment will likely decline over the next few year. 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 new students (they expected to lose about 16 enrolments by 2013), and the project would not likely adversely impact them.

I told her that, based on the NCES website, they had 911 students in the 2008-2009 school year with a student/teacher ratio of 17.6; she said that this was accurate.

She said that they had about 878 students in the 2009-2010 and the 2010-2011 school years, and that they have the same number of teachers as they had during the 2008-2009 school year.

Tetra Tech Telephone Conversation Record

Call To: Chris Panike	Date: 4/19/11
Association: La Grande School District	Title: Business Director
Phone #: (541) 663-3202	
Message Taken By: John Crookston	
Subject: Capacities of the La Grand School District	

I spoke with Chris Panike (Business Director) about the capacities of the La Grande School District.

He said that the school's student enrollment has been declining slightly for the last few years. I told him that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. He said that they would be able to accommodate new students.

He sent me an email which contained a PowerPoint presentation he had prepared, which contained relevant student enrollment as well as economic values for his district.

Text from email from Chris Panike to John Crookston (April 19, 2011):

John,

The attached Powerpoint provides much of the information you requested in your prior voice message, along with financial data for the La Grande School District. This data, along with a whole lot more about finances, was presented to all staff and interested community members in February and March of this year. (I deleted a number of slides that wouldn't make sense without a long explanation) Please call me at the number listed below if you still have question after looking over this data.

Chris Panike
Director of Business & Operations
La Grande School District
541-663-3206
cpanike@lagrande.k12.or.us

Tetra Tech Telephone Conversation Record

Call To: Cathy Stalk	Date: 4/18/11
Association: Pilot Rock School District 002	Title: District Secretary
Phone #: (541) 443-8291	
Message Taken By: John Crookston	
Subject: Capacities of the Pilot Rock School District	

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

She said that the school's student enrollment has been declining slightly for the last 10 years. Student enrolment has been declining as a result of a loss of employment opportunities within the area; a major local employer in the area (a wood pulp mill owned by Industrial Paper) recently closed down.

She said that they had 365 students in the 2009-2001 school year, with a student teacher ratio (STR) of 14.03. They had 352 students in 2010-2011, with a STR of 14.6

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 new students, and looked forward to new people coming to the area.

Tetra Tech Telephone Conversation Record

Call To: Walt Wegener	Date: 4/14/11
Association: Baker School District	Title: Superintendent of the Baker School District
Phone #: (541) 524-2260	
Message Taken By: John Crookston	
Subject: Capacities of the Baker School District	

I spoke with Walt Wegener (Superintendent of the Baker School District) about the capacities of the Baker School District.

He said that the school's student enrolment has been declining slightly for the last few years, but has hit a plateau this last year. They were losing around 40 to 60 students a year. They do not know exactly why enrolment had been declining, but said that it was likely because employment in a local gold mine and the logging industry has declined and people are leaving the area.

I told him that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. He said that they would be able to accommodate new students, and looked forward to new people coming to the area.

He said that they had about 2,000 students enrolled in the 2010-2011 school year. I told him that, based on the NCES website, they had 1,901 students in the 2008-2009 school year with a student/teacher ratio of 19.6, and he said that this was accurate. He said that this ratio could be applied to the more recent school years as well, and that the enrollment in 2009-2001 was also about 2,000 students.

Tetra Tech Telephone Conversation Record

Call To: Mike Wood	Date: 4/18/11
Association: Union School District 005	Title: Superintendent of the Union School District
Phone #: (541) 562-6115	
Message Taken By: John Crookston	
Subject: Capacities of the Union School District	

I spoke with Mike Wood (Superintendent) about the capacities of the Union School District.

He said that the school's student enrollment has been declining slightly for the last few years as a result of the bad economy in Union County.

He said that they had 370 students in the 2010-2011 school year, with a student teacher ratio (STR) of 16.1. He did not know the exact number of students and STR for the 2009-2010 school year, but said that is was likely midway between the 2010-2011 and 2008-2009 years.

I told him that the project could create around 16 new students (resulting from workers moving to the area) but said that this was likely an overestimate. He said that they would be able to accommodate new students.

ATTACHMENT U-2
DRAFT TRANSPORTATION AND TRAFFIC PLAN

DRAFT

Transportation and Traffic Plan

Prepared by
Idaho Power Company
1221 W Idaho Street
Boise, ID 83702

February 2013

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ACRONYMS AND ABBREVIATIONS

AADT	average annual daily trips
AASHTO	American Association of State Highway and Transportation Officials
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
EFSC	Energy Facility Siting Council
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FPA	Forest Practices Act
IPC	Idaho Power Company
kV	kilovolt
LOS	level of service
LRMP	Land and Resource Management Plan
NESC	National Electrical Safety Code
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
OAR	Oregon Administrative Rule
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
OPGW	optical ground wire
ORS	Oregon Revised Statutes
POD	Plan of Development
Plan	Transportation and Traffic Plan
Project	Boardman to Hemingway Transmission Project
RMP	Resource Management Plan
ROW	right of way
SWPPP	Stormwater Pollution Prevention Plan
UNF	Umatilla National Forest
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 Project (B2H or 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) 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
- 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 anadromous fish-producing watersheds in Oregon and other states, and inland native fish

strategy for the Pacific Northwest and other U.S. Department of Agriculture Forest Service [USFS] regions) are addressed in Exhibits E, P, and Q.

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

1.1.1 Federal

1.1.1.1 Federal Aviation Administration

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

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

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

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

1.1.1.2 National Electrical Safety Code

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

- The height of rail car should be assumed to be 23 feet.
- Structures supporting power must be 50 feet out from the centerline of main running tracks, centralized traffic-control sidings, and heavy tonnage spurs. Locations adjacent to industry tracks must provide at least 30 feet of clearance from the centerline of tracks when measured at right angles. If located adjacent to curved tracks, the clearance must be increased at the rate of 1.5 inches per degree of curved track.
- Regardless of the voltage, unguyed poles must be located a minimum distance from the centerline of any track equal to the height of the pole above the groundline plus 10 feet. If guying is required, the guys must be placed in such a manner as to keep the pole from leaning/falling in the direction of the tracks.
- Structures for 34.5 kV and higher must be located off the railroad ROW.

- Crossings will not be installed within 500 feet of the end of railroad bridges or 300 feet from the centerline of culverts or switch areas.

1.1.1.3 United States Department of the Navy

Low-level approach routes at the Naval Weapons System Training Facility (NWSTF) located in Boardman, OR, establish a height restricted approach zone to the west of the facility. Structures are prohibited from intruding more than 100 feet above ground level into the restricted zone. The Longhorn Alternate, which crosses the approach zone, will include structures at or below the 100-foot requirement; other Project facilities avoid the approach zone (Figure 1).

1.1.1.4 Bureau of Land Management and U.S. Department of Agriculture Forest Service

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

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

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

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

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

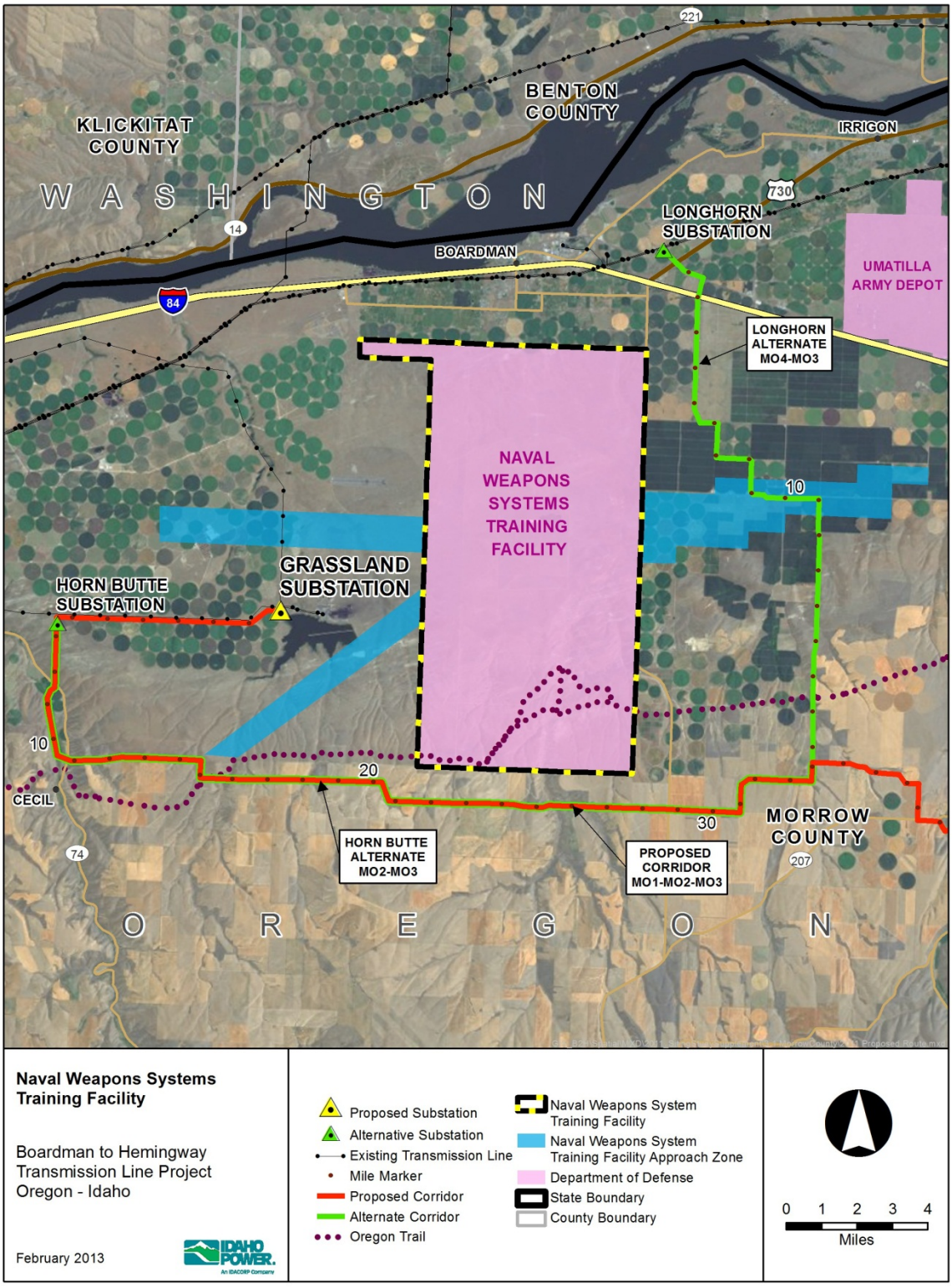

Figure 1. Naval Weapons System Training Facility Approach Zone

1.1.2 State

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

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

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

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

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

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

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

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

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

1.1.3 County and Other Agencies

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

- Morrow County 2005 Transportation System Plan (Morrow County, 2005)
- Umatilla County Transportation System Plan (Umatilla County, 2002)
- Union County Transportation System Plan (Union County, 1999)
- Baker County Transportation System Plan (Baker County, 2005)
- Malheur County Transportation System Plan (Malheur County, 1998)

The Morrow County Planning Department Zoning Ordinance requires a Traffic Impact Analysis for projects generating more than 400 passenger car equivalent trips per day (Section 3.010).

The Umatilla County Development Code requires a Traffic Impact Analysis under several conditions, including when a Project increases site traffic volume generation by 250 or more Average Daily Trips (ADT) or when the use of adjacent streets by vehicles exceeding 20,000-pound gross vehicle weights increases by 10 or more vehicles per day.

The Union County Land Use Plan states that traffic analysis and mitigation must be undertaken if a proposed project may impose an undue burden on the public transportation system. Projects generating up to 100 vehicle trips per day are reviewed locally by ODOT, Region 5. Proposals generating between 100 and 400 vehicle trips per day are reviewed by an ODOT Traffic

Engineer. Proposals generating over 400 vehicle trips per day are required to submit a traffic impact study.

The Baker County Transportation System Plan requires a Traffic Impact Study under various conditions, including when a development generates 25 or more peak-hour trips or 250 or more daily trips.

The Malheur County Development Code indicates that developments likely to generate more than 400 ADTs, the applicant may be requested to provide a traffic impact study or traffic counts to demonstrate the level of impact to the surrounding street system.

The number of trips that the Project is estimated to generate is described in Section 3 of this Plan. Exhibit K evaluates potential traffic impacts from the Project relative to requirements in Morrow and Umatilla counties.

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

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

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

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

2.1.1 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:

- I-84
- U.S. 395
- Oregon 244
- Oregon 237
- Oregon 203
- Oregon 86
- U.S. 20
- U.S. 26
- Oregon 207
- Oregon 201
- U.S. 95

Roads that form part of the State Highway Freight System near the Project include I-84, U.S. 395, U.S. 20, and U.S. 95 (ODOT 2006). 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 (U.S. 30), the Grande Tour Route (Oregon 237), the Hells Canyon Scenic Highway (Oregon 86), and the Snake River-Mormon Basin Back Country Byway (U.S. 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 Interstate 84 (I-84). U.S. highways 20, 26, and 395 (U.S. 20, U.S. 26, and U.S. 395) cross the Project in Oregon, between Little Valley and Hope, near Brogan, and near Pilot Rock, respectively.

According to Bureau of Transportation Statistics (2010), no inventoried road bridges occur within the Site Boundary. 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.

2.1.2 Baseline Traffic Volumes

Traffic volumes vary widely throughout the study area. Annual average daily traffic counts in 2009 for I-84 ranged from 10,000 to 15,000 vehicles between Boardman and Pendleton to 5,000 to 10,000 from Pendleton through the rest of the Project. Traffic counts on U.S. 20, U.S. 26, and U.S. 395 in the Site Boundary ranged from 0 to 2,500 vehicles (ODOT 2009). Traffic levels on smaller local roads in the Site Boundary are lower than levels on these highways. Table 1 lists available average annual daily trips (AADT) from ODOT for federal and state highways at locations near the Project.

Table 1. Traffic Volumes Near the Project

Location[1]	Highway/ Route Number	Highway/ Route Milepost	Location Description	2009 AADT	2004 AADT
Near milepost (MP) 1 in Morrow County	I-84	159	0.30 mile west of Tower Road Interchange	10,900	10,800
		183.16	0.30 miles east of Hermiston Highway (Oregon 207)	11,200	10,300
Near MP 37 in Morrow County	I-84	193.83	0.30 mile east of Lexington-Echo Highway	14,500	14,700
Near MP 73 in Umatilla County	U.S. 395	12.98	0.05 mile south of Stewart Creek	2,900	3,100
Near MP 107 in Umatilla County	I-84	253.43	0.60 mile east of Ukiah-Hilgard Highway (Oregon 244)	9,700	10,600
Near MP 112 in Union County	I-84	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	8,500	8,900
Near MP 151 in Baker County	Oregon 203	36.86	Medical Springs Automatic Traffic Recorder, Sta. 01-007, 2.08 miles east of Old Oregon Trail Highway No. 6 (I-84)	210	230
Near MP 189 in Baker County	I-84	327.83	0.40 miles south of Durkee Interchange	8,200	7,900
Near MP 243 in Malheur County	U.S. 20	200.96	0.5 miles east of Pole Creek Road	1,200	1,300
Near MP 243 in Malheur County	I-5	38.09	0.02 mile south of Wasco-Heppner Highway (OR206), Walnut Street	1600	1500
Near MP 198 in Malheur County	Oregon 201	8.02	0.06 miles south of Owyhee Avenue	1,200	1,300

[1] MP refers to transmission-line mileposts (from the April 1, 2011 geographic information system route layer).
AADT – average annual daily trips
Source: ODOT 2009

2.1.3 Volume-to-Capacity Ratios

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

The 1999 Oregon Highway Plan and later amendments (ODOT, 1999) guide state highway development and management for a 20-year planning horizon. In this plan, ODOT identified the performance standards for state highways. The Plan's highway mobility policy adopted V/C ratio rather than LOS to measure highway performance because V/C ratio is a more precise and consistent measure. Table 2 lists applicable maximum V/C ratio for peak hour operating conditions from the 1999 Oregon Highway Plan (table last amended in August 2005). These categories will apply to roads near Project multiuse areas.

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

Highway Category	Inside Urban Growth Boundary[1]	Unincorporated Communities	Rural Lands
Interstate Highways	0.70 to 0.85	0.70	0.70
Freight Route on a State Highway[2]	0.70 to 0.90	0.70	0.70
Statewide (Not a Freight Route)	0.75 to 0.95	0.75	0.70
Regional or District Highway	0.75 to 0.95	0.75	0.70
District/Local Interest Roads	0.80 to 1.00	0.80	0.75

Source: ODOT, 1999.
[1] 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, Huntington.
[2] Near the Project, these include I-84, U.S. 395, U.S. 20, and U.S. 95 (ODOT 2006).

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

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

Area	Year Evaluated for Existing V/C Ratio	Existing V/C Ratio	Year Evaluated for Future V/C Ratio	Projected Future V/C Ratio
Morrow County	2005	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[1]	2025	0.01 to 1.48[2]
Malheur County	1996	0.01 to 0.83 (LOS A to D)[3]	2017	0.01 to 0.97 (LOS A to E)[4]

Sources: Morrow County, 2005; Umatilla County, 2002; Union County,1999; Baker County, 2005; Malheur County, 1998.
[1] Greatest projected V/C ratio outside of I-84/Hughes Lane is 0.17.
[2] Greatest projected V/C ratio outside of I-84/Hughes Lane is 0.39.
[3] Greatest projected LOS outside of U.S. 20 and U.S. 26 is A.
[4] Greatest projected LOS outside of U.S. 20 and U.S. 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. Pike Energy Solutions (Pike) 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 multiuse areas (Pike 2012, 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 Pike's estimate. The assumptions included are Pike's best reasonable estimate based on their 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. Multiuse 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 multiuse areas located approximately every 25 miles along the Project and then to approximately 1,300 individual tower construction sites, as well as the construction sites for the substations and communication sites. Construction equipment and materials for the existing substations will be staged at the substations. 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 multiuse 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 multiuse 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 36 months, with multiple construction crews working simultaneously See Exhibit B, Section 3.6 for a detailed 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 Grassland and/or Horn Butte or Longhorn substation 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. All construction activity is expected to be completed for an in-service date that is expected to be no sooner than 2018. No work on the site as defined in 32 OAR 345-001-0010 will take place before EFSC issues a Site Certificate.

In early 2011 Pike developed a preliminary construction schedule, separating the overall Project into construction spread 1 (approximately milepost 0 to 150) and 2 (approximately milepost 150 to 299), with construction on each spread occurring simultaneously. Pike further segmented the two spreads into smaller sections based on anticipated seasonal weather limitations and construction difficulty. Construction tasks were scheduled within each smaller segment based on the length of the section and assumed crew productivity rates. The first of the sections, Section 1.1, is 76 miles and from the Grassland Substation to Umatilla County. Within each construction spread, 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.

Work crews will include those involved in construction activities, as well as workers providing vehicle and equipment maintenance and repairs, refueling, dust control, construction inspection, construction materials testing, and environmental compliance and surveying. Combining all crews working on the Project for each month, the construction workforce would peak in Section 1.1 during months 3 to 5. At that point, tree clearing and access road construction crews are expected to be active, while tower lacing, tower setting, and wire stringing crews also work within the same section.

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

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)
Material Delivery	0	0	0
ROW Clearing	4	2	8
Road/Pad Grading	4	2	8
Blasting	2	2	4
Foundations	5	2	10
Tower Lacing	24	2	48
Tower Setting	12	2	24
Stringing	13	2	26
Mechanic	1	2	2
Refueling	2	2	4
Dust Control	2	2	4
Construction Inspection	2	2	4
Construction Materials Testing	2	2	4
Environmental Compliance	4	2	8
Surveyors	2	2	4
Total			**158**

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

Route Name	Multi-use Area[1]	County	Nearby Community	Major Routes	Local Routes
Proposed	MO-1	Morrow	Boardman	I-84	Tower Road (exit 159), Unnamed local roads
	MO-2	Morrow	Hermiston, Boardman	I-84, OR 207	OR 207, Doherty Road
	UM-1	Umatilla	Hermiston	I-84, I-82	Lamb Road (exit 10)
	UM-2	Umatilla	Hermiston, Pilot Rock	I-84, U.S. 395	OR 207 (exit 182), Big Butter Creek Road, OR 74
	UM-5	Umatilla	Pendleton, Pilot Rock	I-84, U.S. 395	Stewart Creek Road/Porter Road, NE 4th Street
	UN-1	Union/Baker	North Powder, Baker City, La Grande	I-84	OR 237 (exit 285), Coughanour Lane
	BA-1	Baker	La Grande, Baker City	I-84	OR 203 (exit 298)
	BA-2	Baker	Baker City, Durkee	I-84	Vandecar Road (exit 327), Lang Road, Hindman Road, Old U.S. 30
	MA-1	Malheur	Brogan, Vale	I-84, OR 201, U.S. 20, U.S. 26	Malheur Reservation Road
	MA-2	Malheur	Ontario, Vale	I-84, U.S. 20, U.S. 26	Unnamed local road
	MA-3	Malheur	Ontario, Nyssa, Wilder (Idaho)	I-84, U.S. 20, U.S. 95	OR 201, OR 452/ID 18, Owyhee Ave, Owyhee Lake Road
	MA-4	Malheur	Ontario, Nyssa, Wilder (Idaho)	I-84, U.S. 20, U.S. 95	OR 201
Horn Butte	MO-1	Morrow	Boardman	I-84	Tower Road (exit 159), Unnamed local roads
	MO-2	Morrow	Hermiston, Boardman	I-84, OR 207	OR 207, Doherty Road
Longhorn	MO-2	Morrow	Hermiston, Boardman	I-84, OR 207	OR 207, Doherty Road
	MO-3	Morrow/Umatilla	Boardman	I-84, U.S. 730	Boardman Canal Road, Unnamed local road
	MO-4	Morrow/Umatilla	Boardman	I-84	County Road 930/Paterson Ferry Road (exit 171), Poleline Road
	UM-1	Umatilla	Hermiston	I-84, I-82	Lamb Road (exit 10)
Flagstaff	BA-1	Baker	La Grande, Baker City	I-84	OR 203 (exit 298)

Table 5. Preliminary Commuting Routes for Workers Lodging in Nearby Communities (continued)

Route Name	Multi-use Area[1]	County	Nearby Community	Major Routes	Local Routes
Willow Creek	BA-3	Baker/Malheur	Baker City, Huntington	I-84	U.S. 30 (exit 353), Unnamed local road
	MA-5	Baker/Malheur	Brogan, Vale	I-84, OR 201, U.S. 20, U.S. 26	South Road L
Malheur S	MA-2	Malheur	Ontario, Vale	I-84, U.S. 20, U.S. 26	Unnamed local road
	MA-6	Malheur	Caldwell, Homedale	I-84, U.S. 95, U.S. 20, U.S. 26	OR 201/ID 19, Succor Creek Road, Succor Creek Cutoff, Upper Tunnel Road, Unnamed local roads

[1] Multi-use areas are numbered as shown in Figures 1 through 7 in Appendix A, and multi-use areas for alternate routes are labeled. Where the same multiuse areas will be used for multiple routes, the table lists the same numbers for each route. The Glass Hill and Double Mountain alternatives would not require separate multipurpose areas.

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

3.1.1.2 Anticipated Construction Vehicle Trips

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

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

Table 6. Construction Vehicle Trips per Day

Construction Crew Type	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)
Material Delivery	9	8	72	4	6	24
ROW Clearing	2	2	4	2	4	8
Road/Pad Grading	2	4	8	2	4	8
Blasting	2	2	4	0	0	0
Foundations	4	2	8	8	3	24
Tower Lacing	12	2	24	0	0	0
Tower Setting	12	2	24	0	0	0
Stringing	6	4	24	4	4	16
Mechanic	1	6	6	0	0	0
Refueling	2	6	12	0	0	0
Dust Control	0	0	0	2	4	8
Construction Inspection	2	8	16	0	0	0
Construction Materials Testing	2	4	8	0	0	0
ENV Compliance	4	8	32	0	0	0
Surveyors	2	6	12	0	0	0
Totals			**254**			**88**

Table 7. Preliminary Routes for Hauling Water to Multiuse Areas

Route Name	Multiuse Area[1]	County	Anticipated Water Source	Major Routes	Local Routes
Proposed	MO-1	Morrow	Boardman	I-84	Tower Road (exit 159), Unnamed local roads
	MO-2	Morrow	Boardman	I-84, OR 207	OR 207, Doherty Road
	UM-1	Umatilla	Boardman	I-84, I-82	Lamb Road (exit 10)
	UM-2	Umatilla	Boardman	I-84, U.S. 395	OR 207 (exit 182), Big Butter Creek Road, OR 74
	UM-3	Umatilla	Pendleton	I-84, U.S. 395	Stewart Creek Road/Porter Road, NE 4th Street
	UN-1	Union/Baker	La Grande	I-84	OR 237 (exit 285), Coughanour Lane

Table 7. Preliminary Routes for Hauling Water to Multiuse Areas (continued)

Route Name	Multi-use Area[1]	County	Anticipated Water Source	Major Routes	Local Routes
Proposed (cont.)	BA-1	Baker	Baker City	I-84	OR203 (exit 298)
	BA-2	Baker	Baker City	I-84	Vandecar Road (exit 327), Lang Road, Hindman Road, Old U.S. 30
	MA-1	Malheur	Ontario	I-84, OR 201, U.S. 20, U.S. 26	Malheur Reservation Road
	MA-2	Malheur	Ontario	I-84, U.S. 20, U.S. 26	Unnamed local road
	MA-3	Malheur	Nampa	I-84, U.S. 20, U.S. 95	OR 201, Owyhee Ave, Owyhee Lake Road
	MA-4	Malheur	Nampa	I-84, U.S. 20, U.S. 95	OR 201
Horn Butte	MO-1	Morrow	Boardman	I-84	Tower Road (exit 159), Unnamed local roads
	MO-2	Morrow	Boardman	I-84, OR 207	OR 207, Doherty Road
Longhorn	MO-2	Morrow	Boardman	I-84, OR 207	OR 207, Doherty Road
	MO-3	Morrow/ Umatilla	Boardman	I-84, U.S. 730	Boardman Canal Road, Unnamed local road
	MO-4	Morrow/ Umatilla	Boardman	I-84	County Road 930/Paterson Ferry Road (exit 171), Poleline Road
	UM-1	Umatilla	Boardman	I-84, I-82	Lamb Road (exit 10)
Flagstaff	BA-1	Baker	Baker City	I-84	OR203 (exit 298)
Willow Creek	BA-2	Baker/Malheur	Ontario	I-84	U.S. 30 (exit 353), Unnamed local road
	MA-5	Baker/Malheur	Ontario	I-84, OR 201, U.S. 20, U.S. 26	South Road L
Malheur S	MA-2	Malheur	Ontario	I-84, U.S. 20, U.S. 26	Unnamed local road
	MA-6	Malheur	Nampa	I-84, U.S. 95, U.S. 20, U.S. 26	OR 201/ID-19, Succor Creek Road, Succor Creek Cutoff, Upper Tunnel Road, Unnamed local roads

[1] Multi-use areas are numbered as shown in Figures 1 through 7 in Appendix A, and multi-use areas for alternate routes are labeled. Where the same multiuse areas will be used for multiple routes, the table lists the same numbers for each route. The Glass Hill and Double Mountain alternatives would not require separate multi-use areas.

3.1.2 Construction Equipment and Traffic

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

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

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

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

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

3.1.3 Traffic Related to Timber Removal

In forested areas, the Project will require removal of timber from the Project ROW within the wire zone and for construction and improvement of access roads. Specific timber harvest plans have not been finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding transportation routes for harvested timber will be made following completion of a timber harvest plan. The number of log truck tips cannot be estimated at this time as stand data on the volume of timber that would be removed has not been determined. Logging slash will remain onsite if possible.

3.1.4 Impacts to V/C Ratios

Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of approximately 500 daily one-way vehicle trips are expected within any one construction “section”. (To facilitate traffic and other analyses, the two construction spreads are divided into smaller sections based on similar construction windows and seasonal weather restrictions.) Not all construction sections will have the same number of concurrent construction activities, depending on how the construction

contractor sequences and executes the Project. Some sections will have fewer than 500 daily vehicle trips. Pike estimates an average of three multiuse areas per section, with approximately equal levels of activity. The 500daily one-way trips divided over three multiuse areas results in 167 daily one-way vehicle trips per multiuse area. Pike estimates that 50 percent of the construction vehicle trips (Table 6) will begin and end at work areas other than multiuse areas. This assumption reduces the number of one-way trips at each multiuse area to 110 per day. Of these, 95 vehicles are anticipated to be less than 10,000 pounds gross vehicle weight and 15 vehicles are anticipated to be greater than 10,000 pounds gross vehicle weight.

These estimates were incorporated into a planning-level analysis of worst-case potential Project impacts on V/C ratios (Table 8). Existing peak traffic volumes and V/C ratios were identified or calculated for the routes most likely to be used by trucks hauling construction materials or logs, and by construction workers commuting to Project sites. Calculations were based on conservative assumptions detailed in the footnotes to Table 8. Existing V/C ratios on these routes range from 0.01 to 0.48. The numbers of daily vehicle trips related to Project construction were estimated and added to existing peak traffic volumes for each potential hauling or commuting route. Minor traffic from other Project sources, such as solid waste removal, is expected to be too minimal to affect traffic levels and was therefore not included in this analysis. Additional truck trips related to the delivery and removal of construction equipment during mobilization and demobilization are not expected to impact peak traffic levels, given that they will occur gradually over several weeks before and after the peak construction periods. Prior to 500 kV construction in the Weatherby area, the new 138/69 kV double-circuit section will be constructed and energized and a section of the existing 138 kV line will be removed to make room for the 500 kV line. These activities will generate much less traffic than 500 kV construction activities and are not concurrent with 500 kV construction. Traffic impacts of the double-circuit re-build section therefore are not additive to maximum traffic counts in that area of the Project.

The resulting “with Project” traffic volumes were divided by road capacities for each route to arrive at the worst-case V/C ratios that could be expected, by route, during Project construction. These peak-hour, “with Project” V/C ratios range from 0.04 to 0.59, resulting from increases of 0.01 to 0.37.

Each “with Project” V/C ratio was compared to ODOT’s maximum V/C ratio for that type of road (based on ODOT, 1999; V/C ratios last amended in August 2005). Factoring in traffic levels generated from construction activities, none of the potential Project hauling or commuting routes exceeds a maximum V/C ratio. Given the low V/C ratios on existing roads used by the Project and the relatively dispersed distribution of truck traffic and workers near any specific location at any given time, the additional Project traffic generated during construction is not anticipated to cause notable congestion or otherwise impact local communities.

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

Multipurpose Areas	Potential Hauling or Commuting Route	Road Classification[1]	Existing Peak Traffic Volume[2]	Road Capacity[2]	Existing V/C Ratio[2]	Estimated Daily Personal and Construction Vehicles[3]	With Project Peak Traffic Vouме[4]	With Project V/C Ratio[5]	Increase in V/C Ratio From Project Construction[6]	ODOT Maximum V/C Ratio[7]	V/C Ratio Exceeds ODOT Maximum with Project?
MO-1, MO-2, UM-1, UM-2, MO-3, MO-4	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	110	2,315	0.42	0.02	0.70	No
	I-82	Interstate Highway, Unincorporated Communities	2,640	5,500	0.48	110	2,750	0.50	0.02	0.70	No
	U.S. 730	Statewide (Not a Freight Route), Rural Lands	990	2,475	0.40	110	1,100	0.44	0.04	0.70	No
	OR 207	Regional or District Highway, Rural Lands	56	1,110	0.05	110	166	0.15	0.10	0.70	No
	OR 74	Regional or District Highway, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.80 to 1.00	No
	Tower Rd	District/Local Interest Roads, Inside Urban Growth Boundary	120	1,000	0.12	110	230	0.23	0.11	0.80 to 1.00	No
	Unnamed local roads	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Doherty Rd	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Lamb Rd	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	NE 4th St	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Creek Rd	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Boardman Canal Rd	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	CR 930/Paterson Ferry Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Poleline Rd	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
UM-3, UN-1	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	110	2,315	0.42	0.02	0.70	No
	U.S. 395	Freight Route on a State Highway, Rural Lands	465	969	0.48	110	575	0.59	0.11	0.70	No
	OR 237	Regional or District Highway, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.70	No
	OR 203 (Medical Springs Highway)	Regional or District Highway, Rural Lands	35	288	0.12	110	145	0. 50	0. 38	0.70	No
	Stewart Creek Road/Porter Road	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Coughanour Lane	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No

Table 8. Evaluation of Project Impacts on Volume-to-Capacity Ratios for Roads Potentially Used during Project Construction (continued)

Multipurpose Areas	Potential Hauling or Commuting Route	Road Classification[1]	Existing Peak Traffic Volume[2]	Road Capacity[2]	Existing V/C Ratio[2]	Estimated Daily Personal and Construction Vehicles[3]	With Project Peak Traffic Voume[4]	With Project V/C Ratio[5]	Increase in V/C Ratio From Project Construction[6]	ODOT Maximum V/C Ratio[7]	V/C Ratio Exceeds ODOT Maximum with Project?
BA-1, BA-2	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	110	2,315	0.42	0.02	0.70	No
	CR 203	District/Local Interest Road, Rural Lands	700	14,000	0.05	110	810	0.06	0.01	0.75	No
	Old U.S. 30	District/Local Interest Roads, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Vandecar Rd	District/Local Interest Road, Rural Lands	909	7,575	0.12	110	1,019	0.13	0.01	0.75	No
	Lang Rd	District/Local Interest Road, Rural Lands	873	7,275	0.12	110	983	0.13	0.01	0.75	No
	Hindman Rd	District/Local Interest Road, Rural Lands	531	4,425	0.12	110	641	0.14	0.02	0.75	No
MA-1, MA-2, BA-3, MA-5	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	110	2,315	0.42	0.02	0.70	No
	U.S. 20	Freight Route on a State Highway, Rural Lands	195	1,625	0.12	110	305	0.19	0.07	0.70	No
	U.S. 26	Statewide (Not a Freight Route), Rural Lands	120	6,000	0.02	110	230	0.04	0.02	0.70	No
	U.S. 30	Statewide (Not a Freight Route), Rural Lands	120	923	0.13	110	230	0. 25	0. 12	0.70	No
	OR 201	Regional or District Highway, Rural Lands	195	1,625	0.12	110	305	0.19	0.07	0.70	No
	Malheur Reservation Rd	District/Local Interest Road, Rural Lands	769	6,408	0.12	110	879	0.14	0.02	0.75	No
	South Rd L	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Unnamed local roads	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No

Table 8. Evaluation of Project Impacts on Volume-to-Capacity Ratios for Roads Potentially Used during Project Construction (continued)

Multipurpose Areas	Potential Hauling or Commuting Route	Road Classification[1]	Existing Peak Traffic Volume[2]	Road Capacity[2]	Existing V/C Ratio[2]	Estimated Daily Personal and Construction Vehicles[3]	With Project Peak Traffic Voume[4]	With Project V/C Ratio[5]	Increase in V/C Ratio From Project Construction[6]	ODOT Maximum V/C Ratio[7]	V/C Ratio Exceeds ODOT Maximum with Project?
MA-3, MA-4, MA-6	I-84	Interstate Highway, Unincorporated Communities	2,205	5,513	0.40	110	2,315	0.42	0.02	0.70	No
	U.S. 95	Freight Route on a State Highway, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.70	No
	OR 201/ID 19	Regional or District Highway, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.70	No
	OR 452/ID 18	Regional or District Highway, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.70	No
	Succor Creek Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Succor Creek Cutoff	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Upper Tunnel Road	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Owyhee Ave	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Owyhee Lake Rd	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No
	Unnamed local roads	District/Local Interest Road, Rural Lands	120	1,000	0.12	110	230	0.23	0.11	0.75	No

[1] Road classifications were selected conservatively based on the most rural segment of each route (the segment with the smallest capacity).
[2] 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 2003) 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.
[3] Numbers provided by Pike, as described in the text.
[4] "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.
[5] "With Project" V/C ratio is calculated by dividing the "with Project" peak traffic volume by the road capacity.
[6] 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.
[7] From ODOT 1999.

3.1.5 Impacts to Local Services

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

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

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

3.1.6 Access Roads

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

Exhibit C, Section 3.2 provides details on the miles of access roads needed for the Project. Tables C-2 through C-6 of Exhibit C provide details on the miles of new roads and existing roads that will need to be improved by county for the Proposed Corridor. Tables C-7 through C-13 provide the miles of new roads and existing roads needed for each of the alternate corridor segments.

IPC has identified the minimum access-road requirements for transmission line and substation construction and operation. A 14-foot-wide road surface (i.e., travel way) and 16- to 20-foot-wide road surface for turns were determined by the largest piece of equipment involved in construction (See Section 3.3.2 of Exhibit B). The critical vehicle for tower construction is an aerial lift crane. A typical unit is shown in Figure 2. Barriers to the movement of this specialized vehicle include roads that are too narrow or steep, have intersections with inadequate turning radii, or have inadequate surfaces. Other barriers would include existing narrow bridges or other existing road structures (such as culverts) with inadequate cover. Where barriers are encountered, IPC's construction contractors will improve roads or construct new roads to allow passage.

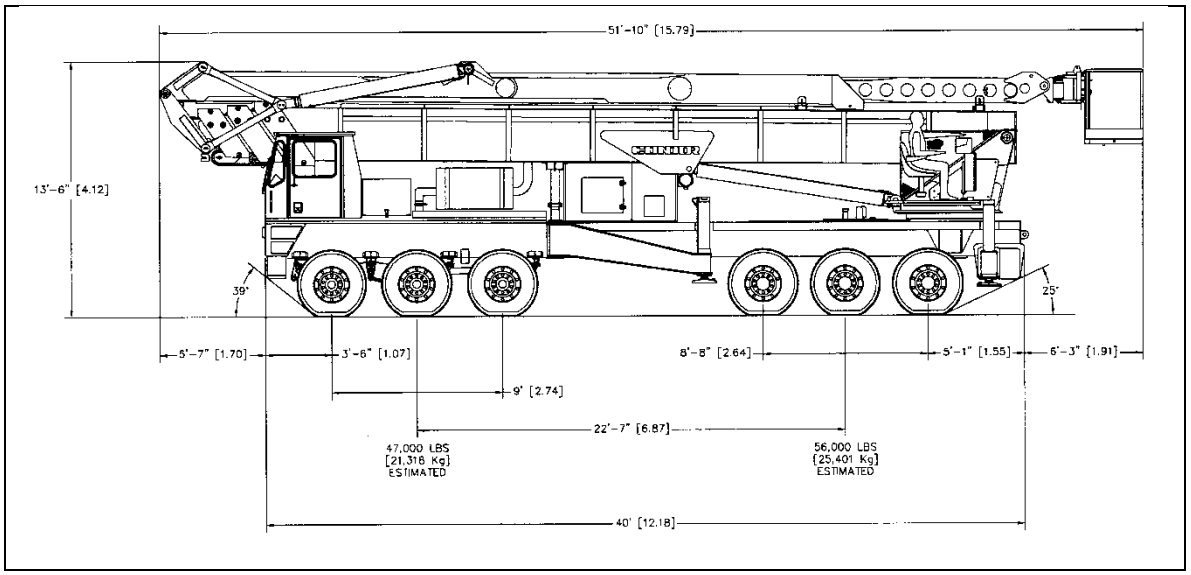

Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable Length 52 Feet; Width 8 Feet 6 Inches)

Typical minimum road-construction requirements for improvements to existing roads and for new roads are shown in Figure 3. To the maximum extent possible, IPC will use and improve existing roads, as necessary, to accommodate construction equipment. The construction of new access roads will be limited to reduce the overall impact of road construction.

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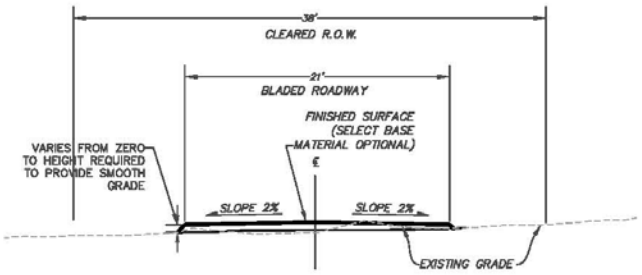
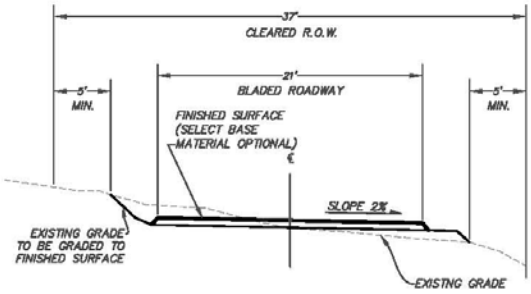
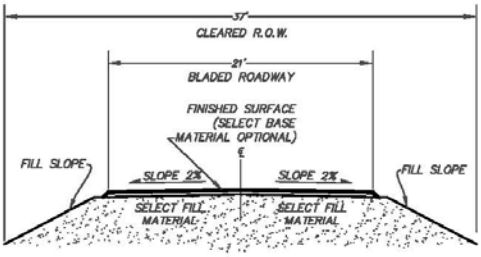


TYPICAL SECTION ON FLAT GROUND

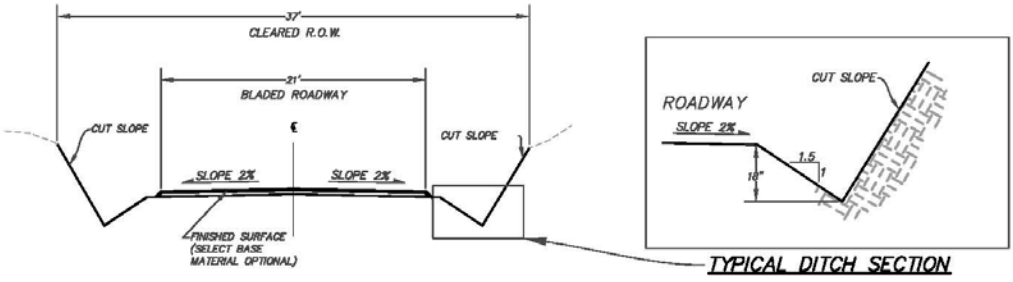


NOTE:
PROVIDE "OUTSLOPED" ROAD CROSS-SECTION BY GRADING ROADS TO SLOPE IN THE SAME DIRECTION AS THE SURROUNDING TOPOGRAPHY SO THAT THE UPHILL EDGE OF THE ROAD IS HIGHER THAN THE DOWNHILL EDGE. BESIDES ALLOWING RUNOFF TO EXIT THE ROADWAY IN AS SHORT A DISTANCE AS POSSIBLE, THIS ELIMINATES THE NEED FOR ROADSIDE DITCHES. PROVIDE A MINIMUM 2% OUTSLOPE ON ROADS WITH GRADES AS STEEP AS 15%. PROVIDE 4% OUTSLOPE ON STEEPER ROADS. AVOID OUTSLOPED ROADS WHERE THEY WOULD DIRECT RUNOFF ONTO ERODIBLE FILL, EMBANKMENTS, OR WHERE THEY COULD CAUSE OFF-CAMBER CURVES.

TYPICAL 'OUTSLOPE' SECTION



TYPICAL FILL SECTION



TYPICAL THROUGH-CUT SECTION

Figure 3. Typical Road Sections

3.1.7 Potential Damage to Existing Infrastructure

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

3.2 Operation

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

Temporary construction roads not required for future maintenance access will be restored as described in Exhibit P, Attachment P-4.

4.0 MITIGATION

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

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

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

4.1 Physical Improvements

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

4.1.1 Construction Permits and Property Agreements

The construction contractor will obtain encroachment permits or similar legal agreements from the public agencies responsible for affected roadways and other applicable ROWs. IPC will require its construction contractor(s) to ensure that all suppliers of Project equipment and

materials obtain applicable oversize and overweight permits and comply with all permit requirements.

4.1.2 Road Standards and Maintenance

For new access roads, the design of higher-standard roads will conform to the most current edition of AASHTO's Guidelines for Geometric Design of Very Low-Volume Local Roads, for Access Roads with an Anticipated Average Daily Traffic of Less than 400 Vehicles. Roads will meet USFS and BLM standards for roads that will be added to federal jurisdiction. Existing USFS and BLM roads which cannot be used in their existing condition will be brought up to these standards. For roads on state forest land, IPC will work with ODOT, Oregon Department of Forestry (ODF), and other agencies to ensure compliance with applicable road standards and to obtain any necessary special approvals. Roads that remain in IPC's jurisdiction may not be designed to all federal standards.

Project Environmental Protection Measures (EPMs) include:

- All temporary culverts and associated fill material will be removed from stream crossings after construction, and banks will be re-contoured and restored.
- Roads negatively affected by construction and as identified by the agencies will be returned to preconstruction condition.
- Roads developed specifically for this project that are identified by the IPC as no longer necessary will be reclaimed as specified in the Reclamation and Revegetation, Plan (Exhibit P, Attachment P-4).

4.1.3 BMPs for Erosion Control and Stormwater Drainage

In Oregon, a completed ESCP is one of the required components of IPC's application for the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit (1200-C; Exhibit I, Attachment I-2). Erosion control and sedimentation measures, such as silt fences, water bars, culverts, sediment basins, and perimeter control will be installed to minimize erosion during and subsequent to construction of the Project, as specified in the ESCP. IPC's construction contractors will be required to comply fully with the Project ESCP, including implementing approved BMPs during all road-related activities, including construction industry standard practices and BMPs for spill prevention and containment.

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

4.2 Operational Procedures During Construction

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

4.2.1 Traffic Control, Access, and Safety Measures

Final haul routes will be selected prior to construction with consideration for potential impacts to localized traffic flow and emergency services. IPC will work with local firefighters, police departments, ambulance services, and other emergency responders to coordinate activities for

effective emergency response. IPC will require the construction contractor to develop and implement an emergency response plan.

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

To reduce traffic congestion and roadside parking hazards, multiuse areas will provide for parking for construction employee personal vehicles.

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

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

- Coordinating the timing and locations of road closures in advance with emergency services such as fire, paramedics, and essential services such as mail delivery and school buses.
- Maintaining emergency vehicle access to private property.
- Developing plans as required by county or state permits to accommodate traffic where construction would require closures of state or county-maintained roads for longer periods.
- Posting caution signs on county and state-maintained roads, where appropriate, to alert motorists of construction and warn them of slow traffic.
- Using traffic control measures such as traffic control flaggers, warning signs, lights, and barriers during construction to ensure safety and to minimize localized traffic congestion. These measures will be required at locations and during times when trucks will be entering or exiting highways frequently.
- Using chase vehicles as required (or police vehicles, if required by ODOT) to give drivers additional warning.
- Notifying landowners prior to the start of construction near residences.
- Fencing construction areas near residences at the end of the construction day, and restoring residential roads damaged by construction activities as soon as possible.
- Installing gates on private access roads to reduce unauthorized access when requested by property owners.

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

4.2.2 Fugitive Dust Mitigation

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

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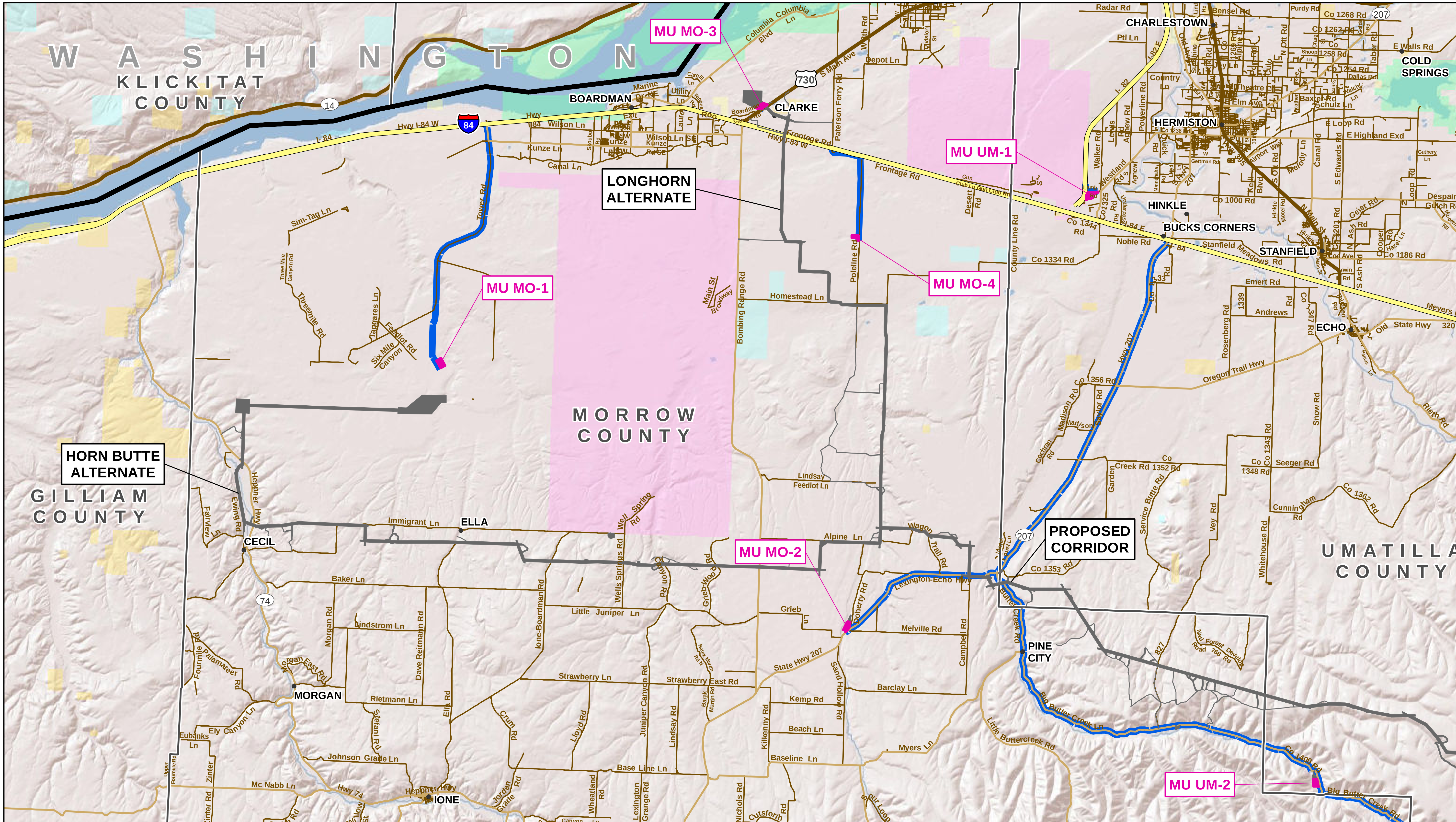
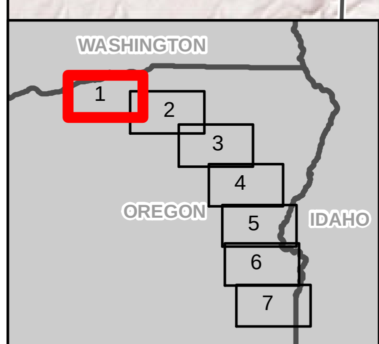
Appendix A. Boardman to Hemingway – Preliminary Haul Routes





0 1 2 3

Miles

1 in = 3 miles

Legend

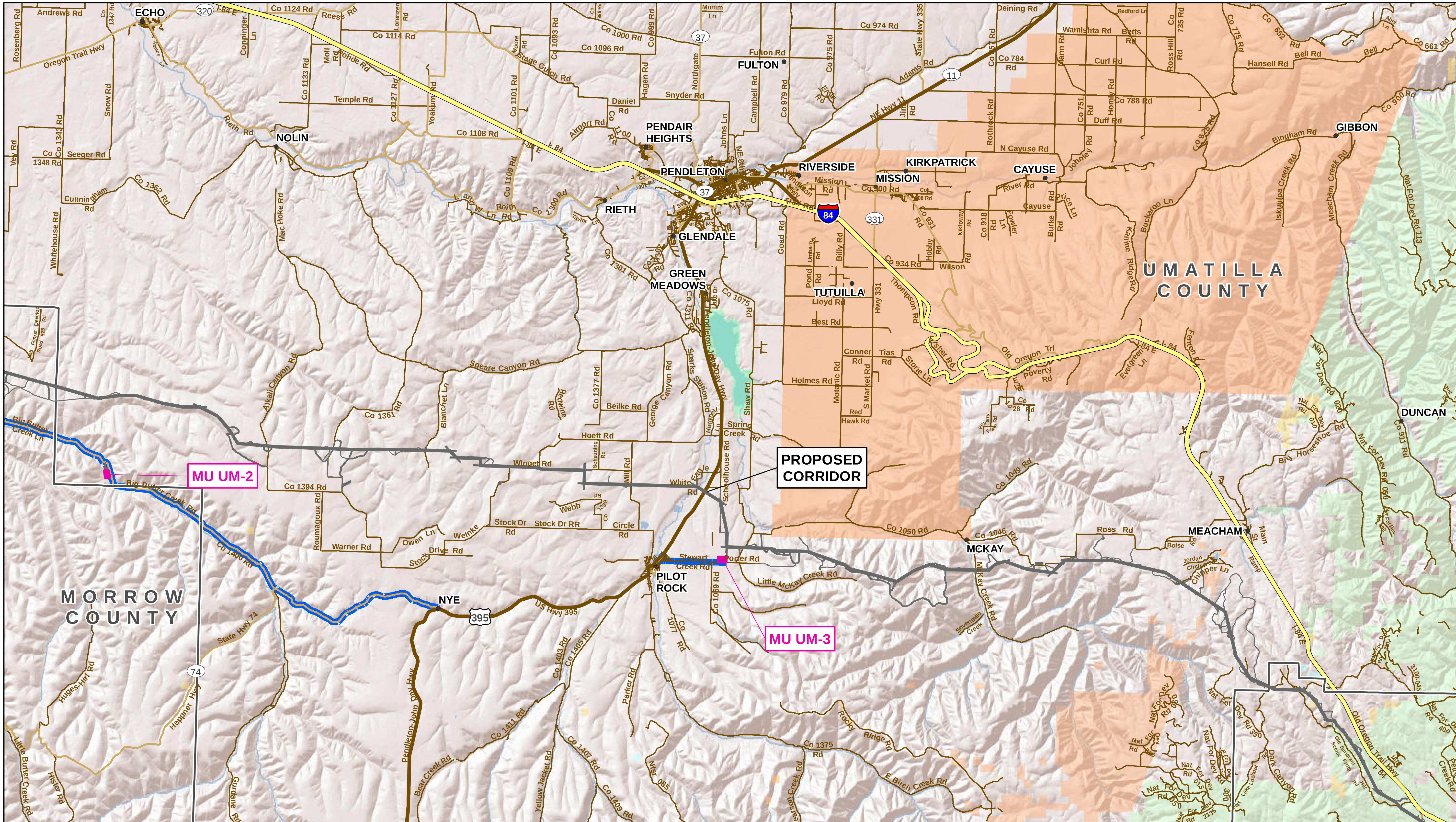
- Multiuse Area
- Site Boundary
- Preliminary Haul Route
- Interstate
- Highway
- Major Road
- Road
- State Boundary
- County Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Indian Reservation
- Private
- State
- U.S. Fish and Wildlife Service
- U.S. Forest Service

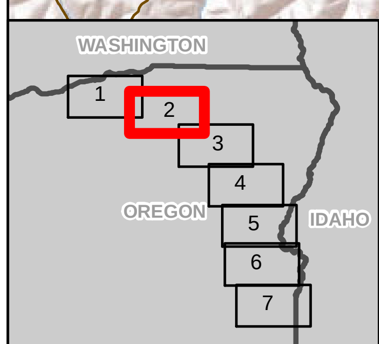
ATTACHMENT U-2 APPENDIX A

Preliminary Haul Routes Morrow County

Boardman to Hemingway Transmission Line Project
Oregon-Idaho

February 2013





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Miles

1 in = 3 miles

Legend

- Multiuse Area
- Site Boundary
- Preliminary Haul Route
- Interstate
- Highway
- Major Road
- Road
- State Boundary
- County Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Indian Reservation
- Private
- State
- U.S. Fish and Wildlife Service
- U.S. Forest Service

ATTACHMENT U-2 APPENDIX A

Preliminary Haul Routes
Umatilla County

Boardman to Hemingway
Transmission Line Project
Oregon-Idaho

February 2013

UMATILLA COUNTY

UNION COUNTY

HILGARD

PERRY

ISLAND CITY

LA GRANDE

ALICEL

COVE

HOT LAKE

UNION

TELOCASET

CAMP ELKANAH

STARKEY

GLASS HILL ALTERNATE

PROPOSED CORRIDOR

WASHINGTON

OREGON

IDAHO

1 2 3 4 5 6 7

0 1 2 3

Miles

1 in = 3 miles

Legend

- Multiuse Area
- Site Boundary
- Preliminary Haul Route
- Interstate
- Highway
- Major Road
- Road
- State Boundary
- County Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Indian Reservation
- Private
- State
- U.S. Fish and Wildlife Service
- U.S. Forest Service

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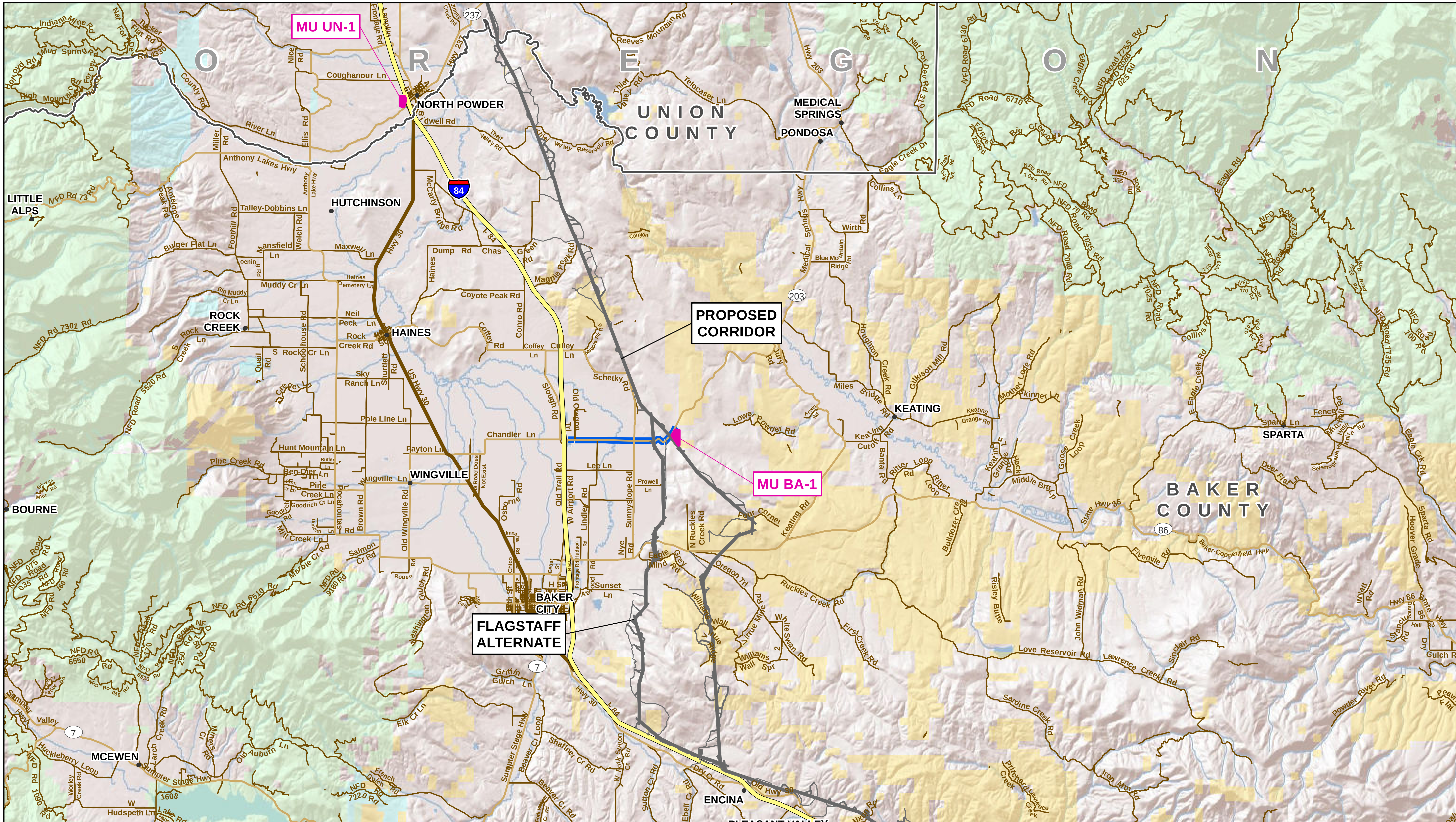
ATTACHMENT U-2 APPENDIX A

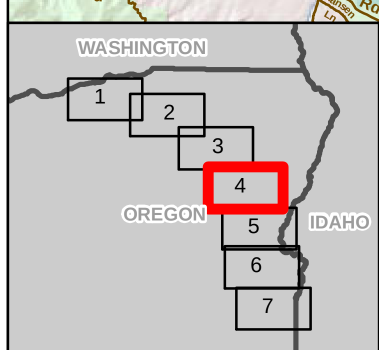
Preliminary Haul Routes
Union County

Boardman to Hemingway
Transmission Line Project
Oregon-Idaho

February 2013

IDAHO POWER
An IDACORP Company





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Miles

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Legend

- Multiuse Area
- Site Boundary
- Preliminary Haul Route
- Interstate
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- State
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- U.S. Forest Service

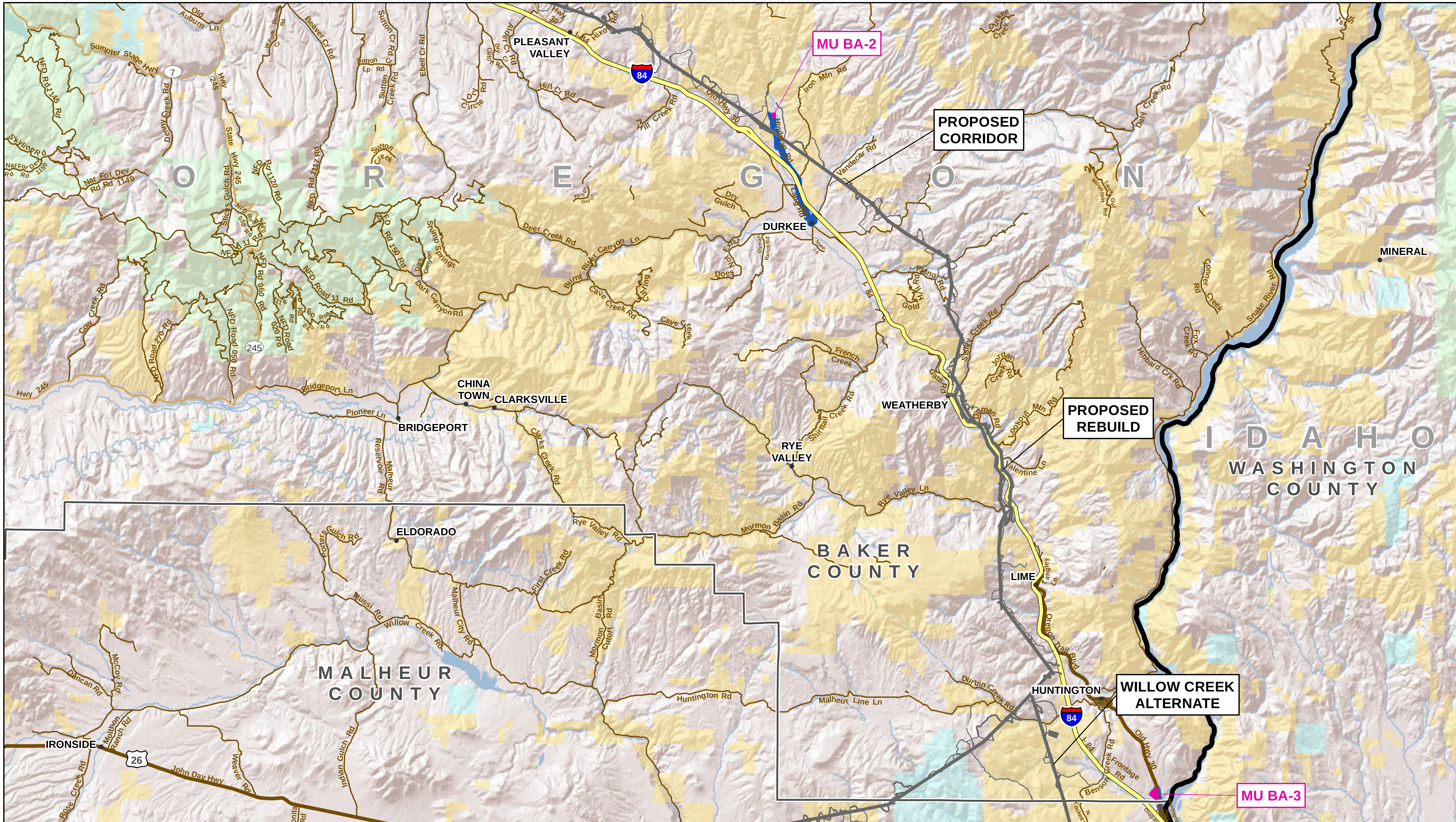
ATTACHMENT U-2 APPENDIX A

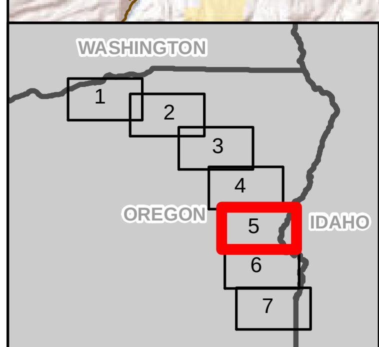
Preliminary Haul Routes
Baker County (North)

Boardman to Hemingway
Transmission Line Project
Oregon-Idaho

February 2013

IDAHO POWER





0 1 2 3

Miles

1 in = 3 miles

Legend

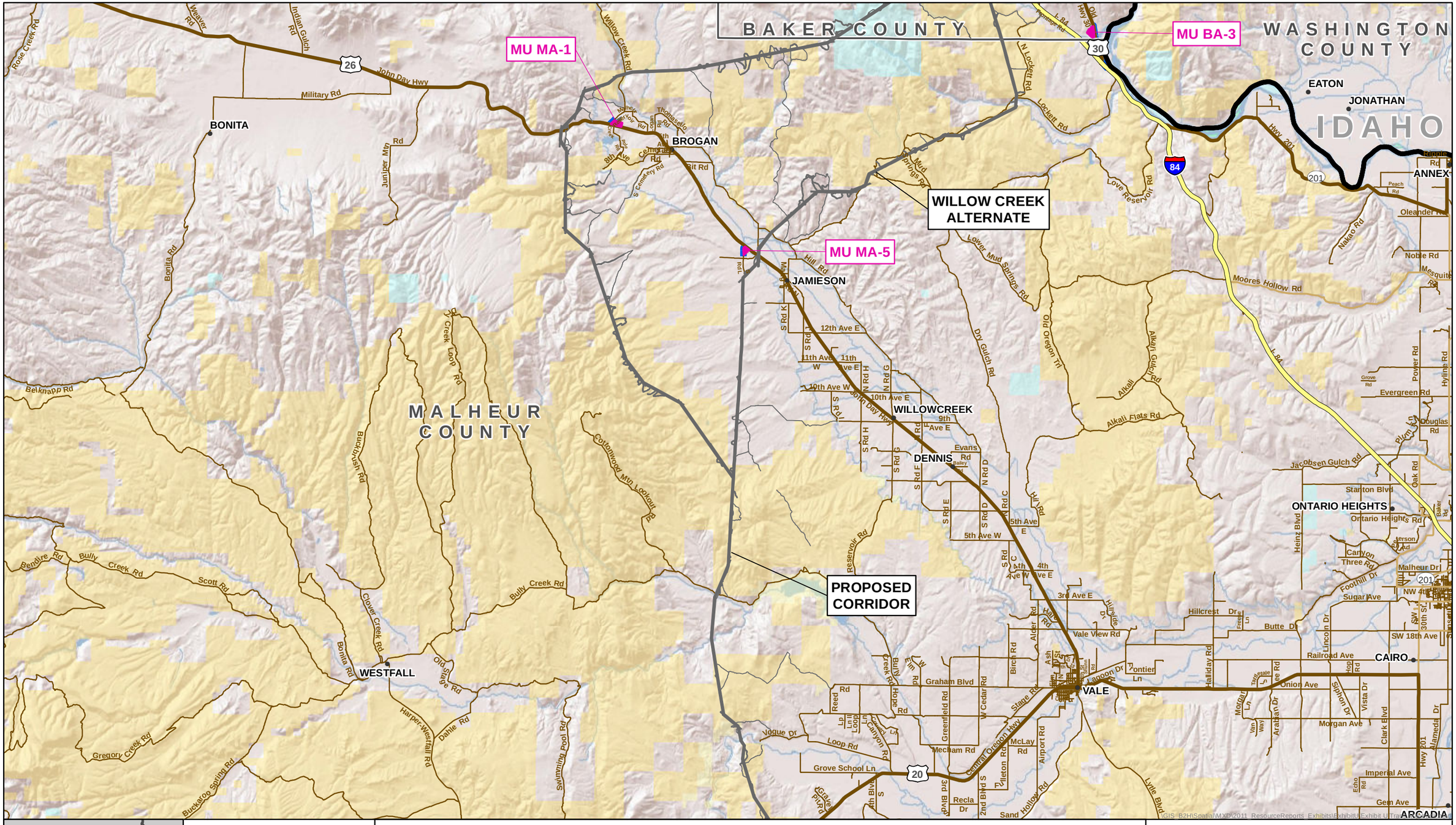
Multiuse Area	Road	Indian Reservation
Site Boundary	State Boundary	Private
Preliminary Haul Route	County Boundary	State
Interstate	Bureau of Land Management	U.S. Fish and Wildlife Service
Highway	Bureau of Reclamation	U.S. Forest Service
Major Road	Department of Defense	

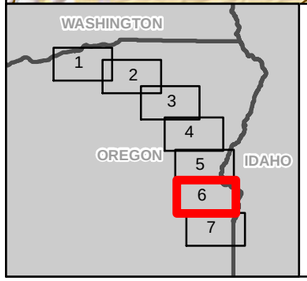
ATTACHMENT U-2 APPENDIX A

Preliminary Haul Routes
Baker County (South)

Boardman to Hemingway
Transmission Line Project
Oregon-Idaho

February 2013





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- County Boundary
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- Bureau of Reclamation
- Department of Defense
- Indian Reservation
- Private
- State
- U.S. Fish and Wildlife Service
- U.S. Forest Service

ATTACHMENT U-2 APPENDIX A

Preliminary Haul Routes
Malheur County (North)

Boardman to Hemingway
Transmission Line Project
Oregon-Idaho

February 2013

IDAHO POWER
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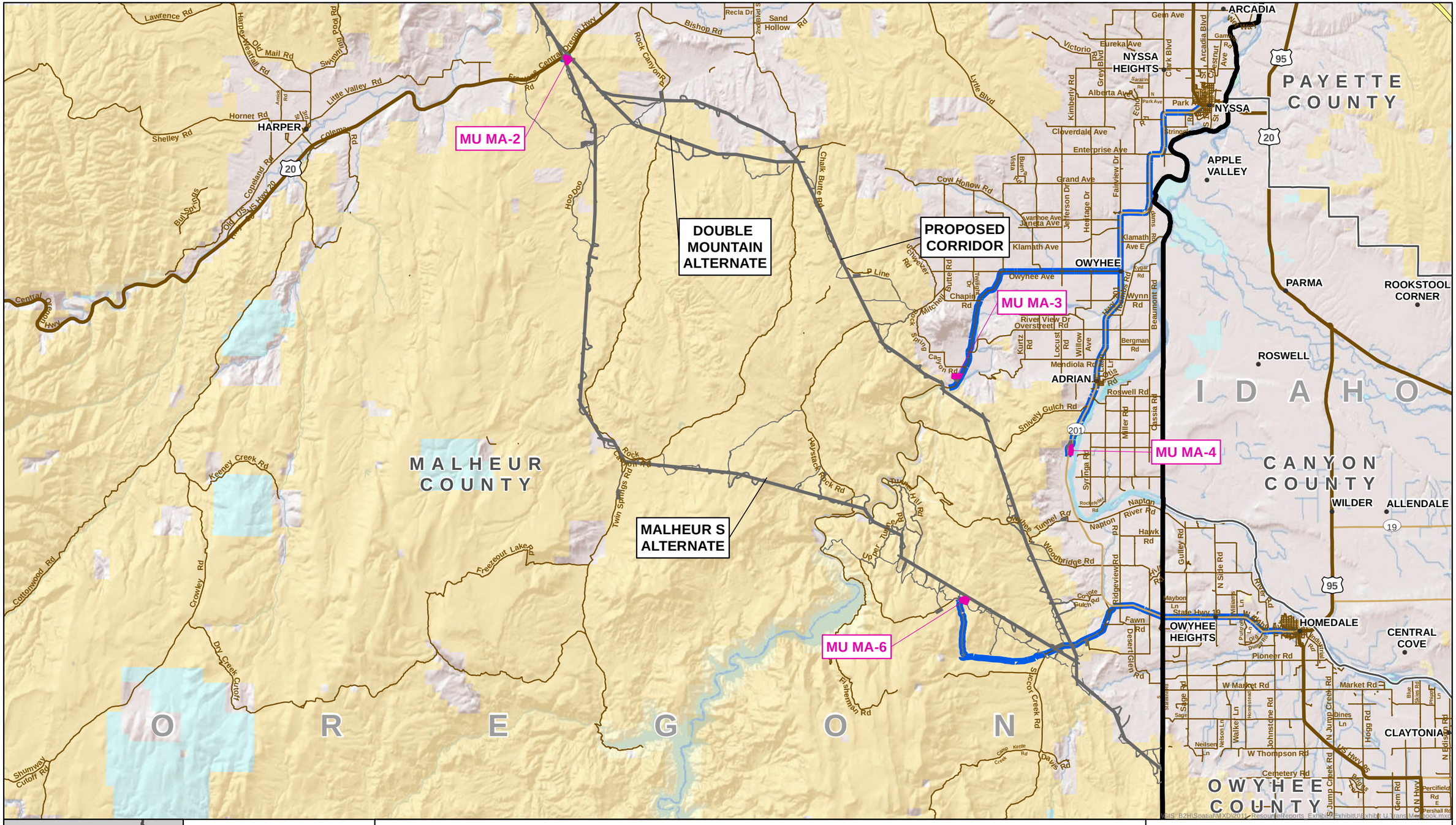

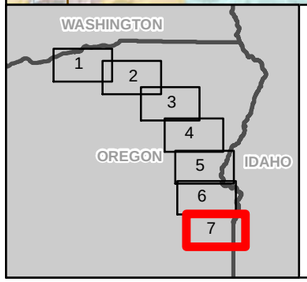

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- Department of Defense
- Indian Reservation
- Private
- State
- U.S. Fish and Wildlife Service
- U.S. Forest Service

ATTACHMENT U-2 APPENDIX A

Preliminary Haul Routes
Malheur County (South)

Boardman to Hemingway
Transmission Line Project
Oregon-Idaho

February 2013

IDAHO POWER
An IDACORP Company

Appendix B. Boardman to Hemingway – Estimate of Construction Traffic Memo

MEMORANDUM

TO: Aaron English, TetraTech

FROM: Aaron Storo

SUBJECT: Boardman to Hemingway – Estimate of Construction Traffic

DATE: December 6, 2012

This memo is an update to the Estimate of Construction Traffic memo dated March 22, 2012, which summarized the analysis and assumptions that went into developing the construction traffic on public roads due to the construction of the Boardman to Hemingway Project.

Estimating construction traffic is based on a series of assumptions including: construction crew sizes, crew productivity, lag time between work phases, materials management and delivery schedules, and the location of multi-use areas. The assumptions included are reasonable based on our experiences as engineering firm on transmission projects and our companies experience as a transmission construction company. Different approaches by the contractor could change the number of trips provided in this estimate.

In 2011, Pike developed a preliminary construction schedule that separated the project into sections. Within each section, construction tasks were identified and scheduled based on the length of the section and estimated crew productivity. Tasks were staged sequentially from right-of-way clearing to restoration, creating a full schedule for each section. The first of the sections, Section 1.1, is a 76-mile section starting at Grassland Substation and ending in Umatilla County. The preliminary construction schedule for Section 1.1, shown in Figure 1 below, is the basis for this traffic estimate and is shown below. Start and end dates for tasks are no longer current, but they are not relevant to this analysis.

Task Name	Duration	Start	Finish
CONTRACTOR #1 (MILE 0 TO 150)	**620.1 days**	**Tue 3/4/14**	**Sat 5/14/16**
MOBILIZATION	30 edays	Tue 3/4/14	Thu 4/3/14
RECEIVE MATERIALS	365 edays	Thu 4/3/14	Fri 4/3/15
SECTION 1.1 MILE 0-76 (YEAR-ROUND CONST)	**423.2 days**	**Mon 6/2/14**	**Wed 12/2/15**
ROW CLEARING (0-76)	76 days	Mon 6/2/14	Mon 9/8/14
ACCESS ROADS & TOWER GRADING (MILE 0-76)	76 days	Mon 6/2/14	Mon 9/8/14
FOUNDATION CONSTRUCTION (MILE 0-76)	162 days	Mon 6/16/14	Sat 1/10/15
TOWER LACING (MILE 0-76)	215 days	Mon 6/30/14	Fri 4/3/15
TOWER SETTING (MILE 0-76)	215 days	Mon 7/14/14	Fri 4/17/15
WIRE STRINGING - CREW 1A (MILE 0-76)	304 days	Mon 7/28/14	Tue 8/25/15
OPGW REGEN SITE #1	45 days	Sat 1/24/15	Mon 3/23/15
RESTORATION (MILE 0-76)	76 days	Tue 8/25/15	Wed 12/2/15

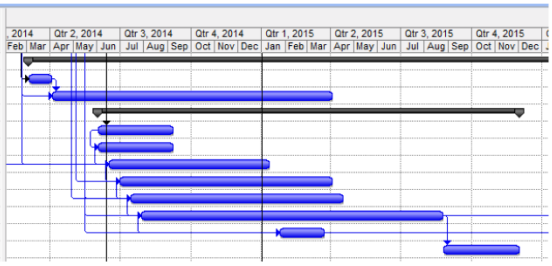

Figure 1 – Preliminary Construction Schedule

In addition to crews represented by construction tasks shown in Figure 1, additional crews contributing to construction traffic will be involved through the duration of work in Section 1.1. This includes water trucks for dust control, mechanic trucks, refueling trucks, construction inspectors, materials testing crews, environmental compliance crews and surveyors. Combining all crews working on the project for each month showed that the peak number of crews working in Section 1.1 would occur during months 3-5. This is because ROW clearing and access road construction crews will be active within the section

while foundation construction, tower lacing, tower setting, and wire stringing crews were also working within the section.

The summary of crews working in Section 1.1 is used to determine the number of construction personnel involved based on assumed crew sizes. This then leads us to the number of construction vehicle trips. The vehicle trips of interest are those that will be regularly using public roads. Much of the heavy construction equipment, such as large excavators, cranes, feller bunchers, any track-rig equipment, will generally be operating on the project right-of-way or private access roads, except when the equipment is moved from one isolated section of line to another when it will be transported on public roads. These instances are not daily occurrences and are considered incidental to the overall construction vehicle trips generated by the project. The largest contribution to vehicle trips generated by the project will be the daily trips to and from multi-use areas by personal vehicles, material delivery vehicles, concrete trucks, and construction vehicles moving from one work area to another within the section.

For each crew type the number of personal vehicles, light construction vehicles (below 10,000 GVW), and heavy construction vehicles (10,000 GVW and above) and trips per vehicle type were assumed. Tables 1, shown below, identifies the number of personal vehicles and trips per day.

Personal Vehicles			
Crew Type	**Number of Vehicles**	**Trips Per Day**	**Extended Total**
ROW Clearing	4	2	8
Road/Pad Grading	4	2	8
Foundations	5	2	10
Tower Lacing	24	2	48
Tower Setting	12	2	24
Stringing	13	2	26
Restoration	0	0	0
Mechanic	2	2	4
Refueling	2	2	4
Dust Control	2	2	4
Blasting	2	2	4
Construction Inspection	2	2	4
Materials Testing	2	2	4
ENV Compliance	2	2	4
Material Management	3	2	6
Surveyors	2	2	4
Totals			**162**

Table 1 – Personal Vehicle Trips per Day

Table 2, shown below, identifies the number of light and heavy construction vehicles and trips per day.

Construction Vehicles						
Crew	**Light Const Vehicles**	**Trips**	**Extended Total**	**Heavy Const Vehicles**	**Trips**	**Extended Total**
ROW Clearing	4	4	16	2	4	8
Road/Pad Grading	4	4	16	4	2	8
Foundations	4	2	8	2	8	16
Tower Lacing	12	2	24	0	0	0
Tower Setting	9	2	18	0	0	0
Stringing	4	4	16	4	4	16
Restoration	0	0	0	0	0	0
Mechanic	2	6	12	0	0	0
Refueling	0	0	0	2	4	8
Dust Control	0	0	0	2	4	8
Blasting	2	4	8	0	0	0
Construction Inspection	2	8	16	0	0	0
Concrete Testing	2	4	8	0	0	0
ENV Compliance	4	6	24	0	0	0
Material Delivery	9	8	72	12	2	24
Surveyors	2	6	12	0	0	0
Totals			**250**			**88**

Table 2 – Construction Vehicle Trips per Day

Based on the stated assumptions the total number of one-way vehicle trips on public roads is estimated to be 500 per day. Multi-use areas will be located approximately every 25 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. Within Section 1.1 we anticipate three multi-use areas, and we can assume that the 500 trips will be roughly split among these three sites, which results in 167 daily vehicle trips per multi-use area.

ATTACHMENT U-3
DRAFT FIRE PREVENTION AND SUPPRESSION PLAN

Fire Prevention and Suppression Plan

Prepared by
Idaho Power Company
1221 W Idaho Street
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February 2013

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1.0 INTRODUCTION

Idaho Power Company (IPC) is proposing to construct and operate approximately 304 miles of new transmission line known as the Boardman to Hemingway Transmission Line Project (Project), primarily a single-circuit 500-kilovolt (kV) electric transmission line, with 301 miles of single-circuit 500- kV electric transmission line, a 5-mile rebuild of existing 138-kV and 69-kV transmission lines onto double-circuit structures, and relocation of 0.3 mile of a 138-kV transmission line. The Project includes ground-disturbing activities associated with construction of aboveground, single- and double-circuit transmission lines involving towers, access roads, staging areas, fly yards, and pulling sites as well as an associated substation, communication sites, and electrical supply distribution lines. The Project crosses private land and public lands administered by the Bureau of Land Management (BLM), U.S. Forest Service (USFS), 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 right-of-way (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, and local fire districts and agencies (Table 1-1). 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 1-1. Fire Suppression Responsibilities in Oregon

Who	Where	Miles of Proposed Route
BLM	National System of Public Lands	65.6
USFS	National Forest (NF) and National Grasslands	5.9
City fire departments and rural 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.	209.4

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, state, 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 OAR 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.

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 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; a double-bit ax or Pulaski (3.5 pounds or larger); 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 and readily available.

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.

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.

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.

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. 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.