

Corridor 7-11

Klamath Falls to Bend Corridor

Corridor Rationale

The corridor provides a north-south pathway for energy transport from the California-Oregon state line through southern Oregon. The corridor connects multiple Section 368 energy corridors, creating a continuous corridor network through northern California and Oregon across BLM- and USFS-administered lands. Input regarding alignment from the National Grid, PacifiCorp, and the Western Utility Group during the WWEC PEIS suggested following this route. Captain Jack, a 500-kV planned transmission line, follows the corridor from MP 5 to MP 39. The corridor could accommodate some additional development. There is interest in solar, wind, and geothermal development in the area. There have been a few recent inquiries regarding solar development in the Lakeview District area but no applications are in process. The Ruby Pipeline runs along the southern boundary of the Lakeview District and may provide additional connectivity. Although the Ruby Pipeline provides natural gas transportation from suppliers to consumers in Nevada, the EIS considered electric power lines as “integral components” of the project.

Corridor location:

Oregon (Klamath, Lake, Deschutes Co.)
 BLM: Deschutes, Lakeview, Klamath Falls, and Prineville Field Offices
 USFS: Fremont-Winema and Deschutes National Forests
 Regional Review Region: Region 6

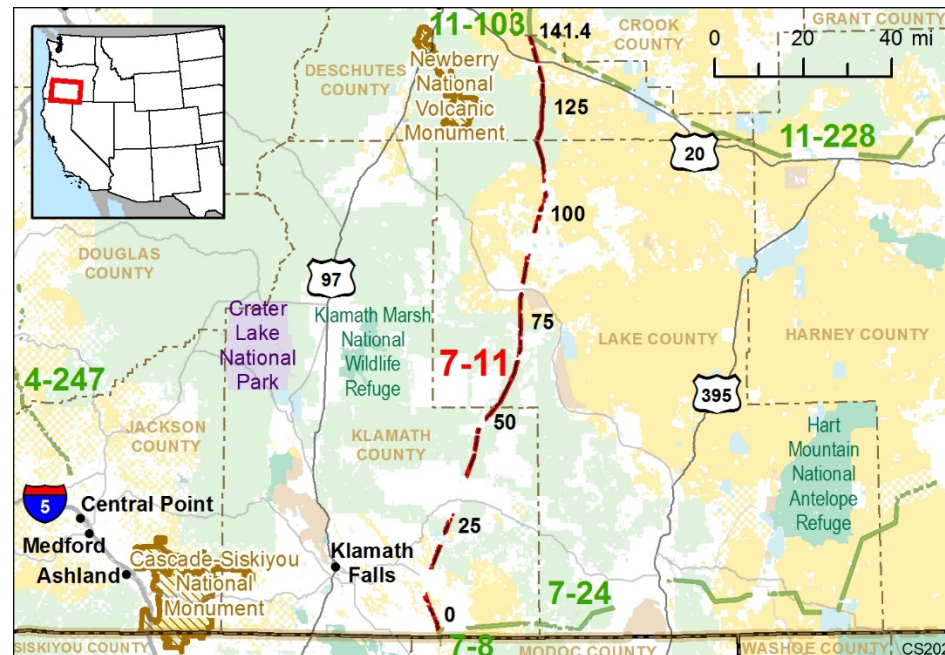
Corridor width, length:

Width 3,500 ft
 87 miles of designated corridor
 141 miles of posted route, including gaps

Designated Use:

- corridor is multi-modal

Corridor of concern (N)



Corridor history:

- Locally designated corridor prior to 2009 (Y)
- Existing infrastructure (Y)
 - Three 500-kV transmission lines follow the entire length of the corridor. A 115-kV transmission line is within and adjacent to a portion of the corridor.
- Energy potential near the corridor (Y)
 - A solar power plant is within 4 mi.
 - 3 substations are within the corridor and 12 more substations are within 5 mi of the corridor.
- Corridor changes since 2009 (N)

Figure 1. Corridor 7-11

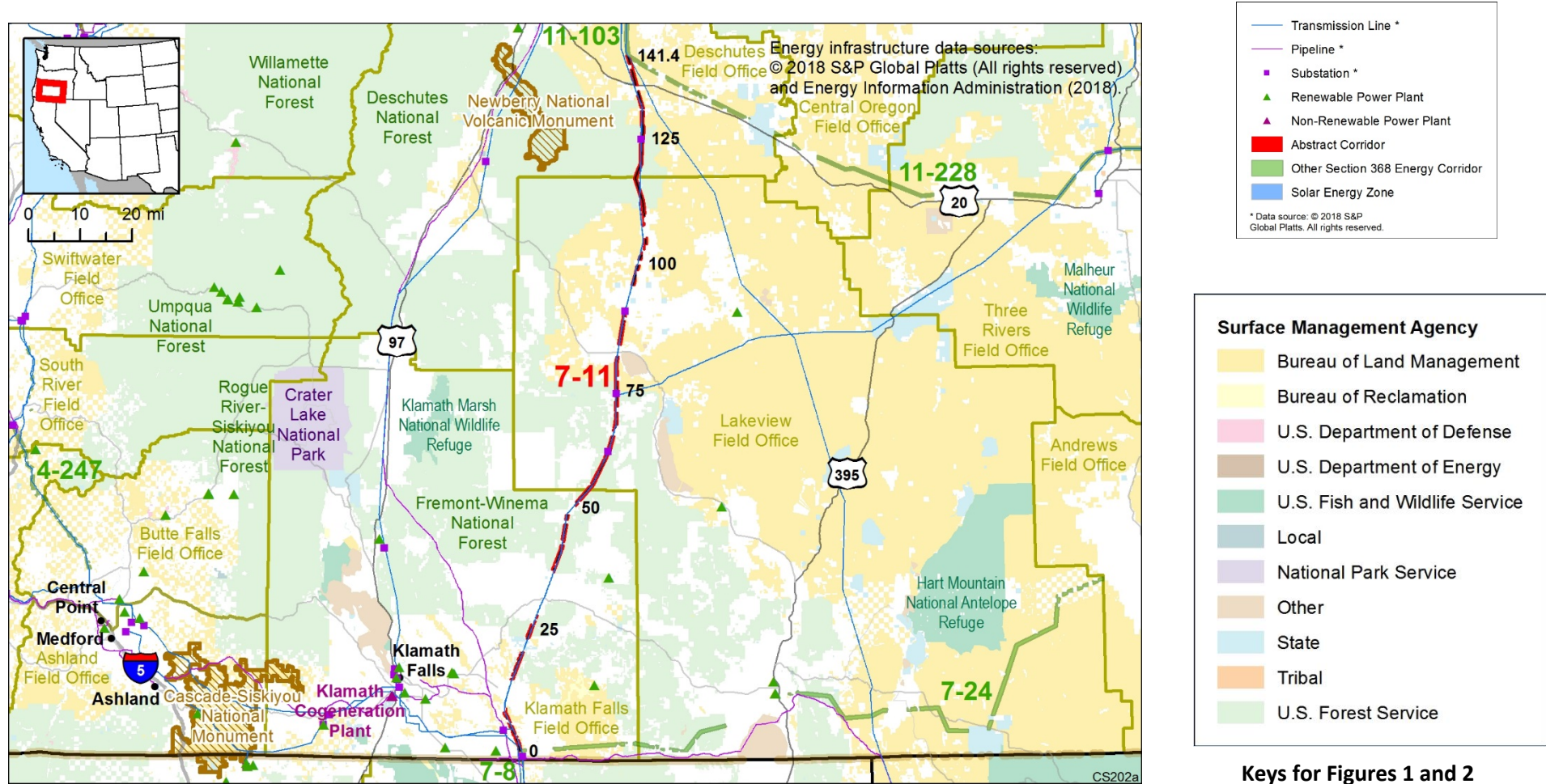


Figure 2. Corridor 7-11 and nearby electric transmission lines and pipelines

Conflict Map Analysis

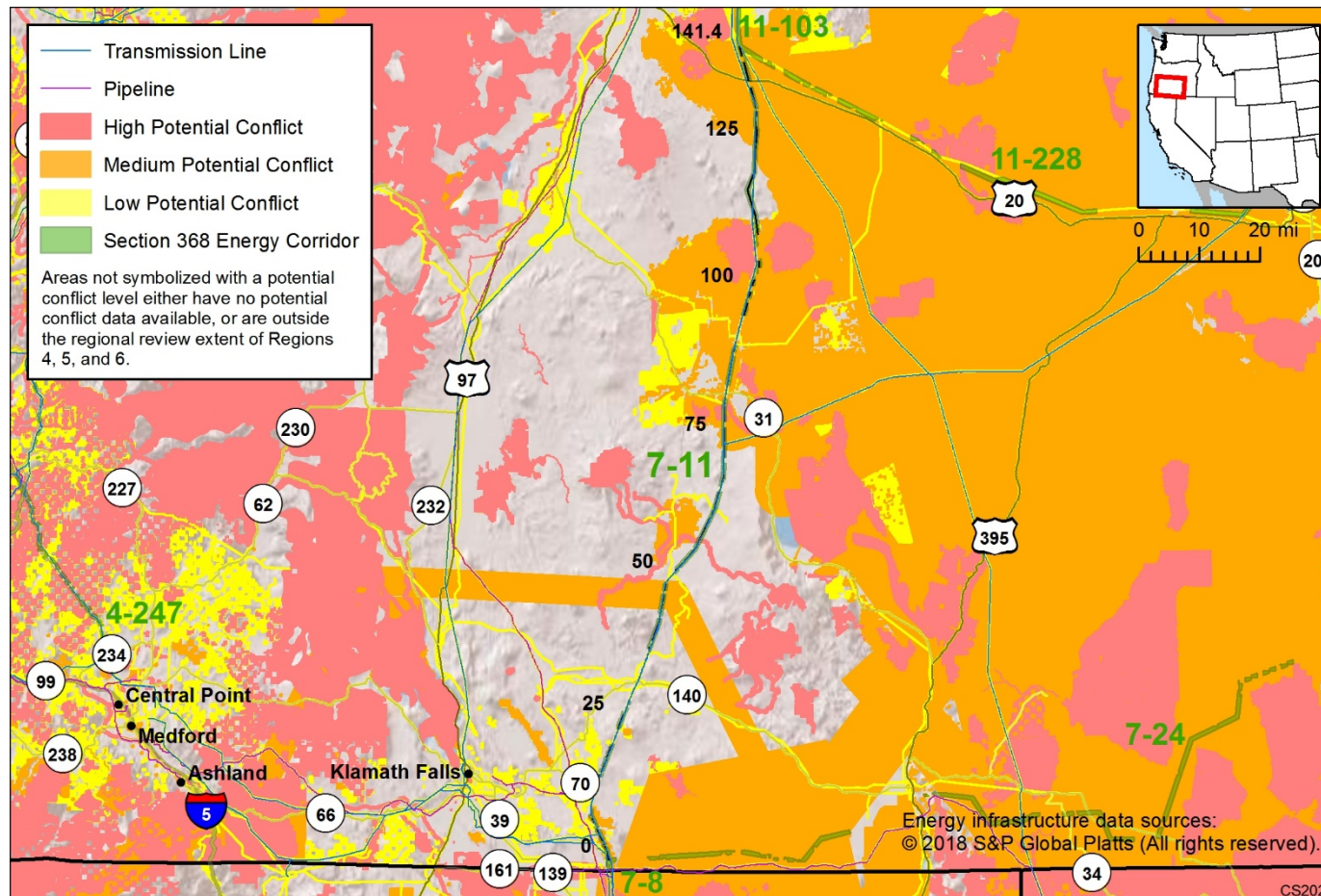


Figure 3. Map of Conflict Areas in Vicinity of Corridor 7-11

Figure 3 reflects a comprehensive resource conflict assessment developed to enable the Agencies and stakeholders to visualize a corridor’s proximity to environmentally sensitive areas and to evaluate options for routes with lower potential conflict. The potential conflict assessment (low, medium, high) shown in the figure is based on [criteria](#) found on the WVEC Information Center at www.corridoreis.anl.gov. To meet the intent of the Energy Policy Act and the Settlement Agreement siting principles, corridors may be located in areas where there is potentially high resource conflict; however, where feasible, opportunity for corridor revisions should be identified in areas with potentially lower conflict.

Visit the 368 Mapper for a full view of the potential conflict map (<https://bogi.evs.anl.gov/section368/portal/>)

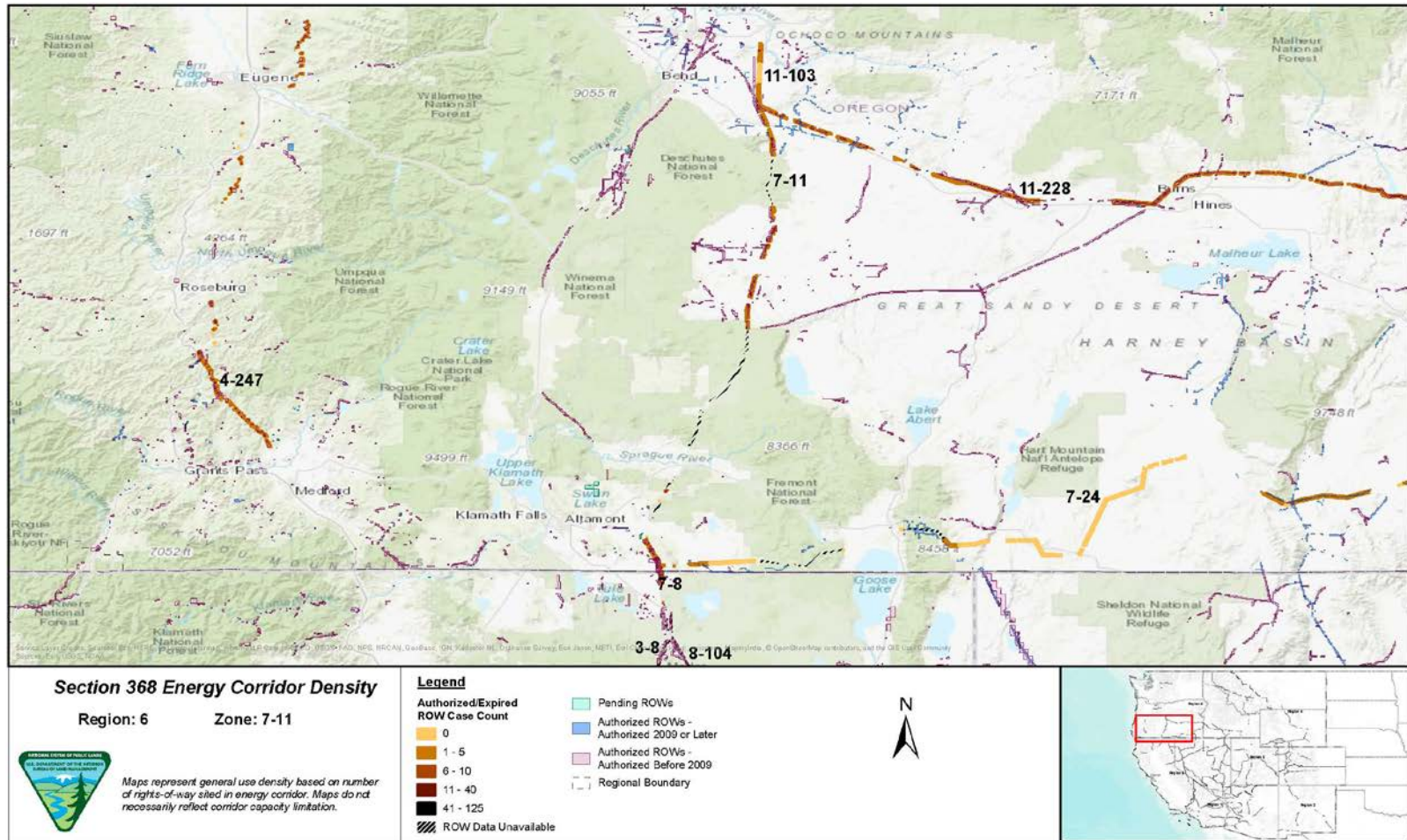


Figure 4. Corridor 7-11, Corridor Density Map

Figure 4 shows the density of energy use to assist in evaluating corridor utility. ROWs granted prior to the corridor designation (2009) are shown in pink; ROWs granted after corridor designation are shown in blue; and pending ROWs under current review for approval are shown in turquoise. Note the ROW density shown for the corridor is only a snapshot that does not fully illustrate remaining corridor capacity. Not all ROWs have GIS data at the time this abstract was developed. BLM and USFS are currently improving their ROW GIS databases and anticipate more complete data in the near future.

Corridor Review Table

Designated energy corridors are areas of land prioritized for energy transmission infrastructure and are intended to be predominantly managed for multiple energy transmission infrastructure lines. Other compatible uses are allowable as specified or practicable. Resource management goals and objectives should be compatible with the desired future conditions (i.e., responsible linear infrastructure development of the corridor with minimal impacts) of the energy transmission corridor. Land management objectives that do not align with desired future conditions should be avoided. The table below identifies serious concerns or issues and presents potential resolution options to better meet corridor siting principles.

The preliminary information below is provided to facilitate further discussion and input prior to developing potential revisions, deletions, or additions.

CORRIDOR 7-11 REVIEW			
POTENTIAL COMPATIBILITY ISSUES or CONCERNS TO EXAMINE	MILEPOST (MP)¹	STAKEHOLDER INPUT and OTHER RELEVANT INFORMATION	POTENTIAL RESOLUTIONS BASED ON SITING PRINCIPLE ANALYSIS²
<i>BLM Jurisdiction: Lakeview Klamath Falls Field Office</i>			
<i>Agency Land Use Plan: Southwestern Oregon ROD/RMP (2016)</i>			
No issues related to resource intersections with the corridor in Lakeview Klamath Falls Field Office have been identified.			
<i>USFS Jurisdiction: Fremont National Forest</i>			
<i>Agency Land Use Plan: Fremont NF LMP (1989) Amendments from 1992 to 2010</i>			
VQO area – Preservation and the corridor intersect. In areas under this VQO, management activities are prohibited, except for very low visual-impact recreation facilities; allows for ecological changes only.	MP 45 to MP 48, MP 57 to MP 59, and MP 61	The VQO Preservation areas are semi-linear areas that cross the corridor tangentially.	Areas with the VQO Preservation designation may not be compatible with future overhead transmission line development; however, the corridor is collocated with an existing transmission line. In order to best meet the siting principles, a change in the VQO class could be considered.
Sycan River WSR and the corridor intersect — The Sycan River corridor from the headwaters downstream to the Forest boundary at Coyote Bucket would be managed as a scenic river in accordance with the Wild and Scenic Rivers Act.	MP 57 to MP 58	Management guidelines found in the Sycan Wild and Scenic River Management Plan state that utility crossings will be limited to existing locations.	The corridor location appears to best meet the siting principles. While the corridor cannot be re-routed to avoid the WSR, the corridor is collocated with existing infrastructure and the WSR and the corridor intersect at an angle (minimizing impacts). The existing IOP requires proposed projects to mitigate the disturbance of wild and scenic rivers and their vicinity.
Bull Trout (ESA-listed threatened) critical habitat and the corridor intersect — The land use plan pre-dates the listing of this species and does not have specific guidance or objectives.	MP 57	The USFWS issued the Final Critical Habitat Rule for Bull Trout in 2010. The Recovery Plan for the	The corridor location appears to best meet the siting principles. While the corridor cannot be re-routed to avoid the critical habitat, the corridor is collocated with existing infrastructure and the critical habitat and the

CORRIDOR 7-11 REVIEW

POTENTIAL COMPATIBILITY ISSUES or CONCERNS TO EXAMINE	MILEPOST (MP)¹	STAKEHOLDER INPUT and OTHER RELEVANT INFORMATION	POTENTIAL RESOLUTIONS BASED ON SITING PRINCIPLE ANALYSIS²
		<p>Coterminous United States Population of Bull Trout was finalized in 2015. No management prescriptions related to utility corridors were identified for this species.</p> <p>Reasonable and prudent measures identified by the USFWS during consultation will be incorporated in project plans to minimize habitat fragmentation.</p> <p>Comment on abstract: updated science and research regarding impacts from energy development activities must be included in any analysis. We recommend reroutes as much as possible.</p>	<p>corridor intersect at an angle (minimizing impacts).</p> <p>Existing IOPs would be required, including consultation with the USFWS.</p>
<p>GRSG GHMA and the corridor intersect – The LMP does not prescribe restrictions for GHMAs within designated energy corridors. No changes to the LMP were included in 2015 GRSG amendments to USFS LMPs. The October 2018 USFS Draft EIS addressing planning issues for GRSG did not include Oregon NFs, so no changes to GRSG management prescriptions in the Fremont NF are anticipated in association with the forthcoming ROD.</p>	<p>MP 73 to MP 75</p>		<p>The location appears to best meet the siting principles because collocation (with existing transmission line) is preferred. The GHMA encompasses a broad area surrounding the corridor that cannot be avoided.</p>
<p>BLM Jurisdiction: Lakeview Field Office Agency Land Use Plan: Lakeview ROD/RMP (2003)</p>			
<p>Lands with undetermined status for wilderness characteristics intersect and are adjacent to the corridor.</p>	<p>MP 75 to MP 81 MP 84 to MP 90, MP 96 to MP 111</p>	<p>BLM Manual Section 6320 (Considering lands with wilderness characteristics in the BLM Land Use Planning Process), 3/15, 2012, provides policy and guidance for</p>	<p>The corridor location appears to best meet siting principles. The corridor is collocated with transmission lines for its entire length. In general, the corridor cannot be shifted to avoid the potential lands with wilderness characteristics because those lands are located along</p>

CORRIDOR 7-11 REVIEW

POTENTIAL COMPATIBILITY ISSUES or CONCERNS TO EXAMINE	MILEPOST (MP)¹	STAKEHOLDER INPUT and OTHER RELEVANT INFORMATION	POTENTIAL RESOLUTIONS BASED ON SITING PRINCIPLE ANALYSIS²
		<p>considering lands with wilderness characteristics in land use planning under FLPMA.</p> <p>Comment on abstract: Duncan Creek lands with wilderness characteristics overlaps 666 acres and 416 acres from MP 77 to MP 81. Opportunity to avoid Duncan Creek lands with wilderness characteristics by adjusting corridor West.</p> <p>Comment on abstract: Hayes Butte lands with wilderness characteristics overlaps 112 acres and 19 acres at MP 89.</p> <p>Comment on abstract: the Agencies may be able to adjust the corridors to reduce overlap with lands with wilderness characteristics, and the Agencies should make those adjustments where possible.</p>	<p>both sides of the corridor or include all federal lands in close proximity to the corridor. Where possible, the Agencies should adjust the corridors to reduce overlap with resource conflicts while still allowing for future development within the corridor.</p> <p>The BLM retains broad discretion regarding the multiple use management of lands possessing wilderness characteristics without Wilderness or WSA designations.</p> <p>Agencies could consider a new IOP to assist with avoiding and/or minimizing impacts to developing energy infrastructure on lands with wilderness characteristics.</p>
<p>VRM Class II area and the corridor intersect – The RMP instructs to manage public land actions and activities consistent with VRM class objectives. The objective of VRM Class II designation is to retain the existing character of the landscape.</p>	<p>MP 78 to MP 81</p>		<p>Areas with the VRM Class II designation may not be compatible with future overhead transmission line development; however, the corridor is collocated with existing transmission lines within a major utility corridor identified in the RMP. In order to best meet the siting principles, a change in the VRM class could be considered. Shifting the corridor to the east (so that the existing transmission lines were located at the western corridor boundary) would decrease but not eliminate the area of VRM Class II intersection.</p>

CORRIDOR 7-11 REVIEW

POTENTIAL COMPATIBILITY ISSUES or CONCERNS TO EXAMINE	MILEPOST (MP) ¹	STAKEHOLDER INPUT and OTHER RELEVANT INFORMATION	POTENTIAL RESOLUTIONS BASED ON SITING PRINCIPLE ANALYSIS ²
<p>USFS Jurisdiction: Deschutes National Forest Agency Land Use Plan: Deschutes NF LMP (1990), multiple amendments from 1992 to 2017</p>			
Christmas Valley BLM Back Country Byway and the corridor intersect —The LMP does not prescribe restrictions for backcountry byways within designated energy corridors.	MP 99 to MP 103		The corridor location appears to best meet the siting principles. While the corridor cannot be re-routed to avoid the byway, the corridor is collocated with existing infrastructure and the byway crosses the corridor at an angle (minimizing impacts).
ROS: Roaded Modified and the corridor intersect —Under this ROS class, vegetative and landform alterations typically dominate the landscape. There is little on-site control of users except for gated roads.	MP 111 to MP 128		The corridor appears to best meet the siting principles because of collocation with existing infrastructure (minimizing further visual disturbance) and the absence of more preferable alternatives. The ROS class Roaded Modified encompasses areas both west and east of the corridor, which cannot be readily avoided.
GRSG PHMA and the corridor intersect — GRSG guidelines place some limits on new development and time of year of operations. The October 2018 USFS Draft EIS addressing planning issues for GRSG did not include Oregon NFs, so no changes to GRSG management prescriptions in the Deschutes NF are anticipated in the forthcoming ROD.	MP 123 to MP 125	<p>Comment on abstract: re-route the corridor out of sage-grouse habitats wherever possible. Shift corridor to the west from MP 123 to MP 125 to avoid GRSG PHMA.</p> <p>Comment on abstract: may trigger ODFW and/or DLCD rules regarding direct and indirect impacts. Recommend potential relocation of the corridor near PHMAs to avoid direct and indirect impacts.</p>	The corridor is at the edge of the PHMA habitat and could be moved to the west to still collocate with the existing transmission line and avoid the PHMA.
GRSG GHMA and the corridor intersect – The LMP does not prescribe restrictions for GHMAs within designated energy corridors. The October 2018 USFS Draft EIS addressing planning issues for GRSG did not include Oregon NFs, so no changes to GRSG management prescriptions in the Deschutes NF are anticipated in the forthcoming ROD.	MP 125 to MP 126		The location appears to best meet the siting principles because collocation (with existing transmission line) is preferred. The GHMA encompasses a broad area surrounding the corridor that cannot be avoided.
ROS: Roaded Natural and the corridor intersect — Under this ROS class, areas may have resource modification and utilization practices evident, but harmonized with the natural environment.	MP 125 to MP 126		The corridor appears to best meet the siting principles because of collocation with existing infrastructure (minimizing further visual disturbance) and the absence of more preferable alternatives. However, in this

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Conventional motorized use is provided for in construction standards and design of facilities.			location the ROS Roded Natural intersects with a limited area at the western boundary of the corridor. Shifting the corridor to the east slightly would eliminate the intersection with the ROS Roded Natural area.
BLM Jurisdiction: Prineville Deschutes Field Office Agency Land Use Plan: Upper Deschutes RMP/ROD (2005)			
Lands with undetermined status for wilderness characteristics intersect and are adjacent to the corridor.	MP 127 to MP 141	BLM Manual Section 6320 (Considering lands with wilderness characteristics in the BLM Land Use Planning Process), 3/15, 2012, provides policy and guidance for considering lands with wilderness characteristics in land use planning under FLPMA.	<p>The corridor location appears to best meet siting principles. The corridor is collocated with transmission lines for its entire length. In general, the corridor cannot be shifted to avoid the potential lands with wilderness characteristics because those lands are located along both sides of the corridor or include all federal lands in close proximity to the corridor.</p> <p>The BLM retains broad discretion regarding the multiple use management of lands possessing wilderness characteristics without Wilderness or WSA designations.</p> <p>Agencies could consider a new IOP to assist with avoiding and/or minimizing impacts to developing energy infrastructure on lands with wilderness characteristics.</p>
BLM Jurisdiction: Lakeview Field Office, Prineville Deschutes Field Office Agency Land Use Plan: Oregon GRSG ROD and ARMPA – March 2019			
The corridor and GRSG GHMA (ROW avoidance area) intersect and are adjacent – The 2019 ARMPA did not make changes to GHMA in Oregon; designated utility corridors in GHMA may be available for utility ROW with special stipulation.	MP 75 to MP 81, MP 84 to MP 90, MP 96 to MP 105, MP 108 to MP 110, MP 127 to MP 140		ROW avoidance areas may not be compatible with the corridor’s purpose as a preferred location for infrastructure. However, collocation (with existing transmission lines) is preferred. The GHMA encompasses a broad area surrounding the corridor that cannot be avoided.

¹ Mileposts are rounded to the nearest mile.

² Siting Principles include: *Corridors are thoughtfully sited to provide maximum utility and minimum impact on the environment; Corridors promote efficient use of landscape for necessary development; Appropriate and acceptable uses are defined for specific corridors; and Corridors provide connectivity to renewable energy generation to the maximum extent possible, while also considering other generation, in order to balance the renewable sources and to ensure the safety and reliability of electricity transmission.* Projects proposed in the corridor would be reviewed during their ROW application review process and would adhere to Federal laws, regulations, and policy.

Additional Compatibility Concerns

The issues and concerns listed below are not explicitly addressed through agency land use plans or are too general in nature to be addressed without further clarification. Although difficult to quantify, the concerns listed have potential to affect future use and/or development within this designated corridor. The Agencies have provided a preliminary general analysis. The information below is provided to facilitate further discussion during stakeholder review.

Cultural Resources:

- Heritage (cultural and historic) features could be a concern in the Fremont Winema NF.

Analysis: Section 106 of the NHPA requires federal agencies to consider the effects of an undertaking on cultural resources.

Visual Resources:

- The corridor passes through Scenic Views.

Analysis: Adherence to existing IOPs for visual resources would be required. Eastside screens would apply to the whole extent of the corridor.

Ecology:

- Corridor goes right through sage grouse habitat, big game winter range (e.g., deer, elk, antelope) and golden eagle nesting and a deer migration corridor. The corridor is adjacent to Old Growth Management Areas and wildlife retention of old growth ponderosa pine (live and dead) is a concern. Caves located along the corridor pose a concern as well. There are populations of the Region 6 Sensitive plant Pumice Moonwort (*Botrychium pumicola*) in the corridor where it passes through the ranger district. The corridor may also contain habitat for green-tinged paintbrush.
- The corridor could impact the Silver Lake Area of Known Wolf Activity and is a known dispersal corridor for the species. Recommend consulting with ODFW regarding impacts to wolves (comment on abstract).
- The corridor bisects important big game winter range, migration corridors for deer and elk, and dispersal habitat for wolves. Recommend early consultation be highlighted in the IOPs to address impacts to big game winter range and movement corridors (comment on abstract).

Analysis: Existing IOPs and BMPs would be required, although in general the corridor follows existing infrastructure. Section 7 consultation with USFWS would be commensurate with agency determination of potential affect to threatened or endangered species. The Agencies could consider an IOP for habitat connectivity so that transmission projects within Section 368 energy corridors are sited and designed in a manner that minimizes impacts on habitat connectivity.

Livestock and Grazing:

- It appears that the corridor could accommodate additional development. However, it does pass through two active cattle allotments that are riddled with range improvements.

Analysis: BMPs would be required, siting of structures may need to be negotiated with existing range improvements.

Soils:

- The northern half of the corridor runs through sensitive soil types including SRI 7 (barren pumice/cinder flats), SRI's 7C and 9V (very rough lava flows with varying thickness of coarse Newberry pumice mantle). The southern half of the corridor runs through soil types where hard and competent bedrock may be very near the surface (18-24", though deeper in some places). Areas that are shallow to bedrock or young lavas may pose significant challenges to installing buried lines, poles, or other facilities. Barren flats and Newberry pumice-mantled areas are likely habitat for *Botrychium pumicola*. They could also present challenges for vegetative recovery or have limitations regarding other resource needs/mitigations. Disturbance to sensitive soils where vegetation and surface organics are disrupted and recover slowly can result in transference of effects to adjacent off-site soils in the form of concentrated flow, erosion, and sediment deposition.
- Mineral deposits/rough terrain could also be a concern within the Lakeview DO.

Analysis: Adherence to existing IOPs for vegetation and soil resources would be required. Incorporate appropriate design features and transportation system maintenance requirements into agreements to limit transference.

Abstract Acronyms and Abbreviations

ARMPA = Approved Resource Management Plan Amendment; BLM = Bureau of Land Management; BMP = best management practice; DLCD = Oregon Department of Land Conservation and Development; DO = district office; ESA = Endangered Species Act; FLPMA = Federal Land Policy and Management Act; GHMA = general habitat management area; GIS = geographic information system; GRSG = Greater Sage-grouse; IOP = interagency operating procedure; LMP = land management plan; MP = milepost; NF = National Forest; NHPA = National Historic Preservation Act; ODFW = Oregon Department of Fish and Wildlife; PEIS = Programmatic Environmental Impact Statement; PHMA = priority habitat management area; RMP = resource management plan; ROD = Record of Decision; ROS = Recreation Opportunity Spectrum; ROW = right-of-way; USFS = U.S. Forest Service; USFWS = U.S. Fish and Wildlife Service; VQO = Visual Quality Objective; VRM = visual resource management; WSA = Wilderness Study Area; WSR = Wild & Scenic River; WWEC = West-wide Energy Corridor.