

2.5.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Section 6.6.3 of BLM NEPA Handbook H-1790-1 (BLM 2008) provides that a suggested alternative to a proposed action may be considered but eliminated from detailed analysis if:

- It is ineffective (it would not respond to BLM's purpose and need).
- It is technically or economically infeasible.
- It is inconsistent with the basic policy objectives for the management of the area (such as not conforming to BLM's RMPs or the USFS Land and Resource Management Plan).
- Its implementation is remote or speculative.
- It is substantially similar in design to an alternative that is analyzed.
- It would have substantially similar effects on an alternative that is analyzed.

The alternatives and modifications to the Proposed Action, features and technologies described here were not carried forward for detailed analysis in the EIS. The process for eliminating alternatives from detailed analysis complies with 40 CFR 1502.14(a) of the Council on Environmental Quality regulations. A description of each alternative considered but eliminated from detailed analysis, along with the rationale for elimination, is provided below.

2.5.4.1 ALTERNATIVE TRANSMISSION TECHNOLOGY OPTIONS INSTALL DOUBLE-CIRCUIT NEW TRANSMISSION LINES ON EXISTING TOWERS IN THE STUDY AREA

One of the Applicant's objectives in proposing the B2H Project is to improve system reliability between the Boardman and southeastern Idaho areas. System reliability generally is improved by adding redundant transmission lines so that if one line is damaged or otherwise not in service, the other line can continue to provide service. However, locating the proposed B2H Project 500-kV line closer than 250 feet to other high-voltage lines would create "Adjacent Transmission Circuits" (Western Electricity Coordinating Council 2013). Adding Adjacent Transmission Circuits does not improve a system's reliability rating because a single event could disrupt service on both transmission lines. There would be a potential risk to reliability of a double-circuit line, as well as to the system, and would be ineffective in meeting the Applicant's objectives for proposing the B2H Project. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS due to the potential risk to reliability and because it would not meet the BLM's purpose and need to advance federal policy direction in the Energy Policy Act of 2005 aimed at increasing the capability and reliability of power transmission.

USE HIGH-VOLTAGE DIRECT CURRENT RATHER THAN ALTERNATING CURRENT

The primary benefit of a direct-current (DC) system is better control of power flows over very long distances (i.e., more than 400 miles). To interconnect with an alternating-current system, the direct current must be converted to alternating current. Converter stations require more land than a typical alternative-current substation, and additional costs for one 500-kV DC converter station are expensive (up to \$200 million) and two would be needed for one direct-current line. Also, a direct-current system

has limited ability for future expansion where additional future transmission capacity is needed and requires a higher upfront cost. The B2H Project alternating-current system would allow for power in the northwest to be efficiently transported to southwestern Idaho in times of high demand and, conversely, would allow southwestern Idaho to send excess power to the northwest grid—two of the Applicant's key purposes for building the B2H Project. The use of direct-current transmission would not provide the regional transmission connectivity the Applicant needs. For these reasons, the Applicant chose the alternating-current design over a direct-current design for the B2H Project. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS because it would not meet the BLM's purpose and need to improve infrastructure for distribution of the energy resources needed and would not advance federal policy direction in the Energy Policy Act of 2005 aimed at increasing capability and reliability of power transmission.

BURY THE TRANSMISSION LINE

While recent research is resulting in development of new techniques for manufacturing, design, construction, and maintenance of underground transmission lines, there are a number of important considerations that make the technology for extra-high-voltage transmission line impractical for long-length installations. Burying 500-kV transmission lines is not commonly considered due to significant technical challenges, minimal experience with the technology worldwide, reduced reliability, ground disturbance from trenching or boring, and significant costs.

Of the types of underground cable-system technologies available (high-pressure fluid filled, gas-insulated, self-contained fluid-filled, high-voltage extruded dielectric), the most likely technology appropriate for the 500-kV transmission line would be the high-voltage extruded-dielectric cable system. There are only three such 500-kV installations in the world and one has been installed in the United States (3.5 miles in Chino Hills, California).

There are many factors to consider when designing the optimal and most economical underground cable system. One of the main factors is the thermal performance of the underground cable system, and the main considerations for thermal performance to avoid overheating include the following:

- Cable size – larger cables allow for increased load transfer;
- Soil thermal resistivity – the ability of the heat to dissipate away from the cable is based on the thermal properties of the soil/backfill installed around the cable;
- Cable depth – the deeper the cable is from the surface, the more difficult it is for the surrounding soil to dissipate heat, thus resulting in lower ampacity (the maximum amount of electric current a conductor or device can carry before sustaining immediate or progressive deterioration); and
- Cable separation – other cables in proximity also generate heat, thus resulting in mutual heating; mutual heating can be reduced by increasing the separation of the cables.

Based on these considerations, the cable system for a three-phase 500-kV transmission line would require four cables per phase to achieve the necessary ampacity.

While extra-high-voltage extruded dielectric cable systems can be direct buried, the most common method in the U.S. has been to install the cable in concrete-encased ducts, commonly called a duct-

bank system. This type of system provides mechanical protection, eliminates re-excavation in the event of a cable failure, and reduces obstacles for repairs. For this type of installation, each duct bank would be expected to include a total of four ducts.

Generally, the most common technique for placing underground lines is open-cut trenching. The typical trench dimensions vary by cable type, voltage level, and required power transfer. Trenching operation typically are staged such that a maximum of 300 to 500 feet of trench is open at any one time. The duct banks would be installed at a minimum cover depth of 3 feet or as required by routing design (may be buried deeper to avoid heating the soil and changing conditions of the vegetation and wildlife habitat above the duct bank). The four duct banks would be separated by approximately 10 to 15 feet to reduce mutual heating. The concrete duct bank is covered with thermally approved backfill to assist in heat dissipation. Installing underground transmission lines can require as much as twice the construction time of overhead line due to the extensive excavation required to complete the trenching and installation of the cable-system infrastructure, cable splicing, and construction of transition stations.

The underground option requires overhead to underground transition stations and manholes. Transitions stations are similar in size to a switching station (approximately 200 feet by 400 feet) and add surface disturbance not required by the overhead option. Lengths of 500-kV extruded dielectric cable are limited to approximately 1,500 feet in length, requiring splices at the end of each 1,500-foot-long section. When the underground segment exceeds this length, manholes are required (outside dimensions of which are approximately 10-feet wide by 30-feet long). Manholes allow for racking of the cables and provide a location for splicing the cables. Splices require regular inspection and maintenance. Similar to an overhead line, a permanent access road and access road to each manhole would be required to provide access for inspection.

Underground transmission lines reduce system reliability and increase the complexity of systems operation and maintenance. While underground systems comparatively have fewer forced outages than overhead lines, damage to the cable or components often result in longer durations of outages. When a failure occurs, underground cables cannot be diagnosed visually, as is the case with an overhead line, rather, the cable system must be tested with specialized equipment to locate the damaged sections of the cable. Typical time needed to repair failure of accessories such as terminations and splices is often lengthy because these repairs require additional effort to identify, access, expose, and repair the damaged cables, and could take several days or weeks to fully restore. (An underground 500-kV transmission line could take months to repair if new cable must be manufactured.) Therefore, reliability of the transmission line service is reduced compared to an overhead transmission line (for which damaged areas are relatively easy to locate and repairs are typically less than 24 hours). The potential for long-term outages associated with the 500-kV transmission line would be unacceptable for a circuit carrying bulk power to a large service area.

The costs of construction and maintenance of an underground 500-kV transmission line is significantly higher than an overhead transmission line. Underground cable system costs are largely dependent on material costs, which fluctuate with the economic market and availability. Other cost considerations include range of design options, system complexity, geotechnical conditions, and higher construction

costs than overhead lines. The costs of installing a 500-kV transmission line underground can be 10 to 15 times greater, or more, than the cost of constructing a 500-kV overhead transmission line (BPA 2016; National Grid 2013; Everglades National Park 500-kV Underground Feasibility Study).

Typically, these additional costs must be approved by the public utilities commissions and are passed on to all ratepayers, not to just those near the area of underground installation.

Burying segments of a transmission line may be possible as a measure to mitigate effects of the line, particularly visual effects; however, burying transmission lines may be incompatible with some uses, such as agriculture, forestry, wildlife habitat or enhancement, and/or future development depending on site-specific conditions. For the B2H Project, no segments of the proposed transmission line have been identified where burying the transmission line would be justified. Because of the increased land disturbance, reduced reliability, unproven technology for 500-kV lines over long distances compared to an overhead line, and high costs, the alternative of placing the 500-kV transmission line underground is not considered feasible for the B2H Project. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS due to the potential risk to reliability and because it would not meet the BLM's purpose and need to advance federal policy direction in the Energy Policy Act of 2005 aimed at increasing capability and reliability of power transmission.

2.5.4.2 ALTERNATIVES TO TRANSMISSION LINE CONSTRUCTION LOCATE ENERGY PRODUCTION AT THE POINT OF DEMAND TO AVOID THE NEED FOR TRANSMISSION

The B2H Project is not designed to transmit electrical power from any identified power source or to any identified load center. The purpose of the B2H Project is to increase transmission capacity connecting the Pacific Northwest to the Intermountain Region of southern Idaho and to alleviate existing transmission constraints to ensure sufficient capacity to meet projected increased system loads. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS as it would not meet the BLM's purpose and need to support improving infrastructure for distribution of energy resources needed to advance federal policy direction in the Energy Policy Act of 2005 aimed at increasing the capability and reliability of power transmission.

EMPLOY ENERGY CONSERVATION AND DEMAND-SIDE MANAGEMENT TO REDUCE ENERGY DEMAND

Conservation and demand-side management consist of a variety of approaches to reduce electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution. The Applicant already encourages conservation by offering energy efficiency incentives to customers, sharing conservation tips and tools, and by providing energy efficiency education. The Applicant is required by both federal and state laws to plan for and meet load and transmission requirements. The Applicant proposed the B2H Project to meet the system improvement commitments of its approved 2015 Integrated Resource Plan. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS as it would not meet the BLM's purpose and need to support improving infrastructure for distribution of the energy

resources needed and would not advance federal policy direction in the Energy Policy Act of 2005 aimed at increasing the capability and reliability of power transmission.

2.5.4.3 TRANSMISSION LINE ALTERNATIVE ROUTES LOCATE THE LINE PRIMARILY ON PUBLIC AND STATE LANDS

A number of comments received during 2008 scoping and the Applicant-sponsored Community Advisory Process suggested that the proposed transmission line be located primarily on public and state lands in order to avoid impacts on private lands, particularly farmlands. During the Community Advisory Process, a number of participants identified routes to the west of the initially proposed alignment as a way to place the transmission line more on public and state lands and away from existing agricultural operations. The Community Advisory Process Western Route was developed by the Applicant as a refinement of several alignments proposed in the southwest region of the Community Advisory Process study area, primarily to reduce the amount of private land affected in favor of placing the B2H Project on more public and state lands. The BLM evaluated the Community Advisory Process Western Route as a primarily public land route alternative.

The Community Advisory Process Western Route would exit the Grassland Substation to the south, head west for about 6 miles, and then turn south crossing the western part of Morrow County, continuing southwest across Grant and Harney, then east across Malheur and Owyhee counties to the Hemingway Substation. The Western Route would cross about 117 miles of terrain identified by the Applicant as technically infeasible due to construction constraints. Compared to the Applicant's Proposed Action Alternative, the Community Advisory Process Western Route would require the most new right-of-way, use the least amount of existing utility corridor, cross 30 more special status streams, require more than 1,750 acres of forest clearing, and cross about 45 miles through the Malheur and Umatilla National Forests (Idaho Power Company 2010). By comparison, the Applicant's Proposed Action Alternative route would follow designated corridors through forested areas with minimal forest clearing. The Community Advisory Process Western Route would be inconsistent with BLM's policy of using existing corridors (FLPMA, Section 503). This route was considered but eliminated from detailed analysis because it is technically infeasible.

LOCATE THE TRANSMISSION LINE IN THE INTERSTATE-84 HIGHWAY CORRIDOR

The Interstate-84 corridor (from the Boardman area to Hemingway area) was considered as a potential corridor for the entire length of the proposed transmission and evaluated during the Community Advisory Process siting study and also was considered during development of the agency alternative. Portions of the alternative routes do follow the Interstate-84 corridor. However, in some portions of the highway corridor there exist technical constraints that prevented the line from collocating with Interstate 84 for its entire length. Constraints include urban areas, Indian reservation lands, airport clear zones, residences, industrial zones, and irrigated agricultural lands (Idaho Power Company 2010). Using the Interstate 84 corridor for the length of the B2H Project was considered technically infeasible. In addition, the alternative is substantially similar in design to an alternative that was identified.

As described in Section 2.1.1.3, comments on the Draft EIS and/or subsequent discussion with counties recommended alternative route-variation options. The recommended route-variation options were reviewed by the BLM for viability. Some route-variation options were incorporated into the network of alternative routes analyzed for the Final EIS. Other route-variation options were considered but eliminated from detailed analysis in the Final EIS. The following describes the route-variation options eliminated from detailed analysis and the reason for their elimination. Maps 2-8a and 2-8b show the general locations of the route-variation options that were eliminated from detailed analysis.

SEGMENT 1—MORROW-UMATILLA

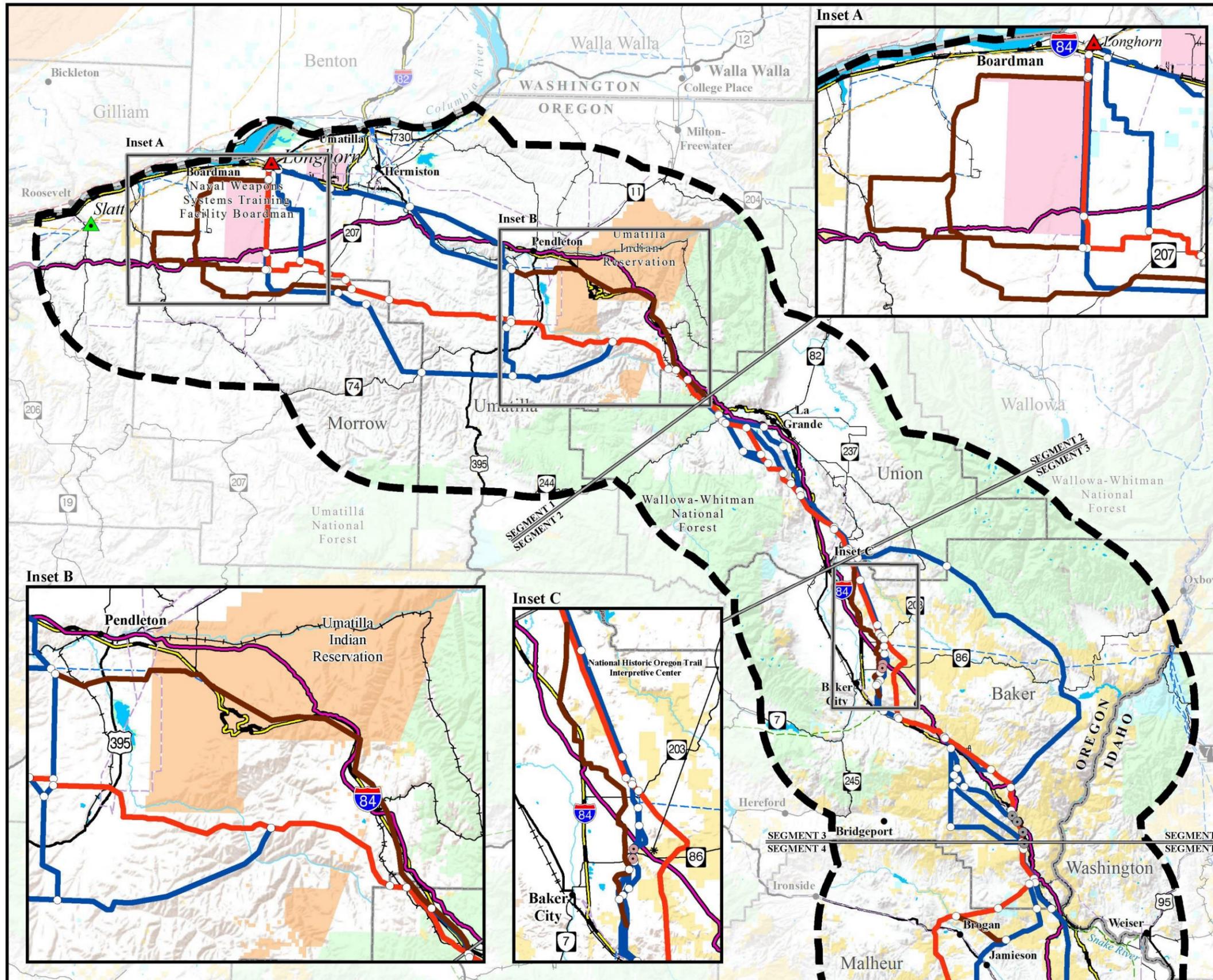
GRASSLANDS AND HORN BUTTE SUBSTATIONS AND ALTERNATIVE ROUTE

After the Draft EIS was released for public review, the Applicant changed its Proposed Action from a preferred northern terminus at Grassland Substation to a northern terminus at Longhorn Substation (Inset A on Map 2-8a).

In the Applicant's letter transmitting its comments on the Draft EIS (dated March 19, 2015), the Applicant stated that "In the absence of the Cascade Crossing, the Grassland and Horn Butte routes set forth in the Draft EIS do not meet B2H Project objectives. Neither the Grassland nor Horn Butte substations would provide the required approximate 1,000 MW of bi-directional capacity and up to 1,500 MW [megawatts] of actual power flow capability. Therefore, Idaho Power does not support the Grassland or Horn Butte routes." Further, "The Longhorn Substation is the only substation discussed in the Draft EIS that would meet Idaho Power's objectives. Therefore, Idaho Power supports the alternatives that would connect the B2H Project with the Longhorn Substation." The Longhorn Substation and alternative routes to the substation (i.e., East of Bombing Range Road, Longhorn Variation) were analyzed and documented in the Draft EIS. The Applicant submitted to the BLM a revised application (Standard Form 299) on September 9, 2015. The Grassland Substation and Horn Butte Substation no longer would meet the objectives of the Applicant's purposes for the B2H Project. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS as it would be ineffective in improving infrastructure for distribution of the energy resources needed and is no longer technically feasible.

SOUTHERN ALTERNATIVE ROUTE WEST

In comments on the Draft EIS, Oregon Department of Agriculture, City of Boardman, businesses (Windy River; Westland Enterprises LLC; Terra Poma Land LLC; Homestead Farms, Inc.), and individuals recommended an east-west route-variation option south of the alternative route into the proposed Grassland or Horn Butte (Inset A on Map 2-8a). The intent was to avoid more agricultural land. Since the Grassland or Horn Butte substations no longer would meet the objectives of the Applicant for proposing the B2H Project, the substations and alternative routes to the substations were no longer needed. This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS as it would be ineffective in improving infrastructure for distribution of the energy resources needed and is no longer technically feasible.



Map 2-8a Alternative Routes Considered but Eliminated from Detailed Analysis (Northern Area)

BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT

Project Features

Project Area Boundary	Link Node
Substation (Considered but Eliminated from Detailed Analysis)	Segment Line
Substation (Project Terminal)	Flagstaff 230-kV Rebuild (Inset C)
Considered but Eliminated from Detailed Analysis	Double-circuit 138/69-kV Rebuild
Applicant's Proposed Action Alternative	
Alternative Route	

Land Ownership

Bureau of Land Management	U.S. Fish and Wildlife Service
Bureau of Reclamation	U.S. Forest Service
Indian Reservation	Other Federal
National Park Service	State Land
U.S. Department of Defense	Private Land

General Reference

City or Town	Interstate Highway
500-kV Transmission Line	U.S. Highway
345-kV Transmission Line	State Highway
230-kV Transmission Line	Lake or Reservoir
138-kV Transmission Line	State Boundary
69- to 115-kV Transmission Line	County Boundary
Railroad	Oregon National Historic Trail Congressionally Designated Alignment

SOURCES:
 Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013;
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007,
 Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012;
 Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013;
 Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013;
 Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

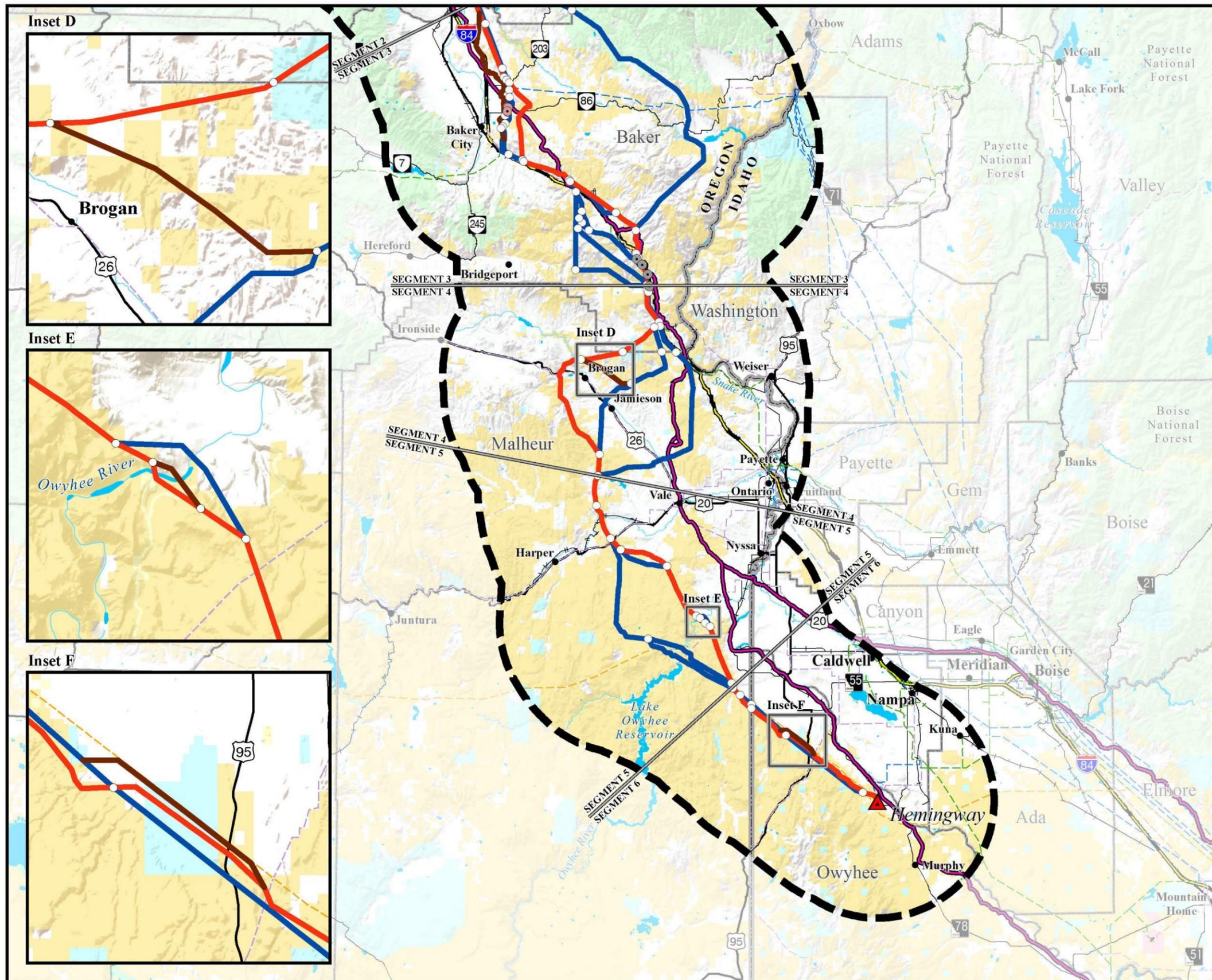
NOTES:

- The alternative routes shown on this map are draft and may be revised or refined throughout the development of the project.
- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016

1:950,400 or 1 inch = 15 miles

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Map 2-8b
**Alternative Routes
 Considered but Eliminated
 from Detailed Analysis
 (Southern Area)**

BOARDMAN TO HEMINGWAY
 TRANSMISSION LINE PROJECT

- Project Features**
- Project Area Boundary
 - Substation (Considered but Eliminated from Detailed Analysis)
 - Substation (Project Terminal)
 - Considered but Eliminated from Detailed Analysis
 - Applicant's Proposed Action Alternative
 - Alternative Route
 - Link Node
 - Segment Line
 - Flagstaff 230-kV Rebuild (Inset C)
 - Double-circuit 138/69-kV Rebuild

- Land Ownership**
- Bureau of Land Management
 - Bureau of Reclamation
 - Indian Reservation
 - National Park Service
 - U.S. Department of Defense
 - U.S. Fish and Wildlife Service
 - U.S. Forest Service
 - Other Federal
 - State Land
 - Private Land

- General Reference**
- City or Town
 - 500-kV Transmission Line
 - 345-kV Transmission Line
 - 230-kV Transmission Line
 - 138-kV Transmission Line
 - 69- to 115-kV Transmission Line
 - Railroad
 - Interstate Highway
 - U.S. Highway
 - State Highway
 - Lake or Reservoir
 - State Boundary
 - County Boundary
 - Oregon National Historic Trail Congressionally Designated Alignment

SOURCES:
 Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013;
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007,
 Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012;
 Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013;
 Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013;
 Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

NOTES:

- The alternative routes shown on this map are draft and may be revised or refined throughout the development of the project.
- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016

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SLATT SUBSTATION ALTERNATIVE ROUTE

The Columbia-Snake River Irrigators Association, Oregon Department of Agriculture, Morrow County, City of Boardman, and businesses (Windy River, Hale Companies, Boardman Tree Farm, Pasco Farming, Inc.) recommended a route-variation option that would extend the Horn Butte Alternative route, south of the NWSTF Boardman, approximately an additional 10 miles to the west to connect with the existing BPA Slatt 500-kV Substation. The intent of the recommended alternative route was to mitigate impacts on irrigated agricultural land.

However, in a letter dated July 23, 2015, the BPA, the sole owner of the Slatt Substation, informed the BLM that the Slatt Substation has no open 500-kV bays and there are “severe physical constraints” to expanding the substation to accommodate the B2H Project. Also, BPA has not determined that a joint ownership structure, including an open-bus concept would be acceptable or even feasible for existing BPA substations, including the Slatt Substation. Because the substation is wholly owned by the BPA, BPA’s existing policy and rate schedules would require that BPA charge Idaho Power and PacifiCorp for use of the substation (which would be passed onto the rate payers). This alternative was considered by the BLM but was eliminated from detailed analysis in the EIS as it is technically infeasible and would not meet the BLM’s purpose and need in improving infrastructure for distribution of the energy resources needed.

PARALLEL INTERSTATE 84/EXISTING 230-KV TRANSMISSION LINE ROUTE-VARIATION OPTIONS

Comments on the Draft EIS from Umatilla County, WildLands Defense; a letter from a consortium of the OCTA, Hells Canyon Preservation Council, Oregon Wild, and WildEarth Guardians; and several individuals recommended an alternative route-variation option paralleling to Interstate 84 in Umatilla County and/or paralleling existing transmission lines. The intent was to consolidate linear facilities to avoid proliferation of utility corridors in this area and reduce impacts on privately owned lands. The BLM asked the Applicant to develop a route collocated with Interstate 84 and/or the existing 230-kV transmission lines. At the BLM’s request for an alternative route-variation option parallel to Interstate 84 and/or the existing 230-kV transmission lines, the Applicant developed four options that would be responsive to Draft EIS comments to collocate with the Interstate 84 or the existing 230-kV transmission lines. Section 2.1.1.3 provides a description of the options.

A section common to two of the route-variation options would cross through the mountainous area of the Umatilla Indian Reservation and then roughly parallel to Interstate 84 to the Hilgard area. In a letter dated September 23, 2015, the Applicant indicated that crossing the Umatilla Indian Reservation would result in a short-term right-of-way contractual agreement that would be inconsistent with the objectives of the B2H Project. On June 18, 2015, the Applicant met with representatives of the CTUIR. The CTUIR stated that a right-of-way across the Reservation would be limited to a 20-year term. The financial uncertainty associated with the CTUIR possibly denying a renewal of the right-of-way following the expiration of the original term and forcing the Applicant to take the affected portion of the transmission line out of service, could threaten the Applicant’s intention that the B2H Project remain in-service long

term if not indefinitely. Considering the costly investment in the transmission line, the Applicant does not feel it would be prudent to take the economic risk. Two of the alternatives paralleling Interstate 84 and/or the existing 230-kV transmission lines were carried forward for detailed analysis in the EIS (Inset B on Map 2-8a). The two alternative routes with route-variation options crossing the Umatilla Indian Reservation were considered by the BLM but were eliminated from detailed analysis in the EIS because the routes could be permitted by the Tribe for a period of only 20 years. The project has a life of at least 50 years, so this option is economically infeasible due to the uncertainty regarding renewal of the right-of-way.

SEGMENT 2—BLUE MOUNTAINS

Recommended route-variation options in Segment 2 are analyzed in the EIS; none were eliminated from detailed analysis.

SEGMENT 3 — BAKER VALLEY

PARALLEL INTERSTATE 84 – BAKER COUNTY ROUTE-VARIATION OPTION

In comments on the Draft EIS, the Oregon Department of Fish and Wildlife recommended a route-variation option to avoid Greater Sage-grouse Category 1 habitat by closely paralleling Interstate 84 from Oregon Highway 203 to the southeast (Inset C on Maps 2-8a). The intent of this route variation is to mitigate impacts on Greater Sage-grouse Category 1 habitat. This route-variation option is in proximity to the Baker Municipal Airport and crosses the airspace associated with the airport, which constitutes technical engineering and safety issues; crosses designated wetland areas; and there are potential visual impacts on views from Interstate 84 where the route-variation option parallels in proximity to the interstate.

In an email, dated September 23, 2015, the Applicant explained that a route roughly parallel to Interstate 84 in Baker County (Magpie-Flagstaff) had been evaluated in 2013 for a sage-grouse avoidance-balancing review. The environmental and land use constraints in the area are such that the route provided no improvement beyond the Applicant's Proposed Action Alternative that parallels the existing transmission line to the north. This alternative route-variation option was considered by the BLM but eliminated from detailed analysis in the EIS as technically infeasible due primarily to safety concerns with the proximity of the proposed transmission line to the Baker Municipal Airport and crossing through airspace associated with the airport.

SEGMENT 4 — BROGAN

BROGAN ROUTE-VARIATION OPTION

In comments on the Draft EIS, a nongovernmental organization, Stop Idaho Power, recommended a route-variation option south of the Applicant's Proposed Action Alternative route in southern Baker County and northern Malheur County, for approximately 8 miles before sharing an alignment with the Willow Creek Alternative (Inset D on Map 2-8b). The intent of this recommended route-variation option is to avoid two 2-mile buffers around Greater Sage Grouse leks near Brogan. Although the route-variation option avoids the lek buffers, it would be located entirely within Greater Sage-Grouse PHMA

and it is longer than the Applicant's Proposed Action Alternative; therefore, the route-variation option would result in more ground disturbance in a relatively undisturbed area. It does not offer a substantive improvement over the alternative routes already being considered, and was considered by the BLM, but eliminated from detailed analysis in the EIS.

SEGMENT 5 — MALHEUR

OWYHEE RIVER CROSSING

Comments on the Draft EIS recommended that the alignment of the Applicant's Proposed Action Alternative at the crossing of the Owyhee River be moved slightly to the east to reduce effects on visual resources and to be located within the BLM-designated utility corridor (Inset E on Map 2-8b). However, both the Applicant's Proposed Action Alternative and the recommended adjustment would be within a segment of the Owyhee River identified by the BLM as suitable for designation as a National WSR with an outstanding remarkable value classification of recreational. In response, the BLM improved on the concept recommended by moving the recommended alignment to the east and outside of the suitable WSR segment and within the BLM-designated corridor to reduce impacts; therefore, the originally recommended route-variation did not need to be analyzed in detail in the EIS.

SEGMENT 6 — TREASURE VALLEY

JUMP CREEK ROUTE-VARIATION OPTION

A letter from a consortium of Oregon Natural Desert Association, Idaho Conservation League, Oregon Wild, Hells Canyon Preservation Council, and the Wilderness Society requested a route variation be located farther north from the Jump Creek recreation area and away from the mouth of the canyon (Inset F on Map 2-8b). Due to the visual sensitivity of this recreation area, the intent of the recommended route variation is to increase the distance between Jump Creek and the B2H Project while collocating closer to existing transmission lines.

The BLM sited the alternative route in this area purposefully to optimize use of the West-wide Energy Corridor (by aligning close to the southern edge of the designated corridor) to allow for efficient placement and construction of future linear facilities within the corridor, without unnecessary crossings of other transmission lines and undue degradation of resources. Moving and collocating the route's alignment closer to the existing transmission lines, in this instance, would constrain use of the West-wide Energy Corridor and would require crossings of the existing transmission lines (which increases risk in operational reliability). Any improved visual effects of this alignment on the recreation area would be offset by the technological requirement to use angle or dead-end structures, which are taller and more robust, to facilitate angles in the alignment to offset from the canyon. The BLM considered this alternative, but eliminated it from detailed analysis in the EIS as it is inconsistent with policy objectives for management in a West-wide Energy Corridor as the impacts outside of the West-wide Energy Corridor are greater than those inside the corridor.

2.6 SUMMARY COMPARISON OF ALTERNATIVE ROUTES

As explained in Section 2.5.1, on completion of the analyses, the alternative routes in each segment were screened to characterize the key issues and impacts, then compared to identify the most environmentally acceptable routes to be addressed in the EIS. This section summarizes the results of the comparison of alternative routes and summarizes the alternative route that emerged from the analysis exhibiting the least impact on the environment overall.

Chapter 3 provides descriptions of the existing condition of the potentially affected environment and environmental consequences for each resource by alternative route in each segment. The results of the analyses are characterized and summarized in Tables 2-19 through 2-36 at the end of this chapter. This information serves as a basis for comparing the alternative routes. Resource maps showing baseline data and residual impacts are included in the Volume II. Maps 2-9a and 2-9b show existing linear facilities in the B2H Project area.

2.6.1 ENVIRONMENTALLY PREFERABLE ACTION ALTERNATIVE

2.6.1.1 INTRODUCTION

In this EIS, the alternative route that results in the least impact on the natural, human, and cultural environment and best protects, preserves, and enhances historic, cultural, and natural resources is the environmentally preferable action alternative.

As explained in Section 2.1.1.3, comments on the Draft EIS recommended local route variations; that is, variations of alternative routes addressed in the Draft EIS. In some cases, these route variations were developed by counties working with local stakeholders. Because of the additional variants, all alternative routes were analyzed and compared for the Final EIS. As a result, the environmentally preferable action alternative route that emerged from the analysis for the Final EIS is the route exhibiting the least effects overall on the natural, human, and cultural environment. Key considerations to compare the relative impacts among alternative routes include the following:

- Vegetation: native grassland, shrubland, forest, riparian (RCA) vegetation communities
- Wildlife: Washington ground squirrel, Greater Sage-Grouse, big game winter range
- Fisheries: ESA-listed fish species, Essential Fish Habitat
- Land uses: relevant and important values or characteristics of certain land uses established for conservation or recreation (specially designated areas, potential congressional designations, managed recreation areas), lands with wilderness characteristics, paralleling existing linear facilities, consideration of existing development (e.g., commercial, residential)
- Agriculture: existing agriculture (i.e., irrigated agriculture and crop production), soils important to farming as identified in federal and state law (i.e., high-value soils and important farmland), Conservation Reserve Program lands (agricultural lands in the B2H Project area are important because of the high-quality soils associated with the Columbia River Basin, proximity to processing facilities, and flat topography)
- National Historic Trails/Study trails: direct, indirect effects on trails

- Visual resources: scenic quality/landscape character, visibility from key observation points (residential, recreation, historic and scenic travel routes)
- Cultural resources: NRHP-eligible and listed properties, sites and/or areas of concern to Native Americans, cultural landscapes, and other areas of cultural significance

Although vegetation, wildlife, and fisheries are key considerations in the comparison of alternative routes, after comparing the alternative routes, these key considerations did not emerge as primary discriminators to identifying the environmentally preferable action alternative. While effects on vegetation communities would occur, design features of the B2H Project for environmental protection are anticipated to limit these effects through reducing the extent of disturbance, preventing the spread and establishment of invasive plants, and reclaiming disturbed areas with desirable native vegetation. Only one ESA-listed plant species, Howell's spectacular thelypody, occurs in the B2H Project area and all known occurrence of the species are located more than 1 mile from any alternative route. Other sensitive plants species (approximately 22, refer to Appendix D, Sections D.3 and D.5) are known to occur within 1 mile from alternative routes, but potential impacts resulting from any alternative route would be avoided or minimized to the greatest extent possible and not likely to contribute to the need to list the species under the ESA. Big game and migratory birds and raptors were not considered primary contributors to identifying the environmentally preferable action alternative because, while short- and long-term habitat loss associated with these species would occur, none of the alternative routes are anticipated to negatively affect big game or migratory birds and raptors appreciably due to the small amount of habitat affected compared to the large home ranges of these species. Disturbance of big game and migratory birds and raptors during sensitive periods would be minimized through the implementation of seasonal restrictions. Alternative routes in Segments 1 and 2 cross streams that support ESA-listed fish (steelhead, Chinook salmon, and bull trout), and associated protected fish habitat. In addition, alternative routes in all segments cross streams that support redband trout. Fish resources were not considered a primary contributor to identifying the environmentally preferable action alternative because streams that support ESA-listed fish and associated protected fish habitats would be completely spanned and no new access road crossings, or modifications of existing crossings below the ordinary high water mark, would occur in waterways that support ESA-listed fish and associated protected fish habitats.

The combinations of alternative routes and route variations that compose the environmentally preferable action alternative is summarized in Table 2-15, which is a list of links that comprise the environmentally preferable action alternative route, and shown on Map 2-10 (also refer to Maps 2-7a through 2-7f). A description of the environmentally preferable action alternative route by segment follows the table and a summary of the key considerations by segment is presented in Table 2-16.

Table 2-15. Summary of Environmentally Preferable Action Alternative Route			
Segment Number	Alternative Route	Link(s)	Length (miles)¹
Segment 1	Interstate 84 – Southern Route Alternative with Variation S1-A2	1-5, 1-9, 1-19, 1-23, 1-37, 1-39, 1-49, 1-50, 1-81, 1-83, 1-66, 1-65, 1-71, 1-77	93.7
Segment 2	Glass Hill Alternative with Variations S2-A2, S2-D2, and S2-F2	2-3, 2-7, 2-15, 2-20, 2-30, 2-40, 2-46, 2-50, 2-52, 2-60, 2-70, 2-80, 2-90	33.7
Segment 3	Flagstaff B – Burnt River West Alternative with Variations S3-A2 and S3-B4	3-10, 3-12, 3-14, 3-20, 3-24, 3-31, 3-32, 3-36, 3-38, 3-39, 3-43, 3-44, 3-48, 3-52, 3-54, 3-56, 3-60, 3-62, 3-66, 3-71, 3-73, 3-94	55.1
Segment 4	Tub Mountain South Alternative with Variation S4-A2	4-1, 4-5, 4-15, 4-17, 4-20, 4-30, 4-75	40.5
Segment 5	Applicant’s Proposed Action Alternative with Variation S5-B2	5-1, 5-5, 5-10, 5-15, 5-40, 5-45, 5-70, 5-75	40.6
Segment 6	Applicant’s Proposed Action Alternative with Variations S6-A2 and S6-B2	6-1, 6-5, 6-15, 6-30, 6-35	27.3
Total			290.7
<i>Table Note:</i> ¹ Mileage calculations are approximate as of March 4, 2016.			

Table 2-16. Summary of Key Considerations Regarding the Environmentally Preferable Action Alternative by Segment

Segment 1 – Morrow-Umatilla	Segment 2 – Blue Mountains	Segment 3 – Baker Valley	Segment 4 – Brogan	Segment 5 – Malheur	Segment 6 – Treasure Valley
Vegetation					
<p>Impacts on federally listed species are not anticipated along any of the alternative routes in Segment 1.</p> <p>Based on the available data for sensitive plant species occurrence, this alternative route along with the Interstate 84 Alternative, would affect the least number of sensitive plant occurrences.</p> <p>Compared to the Applicant’s Proposed Action Alternative, the Applicant’s Proposed Action – Southern Route Alternative, and the West of Bombing Range Road – Southern Route Alternative, this alternative avoids crossing the Research Natural Area (RNA-B) on the Naval Weapons System Training Facility (NWSTF) Boardman established to preserve remnant high-quality sagebrush vegetation communities.</p>	<p>This alternative route and all other alternative routes could affect known occurrences of the federally listed Howell’s spectacular thelypody, but any impacts are likely to be limited in intensity given the distance between known occurrences and all alternative routes.</p> <p>Moderate residual impacts on sensitive plant species could occur for this alternative route and all other alternative routes considered, with all alternatives resulting in similar amounts of impacts..</p> <p>This alternative route and all other alternative routes would result in predominantly moderate residual impacts on vegetation communities, with all alternatives resulting in similar amounts of impacts.</p>	<p>This alternative route and all other alternative routes could affect known occurrences of the federally listed Howell’s spectacular thelypody, but any impacts are likely to be limited in intensity given the distance between known occurrences and all alternative routes.</p> <p>Based on the available data for sensitive plant species occurrence, this alternative route would affect the fewest sensitive plant occurrences.</p> <p>This alternative route and all other alternative routes would result in predominantly moderate residual impacts on vegetation communities. Compared to the Timber Canyon Alternative, this alternative route would result in fewer residual impacts on vegetation communities due to its shorter length.</p>	<p>Impacts on federally listed species are not anticipated along any of the alternative routes in Segment 4.</p> <p>Based on the available data for sensitive plant species occurrence, this alternative route would affect the greatest number of sensitive plant occurrences.</p> <p>This alternative route would result in the least impacts on vegetation communities, as it primarily crosses Non-native Grasslands.</p>	<p>Impacts on federally listed species are not anticipated along any of the alternative routes in Segment 5.</p> <p>Based on the available data for sensitive plant species occurrence, this alternative route would affect the greatest number of sensitive plant occurrences.</p> <p>This alternative route would result in the least impacts on vegetation communities as it is the shortest alternative route considered and crosses Tall Sagebrush Steppe vegetation communities to the least extent. It also avoids the Owyhee River Below the Dam ACEC and potential impacts on the rare black cottonwood galleries in the ACEC.</p>	<p>Impacts on federally listed species are not anticipated along any of the alternative routes in Segment 6.</p> <p>Based on the available data for sensitive plant species occurrence, Variation S6-A2 of this alternative route would affect a greater number of sensitive plant occurrences. Variation S6-B2 of this alternative route would affect sensitive plant occurrences similarly to the other route variation.</p> <p>All variations considered in Segment 6 would result in predominantly moderate impacts on vegetation communities.</p>
Wildlife					
<p>Crosses Washington ground squirrel suitable habitat but avoids known occupied colony avoidance and dispersal areas, although none of the suitable habitat crossed has been surveyed for colonies. Compared to the Applicant’s Proposed Action Alternative, the Applicant’s Proposed Action – Southern Route Alternative, and the West of Bombing Range Road – Southern Route Alternative, this alternative avoids high impacts on occupied Washington ground squirrel habitat on the NWSTF Boardman, including habitat on the NWSTF Boardman Washington ground squirrel Resource Management Area (RMA).</p> <p>Compared to the West of Bombing Range Road – Southern Route, which would have the greatest impact on federally endangered gray wolves because Oregon Department of Fish and Wildlife (ODFW)-designated wolf use areas occur in the study corridor, ODFW-designated wolf use areas do not occur in the study corridors of this alternative route or the other alternative routes.</p> <p>No key issues identified for big game.</p>	<p>Crosses Greater Sage-Grouse General Habitat Management Area (GHMA) but along with the other alternative routes, would not cross Priority Habitat Management Area (PHMA) and no leks occur within 3.1 miles.</p> <p>Impacts on migratory bird habitat would be less with this alternative than the other alternatives as the Ladd Marsh Important Bird Areas would not be crossed.</p> <p>Along with the Applicant’s Proposed Action Alternative, this alternative would have slightly less effect on big game from crossing less big game habitat than the Mill Creek Alternative.</p>	<p>This alternative route avoids Greater Sage-Grouse PHMA to a greater extent than the Applicant’s Proposed Action Alternative, and where it does cross PHMA, it is located on the periphery of PHMA and is colocated with existing anthropogenic disturbances.</p> <p>Along with the other alternative routes, this alternative route would have less impact on big game from crossing less big game habitat than the Timber Canyon Alternative.</p>	<p>This alternative route would have the least impact on Greater Sage-Grouse, as it largely avoids PHMA. Where PHMA is crossed, the alternative route follows the outer edge of PHMA, which is closer to anthropogenic disturbances and, thus, represent lower quality habitat. The alternative route also crosses less GHMA, and crosses within 3.1 miles of a fewer number of leks than the other two alternative routes.</p> <p>No key issues identified for big game.</p>	<p>This alternative route would have the least impact on Greater Sage-Grouse, as it crosses the least amount of GHMA. Where GHMA is crossed, the route follows the outer edge of GHMA, which is closer to anthropogenic disturbances and, thus, represent lower quality habitat. Along with the other alternative routes, would not cross PHMA and no leks occur within 3.1 miles.</p> <p>This alternative route would have the least impact on Columbia spotted frog, as it crosses less habitat overall than the other alternative routes.</p> <p>No key issues identified for big game.</p>	<p>The route variations of this alternative route, along with the other route variations, cross Greater Sage-Grouse Important Habitat Management Area (IHMA) and do not cross GHMA, PHMA, and no leks occur within 3.1 miles. The IHMA crossed by Variation S6-A2 of this alternative route are not identified as lands used by Greater Sage-Grouse, but are lands that serve as management buffers for PHMA and to connect patches of PHMA. Therefore, identifiable impacts on Greater Sage-Grouse habitat in IHMA would not be expected. Variation S6-B2 is farther from the existing 500-kV transmission line than Variation S6-B1 and is farther from the edge of IMHA, and therefore may be located in an area of higher quality habitat.</p> <p>The route variations of this alternative route would have the least impact on Columbia spotted frog, as it crosses less habitat overall than the other route variations.</p> <p>No key issues identified for big game.</p>

Table 2-16. Summary of Key Considerations Regarding the Environmentally Preferable Action Alternative by Segment

Segment 1 – Morrow-Umatilla	Segment 2 – Blue Mountains	Segment 3 – Baker Valley	Segment 4 – Brogan	Segment 5 – Malheur	Segment 6 – Treasure Valley
Fisheries					
<p>This alternative route crosses streams that support steelhead, Chinook salmon, bull trout, and associated protected fish habitats, as well as streams that support redband trout.</p> <p>Along with the West of Bombing Range Road – Southern Route Alternative, this alternative is anticipated to result in greater residual impacts on fish resources than the other alternative routes as a greater distance of streams that support redband trout and Endangered Species Act (ESA)-listed fish, critical habitat, and/or Essential Fish Habitat (EFH) are crossed.</p>	<p>This alternative route crosses streams that support steelhead, Chinook salmon, bull trout, and associated protected fish habitats, as well as streams that support redband trout.</p> <p>This alternative is anticipated to result in greater residual impacts on fish resources than the other alternative routes as a greater distance of streams that support redband trout, ESA-listed fish, and associated protected fish habitats are crossed.</p>	<p>Along with the other alternative routes, this alternative route does not cross streams that support ESA-listed fish, critical habitat, and/or EFH; but does cross streams that support redband trout.</p> <p>Compared to the Timber Canyon Alternative, this alternative is anticipated to result in less residual impact on fish resources as less distance of streams that support redband trout are crossed.</p>	<p>Along with the other alternative routes, this alternative route does not cross streams that support ESA-listed fish, critical habitat, and/or EFH; but does cross streams that support redband trout.</p> <p>This alternative is anticipated to result in greater residual impact on fish resources than the other alternative routes as a greater distance of streams that support redband trout are crossed.</p>	<p>Along with the other alternative routes, this alternative route does not cross streams that support ESA-listed fish, critical habitat, and/or EFH; but does cross streams that support redband trout.</p> <p>This alternative is anticipated to result in greater residual impact on fish resources than the other alternative routes as a greater distance of streams that support redband trout are crossed.</p>	<p>Along with the other route variations, the route variations of this alternative route do not cross streams that support ESA-listed fish, critical habitat, and/or EFH; but do cross streams that support redband trout.</p> <p>For each route variation option, the route variations cross the same streams that support redband trout for the same distance; therefore, residual impacts on fish resources are anticipated to be similar with any of the Applicant’s Proposed Action route variation options.</p>
Land Uses					
<p>The northern portion of route is collocated with Interstate-84 and avoids windfarm development. Variation S1-A2 parallels an existing 230-kV line between the areas of Echo and Rieth. From Kamela and on to Wallowa-Whitman National Forest routing is within the USFS-designated utility corridor.</p> <p>This alternative avoids impacts on NWSTF Boardman property compared to the Applicant’s Proposed Action Alternative, West of Bombing Range Road- Southern Route Alternative, and East of Bombing Range Road Alternative. Crosses less military airspace than all other alternative routes and route variations and minimizes impacts to training operations due to this alternative’s collocation with Interstate 84.</p> <p>Avoids impacts on research natural area associated with the Applicant’s Proposed Action Alternative. None of the alternative routes within Segment 1 are located in a West-wide Energy Corridor (WVEC).</p>	<p>Variation S2-A2 is preferred by USFS for collocation closer to the existing 230-kV transmission line within the USFS-designated utility corridor on the Wallowa-Whitman National Forest. This alternative would minimize vegetation removal over other alternative routes by using existing service roads associated with the existing 230-kV line.</p> <p>In southern portion, Variation S2-F2 provides greater opportunity than other alternative routes for collocation with the existing 230-kV transmission line. This route minimizes impacts on community of La Grande, residences, and other associated land uses.</p> <p>This alternative and the Applicant’s Proposed Action Alternative share the same alignment in this area and are located within an USFS-designated utility corridor for 1.3 miles. This is less than the Mill Creek Alternative (2.5 miles). No alternative routes are located within a WVEC.</p> <p>This alternative also is preferable for recreation as it is the farthest distance from the Morgan Lake Recreation Area.</p>	<p>The northern portion of alignment collocated closer to the existing 230-kV transmission line. Also, Variation S3-B4 parallels the existing 230-kV line along most of the north-south portion of the routing. Where the alternative route turns to the southeast, the route variation diverges from the 230-kV line and parallels an existing 138-kV transmission line and Interstate 84. Variation S3-C5 reduces impacts on privately owned lands in and around the community of Durkee. Avoids impacts on community and residences through collocation with existing facilities.</p> <p>Approximately 1.3 miles of Variation S3-C3 and 1.4 miles of the Applicant’s Proposed Action Alternative, Flagstaff A Alternative, Timber Canyon Alternative, Flagstaff A-Burnt River Alternative and Flagstaff B are located within a WVEC. No other alternative routes are within a utility corridor. Less than 0.1 mile of Variation S3-B4 is located within a right-of-way avoidance area. No other alternative routes or route variations are located within a right-of-way avoidance area.</p>	<p>The northern portion of the alternative route parallels Interstate 84, and parallels the exiting 138-kV transmission line in the area of Farewell Bend. Variations S4-A2 allows for collocation closer to the existing 138-kV line. Avoids impacts on community and residences through collocation with existing facilities.</p> <p>This alternative uses 3.2 miles of a WVEC and approximately 1.8 miles of BLM-designated utility corridor while the other alternative routes are not located in any utility corridors.</p>	<p>North of Double Mountain, the route crosses private land to avoid crossing lands with wilderness characteristics south of the route. Variation S5-B2 avoids crossing a segment of the Owyhee River identified by the BLM as suitable for designating as a National WSR (Owyhee River Below the Dam suitable WSR segment). Just north of the river crossing, the route enters and remains within a BLM-designated utility corridor nearly to the end of Segment 5.</p> <p>Approximately 0.8 miles of this alternative is located within WVEC, which is less than the Malheur S and A alternatives. It also uses 13.3 miles within BLM-designated utility corridor, which is more than both the Malheur S and A Alternatives. Approximately 0.7 mile is identified as right-of-way avoidance which is also less than the Malheur S and A Alternatives. No other alternative routes are located within utility corridors.</p>	<p>Applicant’s Proposed Action Alternative and Variations S6-A2 and S6-B2 Located within and along the southern edge of the BLM-designated utility corridor to maximize future use of this corridor.</p> <p>This alternative would result in greatest use of WVEC and BLM-designated utility corridor than the other route variations in Segment 6.</p>
Agriculture					
<p>Because the northern portion of this alternative is not subject to the NWSTF Boardman height restrictions as other alternatives are, it allows tower structure heights to be taller and span distances</p>	<p>The environmentally preferable action alternative crosses the least field crops of all alternatives in Segment 2. The Mill Creek Alternative crosses the least high-value soils and important farmland, though the</p>	<p>The Flagstaff B – Burnt River West Alternative crosses the fewest miles of center pivot irrigation except for the Timber Canyon Alternative. It also crosses the least miles of other mechanized irrigation, field</p>	<p>The environmentally preferable action alternative (Tub Mountain South Alternative) crosses the most irrigated farmland of any alternative in Segment 4, though it does cross fewer miles of pivot</p>	<p>All alternatives have similarly low impacts on irrigated agriculture and crop production, though the Applicant’s Proposed Action Alternative has the least. However, environmentally preferable action</p>	<p>The variations in Segment 6 have similarly low impacts on existing agriculture. However, Variation S6-A2 would affect more important farmland and high-value soils than Variation S6-A1. Variation S6-</p>

Table 2-16. Summary of Key Considerations Regarding the Environmentally Preferable Action Alternative by Segment

Segment 1 – Morrow-Umatilla	Segment 2 – Blue Mountains	Segment 3 – Baker Valley	Segment 4 – Brogan	Segment 5 – Malheur	Segment 6 – Treasure Valley
<p>greater than those that would be used on other alternatives such as the East of Bombing Range Road Alternative. Thus, while the Interstate 84 Alternative passes through an area that has the most pivot irrigation of all alternatives, all pivots could be spanned except one on Variation S1-A2. Conversely, a minimum of 23 pivots along the East of Bombing Range Road Alternative could not be spanned.</p> <p>The Interstate 84 Alternative also avoids all of the tree farm and crosses two confined animal feeding operations in locations where they can be spanned. Conversely, the Longhorn Alternative crosses two confined animal feeding operations in locations that could not be spanned and would have high impacts long-term.</p> <p>This alternative would affect fewer acres of lands enrolled in Conservation Reserve Program contracts than most of the other alternatives (except for West of Bombing Range Road – Southern Route and Interstate 84 – Southern Route).</p> <p>Variation S1-A2 is preferable to S1-A1 because there is less land cultivated for field crops under Variation S1-A2 (approximately 4.2 miles less than Variation S1-A1). While there is more center-pivot irrigation crossed on Variation S1-A2, there is much less cultivated cropland crossed, and because of this, this variation would have fewer impacts on existing agriculture. Variation S1-A2 crosses 10 fewer miles of prime farmland if irrigated, 9.7 fewer miles of high-value soils, and 6.4 more miles of farmland of statewide importance compared to Variation S1-A1.</p>	<p>environmentally preferable action alternative still crosses fewer miles than the Applicant's Proposed Action Alternative. There is no irrigated farmland or land enrolled in the Conservation Reserve Program crossed by any alternative in Segment 2.</p> <p>The variations have few differences with the exception of Variations S2-F1 and S2-F2. Variation S2-F2 crosses fewer miles of field crops, prime farmland if irrigated, farmland of statewide importance, and high-value soils than Variation S2-F1.</p>	<p>crops, high-value soils, and important farmland of any alternative in Segment 3.</p> <p>Variation S3-A2 crosses fewer miles of irrigated agriculture and important farmland than Variation S3-A1 (while neither cross high-value soils nor lands enrolled in the Conservation Reserve Program).</p> <p>Variation S3-B4 avoids center pivot irrigation completely, but does affect the most other mechanized irrigation of these variations. This variation also crosses the most high-value soils, but ranks in the middle-to-high range for important farmland affected. None of these variations impact lands enrolled in the Conservation Reserve Program.</p>	<p>irrigation than the Willow Creek Alternative. It also avoids a landing strip used for agriculture that the Willow Creek Alternative crosses. This alternative crosses the most high-value soils and important farmland of any alternative in Segment 4, and all alternatives avoid lands enrolled in the Conservation Reserve Program.</p> <p>All variations have similar impacts on agriculture.</p>	<p>alternative crosses more than double the miles of high-value soils of the other alternatives in Segment 5.</p> <p>Variation S5-B2 crosses more irrigated agriculture and important farmland, but less high-value soils compared to Variation S5-B1.</p>	<p>B2 would affect less important farmland and high-value soils than S6-B1.</p>
National Historic Trails/Study Trails					
<p>Oregon NHT</p> <p>Avoids crossing and highly affecting the Boardman high-potential route segment and a contributing trail segment (Well Spring Segment) along Bombing Range Road.</p> <p>Moderate impacts on views from National Park Service (NPS) auto tour route (Interstate 84). Route avoids the area of high impacts west of Pendleton based on the alignment of Variation S1-B2.</p>	<p>Oregon NHT</p> <p>Avoids area of high impacts on views from the NPS auto tour route (Interstate 84) west of La Grande based on the alignment of Variation S2-A2, where views are partially screened by topography and vegetation.</p> <p>High impacts on views from two trail-associated cultural sites west of Morgan Lake Park.</p>	<p>Oregon NHT</p> <p>All alternatives in Segment 3, except for the Timber Canyon Alternative, would highly impact views from the National Historic Oregon Trail Interpretive Center (NHOTIC). Based on the alignment of Variation S3-B4, west of the NHOTIC, this route would be located adjacent to an existing 230-kV transmission line at the edge of development in Baker Valley, thus reducing</p>	<p>Oregon NHT</p> <p>All alternatives in Segment 4 would highly affect views from the NPS auto tour route (Interstate 84) north of Huntington.</p> <p>Based on the alignment of the Tub Mountain South Alternative, views from the Birch Creek Interpretive Site (located in the Oregon Trail ACEC – Birch Creek portion), adjacent to contributing trail segments, and Alkali Springs high-potential route segment</p>	<p>Oregon NHT</p> <p>Since there are no high-potential historic sites, high-potential historic segments, or contributing trail segments located in the trail-specific study area for the Oregon NHT in Segment 5, the B2H Project would impact the Oregon NHT minimally.</p>	<p>Oregon NHT</p> <p>There would be no key issues since views from the Givens Hot Spring high-potential historic site would be affected minimally by the B2H Project where it would parallel an existing 500-kV transmission line that is already located closer to the historic site. Based on the alignment of Variation S5-B2, these effects would be reduced because the B2H Project components</p>

Table 2-16. Summary of Key Considerations Regarding the Environmentally Preferable Action Alternative by Segment

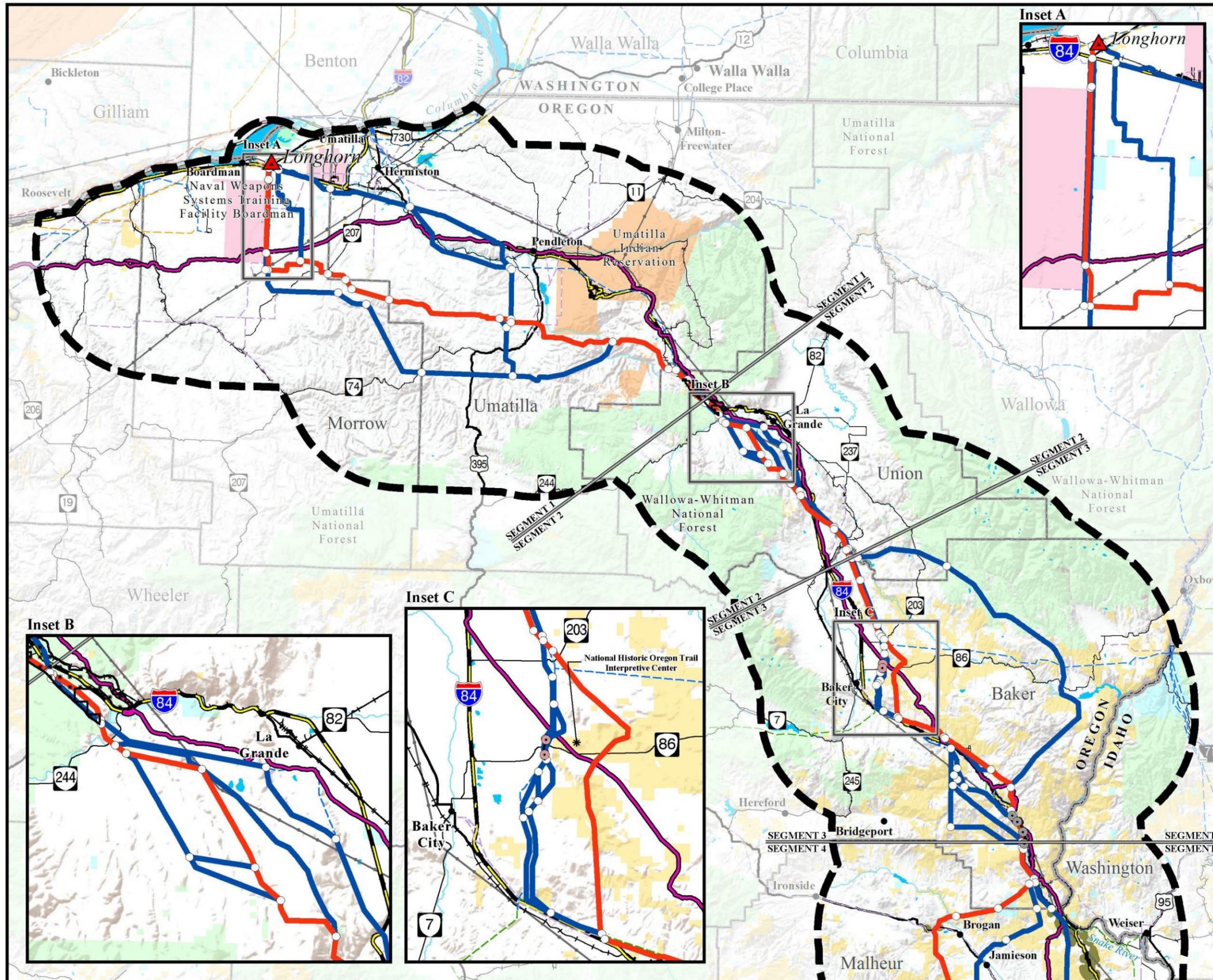
Segment 1 – Morrow-Umatilla	Segment 2 – Blue Mountains	Segment 3 – Baker Valley	Segment 4 – Brogan	Segment 5 – Malheur	Segment 6 – Treasure Valley
<p>High impacts on views from contributing trail segment southeast of the community of Echo, where adjacent to a smaller existing transmission line.</p> <p>Lewis and Clark NHT Similar to all Segment 1 alternatives, moderate impacts would occur on views from the Lewis and Clark NHT auto tour route (U.S. Highway 730).</p> <p>Study Trails Moderate impacts on views from Umatilla River Route and Columbia River to the Dalles Study Trail, where the trail would be crossed north of the community of Echo</p> <p>Low impacts on other trails under study.</p>	<p>Route avoids paralleling the Blue Mountain high-potential route segment and adjacent contributing trail segments (as well as other trail-associated cultural sites) by not paralleling the existing 230-kV transmission line near La Grande.</p> <p>Similar to all alternatives in the southern portion of Segment 2, high impacts on views from the NPS auto tour route (Interstate 84) would occur south of Ladd Canyon but, based on the alignment of Variation S2-F2, an existing 230-kV transmission line would be paralleled at the crossing of the auto tour route— incrementally reducing the extent of change (visual contrast) within the viewshed.</p> <p>Study Trails No study trails located within the NHT study area for Segment 2.</p>	<p>the extent of change (visual contrast) within the viewshed.</p> <p>Similar to all Segment 3 alternatives except the Timber Canyon Alternative, views from the NPS auto tour route (Interstate 84) east of Pleasant Valley would be highly affected.</p> <p>By siting this route away from the community of Durkee, trail resources including contributing trail segments and the NPS auto tour route (Interstate 84) would be avoided, thereby reducing the extent of impacts on the Oregon NHT compared to other alternative routes.</p> <p>Study Trails Based on the alignment of Variation S3-B4, views of the B2H Project would be screened by topography west of the NHOTIC— resulting in low impacts on views from the Goodale’s Cutoff Study Trail.</p>	<p>also would be highly affected by the environmentally preferable action alternative.</p> <p>Study Trails Moderate impacts on views from the Olds Ferry Road Study Trail would occur south of Farewell Bend in context with an existing transmission line and Interstate 84.</p>	<p>Study Trails All alternatives in Segment 5 would highly affect views from the Meek Cutoff Study Trail west of Vale in Malheur Canyon and the benchlands to the south.</p>	<p>would be located farther from the historic site.</p> <p>Study Trails No study trails located within the NHT study area for Segment 6.</p>
Visual Resources					
<p>Landscape Character and Scenic Quality This route would result in reduced impacts on landscape character and scenic quality since the B2H Project would traverse agricultural and ranching settings with a high degree of existing modifications compared to landscapes further to the south.</p> <p>Variation S1-A2 would result in increased impacts on the Umatilla River landscape by crossing and paralleling the river, but overall, result in reduced impacts on other landscapes by paralleling an existing 230-kV transmission line.</p> <p>Views Impacts on views would be increased along this route compared to other alternatives, because Interstate 84 is a major travel corridor, and based on the presence of more residential viewers that would be affected.</p> <p>Conformance with Management Objectives All alternatives would result in a similar extent of nonconformance with visual quality objectives (VQOs) on lands managed by the USFS.</p>	<p>Landscape Character and Scenic Quality Since this route does not parallel the existing 230-kV transmission line and instead traverses partially forested lands that are mostly undeveloped, this route would have increased impacts on landscape character and scenic quality compared to the Mill Creek Alternative.</p> <p>Views Impacts on views, including visibility from travel routes, residential viewers, and the recreation viewers at Morgan Lake would be reduced when compared to the Applicant’s Proposed Action Alternative and Mill Creek Alternative. Based on the alignment of Variation S2-F2, impacts on views from residences and Interstate 84 would be further reduced based on the B2H Project’s colocation with an existing 230-kV transmission line.</p> <p>Conformance with Management Objectives All alternatives would have a similar extent of nonconformance with VQOs on lands managed by the USFS with this route having the least acres of nonconformance.</p>	<p>Landscape Character and Scenic Quality Since this route does not parallel Interstate 84 in proximity to Durkee and adjacent existing transmission lines, and instead traverses steeply rolling hills that are mostly undeveloped, this route would result in increased impacts on landscape character and scenic quality compared to the Applicant’s Proposed Action, Flagstaff A, and Flagstaff B alternatives.</p> <p>Based on the alignment of Variation S3-B4 near Baker City, this route would result in reduced impacts on scenic quality based on its parallel alignment with the existing 230-kV transmission line that has already modified the existing landscape setting.</p> <p>Views Impacts on residential views in Durkee and views from I-84 would be reduced by selecting this route west of the community and interstate highway. Note, impacts on the NHOTIC are described under National Historic Trails.</p> <p>Conformance with Management Objectives This route would result in nonconformance with BLM visual resource management</p>	<p>Landscape Character and Scenic Quality This route would result in the least amount of impact on landscape character and scenic quality since existing transmission lines would be paralleled for the greatest distance, and because a greater amount of agricultural and ranching landscapes, with existing cultural modifications, would be crossed</p> <p>Views As compared to other alternatives, impacts on views would be increased based on the environmentally preferable action alternative’s parallel alignment with the Interstate 84 viewing platform.</p> <p>Conformance with Management Objectives This route would result in non-conformance with BLM VRM Class III objectives adjacent to the Birch Creek Interpretive Site (Oregon NHT), requiring a project-specific RMP amendment.</p>	<p>Landscape Character and Scenic Quality This route would result in the greatest amount of impact on landscape character and scenic quality since mostly undeveloped landscapes would be traversed. Additionally, this route does not parallel the existing 500-kV transmission line which already has modified existing settings within the vicinity of the Malheur A and Malheur S alternatives.</p> <p>Based on the alignment of Variation S5-B2, this route would result in reduced impacts on the Owyhee River landscape by siting the B2H Project farther to the east in agricultural lands, as compared the Applicant’s Proposed Action Alternative.</p> <p>Views Impacts on recreation views would be reduced on this route compared to the other alternatives and variations, because the Owyhee River would be crossed at the mouth of the canyon based on the alignment of Variation S5-B2.</p> <p>Impacts on residential viewers, located in the agricultural lands northeast of Owyhee River, would be increased based on the</p>	<p>Landscape Character and Scenic Quality This route generally parallels an existing 500-kV transmission line based on the alignments of Variations S6-A2 and S6-B2. In some areas, due to skylining of transmission line structures, the B2H Project would highly affect scenic quality.</p> <p>Views Moderate impacts on views from residences along Jump Creek Road and Poison Creek Road, as well as on views from recreation viewing platforms, would occur along this route. These impacts on views would be similar for the other variations in Segment 6.</p> <p>Conformance with Management Objectives All alternatives and routes in Segment 6 would meet the BLM VRM Class objectives crossed.</p>

Table 2-16. Summary of Key Considerations Regarding the Environmentally Preferable Action Alternative by Segment

Segment 1 – Morrow-Umatilla	Segment 2 – Blue Mountains	Segment 3 – Baker Valley	Segment 4 – Brogan	Segment 5 – Malheur	Segment 6 – Treasure Valley
		<p>(VRM) Class II objectives in Burnt River Canyon, requiring a project-specific RMP amendment.</p> <p>By being sited west of the NHOTIC would not require a plan amendment to the BLM VRM Class III lands in Virtue Flat.</p>		<p>alignment of Variation S5-B2 since more residences would have views of the B2H Project.</p> <p>Conformance with Management Objectives</p> <p>All alternatives in Segment 5 would result in nonconformance with BLM VRM Class II or III objectives at the crossing of the Owyhee River. This route, based on the alignment of Variation S5-B2, would result in the least amount of nonconformance with BLM VRM Classes.</p>	
Cultural Resources					
<p>Even though the environmentally preferable action alternative is not the shortest or the one with the lowest number of previously recorded sites that would be potentially affected, it avoids highly significant resources that are located in proximity to, or, are crossed by the other six alternative routes considered under Segment 1. These resources are:</p> <ul style="list-style-type: none"> • NRHP-listed Well Spring Segment of the Oregon NHT • Two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman (resources of concern to the CTUIR) • Sand Hollow Battlefield 1848 (resource of concern to the CTUIR) • Cultural landscape in the McKay Creek area; this area is important for both pre-contact and historic resources and is a place of importance in the contemporary culture of the CTUIR <p>Although the environmentally preferable action alternative does cross the Oregon NHT, it crosses an unrecorded segment of the trail, which is of unknown condition.</p> <p>Note: Despite the environmentally preferable action alternative distance from the aforementioned culturally significant resources, this alternative route has the second highest miles of high cultural resource sensitivity (result of three historic canals crossed).</p>	<p>The environmentally preferable action alternative potentially would affect the lowest number of previously recorded sites. The potential for affecting a greater number of known, high sensitivity sites is the same for the environmentally preferable action alternative and the Applicant's Proposed Action Alternative but lower for the Mill Creek Alternative. Even though the Mill Creek Alternative crosses the lowest number of miles of high cultural resource sensitivity, a historic property of religious and cultural significance to Indian tribes (traditional fishery/campsite) is found along the Mill Creek Alternative (indirect effects area of potential effect [APE]). This sensitive resource also has been identified along one of the route variations (Variation S2-B2) considered for the Applicant's Proposed Action Alternative (indirect effects APE).</p> <p>All three alternative routes cross the same unrecorded segment (unknown condition) of the Oregon NHT and parallel one previously recorded, contributing segment of the trail along their western extent. Overall, the environmentally preferable action alternative would have the lowest overall impact on the Oregon NHT, as this alternative route is located farthest from the trail.</p> <p>Avoids crossing the Ladd Marsh Wildlife Area, which has potential for sites of cultural importance.</p>	<p>Potential impacts along the environmentally preferable action alternative would be substantially lower than the other alternative routes considered in Segment 3, except for the Flagstaff B – Durkee Alternative (lowest potential impacts). The potential for affecting a greater number of previously recorded and high sensitivity sites also is lower along these two alternative routes (primarily along the Flagstaff B – Durkee Alternative).</p> <p>Potential impacts on the Oregon NHT would be similar to the other alternative routes considered in Segment 3, except that the environmentally preferable action alternative avoids multiple crossings of the historic trail (previously recorded segments) near Durkee, resulting in the potential for less intense impacts. The Flagstaff B – Durkee Alternative would have the lowest overall impact on the Oregon NHT, as the southern portion of this alternative route is located farthest from the trail.</p> <p>Based on the alignment of Variation S3-B4, potential effects on the Goodale's Cutoff Study Trail would be reduced because the B2H Project components would be located farther from previously recorded segments of the Study Trail.</p> <p>Compared to the Applicant's Proposed Action Alternative, the environmentally preferable action alternative lies farther from numerous historic resources associated with the Virtue Flat Mining Area, Goal 5 Resources, and established communities (e.g., Durkee, Weatherby).</p>	<p>Compared to the other alternative routes considered in Segment 4, the environmentally preferable action alternative potentially would affect the highest number of previously recorded sites. In addition, this alternative route crosses more miles of high cultural resource sensitivity than the other alternative routes.</p> <p>Potential impacts on the Oregon NHT and trail-associated sites, along the environmentally preferable action alternative would be more substantial than for the other alternative routes, as it crosses five unrecorded, intact segments of the trail.</p> <p>Avoids one area of Native American concern (Striped Mountain).</p> <p>Compared to the environmentally preferable action alternative, the other two alternative routes considered under Segment 4 avoid the Olds Ferry Road Study Trail, human burial sites of tribal significance, the Farewell Bend, and one broad cultural landscape that extends from the Farewell Bend area to the south. There is the potential for indirect effects on unrecorded, significant sites near the Tub Mountain, the Snake River, Huntington, and the Tom Creek areas, along the environmentally preferable action alternative.</p> <p>The Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, the Burns Paiute Tribe, and the CTUIR have expressed concerns about the proximity</p>	<p>The environmentally preferable action alternative potentially would affect the lowest number of previously recorded sites. However, the potential for affecting a greater number of known, high-sensitivity sites is higher along this alternative route than along the other two alternative routes considered in Segment 5.</p> <p>No potential impacts on the Oregon NHT and trail-associated sites were identified, as segments of the Oregon NHT are not located in the study corridor for the alternative routes considered under Segment 5.</p> <p>Potential impacts on the Meek Cutoff Study Trail (previously recorded, noncontributing segment) would be the same for all three alternative routes, since these alternative routes follow the same alignment in proximity to the Study Trail.</p> <p>Of the alternative routes considered in Segment 5, the environmentally preferable action alternative lies farther from historic resources associated with the Owyhee Dam Historic District (NRHP-listed).</p> <p>Avoids passing through an area of Native American concern (Negro Rock Canyon [east of Sand Hollow in Malheur County]). There is the potential for direct effects on undocumented, significant sites of tribal significance in or near this sensitive area.</p>	<p>The environmentally preferable action alternative crosses areas of high cultural resource sensitivity, attributed to six previously recorded sites with a high sensitivity index.</p> <p>Based on the alignment of Variation S6-A2, potential effects on Graveyard Point (historic resource and Native American concern) and the NRHP-listed Poison Creek Stage Station would increase because the B2H Project components would be located closer to these cultural resources. One extensive, pre-contact lithic procurement area has been documented within the boundaries of Graveyard Point in the indirect effects APE.</p> <p>Tribal input from the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation indicates the Tribes' preference for Variation S6-A1 (Applicant's Proposed Action Alternative) instead of Variation S6-A2, since Variation S6-A1 (Applicant's Proposed Action Alternative) lies farther from Graveyard Point. This culturally sensitive area is situated more than 1 mile to the north/northeast of the route variation.</p>

Table 2-16. Summary of Key Considerations Regarding the Environmentally Preferable Action Alternative by Segment

Segment 1 – Morrow-Umatilla	Segment 2 – Blue Mountains	Segment 3 – Baker Valley	Segment 4 – Brogan	Segment 5 – Malheur	Segment 6 – Treasure Valley
		<p>Avoids numerous pre-contact sites (e.g., rock features, rockshelters, lithic procurement areas) and one culturally sensitive area of Native American concern (Medical Hot Springs).</p>	<p>of the B2H Project to Farewell Bend (major tribal river crossing and tribal gathering area). The environmentally preferable action alternative passes within 1 mile of Farewell Bend. The CTUIR supports paralleling the transmission line and Interstate 84 to the Farewell Bend area, but preferred the route to cross over to the Willow Creek Alternative to avoid potential impacts on the cultural landscape south of the Farewell Bend area.</p>		



Map 2-9a
**Linear Facilities and
 Utility Corridors
 (Northern Area)**

**BOARDMAN TO HEMINGWAY
 TRANSMISSION LINE PROJECT**

- Linear Facilities**
- 500-kV Transmission Line
 - 345-kV Transmission Line
 - 230-kV Transmission Line
 - 138-kV Transmission Line
 - 69- to 115-kV Transmission Line
 - Pipeline
- Federal Utility Corridors**
- West-wide Energy Corridor
 - Land and Resource Management Plan Utility Corridor
 - Resource Management Plan Utility Corridor
- Project Features**
- Project Area Boundary
 - Substation (Project Terminal)
 - Applicant's Proposed Action Alternative
 - Alternative Route
 - Link Node
 - Segment Line
 - Flagstaff 230-kV Rebuild (Inset C)
 - Double-circuit 138/69-kV Rebuild (Inset D)
- Land Ownership**
- Bureau of Land Management
 - Bureau of Reclamation
 - Indian Reservation
 - National Park Service
 - U.S. Department of Defense
 - U.S. Fish and Wildlife Service
 - U.S. Forest Service
 - Other Federal
 - State Land
 - Private Land
- General Reference**
- City or Town
 - Railroad
 - Interstate Highway
 - U.S. Highway
 - State Highway
 - Lake or Reservoir
 - State Boundary
 - County Boundary
 - Oregon National Historic Trail Congressionally Designated Alignment

SOURCES:
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007, Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012; West-wide Energy Corridors, Argonne National Laboratory 2008; Land and Resource Management Plan Utility Corridor, USFS 2010; Resource Management Plan Utility Corridors, BLM 2002, 2012; Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013; Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013; Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013; Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

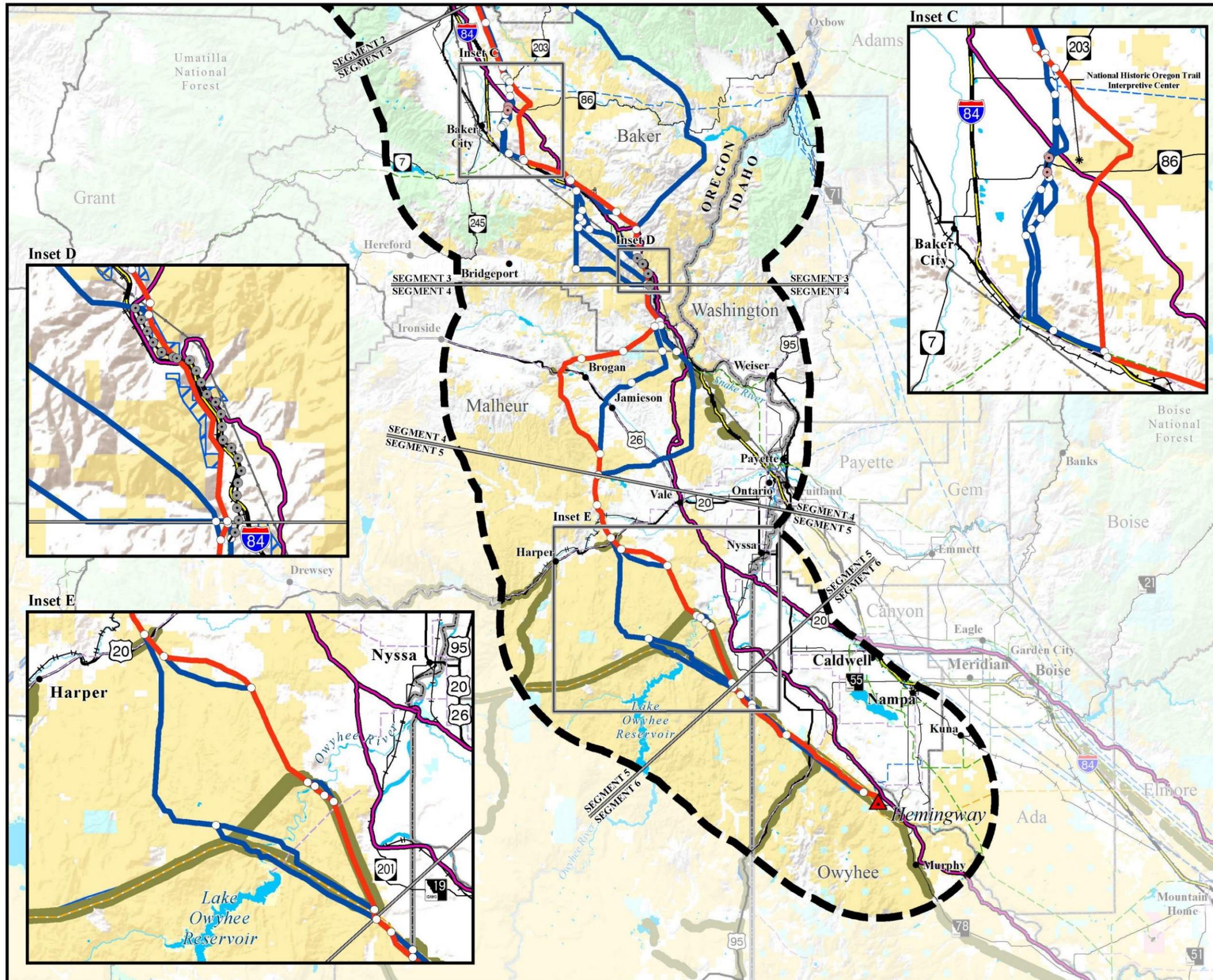
NOTES:

- The alternative routes shown on this map are draft and may be revised or refined throughout the development of the project.
- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016

0 5 10 15 30 Miles
 1:950,400 or 1 inch = 15 miles

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Map 2-9b

Linear Facilities and Utility Corridors (Southern Area)

BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT

Linear Facilities

- 500-kV Transmission Line
- 345-kV Transmission Line
- 230-kV Transmission Line
- 138-kV Transmission Line
- 69- to 115-kV Transmission Line
- Pipeline

Federal Utility Corridors

- ▭ West-wide Energy Corridor
- ▭ Land and Resource Management Plan Utility Corridor
- ▭ Resource Management Plan Utility Corridor

Project Features

- ▭ Project Area Boundary
- ▴ Substation (Project Terminal)
- Applicant's Proposed Action Alternative
- Alternative Route
- Link Node
- Segment Line
- Flagstaff 230-kV Rebuild (Inset C)
- Double-circuit 138/69-kV Rebuild (Inset D)

Land Ownership

- Bureau of Land Management
- Bureau of Reclamation
- Indian Reservation
- National Park Service
- U.S. Department of Defense
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- Other Federal
- State Land
- Private Land

General Reference

- City or Town
- Railroad
- Interstate Highway
- U.S. Highway
- State Highway
- Lake or Reservoir
- ▭ State Boundary
- ▭ County Boundary
- Oregon National Historic Trail Congressionally Designated Alignment

SOURCES:
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007, Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012; West-wide Energy Corridors, Argonne National Laboratory 2008; Land and Resource Management Plan Utility Corridor, USFS 2010; Resource Management Plan Utility Corridors, BLM 2002, 2012; Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013; Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013; Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013; Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

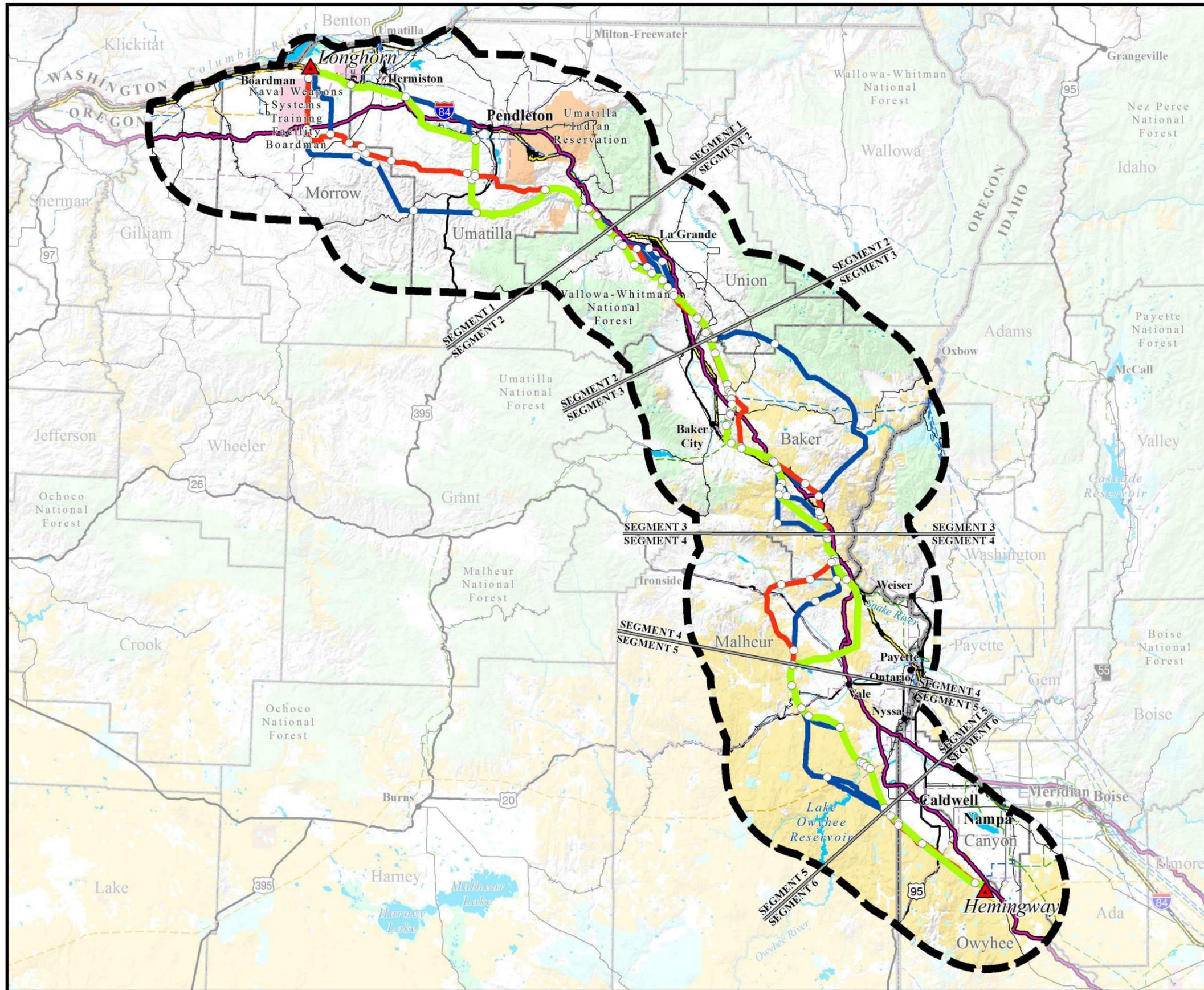
NOTES:

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- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016

0 5 10 15 30 Miles
 1:950,400 or 1 inch = 15 miles

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Map 2-10
**Environmentally Preferable
 Action Alternative Route**

**BOARDMAN TO HEMINGWAY
 TRANSMISSION LINE PROJECT**

- Project Features**
- Project Area Boundary
 - Substation (Project Terminal)
 - Applicant's Proposed Action Alternative
 - Alternative Route
 - Environmentally Preferable Action Alternative Route
 - Link Node
 - Segment Line

- Land Ownership**
- Bureau of Land Management
 - Bureau of Reclamation
 - Indian Reservation
 - National Park Service
 - U.S. Department of Defense
 - U.S. Fish and Wildlife Service
 - U.S. Forest Service
 - Other Federal
 - State Land
 - Private Land

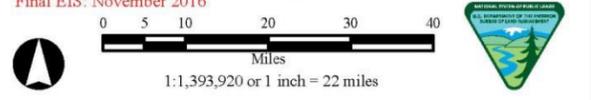
- General Reference**
- City or Town
 - 500-kV Transmission Line
 - 345-kV Transmission Line
 - 230-kV Transmission Line
 - 138-kV Transmission Line
 - 69- to 115-kV Transmission Line
 - Railroad
 - Interstate Highway
 - U.S. Highway
 - State Highway
 - Lake or Reservoir
 - State Boundary
 - County Boundary
 - Oregon National Historic Trail Congressionally Designated Alignment

SOURCES:
 Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013;
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007,
 Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012;
 Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013;
 Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013;
 Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

NOTES:

- The alternative routes shown on this map are draft and may be revised or refined throughout the development of the project.
- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016



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2.6.1.1 SEGMENT 1—MORROW-UMATILLA

The environmentally preferable action alternative in Segment 1 is Interstate 84 – Southern Route Alternative with the variation (Variation S1-A2). As mentioned previously, this route was recommended by local stakeholders in comments on the Draft EIS (Section 2.1.1.3), the intent was to site the line in areas already disturbed, consolidate linear facilities to avoid proliferation of utility corridors in this area, and avoid privately owned land.

The initial 23 miles of the alternative route parallels existing linear infrastructure (Interstate 84) along the south side of the Interstate 84 right-of way through areas developed with commercial uses and dense irrigated agriculture. The intent would be to site the transmission line to avoid or minimize effects on existing agriculture to the extent practicable. Between the areas of Echo and Rieth, Variation S1-A2 crosses through areas of existing agriculture (irrigated and dryland farming) along the eastern portion of the variation; however, it crosses through less agricultural area than Variation S2-A1 along Interstate 84. The environmentally preferable Variation (S1-A2) also crosses through the northern edge of an area identified as suitable habitat for the Washington ground squirrel⁷.

South of Rieth, the environmentally preferable action alternative route turns south, avoiding the community of Pendleton and the Umatilla Indian Reservation, and continues for approximately 20.5 miles. This stretch of the environmentally preferable action alternative crosses U.S. Highway 395 southwest of Pilot Rock, the southern portion of the route in this area crosses through areas of existing agriculture (predominantly dryland farming). The environmentally preferable action alternative also crosses through areas identified as suitable habitat for the Washington ground squirrel⁷. The environmentally preferable action alternative intersects with and follows the southernmost east-west alternative route in Segment 1 recommended by Morrow County. The alternative then crosses Rocky Ridge as it enters the Blue Mountains, avoiding potentially significant impacts on a broad area of cultural resources of concern to Native American tribes (the CTUIR in particular) associated with McKay Creek. The environmentally preferable action alternative route then intersects at a point where all of the alternative routes intersect and continues east to the area of Kamela.

In comparison, the alternative routes on the west side of Bombing Range Road, which would partially repurpose the position of BPA's 69-kV transmission line on the NWSTF Boardman, could result in potentially high impacts on Washington ground squirrel⁸ habitat (including occupied colony dispersal areas) on the NWSTF Boardman; it would cross the NWSTF Boardman Washington ground squirrel RMA, and RNA-B on the NWSTF Boardman⁹. Also, the West of Bombing Range Road alternative

⁷Presence or absence of Washington ground squirrel colonies has not been confirmed by survey in the areas identified as suitable habitat for the Washington ground squirrel.

⁸All alternative routes on the west side of Bombing Range Road cross Washington ground squirrel occupied habitat within the eastern boundary of the NWSTF Boardman, including the 11,226-acre Washington ground squirrel Resource Management Area, which is no longer used for military training activities and where habitat restoration efforts are focused on the NWSTF Boardman (Navy 2015). The NWSTF Boardman and adjacent privately owned Boardman Conservation Area represent the largest contiguous area of Washington ground squirrel occupied habitat in Oregon, and is likely the largest area of contiguous occupied habitat in the entire range of the Washington ground squirrel (USFWS 2008).

⁹Resource Natural Area B (RNA-B) was established to preserve remnant high-quality sagebrush vegetation communities.

would cross and result in potentially significant impacts on historic properties of religious and cultural significance to Indian tribes (referred to as TCPs by the Navy [Navy 2015]) in the general area of the southeast corner of the NWSTF Boardman, and avoids areas identified by the county for potential windfarm development.

The East of Bombing Range Road Alternative would cross densely developed irrigated agriculture; some of the center-pivots could not be spanned and operations would be affected. Also, there are Washington ground squirrel occupied colony avoidance areas and suitable habitat (where not developed with agriculture) south and east of the NWSTF Boardman. The Longhorn Alternative was developed before the Draft EIS to follow section lines with the intent of minimizing impacts on agricultural lands in the area; however, it intersects with the east-west portion of the Applicant's Proposed Action Alternative, which exhibits other impacts (described below).

Three of these alternatives to the south of the Longhorn Substation—Applicant's Proposed Action Alternative, East of Bombing Range Road, and Applicant's Proposed Action – Southern Route Alternative—turn east at the southeast corner of the NWSTF Boardman sharing the same alignment. These routes do not parallel existing linear infrastructure. They cross east through areas of potential windfarm development and then intersect with the Longhorn Alternative, also sharing the same alignment east to the end of Segment 1. These four alternatives cross several miles of dense agricultural areas (predominantly dryland farming). The routes cross substantially more Washington ground squirrel habitat⁷ than the environmentally preferable or southernmost east-west alternative routes, and cross small areas of occupied colony dispersal areas and occupied colony avoidance area.

The West of Bombing Range Road – Southern Route Alternative uses the southernmost east-west route, which also does not parallel existing linear infrastructure. This alternative crosses through an area of more rugged terrain that is much less developed. The alternative route was developed by Morrow and Umatilla counties to minimize effects on areas of potential windfarm development. This southernmost route crosses through agricultural areas (predominantly dryland farming south and east of the NWSTF Boardman and southwest of the Pilot Rock area), but crosses much less than the Applicant's Proposed Action Alternative; and crosses Washington ground squirrel suitable habitat⁷.

At the southern end of the Segment 1, from the area of Kamela and onto the Wallowa-Whitman National Forest, the routing that is environmentally preferable is the same as the Applicant's Proposed Action Alternative and Agency Preferred Alternative (Variation S1-B2). Variation S1-B2 is the USFS-preferred routing on the National Forest, which is within the USFS-designated utility corridor over Variation S1-B2 because it is located farther from the Oregon NHT and associated sites (i.e., NPS Auto Tour Route, Blue Mountains Interpretive Park High Potential Historic Site) and, therefore, would have less effect on visual resources; and it would avoid unspecified places of Native American concern.

2.6.1.2 SEGMENT 2—BLUE MOUNTAINS

The environmentally preferable action alternative in Segment 2 is a combination of Variation S2-A2 on the Wallowa-Whitman National Forest, the Glass Hill Alternative with Variation S2-D2, and Variation S2-F2 along the southern portion of Segment 2. The intent for this alternative is to parallel the existing

230-kV line in the northern portion of the segment, diverge to the west to avoid the community of La Grande and associated residences and agriculture, and avoid/or minimize impacts on the Oregon NHT and associated sites, and views of the proposed transmission line.

In the northern portion of the segment, the preference of the USFS on the Wallowa-Whitman National Forest is to collocate closer to the existing 230-kV transmission line within the USFS-designated utility corridor to the extent practicable (Variation S2-A2). The intent is to minimize vegetation removal and surface disturbance by using the existing service roads associated with the existing 230-kV transmission line.

Both the environmentally preferable action alternative and the Applicant's Proposed Action Alternative diverge south from the 230-kV line to avoid impacts on the community of La Grande and associated residences and agriculture. The environmentally preferable action alternative crosses the least amount of field crops. Even though much of the Mill Creek Alternative parallels an existing 230-kV transmission line, the Mill Creek Alternative would still affect the community, residences, and agriculture.

Along the environmentally preferable action alternative views from the NPS auto tour route are partially screened by topography and vegetation, which is not the case along the other two alternatives to the east. The environmentally preferable action alternative avoids paralleling the Blue Mountain high-potential trail route segment and adjacent contributing trail segments. The route would have the lowest impact on the Oregon NHT as it is the farthest alternative route from the trail. The environmentally preferable action alternative would affect the lowest number of previously recorded cultural resource sites.

Since the environmentally preferable action alternative does not parallel the existing 230-kV transmission line and, instead, traverses partially forested lands that are mostly undeveloped, this route would have increased impacts on landscape character and scenic quality compared to the Mill Creek Alternative. Impacts on views, including visibility from travel routes, residential viewers, and the recreation viewers at Morgan Lake would be reduced compared to the Applicant's Proposed Action Alternative and Mill Creek Alternative.

Along the southern portion of Segment 2, Variation S2-F2 (environmentally preferable) shares the same alignment with the Agency Preferred Alternative to the end of Segment 2. Variation S2-F2 is environmentally preferable because it parallels an existing 230-kV line, avoids agricultural lands, and reduces effects on Greater Sage-Grouse and the Oregon NHT more than the Applicant's Proposed Action Alternative. Variation S2-F2 crosses Greater Sage-Grouse General Habitat Management Areas (GHMA), but as is the case with the other alternative routes, it would not cross Priority Habitat Management Areas (PHMA) and no leks occur within 3.1 miles. Based on the alignment of Variation S2-F2, impacts on views from residences and Interstate 84 would be reduced further based on the B2H Project's collocation with an existing 230-kV transmission line.

2.6.1.3 SEGMENT 3—BAKER VALLEY

The environmentally preferable action alternative in Segment 3 is the Flagstaff B – Burnt River West Alternative with Variations S3-A2 and S3-B4.

Along the northern portion of Segment 3, all of the alternative route variations (including the environmentally preferable Variation S3-A2), except for the Applicant's Proposed Action Alternative, share the same alignment and would parallel and be colocated closer to the existing 230-kV transmission line. The Applicant's Proposed Action Alternative is parallel to but farther from (approximately 1,500 feet) the existing 230-kV transmission line and would cross more irrigated agriculture and important farmland than Variation S3-A2. All the alternative routes in this northern portion of Segment 3 (including the Applicant's Proposed Action Alternative) cross through the western periphery of Greater Sage-Grouse General and Priority Habitat.

In the area east of Baker City, the environmentally preferable action alternative is Variation S3-B4. It is environmentally preferable because it parallels existing transmission lines and Interstate 84 more than the other alternatives, and it avoids Greater Sage-Grouse habitat. The western four route variations cross through or are in proximity to existing agriculture and residences. Variations S3-B2 and S3-B3 were developed to avoid agricultural land in the area west of Flagstaff Hill, but both variations cross through the edge of Greater Sage-Grouse Priority Habitat. The easternmost route variation, the Applicant's Proposed Action Alternative (Variation S3-B1), is routed east of the NHOTIC and crosses Greater Sage-Grouse Priority Habitat. All of the route variations in this area (except the Timber Canyon Alternative) would highly affect the views from the NHOTIC. Variation S3-B4 (environmentally preferable) would be located adjacent to the existing 230-kV line at the edge of development in Baker Valley thus reducing the extent of change (visual contrast) within the viewshed. Variation S3-B4 would result in reduced impacts on scenic quality based on its parallel alignment with the existing 230-kV transmission line that already has modified the existing landscape setting.

Continuing south, the environmentally preferable action alternative parallels and is colocated closer to the existing 138-kV transmission line to about the point where the alternative route crosses Interstate 84. At this point, the environmentally preferable action alternative is Variation S3-C5, which does not parallel existing linear facilities. Variation S3-C5 was developed in response to comments on the Draft EIS in coordination with Baker County to reduce impacts on agricultural land uses, high-value soils for agricultural use, and privately owned lands in and around the community of Durkee. The route variation does cross through the edge of Bighorn Sheep Occupied Range. The route variation to the west (Variation S3-C6) is similar to the environmentally preferable action alternative route variation—it also does not parallel existing linear facilities and was developed in response to comments on the Draft EIS for similar reasons. However, Variation S3-C6 crosses Greater Sage-Grouse General Habitat and crosses slightly more of Bighorn Sheep Occupied Range.

By siting Variation S3-B4 away from the community of Durkee, trail resources, including a contributing trail segment and the NPS auto tour route (Interstate 84), would be avoided, thereby reducing the extent of impacts on the Oregon Trail compared to the other alternatives. Since Variation S3-B4 does

not parallel Interstate 84 in proximity to Durkee and is not adjacent to an existing transmission line, and instead, traverses steeply rolling hills that are mostly undeveloped, this route would result in increased impacts on landscape character and scenic quality compared to the other alternatives. Impacts on residential views in Durkee and views from Interstate 84 would be reduced by selecting this route west of the community and interstate highway.

2.6.1.4 SEGMENT 4—BROGAN

The environmentally preferable action alternative in Segment 4 is the Tub Mountain South Alternative with Variation S4-A2. Along the northern portion of Segment 4, all three alternative routes parallel the existing 138-kV line; however, Variations S4-A2 and S4-A3 are colocated closer to the existing line than the Applicant's Proposed Action Alternative (or Variation S4-A1). Overall, the Tub Mountain Alternative is environmentally preferable because of less impact on Greater Sage-Grouse habitat than the Applicant's Proposed Action Alternative or Willow Creek Alternative.

The Tub Mountain South Alternative (environmentally preferable action alternative) was developed before the Draft EIS to avoid Greater Sage-Grouse habitat. The environmentally preferable action alternative would have the least impact on Greater Sage-Grouse habitat, as it largely avoids PHMA. Where PHMA is crossed, the alternative route follows the outer edge of the PHMA, which is closer to anthropogenic disturbances and, thus, represents a lower quality habitat. The environmentally preferable action alternative also crosses less GMHA than the Applicant's Proposed Action Alternative and Willow Creek Alternative and crosses a fewer number of leks (within 3.1 miles) than the other two routes. The entire length of the Applicant's Proposed Action Alternative crosses Greater Sage-Grouse habitat; approximately 20 miles of the alternative route cross Priority Habitat and approximately 19 miles cross General Habitat. The Willow Creek Alternative crosses through approximately 16 miles of Greater Sage-Grouse Priority Habitat (in a more peripheral area of the habitat) and approximately 15 miles of General Habitat. Crossing through the Priority Habitat would result in an irreversible high impact on the habitat.

The northern portion of the environmentally preferable action alternative parallels Interstate 84, parallels the existing 138-kV transmission line in the area of Farewell Bend, and uses segments of West-Wide Energy Corridors and BLM-designated utility corridors to the extent practicable. While the Applicant's Proposed Action Alternative would result in less impact on agricultural lands and other land uses, the environmentally preferable action alternative crosses through an area of center-pivot and other irrigated agricultural land northwest of Jamieson and along the southern portion of the route. This alternative route could disrupt and/or alter agricultural practices in the area.

Along the environmentally preferable action alternative, views from the Birch Creek Interpretive Site (in the Oregon Trail ACEC), adjacent to contributing trail segments and Alkali Springs high-potential route segment also would be highly affected. Views from the NPS auto tour route (Interstate 84) would be highly affected by all three of the alternative routes.

The environmentally preferable action alternative would result in the least amount of impact on landscape character and scenic quality since an existing transmission line would be paralleled for a

greater distance than the other alternatives, and because a greater amount of agricultural and ranching landscapes, with existing cultural modifications would be crossed. Compared to the Applicant's Proposed Action Alternative and the Willow Creek Alternative, impacts on views would be increased based on the environmentally preferable action alternative's parallel alignments with the Interstate 84 viewing platform.

Compared to the other alternative routes, the environmentally preferable action alternative would affect the highest number of previously recorded cultural resource sites and crosses more miles of high cultural resource sensitivity. The environmentally preferable action alternative would result in unavoidable, substantial impacts on the Oregon Trail NHT and trail-associated cultural resources (prehistoric and historic), including ACECs and areas of Native American concern. Compensatory mitigation is discussed in Appendix C.

2.6.1.5 SEGMENT 5—MALHEUR

The environmentally preferable action alternative in Segment 5 is the Applicant's Proposed Action Alternative with Variation S5-B2 and is the same as the Agency Preferred Alternative. The alternative route crosses approximately 29.6 miles of BLM-administered land, 0.6 mile of Reclamation-administered land, and 10.5 miles of private land.

This environmentally preferable action alternative would have the least effect on Greater Sage-Grouse, as it largely avoids GHMA. Where GHMA is crossed, the route follows the outer edge of GHMA, which is closer to anthropogenic disturbances and, thus, represents lower quality habitat. This alternative would have the least impact on Columbia spotted frog, as it crosses less habitat than the other alternative routes.

North of Double Mountain, the route crosses private land to avoid crossing lands with wilderness characteristics to the south of the route. (Variation S5-A2, which crosses BLM-administered land to the south, crosses lands with wilderness characteristics.) At the crossing of the Owyhee River, the BLM developed an alternative routing to the east and out of the area identified by the BLM as suitable for designation as a National WSR (whereas, the Applicant's Proposed Action Alternative crosses the area suitable for WSR). Also, just north of the river crossing, the Applicant's Proposed Action Alternative enters and remains within a BLM-designated utility corridor nearly to the end of Segment 5, where it joins the environmentally preferable action alternative and is within a West-wide Energy Corridor at the southern end of Segment 5.

Along the southern portion of Segment 5, both the Malheur S and Malheur A alternative routes are located along the edges of (within or closely parallel to) a West-wide Energy Corridor, within which is an existing 500-kV transmission line. However, both Malheur S and Malheur A alternative routes cross the Owyhee River in the area identified by the BLM as suitable for designation as a National WSR.

Since there are no high-potential historic sites, high-potential historic segments, portions of the NPS auto tour route, or contributing trail segments for the Oregon NHT in Segment 5, the Oregon NHT would be affected minimally.

This route would result in the greatest amount of impact in landscape character and scenic quality since mostly undeveloped landscapes would be traversed, and this route does not parallel the existing 500-kV line, which has already modified existing settings in the vicinity of the Malheur A and Malheur S alternatives. However, this route would result in reduced impacts on the Owyhee River landscape by siting the route farther to the east in the setting of agricultural lands, as compared to the Applicant's Proposed Action Alternative. Impacts on recreation views would be reduced along this alternative compared to the other alternative routes because the Owyhee River would be crossed at the mouth of the canyon (based on the alignment of S5-B2 [environmentally preferable]). Impacts on residential viewers, located on the agricultural lands northeast of the Owyhee River, would be increased since more residences would have views of the transmission line.

This alternative potentially would affect the lowest number of previously recorded cultural resource sites. However, the potential for affecting a greater number of known, high-sensitivity sites is higher along this alternative route than along Malheur A and Malheur S alternatives.

2.6.1.6 SEGMENT 6—TREASURE VALLEY

The environmentally preferable action alternative in Segment 6 is a combination of the Applicant's Proposed Action Alternative and Variations S6-A2 and S6-B2. Overall, the route variations would result in comparable impacts on the environment; therefore, the environmentally preferable action alternative route is located within and along the southern edge of the BLM-designated utility corridor and the West-wide Energy Corridor to maximize future use of this corridor.

The route variations of this alternative route, along with the other route variations, cross Greater Sage-Grouse Important Habitat Management Area (IHMA) in Idaho and do not cross GHMA, PHMA, and no leks occur within 3.1 miles. The IHMA crossed by Variations S6-A2 of this alternative route are not identified as lands used by Greater Sage-Grouse, but are lands that serve as management buffers for PHMA and to connect patches of PHMA. Therefore, identifiable impacts on Greater Sage-Grouse habitat in IHMA would not be expected. Variation S6-B2 is further from the existing 500-kV transmission line than Variation S6-B1 and is farther from the edge of IMHA, and therefore may be located in an area of higher-quality habitat. The route variations of this alternative route would have the least impact on Columbia spotted frog, as it crosses less habitat overall than the other route variations.

The environmentally preferable action alternative is within and along the edge of the BLM-designated utility corridor and the West-wide Energy Corridor.

Variation S6-B2 crosses approximately 1.1 miles less farmland of statewide importance than S6-B1.

There would be no key issues associated with NHT since views from the high-potential historic site (Givens Hot Spring) would be affected minimally by the B2H Project where it would parallel an existing 500-kV transmission line that is already located closer to the historic site. Based on the alignment of Variation S5-B2, these effects would be reduced because the B2H Project components would be located farther from the historic site.

The environmentally preferable action alternative generally parallels an existing 500-kV transmission line. In some areas, due to skylining of transmission line structures, the transmission line would highly affect scenic quality. Moderate impacts on views from residences along Jump Creek Road and Poison Creek Road, as well as on views from recreation viewing platforms, would occur along this route, which would be similar for the other variations in Segment 6.

Variation S6-A2 is closer to two cultural resources (Poison Creek Stage Station, Graveyard Point) than S6-A1. Variation S6-B1 crosses approximately 1.1 miles more farmland of statewide importance than S6-B2 and crosses a NRHP-eligible multi-component cultural site, while Variation S6-B2 crosses along the edge of Greater Sage-Grouse IHMAs for approximately 2.0 miles more than Variation S6-B1.

2.7 APPLICANT’S PROPOSED ACTION ALTERNATIVE

The Applicant’s Proposed Action Alternative was selected by the Applicant based on a combination of several factors, including system planning and reliability, engineering feasibility and constructability, costs, safety, and landowner concerns. Between late 2008 and 2010, the Applicant developed “a strategic public process to find a route that would be acceptable to both the Applicant and the communities in eastern Oregon and southwestern Idaho.” “Through the Community Advisory Process, Idaho Power hosted 27 Project Advisory Team meetings, 15 public meetings and 7 special topic meetings. In all, nearly 1,000 people were involved in the Community Advisory Process either through Project Advisory Team activities or public meetings” (Idaho Power Company 2011:4). The Applicant avoided more densely populated areas when possible. Additionally, the Applicant is a public utility and capitalizes costs through its customers’ rate base; therefore, the Applicant strives to keep costs and the resultant impacts of new infrastructure as low as practicable for the rate payers. Through system planning and engineering studies, the Applicant considered engineering feasibility and constructability in respect to terrain and geologic hazards, which also is related to costs that would be passed onto the customer base. A criterion for siting the alternative routes was to parallel existing linear facilities to the extent practicable; however, the Applicant also had to consider the route in relation to other high-voltage transmission lines and the effect it might have on reliability. By choosing a route that has fewer high-voltage transmission lines or lines that do not share common interconnection points on the power grid improves overall reliability.

The Applicant’s Proposed Action Alternative is summarized in Table 2-17, which is a list of links that comprise the Applicant’s Proposed Action Alternative, and shown on Maps 2-11a and 2-11b.

Table 2-17. Applicant’s Proposed Action Alternative		
Segment Number	Links	Length (miles)¹
Segment 1	1-1, 1-3, 1-7,1-27, 1-35, 1-43,1-45, 1-51,1-53, 1-59, 1-60, 1-61, 1-50, 1-63, 1-65, 1-71, 1-77	91.9
Segment 2	2-1, 2-5, 2-15, 2-20, 2-30, 2-35, 2-45, 2-47, 2-50, 2-52, 2-60, 2-75, 2-85, 2-95	33.6
Segment 3	3-4, 3-22, 3-26, 3-28, 3-52, 3-54, 3-58, 3-78, 3-80, 3-82, 3-86, 3-88, 3-92	55.0
Segment 4	4-1, 4-10, 4-11, 4-13, 4-25, 4-45, 4-50, 4-65, 4-70	40.3

Table 2-17. Applicant’s Proposed Action Alternative

Segment Number	Links	Length (miles) ¹
Segment 5	5-1, 5-5, 5-10, 5-15, 5-40, 5-50, 5-55, 5-65, 5-70, 5-75	40.4
Segment 6	6-1, 6-10, 6-20, 6-25, 6-35	28.0
Total (approximate)		289.2

Table Note: ¹Mileage calculations are approximate as of March 4, 2016.

2.8 AGENCY PREFERRED ALTERNATIVE

The Agency Preferred Alternative route was identified by the BLM in coordination with the USFS and other federal, state, and local agencies (cooperating agencies) using criteria-based key resource concerns and issues, and regulation and policy. The criteria used to help identify the Agency Preferred Alternative are similar to those used to identify the environmentally preferable action alternative with additional considerations. The additional criteria include the following:

- Maximizes use of existing designated utility corridors by locating within the corridors or paralleling existing linear utility right-of-way.
- Avoids or minimizes impacts on resources that are regulated by law, after consideration of design features of the B2H Project for environmental protection and selective mitigation measures. This includes impacts on Greater Sage-Grouse.
- Avoids or minimizes impacts on resource that demonstrate potentially unavoidable adverse impacts after consideration of design features of the B2H Project for environmental protection and selective mitigation measures, even though those resources may not be regulated by law.
- Minimizes the need for plan amendments through conformance to land-use plans.
- Avoids or minimizes proximity to private residences and residential areas, thereby addressing concerns with public health and safety, aesthetics, visual effects, and others.
- Minimizes use of private lands, assuming natural resource impacts are more or less similar.
- If multiple alternatives meet the preceding criteria, the Agency Preferred Alternative would be the alternative that also minimizes technical constraints, construction, operation, and maintenance expense and/or time.

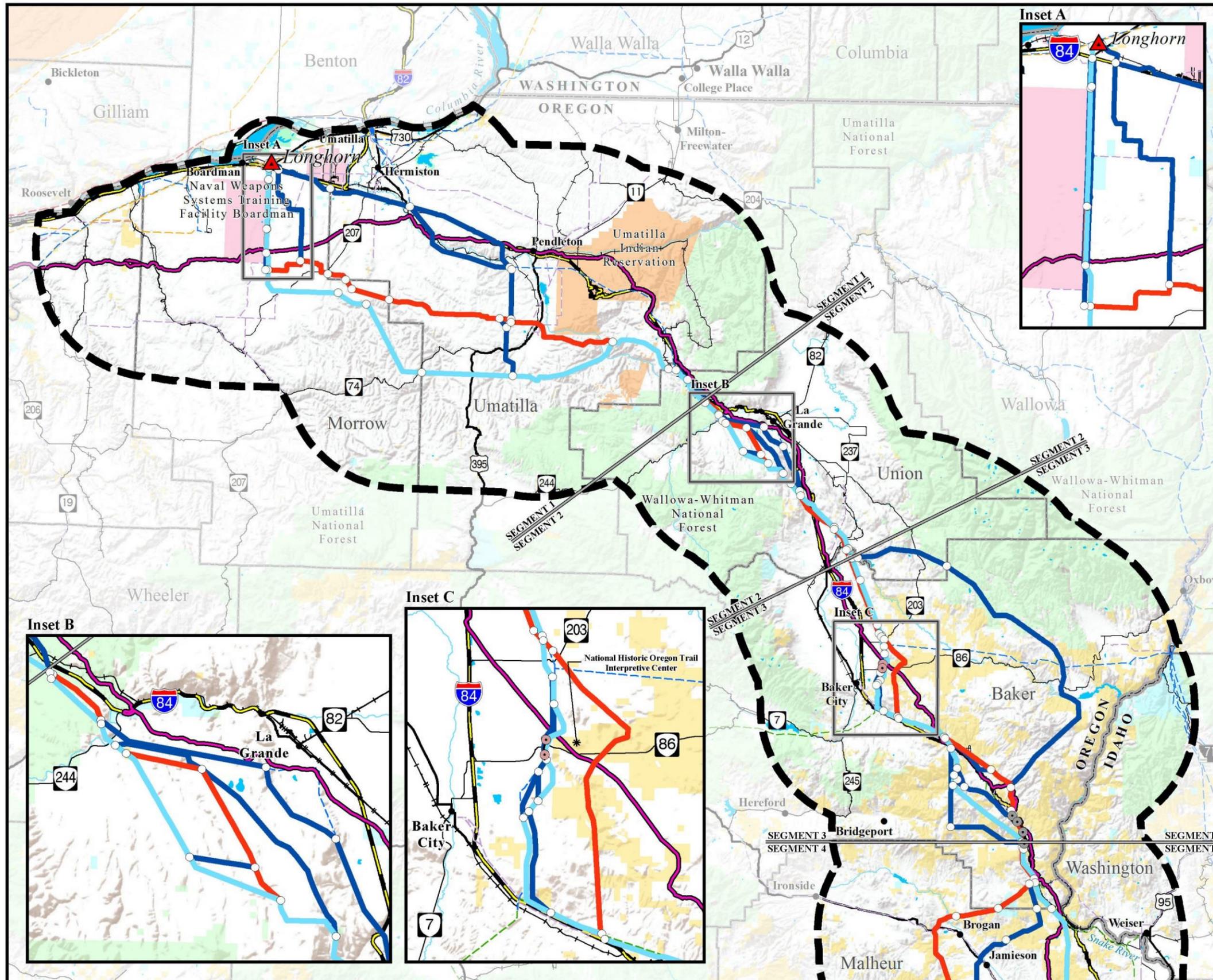
In addition, because a high percentage of the land that would be crossed by the proposed transmission line is privately owned (approximately 70 percent private or state, 30 percent federally administered), the BLM collaborated extensively with the affected counties to identify a route that would be responsive to their concerns.

The Agency Preferred Alternative is summarized in Table 2-18, which is a list of the links that comprise the Agency Preferred Alternative route by segment, and shown on Maps 2-11a and 2-11b. A description of the route follows the table.

Table 2-18. Agency Preferred Alternative Route Links			
Segment Number	Alternative Route	Link(s)	Length (miles)¹
Segment 1	West of Bombing Range Road Crossover to the East of Bombing Range Road to Southern Route Alternative	1-1, 1-3, 1-7, 1-27, 1-26a, 1-25a, 1-35, 1-36, 1-38, 1-62, 1-64, 1-66, 1-65, 1-71, 1-77	95.7
Segment 2	Glass Hill Alternative with Variations S2-A2, S2-D2, and S2-F2	2-3, 2-7, 2-15, 2-20, 2-30, 2-40, 2-46, 2050, 2-52, 2-60, 2-70, 2-80, 2-90	33.7
Segment 3	Flagstaff B – Burnt River West Alternative	3-10, 3-12, 3-14, 3-20, 3-24, 3-31, 3-37, 3-41, 3-46, 3-45, 3-44, 3-48, 3-52, 3-54, 3-56, 3-60, 3-62, 3-66, 3-71, 3-73, 3-94	55.7
Segment 4	Tub Mountain South Alternative	4-1, 4-5, 4-15, 4-17, 4-20, 4-30, 4-75	40.5
Segment 5	Applicant’s Proposed Action Alternative with Variation S5-B2	5-1, 5-5, 5-10, 5-15, 5-40, 5-45, 5-70, 5-75	40.6
Segment 6	Applicant’s Proposed Action Alternative with Variation S6-B2	6-1, 6-10, 6-20, 6-30, 6-35	27.7
Total (approximate)			293.9
<i>Table Note:</i> ¹ Mileage calculations are approximate as of March 4, 2016.			

2.8.1 SEGMENT 1 – MORROW-UMATILLA

The Agency Preferred Alternative route exits the proposed Longhorn Substation to the south, crossing the boundary of the Naval Weapons System Training Facility (NWSTF) Boardman at the northeastern corner and parallels the eastern boundary of the NWSTF Boardman on the west side of Bombing Range Road for approximately 7 miles. At that point, the route crosses over Bombing Range Road to the east, thereby avoiding the Resource Natural Area B, a Resource Management Area, and historic properties of religious and cultural significance to Indian tribes on the NWSTF Boardman. The route proceeds across the road for approximately 350 feet where it intersects with and then parallels along the east side of Bombing Range Road to the south for approximately 3.6 miles. Map 2-12 shows this portion of the alternative route. The Agency Preferred Alternative route then turns to the southeast and then south to a point where it intersects with the southernmost east-west route. This northern portion of the Agency Preferred Alternative (1) repurposes an existing use area currently occupied by the BPA 69-kV transmission line on the NWSTF Boardman (on the west side of and parallel to Bombing Range Road), (2) avoids airspace conflicts by complying with the Navy’s requested 100-foot height restriction for transmission lines along Bombing Range Road, (3) avoids and/or minimize effects on areas planned for potential wind-farm development, (4) avoids and/or minimize effects on high-value agricultural lands, and (5) and was developed and recommended through collaboration with Morrow and Umatilla counties and local stakeholders. The Agency Preferred Alternative route follows the southernmost east-west route, proposed by Morrow and Umatilla counties, to the east. The east-west section of the southern route was selected for a number of reasons. This east-west route minimizes effects on the areas of potential windfarm development and agricultural lands and, farther west, avoids the effects on an area of cultural importance to Native Americans in the area south of McKay Creek.



Map 2-11a Applicant's Proposed Action Alternative and Agency Preferred Alternative Routes (Northern Area)

BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT

Project Features

Project Area Boundary	Link Node
Substation (Project Terminal)	Segment Line
Applicant's Proposed Action Alternative	Flagstaff 230-kV Rebuild (Inset C)
Alternative Route	Double-circuit 138/69-kV Rebuild (Inset D)
Agency Preferred Alternative Route	

Land Ownership

Bureau of Land Management	U.S. Fish and Wildlife Service
Bureau of Reclamation	U.S. Forest Service
Indian Reservation	Other Federal
National Park Service	State Land
U.S. Department of Defense	Private Land

General Reference

City or Town	Interstate Highway
500-kV Transmission Line	U.S. Highway
345-kV Transmission Line	State Highway
230-kV Transmission Line	Lake or Reservoir
138-kV Transmission Line	State Boundary
69- to 115-kV Transmission Line	County Boundary
Railroad	Oregon National Historic Trail Congressionally Designated Alignment

SOURCES:
 Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013;
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007,
 Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012;
 Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013;
 Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013;
 Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

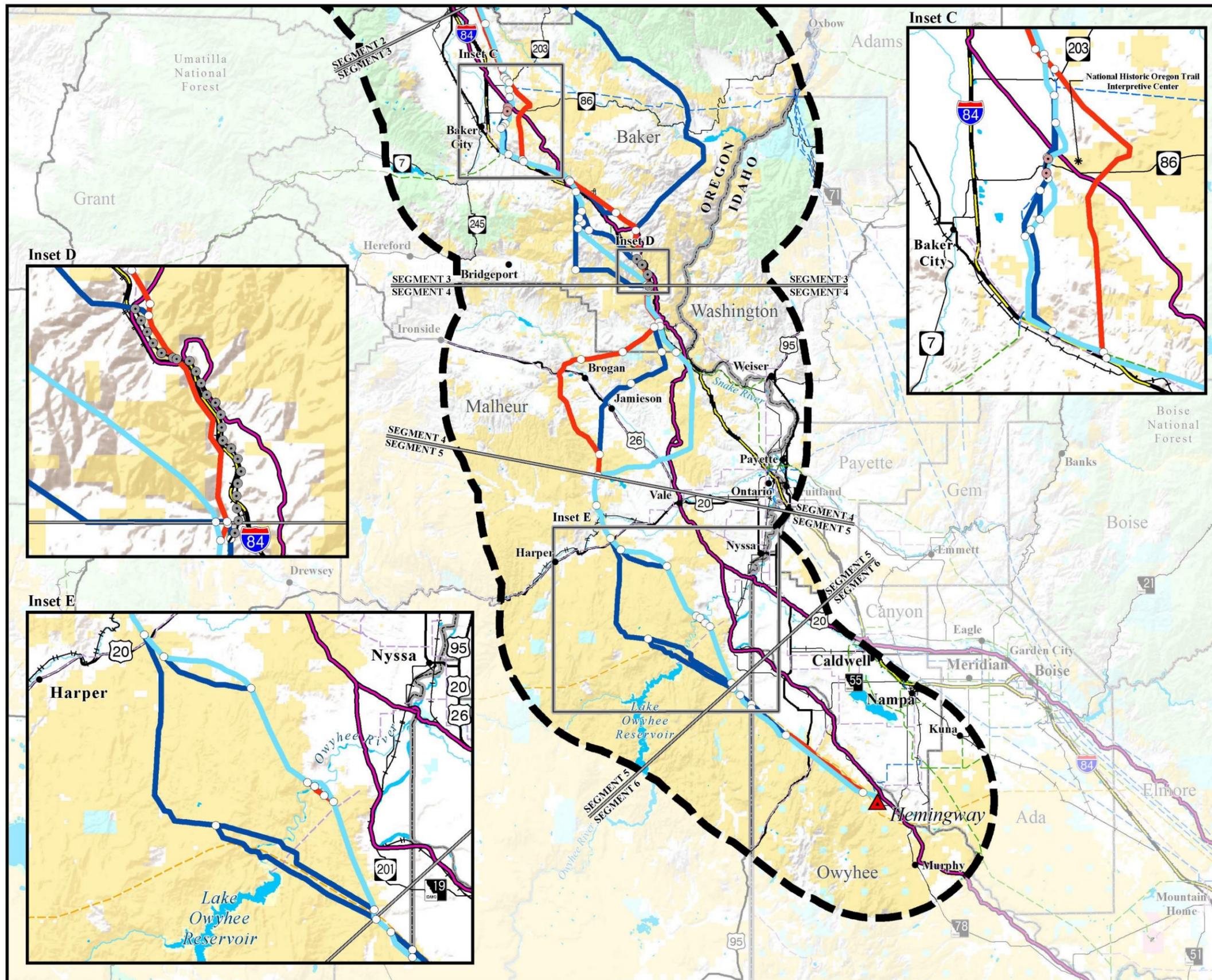
NOTES:

- The alternative routes shown on this map are draft and may be revised or refined throughout the development of the project.
- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016

0 5 10 15 30
Miles
1:950,400 or 1 inch = 15 miles

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Map 2-11b Applicant's Proposed Action Alternative and Agency Preferred Alternative Routes (Southern Area)

BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT

Project Features

Project Area Boundary	Link Node
Substation (Project Terminal)	Segment Line
Applicant's Proposed Action Alternative	Flagstaff 230-kV Rebuild (Inset C)
Alternative Route	Double-circuit 138/69-kV Rebuild (Inset D)
Agency Preferred Alternative Route	

Land Ownership

Bureau of Land Management	U.S. Fish and Wildlife Service
Bureau of Reclamation	U.S. Forest Service
Indian Reservation	Other Federal
National Park Service	State Land
U.S. Department of Defense	Private Land

General Reference

City or Town	Interstate Highway
500-kV Transmission Line	U.S. Highway
345-kV Transmission Line	State Highway
230-kV Transmission Line	Lake or Reservoir
138-kV Transmission Line	State Boundary
69- to 115-kV Transmission Line	County Boundary
69- to 115-kV Transmission Line	Oregon National Historic Trail Congressionally Designated Alignment
Railroad	

SOURCES:
 Land Status, BLM 2014, 2015; Cities and Towns, ESRI 2013;
 Transmission Lines, Bonneville Power Administration 2009, Idaho Power Company 2007,
 Logan Simpson Design 2011, Ventyx 2012; Pipelines, ESRI 2012;
 Railroads, Idaho DOT 2006, Oregon DOT 2014; Highways, ESRI 2013;
 Waterbodies, ESRI 2013; State and County Boundaries, ESRI 2013;
 Oregon National Historic Trail Congressionally Designated Alignment, BLM 2015

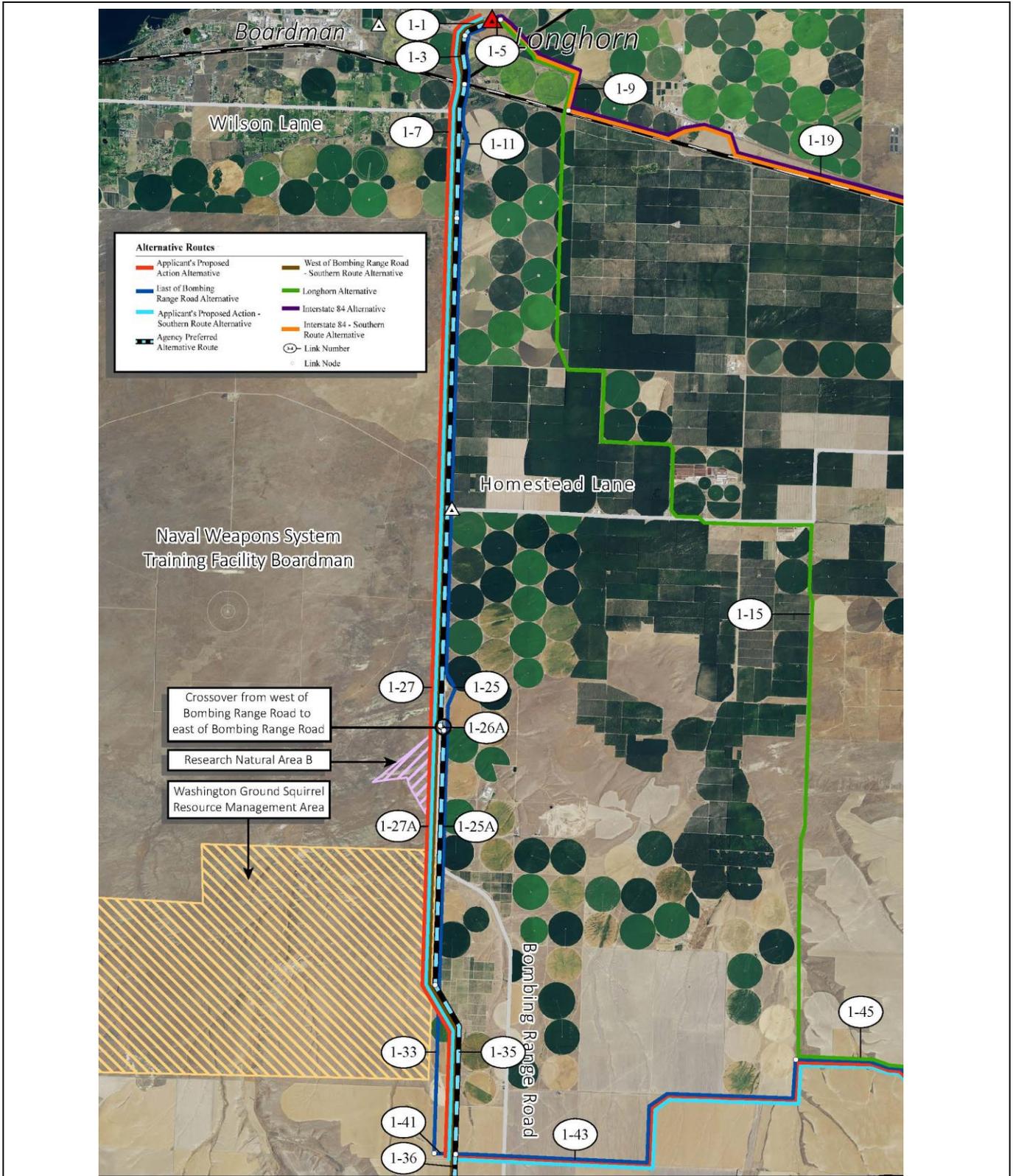
NOTES:

- The alternative routes shown on this map are draft and may be revised or refined throughout the development of the project.
- Substation symbols do not necessarily represent precise locations.
- The B2H Project area boundary is defined by buffering the alternative route centerlines.
- Other federal land ownership may include lands administered by the U.S. Department of Energy, Bonneville Power Administration, Federal Aviation Administration, General Services Administration, or U.S. Department of Agriculture (except U.S. Forest Service).
- Each alternative route is composed of links, which are discrete sections of the route sharing common endpoints determined by the point of intersection with other adjacent links; the common endpoint is referred to as a link node. Links generally are numbered from north to south. Similarly, a segment is composed of alternative routes that share common endpoints determined by the point of intersection with other adjacent alternative routes; the common endpoint is referred to as a segment node.
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Alternative routes last revised: February 18, 2016
 Final EIS: November 2016

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Miles
1:950,400 or 1 inch = 15 miles

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In the southernmost portion of Segment 1, on the Wallowa-Whitman National Forest, the U.S. Forest Service (USFS) identified its preference to use of the designated utility corridor, and endorsed the route as the USFS Agency Preferred Alternative on the Forest.

2.8.2 SEGMENT 2—BLUE MOUNTAINS

The Agency Preferred Alternative in Segment 2 is the same as the environmentally preferable action alternative; that is, a combination of Variation S2-A2 on the Wallowa-Whitman National Forest, the Glass Hill Alternative with Variation S2-D2, and Variation S2-F2 along the southern portion of Segment 2.

The preference of the USFS on the Wallowa-Whitman National Forest in this northern portion of the Segment 2 is to collocate closer to the existing 230-kV transmission line within the USFS-designated utility corridor to the extent practicable (Variation S2-A2). The intent is to minimize vegetation removal and surface disturbance by using the existing service roads associated with the existing 230-kV transmission line.

Continuing on to the southeast, the environmentally preferable action alternative and Agency Preferred Alternative follow the Glass Hill Alternative, using the variation (Variation S2-D2, recommended in comments on the Draft EIS). In the area of Glass Hill, this alternative routing does not parallel existing linear facilities, but is west of and the farthest from La Grande and associated land uses and cultural resources (primarily historic sites), the Oregon NHT, associated cultural resource sites (resource issues of significance raised during scoping). Also, the Glass Hill Alternative avoids some high-value soils for potential agriculture, which exist along the other alternative routes to the east. In addition to other streams, the Glass Hill Alternative crosses steelhead, Chinook salmon, and bull trout critical habitat in the Grande Ronde River. The route crosses through elk winter range on Elk Song Ranch. Use of Variation S2-D2 would result in avoiding the high elevation (unique ecology) of Cowboy Ridge and reducing potential views of the line from Morgan Lake recreation area. The route does cross steelhead critical habitat in Rock Creek and Graves Creek.

Along the southern portion of Segment 2, the environmentally preferable and Agency Preferred Alternative route parallels the existing 230-kV transmission line (Variation S2-F2) and avoids potential effects on center-pivot and other irrigated agricultural land, reduces effects on Greater-Sage-Grouse General Habitat, and reduces effects on the Oregon NHT.

2.8.3 SEGMENT 3—BAKER VALLEY

The Agency Preferred Alternative in Segment 3 crosses interspersed private land and BLM-administered lands. Because it is not possible to locate a route entirely on BLM-administered land, the BLM collaborated with Baker County to identify route-variation options in areas of dense agriculture to minimize impacts on agricultural operations. The Agency Preferred Alternative is the Flagstaff B-Burnt River West Alternative.

In the northern portion of Segment 3, the Agency Preferred Alternative is collocated to parallel closer to an existing 230-kV transmission line and is the same as the Applicant's Proposed Action Alternative south to the Flagstaff B Variation. The Flagstaff B Variation is a combination of a portion of a route collocated closer to the existing 230-kV transmission line, the Draft EIS Flagstaff Alternative, and proposed route-variation options recommended by local stakeholders, including Baker County, as part of comments on the Draft EIS. This alternative route has been identified as the Agency Preferred Alternative because the route (1) parallels existing linear facilities along its entire length (existing 230-kV line along the northern portion and existing 138-kV line along the southernmost portion of the variation), (2) avoids and/or minimizes effects on Greater Sage-Grouse Priority Habitat, (3) avoids and/or minimizes effects on irrigated agriculture, (4) minimizes impacts on a large gravel operation, and (5) as mentioned, the route-variation option was recommended by and developed in collaboration with Baker County and other local stakeholders. From the NHOTIC, the proposed transmission line would be viewed in context with consolidated development at the edge of the Baker Valley; that is, the existing 230-kV transmission line and existing agricultural development. As is the case for all of the alternative routes west of the NHOTIC, the Agency Preferred Alternative route would have reduced cumulative effects by consolidating development at the edge of the Baker Valley compared to the Applicant's Proposed Action Alternative, which would include views of the transmission line and development to both the east and west.

At the southern end of the Flagstaff B Variation, where the alternative intersects with the Applicant's Proposed Action Alternative, the Agency Preferred Alternative is the same as the Applicant's Proposed Action Alternative – Burnt River West Variation. This segment of the Agency Preferred Alternative parallels an existing 138-kV transmission line for much of its length, avoids irrigated agriculture, avoids Greater Sage-Grouse Priority Habitat, and avoids the Straw Ranch 1 parcel of the Oregon Trail ACEC.

In the southern portion of Segment 3, the Agency Preferred Alternative is the Burnt River West Variation, a route-variation option developed in coordination with Baker County to reduce impacts on irrigated agriculture, reduce impacts on Greater Sage-Grouse General Habitat, reduce the number of freeway crossings, and reduce visual impacts on the Powell Creek Parcel of the Oregon Trail ACEC.

2.8.4 SEGMENT 4—BROGAN AREA

The Agency Preferred Alternative in Segment 4, with a mixed private and federal land-ownership pattern, is the Tub Mountain South Alternative, which was the Agency Preferred Alternative in the Draft EIS. This alternative route parallels an existing 138-kV transmission line, then parallels Interstate 84 to the area of Farewell Bend. The northern portion (along Links 4-20 and 4-21) is within a West-wide Energy Corridor and is within BLM-designated utility corridor in the area of Farewell Bend. The alternative route then turns south then southwest. This alternative route has been identified as the Agency Preferred Alternative because (1) avoids crossing most Greater Sage-Grouse Priority Habitat and (2) avoids an area of irrigated agriculture of particular concern to local stakeholders. However, there would be substantive impacts on a broad cultural landscape that includes important pre-contact and historic cultural resources extending from the Farewell Bend area to the south. Malheur County

and the Oregon Department of Fish and Wildlife and USFWS support this Agency Preferred Alternative recommendation. The CTUIR supports paralleling the transmission line and Interstate 84 to the Farewell Bend area, but preferred the route to cross over to the Willow Creek Alternative to avoid impacts on the broad cultural landscape south of the Farewell Bend area (however, the Willow Creek alternative crosses a substantive amount of Greater Sage-Grouse Priority Habitat). As part of recent comments on the alternative routes, Baker County did not express an opinion for a preferred alternative route in this area.

2.8.5 SEGMENT 5—MALHEUR

Most of the lands crossed by the alternative routes in Segment 5 are administered by the BLM with some private land interspersed. The Agency Preferred Alternative in Segment 5 is the Applicant's Proposed Action Alternative with a variation at the crossing of the Owyhee River. Without the variation, this alternative route, addressed in the Draft EIS, was developed to avoid lands with wilderness characteristics in the Double Mountain area; avoid impacts on an ACEC; use portions of the BLM-designated utility corridor along the southern portion of Segment 5; and minimize habitat fragmentation, impacts on cultural resources, and impacts on an area of the Owyhee River determined suitable for designation as a National WSR.

The variation at the crossing of the Owyhee River was developed by the BLM between the Draft and Final EIS to relocate the alignment farther to the northeast out of the area determined by the BLM suitable for designation as a National WSR. Malheur County stated it has received no input from residents in the area; therefore, Malheur County is taking a neutral position on this alternative route. The Joint Committee of the Owyhee Project and the Owyhee Irrigation District expressed concern that the transmission line crossing of the river in this area could interfere with operations, and expressed preference for the Malheur A or S alternatives. However, these alternative routes cross the river in the same corridor determined by the BLM as suitable for designation as a National WSR.

2.8.6 SEGMENT 6—TREASURE VALLEY

In Segment 6, most of the lands crossed are administered by the BLM. In the northwestern portion of the segment, the BLM's recommendation for the Agency Preferred Alternative is to use the Applicant's Proposed Action Alternative. There is mixed federal and private land ownership in this portion of the segment and the Applicant's Proposed Action would avoid crossing three additional landowners (at the request of Owyhee County where land-owner permission is required and has not been given by these three additional landowners), and to have more distance from a large cultural resource area known as Graveyard Point. In the southeastern portion of Segment 6, the BLM's recommendation for the Agency Preferred Alternative is to use the route variation, allowing for efficient use of the West-wide Energy Corridor on BLM-administered land to preserve space for future use of the corridor.

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Table 2-19. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 1—Morrow-Umatilla					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Applicant's Proposed Action	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Older Quaternary faults: 0.1 mile 575 acres of high floodzone percentage 1,212 acres of moderate floodzone percentage Soils with moderate water erosion: 32.7 miles Soils with moderate wind erosion: 0.3 mile Farmlands: 15.8 miles Soils with compaction potential: 2.3 miles Areas with PFYC 3: 10.8 miles Areas with PFYC 4: 19.8 miles 	Residual Impacts <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.3 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.4 miles Intermittent Streams: 19.8 miles Scrub-shrub Wetland: 0.5 mile Emergent Wetland: 2.0 miles Open Water: 2.3 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact Crosses 1.0 mile of the Ladd Marsh Wildlife Area 	Residual Impacts <p>Vegetation Communities</p> <ul style="list-style-type: none"> 54.0 miles of moderate residual impacts where alternative route crosses Aspen, Desert Shrub, Dwarf Sagebrush, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe Crosses a Research Natural Area on the NWSTF Boardman established to preserve remnant, high-quality Tall Sagebrush Steppe vegetation communities <p>Sensitive Plants</p> <ul style="list-style-type: none"> 10 known sensitive plant species occurrences in the 1-mile study corridor 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> 0.1 mile of high residual impacts where occupied colony avoidance areas are crossed 5.9 miles of high residual impacts where occupied colony dispersal areas are crossed 12.5 miles of moderate residual impacts where suitable habitat is crossed Occupied habitat is crossed on the NWSTF Boardman, including the edge of a Washington ground squirrel resource management area <p>Big game</p> <ul style="list-style-type: none"> 14.5 miles of low residual impacts where mule deer and elk winter range is crossed 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: 0.1 mile SRB steelhead critical habitat: 0.1 mile Redband trout occupied streams: 1.6 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.2 mile Low: 1.4 miles None: 90.3 miles With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S1-B1	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Soils with moderate water erosion: 3.3 miles 	Residual Impacts <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.2 mile Intermittent Streams: 1.8 miles Open Water: 0.1 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Residual Impacts <p>Vegetation Communities</p> <ul style="list-style-type: none"> 6.4 miles of moderate residual impacts where alternative route crosses Mixed Conifer Forest, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> Occupied colony avoidance and dispersal areas or suitable habitat not crossed, impacts not expected <p>Big game</p> <ul style="list-style-type: none"> 0.7 mile of low residual impacts where mule deer and elk winter range is crossed 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: 0.1 mile Redband trout occupied streams: 0.1 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.1 mile Low: none None: 6.3 miles With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated
Variation S1-B2	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Soils with moderate water erosion: 2.4 miles 	Residual Impacts <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.4 mile Intermittent Streams: 1.8 miles Open Water: 0.4 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Residual Impacts <p>Vegetation Communities</p> <ul style="list-style-type: none"> 6.3 miles of moderate residual impacts where alternative route crosses Mixed Conifer Forest, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> Occupied colony avoidance and dispersal areas or suitable habitat not crossed, impacts not expected <p>Big game</p> <ul style="list-style-type: none"> 1.2 miles of low residual impacts where mule deer and elk winter range is crossed 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: 0.4 mile Redband trout occupied streams: 0.4 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.4 mile Low: none None: 6.0 miles With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated
East of Bombing Range Road	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Older Quaternary faults: 0.1 mile 574 acres of high floodzone percentage 1,212 acres of moderate floodzone percentage Soils with moderate water erosion: 31.3 miles 	Residual Impacts <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.3 mile With mitigation, only low residual 	Residual Impacts <p>Vegetation Communities</p> <ul style="list-style-type: none"> 49.2 miles of moderate residual impacts where alternative route crosses Aspen, Desert Shrub, Dwarf Sagebrush, Mixed Conifer Forest, Mountain Shrub, Native 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> 0.4 mile of high residual impacts where occupied colony avoidance areas are crossed 2.8 miles of high residual impacts where occupied colony dispersal areas are crossed 8.4 miles of moderate residual impacts where 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: 0.1 mile SRB steelhead critical habitat: 0.1 mile Redband trout occupied streams: 1.6 miles

Table 2-19. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 1—Morrow-Umatilla					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
	<ul style="list-style-type: none"> • Soils with moderate wind erosion: 0.3 mile • Farmlands: 15.3 miles • Soils with compaction potential: 2.3 miles • Areas with PFYC 3: 10.8 miles • Areas with PFYC 4: 20.2 miles 	<p>impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated</p> <ul style="list-style-type: none"> - Perennial Streams: 1.4 miles - Intermittent Streams: 19.5 miles - Scrub-shrub Wetland: 0.5 mile - Emergent Wetland: 2.1 miles - Open Water: 2.1 miles <ul style="list-style-type: none"> • Wetland permits may be required for any crossings larger than 0.2 acres of impact 	<p>Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe</p> <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 10 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>suitable habitat is crossed</p> <p>Big game</p> <ul style="list-style-type: none"> • 14.5 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.2 mile • Low: 1.4 miles • None: 90.7 miles • With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
<p>Applicant's Proposed Action – Southern Route</p>	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.1 mile • 575 acres of high floodzone percentage • 1,212 acres of moderate floodzone percentage • Soils with moderate water erosion: 31.6 miles • Soils with moderate wind erosion: 0.3 mile • Farmlands: 12.4 miles • Soils with compaction potential: 4.4 miles • Areas with PFYC 3: 10.8 miles • Areas with PFYC 4: 16.2 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> - Forested Wetland: 0.7 mile • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> - Perennial Streams: 1.7 miles - Intermittent Streams: 20.5 miles - Scrub-shrub Wetland: 0.7 mile - Emergent Wetland: 2.0 miles - Open Water: 4.0 miles • Most combined stream miles crossed of all alternatives • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 64.6 miles of moderate residual impacts where alternative route crosses Aspen, Desert Shrub, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe • Crosses Research Natural Areas on the NWSTF established to preserve remnant, high-quality Tall Sagebrush Steppe vegetation communities <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 10 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> • 0.1 mile of high residual impacts where occupied colony avoidance areas are crossed • 5.9 miles of high residual impacts where occupied colony avoidance areas are crossed • 13.5 miles of moderate residual impacts where suitable habitat is crossed • Occupied habitat is crossed on the NWSTF Boardman, including the edge of a Washington ground squirrel resource management area • Portions of the alternative route have not been surveyed for Washington ground squirrel, therefore additional occupied habitat could be affected <p>Big game</p> <ul style="list-style-type: none"> • 25.4 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: 0.4 mile • SRB steelhead critical habitat: 0.1 mile • Redband trout occupied streams: 1.6 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.5 mile • Low: 1.1 miles • None: 97.5 miles • With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
<p>West of Bombing Range Road – Southern Route</p>	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.1 mile • 61 acres of high floodzone percentage • 931 acres of moderate floodzone percentage • Soils with moderate water erosion: 35.9 miles • Soils with moderate wind erosion: 0.4 mile • Farmlands: 15.1 miles • Soils with compaction potential: 7.7 miles • Leases: 0.5 mile • Areas with PFYC 3: 10.8 miles • Areas with PFYC 4: 13.4 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> - Forested Wetland: 0.9 mile • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> - Perennial Streams: 2.4 miles - Intermittent Streams: 16.6 miles - Scrub-shrub Wetland: 0.8 mile - Emergent Wetland: 2.5 miles - Open Water: 3.8 miles • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 69.0 miles of moderate residual impacts where alternative route crosses Aspen, Desert Shrub, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe • Crosses Research Natural Areas on the NWSTF established to preserve remnant, high-quality Tall Sagebrush Steppe vegetation communities <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 1 known sensitive plant species occurrence in the 1-mile study corridor • 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> • 3.8 miles of high residual impacts where occupied colony avoidance areas are crossed • 13.9 miles of moderate residual impacts where suitable habitat is crossed • Occupied colony avoidance areas are not crossed • Occupied habitat is crossed on the NWSTF Boardman, including the edge of a Washington ground squirrel resource management area • Portions of the alternative route have not been surveyed for Washington ground squirrel, therefore additional occupied habitat could be affected <p>Big game</p> <ul style="list-style-type: none"> • 51.7 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: 0.7 mile • SRB steelhead critical habitat: 0.1 mile • Redband trout occupied streams: 2.0 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.8 mile • Low: 1.2 miles • None: 93.6 miles • With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-19. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 1—Morrow-Umatilla					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Longhorn	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.1 mile • 575 acres of high floodzone percentage • 1,998 acres of moderate floodzone percentage • Soils with moderate water erosion: 29.5 miles • Soils with moderate wind erosion: 7.3 miles • Farmlands: 13.7 miles • Soils with compaction potential: 2.3 miles • Leases: 2.9 miles • Areas with PFYC 3: 13.2 miles • Areas with PFYC 4: 13.7 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> – Forested Wetland: 0.1 mile • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 1.5 miles – Intermittent Streams: 17.4 miles – Scrub-shrub Wetland: 0.5 mile – Emergent Wetland: 2.5 miles – Open Water: 1.9 miles • Least total miles of forested wetlands crossed of all alternatives • Wetland permits may be required for any crossing larger than 0.2 acres 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 48.2 miles of moderate residual impacts where alternative route crosses Aspen, Desert Shrub, Dwarf Sagebrush, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 9 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> • 0.4 mile of high residual impacts where occupied colony avoidance areas are crossed • 3.9 miles of high residual impacts where occupied colony dispersal areas are crossed • 6.2 miles of moderate residual impacts where suitable habitat is crossed <p>Big game</p> <ul style="list-style-type: none"> • 14.5 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: 0.1 mile • SRB steelhead critical habitat: 0.1 mile • Redband trout occupied streams: 1.6 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> • None: 86.6 miles • Low: 1.4 miles • Moderate: 0.2 mile • With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Interstate 84	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.1 mile • 6,014 acres of high floodzone percentage • 6,198 acres of moderate floodzone percentage • Soils with moderate water erosion: 18.7 miles • Soils with moderate wind erosion: 5.9 miles • Farmlands: 7.6 miles • Soils with compaction potential: 2.3 miles • Leases: 0.4 mile • Areas with PFYC 3: 22.9 miles • Areas with PFYC 4: 3.6 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> – Forested Wetland: 0.1 mile • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 1.7 miles – Intermittent Streams: 13.1 miles – Scrub-shrub Wetland: 0.8 mile – Emergent Wetland: 2.9 miles – Open Water: 4.8 miles • Fewest combined stream miles crossed of all alternatives • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 44.5 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 2 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> • 4.9 miles of moderate residual impacts where suitable habitat is crossed • Surveys for Washington ground squirrel have not been completed, therefore occupancy is unknown <p>Big game</p> <ul style="list-style-type: none"> • 14.5 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: 0.2 mile • Chinook salmon EFH: 0.3 mile • MCR steelhead critical habitat: 0.3 mile • SRB steelhead critical habitat: 0.1 mile • Redband trout occupied streams: 2.0 miles <p>Residual Impacts:</p> <ul style="list-style-type: none"> • Moderate: 0.5 mile • Low: 1.5 miles • None: 82.7 miles • With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S1-A1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • 1087 acres of high floodzone percentage • 4,342 acres of moderate floodzone percentage • Soils with moderate water erosion: 2.2 miles • Farmlands: 0.7 mile • Areas with PFYC 3: 5.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.2 mile – Intermittent Streams: 3.0 miles – Open Water: 0.6 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 3.2 miles of moderate residual impacts where alternative route crosses Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 2 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> • 1.0 mile of moderate residual impacts where suitable habitat is crossed • Surveys for Washington ground squirrel have not been completed, therefore occupancy is unknown <p>Big game</p> <ul style="list-style-type: none"> • Big game habitats would not be crossed, no impacts expected 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: 0.1 mile • Chinook salmon EFH: 0.2 mile • MCR steelhead critical habitat: 0.1 mile • SRB steelhead critical habitat: none • Redband trout occupied streams: 0.6 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.2 mile • Low: 0.4 mile • None: 17.9 miles • With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-19. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 1—Morrow-Umatilla					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Variation S1-A2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 4,544 acres of high floodzone percentage 2,505 acres of moderate floodzone percentage Soils with moderate water erosion: 12.6 miles Soils with moderate wind erosion: 0.2 mile Farmlands: 3.6 miles Areas with PFYC 3: 4.5 miles 	<p>Total Residual Impacts (miles)</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.2 mile Intermittent Streams: 3.8 miles Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.1 mile Open Water: 0.9 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 11.2 miles of moderate residual impacts where alternative route crosses Riparian Conservation Areas and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile study corridor 2 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> 11.0 miles of moderate residual impacts where suitable habitat is crossed Surveys for Washington ground squirrel have not been completed, therefore occupancy is unknown <p>Big game</p> <ul style="list-style-type: none"> Big game habitats would not be crossed, no impacts expected 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: 0.2 mile Chinook salmon EFH: 0.2 mile MCR steelhead critical habitat: 0.2 mile SRB steelhead critical habitat: none Redband trout occupied streams: 0.3 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.2 mile Low: 0.1 mile None: 18.2 miles With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Interstate 84 – Southern Route	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.1 mile 6,014 acres of high floodzone percentage 5,412 acres of moderate floodzone percentage Soils with moderate water erosion: 17.8 miles Soils with moderate wind erosion: 5.9 miles Farmlands: 4.6 miles Soils with compaction potential: 4.4 miles Leases: 0.4 mile Areas with PFYC 3: 22.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.0 miles Intermittent Streams: 14.4 miles Scrub-shrub Wetland: 1.0 mile Emergent Wetland: 2.9 miles Open Water: 6.4 miles Greatest amount of total impacts on wetlands of all alternatives Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 55.1 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile study corridor 1 sensitive plant species known to occur in the 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Washington ground squirrel</p> <ul style="list-style-type: none"> 6.0 miles of moderate residual impacts where suitable habitat is crossed Surveys for Washington ground squirrel have not been completed, therefore occupancy is unknown <p>Big game</p> <ul style="list-style-type: none"> 25.4 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: 0.2 mile Chinook salmon critical habitat: 0.3 mile MCR steelhead critical habitat: 0.6 mile SRB steelhead critical habitat: 0.1 mile Redband trout occupied streams: 2.0 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.2 mile Low: 1.4 miles None: 86.6 miles With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated With mitigation, only low residual impacts on redband trout occupied streams are anticipated
<p>Table Note:</p> <p>ACEC = area of critical environmental concern</p> <p>APE = area of potential effects</p> <p>BLM = Bureau of Land Management</p> <p>CAFO = confined animal feeding operation</p> <p>CRP = Conservation Reserve Program</p> <p>EFH = essential fish habitat</p> <p>EFU = exclusive farm use</p> <p>FAA = Federal Aviation Authority</p> <p>MCR = Middle Columbia River</p>			<p>NHT = national historic trail</p> <p>NWSTF = Naval Weapons Systems Training Facility</p> <p>P = Private</p> <p>PFYC = Potential Fossil Yield Classification System (BLM classification system)</p> <p>ROS = recreation opportunity spectrum</p> <p>SEORMP = Southeastern Oregon Resource Management Plan</p> <p>SRB = Snake River Basins</p> <p>VRM = visual resource management</p> <p>WSR = Wild and Scenic River</p>		

Table 2-20. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics and Potential Congressional Designations in Segment 1—Morrow-Umatilla

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Applicant's Proposed Action	BLM: 0.1 DOD: 10.6 USFS: 4.5 P: 76.7	4.6	75.1	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 49.5 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and other structures 6 residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 64.0 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 15.1 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Located within a 90-foot-wide use area currently occupied by a 69-kV transmission line owned by BPA Requires repurposing the 90-foot-wide easement (currently used by BPA) Require the development of a new land-use agreement <p>Special Designated Areas</p> <ul style="list-style-type: none"> Crosses 1.3 miles of the RNA – B on NWTSF Boardman which is not consistent with Navy management for the area as identified in the INRMP and underlying governing requirements of designated ecological reserves. 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 4.4 miles of high residual impacts where the alternative crosses pivot irrigation (one center pivot could not be spanned) 30.5 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, fallow/idle cropland, field crops, orchards of fruit and tree nuts, and vegetable operations <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 28.8 miles of Prime Farmland if irrigated, 38.9 miles of farmland of statewide importance, and 30.4 miles of high-value soils Crosses 355 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 4.6 miles of grazing allotments 	<ul style="list-style-type: none"> Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S1-B1	BLM: 0.1 USFS: 4.5 P: 1.8	65.6	6.4	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 6.2 miles of moderate residual impacts where the route variation crosses forest/woodlands and near residences 1 residential building within right-of-way <p>Zoning Not crossed</p> <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No high or moderate residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 4.6 miles of grazing allotments 	<ul style="list-style-type: none"> Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S1-B2	USFS: 3.7 P: 2.7	57.8	6.4	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 5.9 miles of moderate residual impacts where the route variation crosses forest/woodlands No residential buildings within right-of-way <p>Zoning Not crossed</p> <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No high or moderate residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 3.7 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-20. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics and Potential Congressional Designations in Segment 1—Morrow-Umatilla									
Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
East of Bombing Range Road	BLM: 0.1 USFS: 4.5 P: 85.8	4.2	76.4	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 55.6 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and other structures 1 residential building within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 75.2 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 15.2 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Would be built on privately owned (and small portion of state) land east of Bombing Range Road Colocated with existing end-user connection 115-kV transmission line <p>Special Designated Areas: Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 11.3 miles of high residual impacts where the alternative crosses pivot irrigation and tree farms (23 center pivots could not be spanned) 31.1 miles of moderate residual impacts where the alternative crosses flood and other mechanized irrigation, fallow/idle cropland, field crops, vegetables, and orchards of fruit and tree nuts <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 29.9 miles of Prime Farmland if irrigated, 38.4 miles of farmland of statewide importance, and 31.6 miles of high-value soils Crosses 355 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 4.6 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present
Applicant's Proposed Action – Southern Route	BLM: 0.2 DOD: 10.6 USFS: 4.5 P: 83.8	4.2	84.0	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 46.8 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and other structures 1 residential building within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 70.2 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 15.1 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Located within a 90-foot-wide use area currently occupied by a 69-kV transmission line owned by BPA Requires repurposing the 90-foot-wide easement (currently used by BPA) Require the development of a new land-use agreement <p>Special Designated Areas</p> <ul style="list-style-type: none"> Crosses 1.3 miles of the RNA – B on NWTSF Boardman which is not consistent with Navy management for the area as identified in the INRMP and underlying governing 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 4.1 miles of high residual impacts where the alternative crosses pivot irrigation (one center pivot could not be spanned) 28.5 miles of moderate residual impacts where the alternative crosses flood and other mechanized irrigation, fallow/idle cropland, field crops, vegetables, and orchards of fruit and tree nuts <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 24.9 miles of Prime Farmland if irrigated, 46.3 miles of farmland of statewide importance, and 75.1 miles of high-value soils Crosses 314 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 4.6 miles of grazing allotments 	<ul style="list-style-type: none"> Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-20. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics and Potential Congressional Designations in Segment 1—Morrow-Umatilla

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				requirements of designated ecological reserves					
West of Bombing Range Road – Southern Route	BLM: 0.4 DOD: 10.6 USFS: 4.5 P: 80.1	4.4	73.3	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 38.3 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and other structures 1 residential building within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 66.7 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 15.1 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Located within a 90-foot-wide use area currently occupied by a 69-kV transmission line owned by BPA Requires repurposing the 90-foot-wide easement (currently used by BPA) Require the development of a new land-use agreement <p>Special Designated Areas</p> <ul style="list-style-type: none"> Crosses 1.3 miles of the RNA – B on NWTSF Boardman which is not consistent with Navy management for the area as identified in the INRMP and underlying governing requirements of designated ecological reserves 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 3.1 miles of high residual impacts where the alternative crosses pivot irrigation (one pivot could not be spanned) 15.5 miles of moderate residual impacts where the alternative crosses flood and other mechanized irrigation, fallow/idle cropland, field crops, vegetables, and orchards of fruit and tree nuts <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 21.1 miles of Prime Farmland if irrigated, 36.9 miles of farmland of statewide importance, and 21.5 miles of high-value soils Crosses 144 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 4.6 miles of grazing allotments 	<ul style="list-style-type: none"> Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present
Longhorn	BLM: 0.1 USFS: 4.5 P: 83.6	4.8	70.3	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 51.9 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and other structures 2 residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 71.7 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 17.6 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Located 4 miles east of Bombing Range Road Would not be compatible with training 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 9.9 miles of high residual impacts where the alternative crosses pivot irrigation, and tree farms (six center pivots could not be spanned) 27.8 miles of moderate residual impacts where the alternative crosses flood and other mechanized irrigation, fallow/idle cropland, field crops, vegetables, confined animal feeding operations, and orchards of fruit and tree nuts <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 22.2 miles of Prime Farmland if irrigated, 39.1 miles of farmland of statewide importance, and 23.4 miles of high-value soils Crosses 355 acres of CRP lands 	<ul style="list-style-type: none"> Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-20. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics and Potential Congressional Designations in Segment 1—Morrow-Umatilla

Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				operations <ul style="list-style-type: none"> • Would result in additional obstacles in the existing flight patterns Special Designated Areas Not crossed	Livestock Grazing <ul style="list-style-type: none"> • Crosses 4.6 miles of grazing allotments 				
Interstate 84	BLM: 0.1 DOD: 0.1 USFS: 4.5 P: 80.0	5.0	73.3	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts • 42.2 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and rest stops • 2 residential buildings within right-of-way Zoning <ul style="list-style-type: none"> • Crosses 65.6 miles of EFU zoning Military Training Lands <ul style="list-style-type: none"> • Crosses 14.7 miles of special use airspace • Potential to create restrictions in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA • Collocated with Interstate 84 • Would create an east-west obstacle for military training operations along interstate Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> • 10.2 miles of high residual impacts where the alternative crosses pivot irrigation • 21.0 miles of moderate residual impacts where the alternative crosses flood and other mechanized irrigation, fallow/idle cropland, field crops, vegetables, confined animal feeding operations, and orchards of fruit and tree nuts Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> • Crosses 28.1 miles of Prime Farmland if irrigated, 23.3 miles of farmland of statewide importance, and 30.1 miles of high-value soils • Crosses 253 acres of CRP lands Livestock Grazing <ul style="list-style-type: none"> • Crosses 6.5 miles of grazing allotments 	<ul style="list-style-type: none"> • Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S1-A1	USFS: 4.5 P: 18.5	0.0	17.0	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts • 5.4 miles of moderate residual impacts where the alternative route crosses agricultural • No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> • Crosses 18.1 miles of EFU zoning Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> • 1.3 miles of high residual impacts where the alternative crosses pivot irrigation • 7.8 miles of moderate residual impacts where the alternative crosses flood irrigation, fallow/idle cropland, field crops, and vegetables Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> • Crosses 14.3 miles of Prime Farmland if irrigated, 2.6 miles of farmland of statewide importance, and 14.7 miles of high-value soils • Crosses 25 acres of CRP lands Livestock Grazing <ul style="list-style-type: none"> • No grazing allotments crossed 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S1-A2	USFS: 3.7 P: 18.5	0.0	18.5	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts • 5.8 miles of moderate residual impacts where the alternative route crosses agricultural and near residences • 2 residential buildings within right-of-way Zoning <ul style="list-style-type: none"> • Crosses 18.5 miles of EFU zoning 	Existing Agriculture <ul style="list-style-type: none"> • 0.9 mile of high residual impacts where the alternative crosses pivot irrigation • 3.5 miles of moderate residual impacts where the alternative crosses confined animal feeding operations, flood and other mechanized irrigation, fallow/idle cropland, field crops, and vegetables 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> • No potential congressional designations are present

Table 2-20. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics and Potential Congressional Designations in Segment 1—Morrow-Umatilla

Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				<p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 4.3 miles of Prime Farmland if irrigated, 9.3 miles of farmland of statewide importance, and 5.0 miles of high-value soils • Crosses 62 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> • No grazing allotments crossed 				
Interstate 84 – Southern Route	BLM: 0.2 DOD: 0.1 USFS: 4.5 P: 80.1	4.5	83.3	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 41 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences and rest stops • 2 residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 73.3 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> • Crosses 14.7 miles of special use airspace • Potential to create restrictions in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA • Collocated with Interstate 84 • Would create an east-west obstacle for military training operations along interstate <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 9.9 miles of high residual impacts where the alternative crosses center pivot irrigation • 19.8 miles of moderate residual impacts where the alternative crosses confined animal feeding operations, flood and other mechanized irrigation, fallow/idle cropland, orchards of fruit and tree nuts, field crops, and vegetables <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 25.2 miles of Prime Farmland if irrigated, 31.3 miles of farmland of statewide importance, and 26.6 miles of high-value soils • Crosses 235 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 6.5 miles of grazing allotments 	<ul style="list-style-type: none"> • Crosses 0.3 mile of moderate impacts where the alternative crosses Blue Mountain Forest State Scenic Corridor Day Use Area 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics are present 	<ul style="list-style-type: none"> • No potential congressional designations are present

Table Note:

ACEC = area of critical environmental concern
 APE = area of potential effects
 BLM = Bureau of Land Management
 BPA = Bonneville Power Administration
 CAFO = confined animal feeding operation
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 FAA = Federal Aviation Authority

INRMP = Integrated Natural Resources Management Plan
 NHT = national historic trail
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 RNA = research natural area
 ROS = recreation opportunity spectrum
 SEORMP = Southeastern Oregon Resource Management Plan
 VRM = visual resource management
 WSR = Wild and Scenic River

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
<p>Applicant's Proposed Action</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> • High: 26.7 miles • Moderate: 26.1 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> • 11 VAUs affected <ul style="list-style-type: none"> – 8 Foreground – 11 Middleground • The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however would not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: Viewers would experience high impacts near the McKay Creek VAU area, the Butter Creek VAU area, as well as areas to the north east of Pilot Rock • Recreation : Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts • Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; a crossing of State Highway 207; a crossing of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains <p>Federal Land Conformance</p> <ul style="list-style-type: none"> • Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>Inventory</p> <ul style="list-style-type: none"> • 101 previously recorded sites in the study corridor • 11 previously recorded sites in the direct effects APE • Key resources include the NRHP-listed Well Spring Segment of the Oregon NHT, the Oregon NHT/Interpretative Park-California Gulch, the Lower Well Springs Diversion of the Well Spring Segment of the Oregon NHT, trail-associated sites, the NWSTF Boardman and associated sites (including two historic properties of religious and cultural significance to Indian tribes), and the McKay Creek area. Of these resources, the Oregon NHT, the two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman, and the McKay Creek area are in the direct effects APE. The historic linear site and the McKay Creek area are crossed by this alternative route • Additional key resources include the Lewis and Clark NHT, the Upper Columbia River Route Study Trail, and the Umatilla River Route and Columbia River to The Dalles Study Trail (refer to maps MV-25 and MV-26 for inventory data); these resources are located in the vicinity of the study corridor • There are sites or areas of Native American concern along this route • There is the potential for direct effects on undocumented, pre-contact sites southeast of Kamela • Based on RLS cultural data collected for alternative routes in the vicinity of Boardman and Pilot Rock, resources that potentially could be affected visually include the Oregon NHT, waterworks, residential and commercial buildings, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> • 1.3 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to sites of tribal concern (two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman) identified along this alternative route. There is the potential for additional miles of high cultural resource sensitivity in the McKay Creek area (high potential to encounter undocumented, significant sites) • 14.0 miles of moderate cultural resource sensitivity • 39.9 miles of low cultural resource 	<ul style="list-style-type: none"> • Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> – Archaeological resources (e.g., cairns, rock alignments, lithic scatters, lithic and tool scatters, lithic procurement areas, campsites, habitation site, culturally modified trees locale). These resources are in the indirect effects APE – The Oregon NHT (path of the Forced March of 1879 [direct effects APE]) – Two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman (direct and indirect effects APEs) – Sand Hollow Battlefield 1848 (indirect effects APE) – Sites of tribal significance near Pilot Rock (indirect effects APE) – The McKay Creek area (direct effects APE) – Traditional foods – There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) • Based on the ethnographic records, there are unspecified places of Native American concern along this route • Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: 2.9 miles • Moderate: 8.6 miles • Low: 26.0 miles <p>Trail Management</p> <ul style="list-style-type: none"> • High impacts on views from Boardman and moderate impacts on the Blue Mountains high potential route segments • High impacts on NPS Auto Tour Route • Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • High impacts on views from the Sand Hollow Battlefield 1848 trail-associated cultural site • One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: 1.5 miles • Low: 2.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> • Moderate impacts on views from NPS auto tour route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: none • Low: 4.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> • Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: none 	<ul style="list-style-type: none"> • Minimal and temporary impact on employment and population • High agricultural impacts with yield losses valued at \$ 408,239 annually during construction and \$109,910 during operations • No effects to CAFO operations • Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 10 AUMs with residual forage losses of less than 3 AUMs • High impacts on timber resources: the B2H Project could disturb 309 acres of timberlands during construction with residual disturbances equal to 83 acres of timberlands • Impacts on property values are minimal and short-term in nature • No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		sensitivity • 36.7 miles of no cultural resource sensitivity		• Low: 4.1 miles Key Issues • Potential designation not compromised	
Variation S1-B1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6.2 miles Moderate: 0.1 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 3 VAUs affected <ul style="list-style-type: none"> 1 Foreground 3 Middleground The visible foreground of VAU crossed, BA-011 Blue Mountains Forest VAU, would generally experience high impacts and would reduce scenic score however would not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Viewers would experience high impacts near the McKay Creek VAU area, the Butter Creek VAU area, as well as areas to the north east of Pilot Rock Recreation : Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts within the Blue Forest Mountain area Travel Routes: Viewers using I-84 would experience moderate impacts <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>Inventory</p> <ul style="list-style-type: none"> 58 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Key resources include the Oregon NHT (previously recorded, contributing segment), the Blue Mountain Crossing Interpretive Park site, the Interpretative Park-California Gulch; these resources are in the indirect effects APE There are sites of Native American concern along this route variation Potential for direct effects on undocumented, significant pre-contact sites (specifically southeast of Kamela) <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity 3.8 miles of moderate cultural resource sensitivity 2.6 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.3 miles Moderate: 3.8 miles Low: 1.3 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on NPS Auto Tour Route Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Lewis and Clark NHT <p>Upper Columbia River Route Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Upper Columbia River Route Study Trail <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Umatilla River Route and Columbia River to The Dalles Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$5,834 annually during construction and \$2,033 during operations No effects to CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to 10 AUMs with residual forage losses of 3 AUMs Moderate impacts on timber resources: the B2H Project could disturb 119 acres of timberlands during construction with residual disturbances equal to 36 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S1-B2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6.2 miles Moderate: 0.2 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 3 VAUs affected <ul style="list-style-type: none"> 1 Foreground 3 Middleground The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: Where project is visible from 	<p>Inventory</p> <ul style="list-style-type: none"> 55 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Same key resources as Variation S1-B1 because they occur in an area where the route variations are in proximity to one another. Potential impacts on the Oregon NHT would be similar to Variation S2-B1 except that Variation S1-B2 is located closer to the trail resulting in more intense impacts (indirect effects APE) There are sites of Native American concern along this route variation Potential for direct effects on undocumented, historic transportation 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT</p> <p>Total Residual Impacts</p> <ul style="list-style-type: none"> High: 5.6 miles Moderate: 0.8 mile Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Blue Mountains High Potential Route Segment High impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment High impacts on NPS Auto Tour Route High impacts on view from the Oregon Trail ACEC– California Gulch portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from Blue Mountain 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$4,217 annually during construction and \$1,366 during operations No effects to CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 9 AUMs with residual forage losses of approximately 2 AUMs Moderate impacts on timber resources: the B2H Project could disturb 112 acres of timberlands during construction with residual disturbances equal to 31 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p><i>Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue Mountain Forest related KOPs</i></p> <ul style="list-style-type: none"> Travel Routes: Viewers using I-84 would experience high impacts due to two separate crossings <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p><i>corridors</i></p> <ul style="list-style-type: none"> Unspecified places of Native American concern (Ethnographic records) <p>Impacts</p> <ul style="list-style-type: none"> 0.3 mile of high cultural resource sensitivity 4.8 miles of moderate cultural resource sensitivity 1.3 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 		<p><i>Crossing Interpretive Park</i></p> <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Lewis and Clark NHT <p>Upper Columbia River Route Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Upper Columbia River Route Study Trail <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Umatilla River Route and Columbia River to The Dalles Study Trail 	<p><i>justice population</i></p>
<p>East of Bombing Range Road</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 27.6 miles Moderate: 25.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 8 Foreground 11 Middleground The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Viewers would experience high impacts near the McKay Creek VAU area, the Butter Creek VAU area, as well as areas to the north east of Pilot Rock Recreation: Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue Mountain Forest related KOPs Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; a crossing of State Highway 207; a crossing of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>Inventory</p> <ul style="list-style-type: none"> 101 previously recorded sites in the study corridor 12 previously recorded sites in the direct effects APE Same key resources as the Applicant's Proposed Action Alternative, since these two alternative routes are identical over the majority of their length (except where the B2H Project would be located along the east side of Bombing Range Road) Crosses the NRHP-listed Well Spring Segment of the Oregon NHT Crosses the McKay Creek area There are sites or areas of Native American concern along this alternative route There is the potential for direct effects on undocumented, pre-contact sites southeast of Kamela Based on RLS cultural data collected for alternative routes in the vicinity of Boardman and Pilot Rock, resources that potentially could be affected visually are the same as those identified along the Applicant's Proposed Action Alternative. Although the alternative routes do not share the same alignment south of the Longhorn Substation, they are in proximity to one another, and the same resources are identified for both alternative routes <p>Impacts</p> <ul style="list-style-type: none"> 1.3 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to sites of tribal concern (two historic 	<ul style="list-style-type: none"> Same previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, since these two alternative routes are identical over the majority of their length. Sites are in the indirect effects APE, except for 1 cairn and the Oregon NHT (path of the Forced March of 1879) Same key resources of Native American concern as the Applicant's Proposed Action Alternative, since these two alternative routes are identical over the majority of their length This alternative route is slightly closer to Sand Hollow Battlefield 1848 Based on the ethnographic records, there are unspecified places of Native American concern along this alternative route There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.3 miles Moderate: 9.2 miles Low: 26.3 miles <p>Trail Management:</p> <ul style="list-style-type: none"> High impacts on views from Boardman and moderate impacts on the Blue Mountains high potential route segments High impacts on NPS Auto Tour Route Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments High impacts on views from the Sand Hollow Battlefield 1848 trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 1.5 miles Low: 2.7 miles <p>Trail Management:</p> <ul style="list-style-type: none"> Moderate impacts on views from NPS auto tour route 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$666,425 annually during construction and \$177,069 during operations No effects to CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 10 AUMs with residual forage losses of approximately 3 AUMs High impacts on timber resources: the B2H Project could disturb 316 acres of timberlands during construction with residual disturbances equal to 103 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		<p>properties of religious and cultural significance to Indian tribes in the NWSTF Boardman) identified along this alternative route. There is the potential for additional miles of high cultural resource sensitivity in the McKay Creek area (high potential to encounter undocumented, significant sites)</p> <ul style="list-style-type: none"> • 13.9 miles of moderate cultural resource sensitivity • 40.4 miles of low cultural resource sensitivity • 36.7 miles of no cultural resource sensitivity 		<p>Scenic and Recreation Resources:</p> <ul style="list-style-type: none"> • No key issues identified <p>Historic and Cultural Resources:</p> <ul style="list-style-type: none"> • No key issues identified <p>Biological, Natural, and Other Resources:</p> <ul style="list-style-type: none"> • No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts:</p> <ul style="list-style-type: none"> • High: none • Moderate: none • Low: 4.1 miles <p>Key Issues:</p> <ul style="list-style-type: none"> • Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts:</p> <ul style="list-style-type: none"> • High: none • Moderate: none • Low: 4.1 miles <p>Key Issues:</p> <ul style="list-style-type: none"> • Potential designation not compromised 	
<p>Applicant's Proposed Action – Southern</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> • High: 26.4 miles • Moderate: 28.6 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> • 11 VAUs affected <ul style="list-style-type: none"> – 7 Foreground – 11 Middleground • The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: Viewers would experience high impacts near the McKay Creek VAU area, the Butter Creek VAU area, as well as areas to the north east of Pilot Rock • Recreation: Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue Mountain Forest related KOPs • Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; a crossing of State Highway 207; a crossing of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains <p>Federal Land Conformance</p>	<p>Inventory</p> <ul style="list-style-type: none"> • 103 previously recorded sites in the study corridor • 8 previously recorded sites in the direct effects APE • Same key resources as the Applicant's Proposed Action Alternative, except that the Applicant's Proposed Action – Southern Route Alternative avoids the McKay Creek area. Although the alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared (from the Longhorn Substation to Pilot Rock and east of Rocky Ridge) • Crosses the NRHP-listed Well Spring Segment of the Oregon NH • There are sites or areas of Native American concern along this route • There is the potential for direct effects on undocumented, pre-contact sites southeast of Kamela • Based on RLS cultural data collected for alternative routes in the vicinity of Boardman and Pilot Rock, resources that potentially could be affected visually are similar to those identified along the Applicant's Proposed Action Alternative. The Applicant's Proposed Action – Southern Route Alternative (Link 1-83) lies slightly farther from Pilot Rock. Resources are similar because they occur near the 	<ul style="list-style-type: none"> • Same previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 1 additional site along the Applicant's Proposed Action Alternative. Most of the sites are the same because they occur in the areas where the alignments are shared (from the Longhorn Substation to Pilot Rock and east of Rocky Ridge). Sites are in the indirect effects APE, except for 1 cairn (documented as historic) and the Oregon NHT (path of the Forced March of 1879) • Similar key resources of Native American concern as the Applicant's Proposed Action Alternative, except that the Applicant's Proposed Action – Southern Route Alternative avoids the McKay Creek area and lies slightly farther from significance sites near Pilot Rock • There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) • Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: 2.9 miles • Moderate: 8.6 miles • Low: 26.0 miles <p>Trail Management:</p> <ul style="list-style-type: none"> • High impacts on views from Boardman and moderate impacts on the Blue Mountains high potential route segments • High impacts on NPS Auto Tour Route • Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • High impacts on views from the Sand Hollow Battlefield 1848 trail-associated cultural site • One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: 1.5 miles • Low: 2.7 miles 	<ul style="list-style-type: none"> • Minimal and temporary impact on employment and population • High agricultural impacts with yield losses valued at \$411,342 annually during construction and \$113,070 during operations • No effects to CAFO operations • Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 10 AUMs with residual forage losses of less than 4 AUMs • High impacts on timber resources: the B2H Project could disturb 354 acres of timberlands during construction with residual disturbances equal to roughly 123 acres of timberlands • Impacts on property values are minimal and short-term in nature • No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>areas where the alignments are shared or intersect</p> <p>Impacts</p> <ul style="list-style-type: none"> 0.9 mile of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to sites of tribal concern (two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman) identified along this alternative route 13.6 miles of moderate cultural resource sensitivity 43.9 miles of low cultural resource sensitivity 40.7 miles of no cultural resource sensitivity 	<p>concern</p>	<p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from NPS auto tour route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 4.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 4.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised 	
<p>West of Bombing Range Road – Southern</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 33.1 miles Moderate: 29.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 7 Foreground 11 Middleground The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Viewers within 0.5 mile of this alternative would experience high impacts near the McKay Creek VAU area and the Butter Creek VAU area Recreation: Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue Mountain Forest related KOPs Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; a crossing of State Highway 207; a crossing 	<p>Inventory</p> <ul style="list-style-type: none"> 97 previously recorded sites in the study corridor 8 previously recorded sites in the direct effects APE Similar key resources as the Applicant's Proposed Action Alternative, except that the West of Bombing Range Road: Southern Route Alternative avoids the McKay Creek area and sites of tribal significance near Pilot Rock. Although the alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared (south of the Longhorn Substation and east of Rocky Ridge) Crosses the NRHP-listed Well Spring Segment of the Oregon NHT There are sites or areas of Native American concern along this alternative route There is the potential for direct effects on undocumented, pre-contact sites southeast of Kamela Based on RLS cultural data collected for alternative routes in the vicinity of Boardman, resources that potentially could be affected visually are similar to those identified along the Applicant's Proposed 	<ul style="list-style-type: none"> Same previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 1 additional site along the West of Bombing Range Road – Southern Route Alternative. Most of the sites occur in the areas where the alignments are shared (south of the Longhorn Substation and east of Rocky Ridge). Sites are in the indirect effects APE, except for the Oregon NHT (path of the Forced March of 1879) Similar key resources of Native American concern as the Applicant's Proposed Action Alternative, except that the West of Bombing Range Road – Southern Route Alternative avoids the McKay Creek area and lies farther from resources of tribal concern near Pilot Rock Birch Creek is located in the vicinity of the study corridor There is the potential for undocumented, significant sites (including rockshelters) that may be relevant to the tribes to occur in or near the indirect effect APE 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.9 miles Moderate: 7.2 miles Low: 17.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Boardman and moderate impacts on the Blue Mountains high potential route segments High impacts on NPS Auto Tour Route Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> High impacts on views from the Sand Hollow Battlefield 1848 trail-associated cultural site One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$266,060 annually during construction and \$83,069 during operations No effects to CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to 10 AUMs with residual forage losses of less than 3 AUMs High impacts on timber resources: the B2H Project could disturb 340 acres of timberlands during construction with residual disturbances equal to 91 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains; alignment for this alternative crosses State Highway 207 several miles west of Butter Creek VAU, where travelers using the highway would experience continuous, head-on, skylined views of the B2H Project components in a flat agricultural landscape</p> <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the -administered lands through the BA-011 Blue Mountains Forest VAU 	<p>Action Alternative. The West of Bombing Range Road – Southern Route Alternative lies farther from Pilot Rock</p> <p>Impacts</p> <ul style="list-style-type: none"> 0.9 mile of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to sites of tribal concern (two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman) identified along this alternative route 12.4 miles of moderate cultural resource sensitivity 40.2 miles of low cultural resource sensitivity 42.1 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<ul style="list-style-type: none"> High: none Moderate: 1.5 miles Low: 2.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from NPS auto tour route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 4.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 4.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised 	
<p>Longhorn</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 27.9 miles Moderate: 29.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 8 Foreground 11 Middleground The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms:</p> <ul style="list-style-type: none"> Residences: Viewers would experience high impacts near the McKay Creek VAU area, the Butter Creek VAU area, as well as areas to the north east of Pilot Rock Recreation: Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue Mountain Forest related KOPs 	<p>Inventory</p> <ul style="list-style-type: none"> 81 previously recorded sites in the study corridor 10 previously recorded sites in the direct effects APE Key resources include the Oregon NHT, trail-associated sites, the Interpretative Park-California Gulch of the Oregon NHT, the Upper Columbia River Route Study Trail, the Umatilla River Route and Columbia River to The Dalles Study Trail, and the Lewis and Clark NHT. Crosses one previously recorded, contributing segment of the Oregon NHT Crosses the McKay Creek area Avoids the NRHP-listed Well Spring Segment of the Oregon NHT, the Lower Well Springs Diversion of the Well Spring Segment of the Oregon NHT, and the NWSTF Boardman (including two historic properties of religious and cultural significance to Indian tribes) There are sites or areas of Native American concern along this alternative route 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 4 additional sites along the Applicant's Proposed Action Alternative. Sites are similar because they occur in the areas where the alignments are shared. Except for the initial north-south portion exiting the Longhorn Substation, the Longhorn Alternative and the Applicant's Proposed Action Alternative follow the same alignment. Sites are in the indirect effects APE, except for the Oregon NHT (path of the Forced March of 1879) Similar key resources of Native American concern as the Applicant's Proposed Action Alternative, except that the Longhorn Alternative avoids the two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman and the Sand Hollow Battlefield 1848 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.4 miles Moderate: 7.7 miles Low: 20.2 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on NPS Auto Tour Route Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 1.4 miles 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$639,401 annually during construction and \$171,915 during operations High impacts on CAFO operations: loss operation capacity at affected CAFOs is estimated to be valued at \$15.6 million during construction with residual loss capacity valued at \$4.2 million Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 10 AUMs with residual forage losses of approximately 3 AUMs High impacts on timber resources: the B2H Project could disturb 328 acres of timberlands during construction with residual disturbances equal to 103 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; a crossing of State Highway 207; a crossing of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<ul style="list-style-type: none"> Potential for direct effects on undocumented, pre-contact sites southeast of Kamela High potential for pre-contact sites based on streams Based on RLS cultural data collected for alternative routes in the vicinity of Boardman and Pilot Rock, resources that potentially could be affected visually are similar to those identified along the Applicant's Proposed Action Alternative. Except for the initial north-south portion exiting the Longhorn Substation, the alternative routes share the same alignment. The Longhorn Alternative lies farther from Boardman <p>Impacts</p> <ul style="list-style-type: none"> 1.4 miles of high cultural resource sensitivity. There is the potential for additional miles of high cultural resource sensitivity in the McKay Creek area (high potential to encounter undocumented, significant sites) 13.0 miles of moderate cultural resource sensitivity 31.6 miles of low cultural resource sensitivity 42.2 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Butter Creek is located in the vicinity of the study corridor There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<ul style="list-style-type: none"> Low: 2.3 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from NPS auto tour route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 3.6 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 3.6 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised 	
<p>Interstate 84</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6,059 miles Moderate: 19.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 7 Foreground 11 Middleground The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Viewers would experience high impacts near the McKay Creek VAU area, as well as areas to the north east of Pilot Rock and within the Blue Mountain Forest area and the highest impact of all the alternatives on residences near I-84 Recreation: Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue 	<p>Inventory</p> <ul style="list-style-type: none"> 89 previously recorded sites in the study corridor 9 previously recorded sites in the direct effects APE Key resources include the Oregon NHT, trail-associated sites, the Umatilla Army Ordinance Depot, and the McKay Creek area. Of these resources, the McKay Creek area and one unrecorded segment (unknown condition) of the Oregon NHT are in the direct effects APE, and also are crossed by this alternative route (refer to map MV-25 for inventory data) Additional key resources include the Lewis and Clark NHT and the Upper Columbia River Route Study Trail (refer to maps MV-25 and MV-26 for inventory data); these resources are located in the vicinity of the study corridor The Umatilla River Route an Columbia River to The Dalles Study Trail (undocumented segment) is in the direct effects APE (refer to map MV-26 for inventory data) There are sites or areas of Native 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic and tool scatters, lithic procurement areas, cairns, rock alignments, one human burial site/grave goods, "Indian Trails," one habitation site, one culturally modified trees locale). These resources are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE Sites of tribal significance near Pilot Rock (indirect effects APE) The McKay Creek area (direct effects APE) Avoids two historic properties of religious and cultural significance to Indian tribes in the NWSTF Boardman and 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 5.2 miles Moderate: 27.4 miles Low: 16.6 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on NPS Auto Tour Route Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$479,857 annually during construction and \$127,355 during operations Moderate impacts on CAFO operations: loss operation capacity at affected CAFOs is estimated to be valued at \$445,632 during construction with residual loss capacity valued at \$118,272 Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to approximately 9 AUMs with residual forage losses of less than 4 AUMs High impacts on timber resources: the B2H Project could disturb 308 acres of timberlands during construction with residual disturbances equal to 82 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>Mountain Forest related KOPs</p> <ul style="list-style-type: none"> Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; a crossing of State Highway 207; a crossing of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>American concern along this alternative route</p> <ul style="list-style-type: none"> There is the potential for direct effects on undocumented, significant sites (pre-contact and historic [transportation corridors]) near the Umatilla River crossings and southeast of Kamela, along with the potential for significant pre-contact sites south of Pendleton Potential to encounter NHT-related sites (Echo area) Based on RLS cultural data collected for alternative routes in the vicinity of Boardman, Echo, and Pilot Rock, resources that potentially could be affected visually include numerous residential and commercial buildings, waterworks, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> 2.8 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this alternative route. There is the potential for additional miles of high cultural resource sensitivity in the McKay Creek area (high potential to encounter undocumented, significant sites) 13.1 miles of moderate cultural resource sensitivity 37.2 miles of low cultural resource sensitivity 31.6 miles of no cultural resource sensitivity 	<p>Sand Hollow Battlefield 1848</p> <ul style="list-style-type: none"> There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) Traditional foods <ul style="list-style-type: none"> Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<ul style="list-style-type: none"> Moderate: 1.4 miles Low: 1.8 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from NPS auto tour route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 3.2 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 1.1 miles Low: 16.2 miles <p>Key Issues:</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	
<p>Variation S1-A1</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 17.0 miles Moderate: 1.1 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 5 VAUs affected <ul style="list-style-type: none"> 3 Foreground 5 Middleground Generally moderate impacts on scenery associated with Pendleton area <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Residences near I-84 would experience high impacts Recreation : No key issues identified Travel Routes: High Impacts on I-84 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 6 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Crosses one unrecorded segment (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data) Key resources include the Oregon NHT and one human burial site (funerary objects) There are sites of Native American concern along this route variation Potential for undocumented, trail-associated sites in the Echo area There are sites or areas of Native American concern along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity. Miles of high cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Interstate 84 Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 3.9 miles Moderate: 12.5 miles Low: 2.1 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high indirect impacts on contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Lewis and Clark NHT. <p>Upper Columbia River Route Study Trail</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Low agricultural impacts with yield losses valued at \$76,850 annually during construction and \$15,764 during operations No identifiable impacts on CAFO operations No identifiable impacts on grazing resources No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		<p>would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation</p> <ul style="list-style-type: none"> 1.4 miles of moderate cultural resource sensitivity 1.3 miles of low cultural resource sensitivity 15.8 miles of no cultural resource sensitivity 		<ul style="list-style-type: none"> This route variation is not located in proximity to the Upper Columbia River Route Study Trail. <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 0.1 mile Low: 5.2 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	
Variation S1-A2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: none Moderate: 7.8 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 5 VAUs affected <ul style="list-style-type: none"> 3 Foreground 5 Middleground Stronger adverse impacts on a VAU with B scenic quality (BA-032 Umatilla River) <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Lesser number of high impacts due to colocation Recreation : No key issues identified Travel Routes: Less impacts on I-84 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 6 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Crosses one unrecorded segment (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data) Same key resources as Variation S1-A1. Although these route variations do not share similar alignments, key resources are the same because they occur where the route variations intersect (Echo area) There are sites of Native American concern along this route variation Potential to encounter NHT-related sites (Echo and Nolin areas) <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity. Miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 1.6 miles of moderate cultural resource sensitivity 2.0 miles of low cultural resource sensitivity 14.9 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Interstate 84 Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.0 mile Moderate: 2.8 miles Low: 14.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Lewis and Clark NHT. <p>Upper Columbia River Route Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Upper Columbia River Route Study Trail. <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 0.4 miles Low: 6.0 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$29,003 annually during construction and \$8,701 during operations Moderate impacts on CAFO operations: loss operation capacity at affected CAFOs is estimated to be valued at \$464,640 during construction with residual loss capacity valued at \$139,392 No identifiable impacts on grazing resources No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Interstate 84 – Southern Route	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 60.7 miles Moderate: 22.9 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 7 Foreground 	<p>Inventory</p> <ul style="list-style-type: none"> 92 previously recorded sites in the study corridor 6 previously recorded sites in the direct effects APE Same key resources as the Interstate 84 Alternative, except that the Interstate 84 – Southern Route Alternative avoids the 	<ul style="list-style-type: none"> Same previously recorded sites of tribal significance as the Interstate 84 Alternative, except for 1 additional site along the Interstate 84 – Southern Route Alternative. Most of the sites occur in the areas where the alignments are shared (from Longhorn Substation [to the 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 5.2 miles Moderate: 27.4 miles Low: 16.6 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$492,607 annually during construction and \$136,450 during operations Moderate impacts on CAFO operations: loss operation capacity at affected CAFOs is estimated to be valued at \$449,856 during

Table 2-21. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 1—Morrow-Umatilla

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>– 11 Middleground</p> <ul style="list-style-type: none"> The visible foreground of VAUs crossed would generally experience high impacts and would reduce scenic score however not lower the overall rating of B scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on residences adjacent or near I-84 corridor as well as impact views of residences from Birch Creek Valley Recreation: Where project is visible from Stationary Sensitive Viewing Platforms associated with recreation, views would experience moderate impacts in the Spring Creek camp areas as well as the Blue Mountain Forest related KOPs Travel Routes: The highest impacts on travel routes would be associated with a crossing of I-84 east of Boardman; I-82; a crossing of State Highway 207; a crossing of US Highway 395; and close parallel alignment with I-84 in the Blue Mountains <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>McKay Creek area. Although the alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared or intersect (from the Longhorn Substation [to the east/southeast] to Pilot Rock)</p> <ul style="list-style-type: none"> Crosses one unrecorded segment (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data) Crosses one undocumented segment of the Umatilla River Route and Columbia River to The Dalles Study Trail (refer to map MV-26 for inventory data) There are sites or areas of Native American concern along this alternative route There is the potential for direct effects on undocumented, significant sites (pre-contact and historic) near the Umatilla River crossings and southeast of Kamela, along with the potential for significant pre-contact sites south of Pendleton Potential to encounter NHT-related sites (Echo area) Based on RLS cultural data collected for alternative routes in the vicinity of Boardman, Echo, and Pilot Rock, resources that potentially could be affected visually are the same as those identified along the Interstate 84 Alternative. Both alternative routes share the same alignment, passing in proximity to the same resources <p>Impacts</p> <ul style="list-style-type: none"> 2.4 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this alternative route 12.7 miles of moderate cultural resource sensitivity 43.0 miles of low cultural resource sensitivity 35.3 miles of no cultural resource sensitivity 	<p>east/southeast] to Pilot Rock and east of Rocky Ridge)</p> <ul style="list-style-type: none"> Similar key resources of Native American concern as the Interstate 84 Alternative, except that the Interstate 84 – Southern Route Alternative avoids the McKay Creek area and lies slightly farther from significant sites near Pilot Rock There is the potential for undocumented, significant sites (primarily rock features [Kamela area, Wallowa-Whitman National Forest]) Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Mountains High Potential Route Segment</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park High Potential Historic Segment High impacts on NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountain Crossing Interpretive Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Lewis and Clark NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 1.4 miles Low: 1.8 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from NPS auto tour route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Upper Columbia River Route Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 3.2 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation not compromised <p>Umatilla River Route and Columbia River to The Dalles Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 1.1 miles Low: 16.2 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<p>construction with residual loss capacity valued at \$124,608</p> <ul style="list-style-type: none"> Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to approximately 9 AUMs with residual forage losses of approximately 4 AUMs High impacts on timber resources: the B2H Project could disturb 339 acres of timberlands during construction with residual disturbances equal to 93 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p><i>Table Note:</i></p> <p>ACEC = area of critical environmental concern APE = area of potential effects AUM = animal unit month BA = Biological Assessment BLM = Bureau of Land Management</p>		<p>CAFO = confined animal feeding operation CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority KOP = key observation point NHT = national historic trail</p>	<p>NPS = National Park Service NRHP = National Register of Historic Places NWSTF = Naval Weapons Systems Training Facility P = Private RLS = reconnaissance level survey ROS = recreation opportunity spectrum</p>	<p>SEORMP = Southeastern Oregon Resource Management Plan USFS = U.S. Forest Service VAU = Visual Analysis Unit VRM = visual resource management WSR = Wild and Scenic River</p>	

Table 2-22. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 2—Blue Mountains					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Applicant's Proposed Action	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • 378 acres of high floodzone percentage • 378 acres of moderate floodzone percentage • Soils with moderate water erosion: 4.3 miles • Farmlands: 1.4 miles • Soils with compaction potential: 3.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 2.2 miles – Intermittent Streams: 5.6 miles – 303(d) Temperature Listed: 0.2 mile – Scrub-shrub Wetland: 0.7 mile – Emergent Wetland: 1.7 miles – Open Water: 2.2 miles • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 33.4 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 2 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA not crossed, no high residual impacts expected • 3.2 miles of moderate residual impacts where GHMA is crossed <p>Big Game</p> <ul style="list-style-type: none"> • 29.1 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: 0.1 mile • Chinook salmon critical habitat: 0.3 mile • MCR steelhead critical habitat: none • SRB steelhead critical habitat: 0.7 mile • Redband trout occupied streams: 2.3 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.7 mile • Low: 1.8 miles • None: 31.3 miles • With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-A1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • 0.21 acres of high floodzone percentage • 321 acres of moderate floodzone percentage • Soils with moderate water erosion: 0.2 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • Intermittent Streams: 0.7 mile • No additional impacts on any wetland type are anticipated with this route variation 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 2.8 miles of moderate residual impacts where alternative route crosses Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, no impacts expected <p>Big Game</p> <ul style="list-style-type: none"> • 2.8 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat : none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: none • Low: none • None: 2.8 miles • Variation S2-A1 does not cross any streams which support special status fish species or protected fish habitats. Impacts are not anticipated
Variation S2-A2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • 0.21 acres of high floodzone percentage • 333 acres of moderate floodzone percentage • Soils with moderate water erosion: 0.5 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on intermittent streams and open water wetlands are anticipated <ul style="list-style-type: none"> – Intermittent Streams: 1.4 miles – Open Water: 0.1 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 2.9 miles of moderate residual impacts where alternative route crosses Mixed Conifer Forest, Mountain Shrub, Native Grasslands, and Riparian Conservation Areas <p>Sensitive Plants</p> <ul style="list-style-type: none"> • No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> • 2.9 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat : none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: none • Low: none • None: 2.9 miles • Variation S2-A2 does not cross any streams which support special status fish species or protected fish habitats. Impacts are not anticipated
Variation S2-B1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Soils with moderate water erosion: 0.2 mile • Soils with compaction potential: 0.2 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.8 mile 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 3.7 miles of moderate residual impacts where alternative route crosses Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, and Riparian Conservation 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> • 3.1 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat : none • Chinook salmon critical habitat: 0.2 mile • MCR steelhead critical habitat: none • SRB steelhead critical habitat: 0.4 mile • Redband trout occupied streams: 0.4 mile

Table 2-22. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 2—Blue Mountains					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
		<ul style="list-style-type: none"> - Intermittent Streams: 0.7 mile - Emergent Wetland: 0.5 mile - Open Water: 0.5 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Areas</p> <p>Sensitive Plants</p> <ul style="list-style-type: none"> • No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 		<p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.4 mile • Low: 0.1 mile • None: 3.2 mile • With mitigation, only moderate residual impacts on Chinook salmon and steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-B2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Soils with moderate water erosion: 0.3 mile • Soils with compaction potential: 0.2 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and open water wetlands, are anticipated <ul style="list-style-type: none"> - Perennial Streams: 0.7 mile - Intermittent Streams: 0.8 mile - Open Water: 0.7 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts:</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 3.8 miles of moderate residual impacts where alternative route crosses Mixed Conifer Forest, Mountain Shrub, and Riparian Conservation Areas, Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> • 3.8 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat : none • Chinook salmon critical habitat: 0.2 mile • MCR steelhead critical habitat: none • SRB steelhead critical habitat: 0.4 mile • Redband trout occupied streams: 0.3 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.4 mile • Low: none • None: 3.4 miles • With mitigation, only moderate residual impacts on Chinook salmon and steelhead protected habitats are anticipated
Variation S2-C1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Soils with moderate water erosion: 1.3 miles • Soils with compaction potential: 1.5 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> - Perennial Streams: 0.3 mile - Intermittent Streams: 0.7 mile - Emergent Wetland: 0.1 mile - Open Water: 0.2 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 9.3 miles of moderate residual impacts where alternative route crosses Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> • 7.4 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat : none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: 0.2 mile • Redband trout occupied streams: 0.3 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.2 mile • Low: 0.2 mile • None: 8.9 miles • With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-C2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Soils with moderate water erosion: 0.2 mile: • Soils with compaction potential: 0.9 mile • Areas with PFYC 3: 0.9 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub and open water wetlands, are anticipated <ul style="list-style-type: none"> - Perennial Streams: 0.6 mile - Intermittent Streams: 0.5 mile - Scrub-shrub Wetland: 0.1 mile - Open Water: 0.3 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 8.8 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 1 known sensitive plant species occurrences in the 1-mile study corridor • 1 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> • 6.8 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat : none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: 0.3 mile • Redband trout occupied streams: 0.6 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: 0.3 mile • Low: 0.4 mile • None: 8.1 miles • With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-22. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 2—Blue Mountains					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Variation S2-E1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> None 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on intermittent streams and open water wetlands are anticipated <ul style="list-style-type: none"> Intermittent Streams: 0.3 mile Open Water: 0.1 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 2.3 miles of moderate residual impacts where alternative route crosses, Mixed Conifer Forest, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> 2.3 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.1 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.1 mile None: 2.2 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-E2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Soils with moderate water erosion: 0.1 mile Soils with compaction potential: 0.3 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub and emergent wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.1 mile Intermittent Streams: 0.2 mile Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.1 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 2.6 miles of moderate residual impacts where alternative route crosses Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 1 known sensitive plant species occurrence in the 1-mile study corridor 1 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> 2.6 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.1 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.1 mile None: 2.5 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-F1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Soils with moderate water erosion: 2.1 miles Farmlands: 1.4 miles Soils with compaction potential: 2.2 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.7 mile Intermittent Streams: 2.1 miles 303(d) Temperature Listed: 0.2 mile Scrub-shrub Wetland: 0.6 mile Emergent Wetland: 1.1 miles Open Water: 1.0 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impact</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 11.7 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush Steppe, Mixed Conifer Forest, Mountain Shrub, Native Grassland Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile study corridor 1 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of route variation 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high impacts expected 3.2 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 9.3 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.3 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 1.3 miles None: 10.8 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-F2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Soils with moderate water erosion: 1.2 miles Farmlands: 1.2 miles Soils with compaction potential: 2.1 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.1 miles Intermittent Streams: 1.6 miles 303(d) Temperature Listed: 0.2 mile Scrub-shrub Wetland: 0.1 mile 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 12.0 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodland, Native Grassland, Mountain Shrub Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p>	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high impacts expected 1.9 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 10.2 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.9 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.9 mile

Table 2-22. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 2—Blue Mountains					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
		<ul style="list-style-type: none"> Emergent Wetland: 0.3 mile Open Water: 1.0 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of route variation 		<ul style="list-style-type: none"> None: 11.3 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Glass Hill	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 77 acres of high floodzone percentage 378 acres of moderate floodzone percentage Soils with moderate water erosion: 3.2 miles Farmlands: 1.4 miles Soils with compaction potential: 2.6 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.6 miles Intermittent Streams: 5.5 miles 303(d) Temperature Listed: 0.2 mile Scrub-shrub Wetland: 1.0 mile Emergent Wetland: 1.7 miles Open Water: 2.2 miles Greatest amount of impacts on all stream and wetland types of all alternatives Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 33.1 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile study corridor 1 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high impacts expected 3.2 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 29.0 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : 0.1 mile Chinook salmon critical habitat: 0.1 mile MCR steelhead critical habitat: none SRB steelhead critical habitat: 0.6 mile Redband trout occupied streams: 2.6 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.6 mile Low: 2.1 miles None: 31.0 miles With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S2-D1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Soils with moderate water erosion: 0.4 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 0.7 mile Scrub-shrub Wetland: 0.1 mile Open Water: 0.4 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 4.3 miles of moderate residual impacts where alternative route crosses Juniper and Mahogany Woodland, Mixed Conifer Forest, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> 4.3 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: 0.5 mile Redband trout occupied streams: 0.4 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.5 mile Low: none None: 3.8 miles With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated
Variation S2-D2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Soils with moderate water erosion: 0.7 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.7 mile Intermittent Streams: 0.2 mile Scrub-shrub Wetland: 0.1 mile Open Water: 0.5 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 4.0 miles of moderate residual impacts where alternative route crosses Mixed Conifer Forest, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA and GHMA not crossed, no impacts expected <p>Big game</p> <ul style="list-style-type: none"> 4.1 miles of low residual impacts where mule deer and elk winter range are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: 0.4 mile Redband trout occupied streams: 0.4 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: 0.4 mile Low: none None: 3.7 miles With mitigation, only moderate residual impacts on steelhead protected habitats are anticipated
Mill Creek	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Recent Quaternary faults 0.21 acres of high floodzone percentage 3,380 acres of moderate floodzone 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 33.4 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Juniper and Mahogany 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no impacts expected 1.9 miles of moderate residual impacts where GHMA is crossed <p>Big game</p>	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : 0.1 mile Chinook salmon critical habitat: 0.2 mile MCR steelhead critical habitat: none SRB steelhead critical habitat: 0.6 mile

Table 2-22. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 2—Blue Mountains					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
	percentage • Soils with moderate water erosion: 3.0 miles • Farmlands: 1.2 miles • Soils with compaction potential: 3.5 miles	<ul style="list-style-type: none"> - Perennial Streams: 2.4 miles - Intermittent Streams: 5.4 miles - 303(d) Temperature Listed: 0.2 mile - Scrub-shrub Wetland: 0.6 mile - Emergent Wetland: 0.9 mile - Open Water: 2.5 miles • Wetland permits may be required for any crossing larger than 0.2 acres of impact	Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe Sensitive Plants <ul style="list-style-type: none"> • 3 known sensitive plant species occurrences in the 1-mile study corridor • 3 sensitive plant species known to occur in 1-mile study corridor Federally Listed Plants <ul style="list-style-type: none"> • Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<ul style="list-style-type: none"> • 32.0 miles of low residual impacts where mule deer and elk winter range is crossed 	<ul style="list-style-type: none"> • Redband trout occupied streams: 1.4 miles Residual Impacts <ul style="list-style-type: none"> • Moderate: 0.6 mile • Low: 0.9 mile • None: 32.5 miles • With mitigation, only moderate residual impacts on Chinook salmon, steelhead, and bull trout protected habitats are anticipated • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Table Note: ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority GHMA = general habitat management area MCR = Middle Columbia River			SRB = Snake River Basin NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility P = Private PHMA = priority habitat management area ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan VRM = visual resource management WSR = Wild and Scenic River		

Table 2-23. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 2—Blue Mountains									
Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
Applicant's Proposed Action	BLM: 0.8 USFS: 1.3 P: 31.7	3.8	31.2	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 14.6 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 4.9 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 3.1 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.8 mile moderate residual impacts where the alternative crosses field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 2.4 miles of Prime Farmland if irrigated, 18.6 miles of farmland of statewide importance and 2.6 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 11.5 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S2-A1	USFS: 1.3 P: 1.5	46.4	2.9	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 1.6 miles of moderate residual impacts where the alternative route crosses forest/woodlands No residential buildings within right-of-way <p>Zoning No EFU zoning crossed</p> <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 2.8 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 0.3 mile of farmland of statewide importance No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 1.3 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S2-A2	USFS: 2.5 P: 0.4	86.2	3.0	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 2.1 miles of moderate residual impacts where the alternative route crosses forest/woodlands No residential building within right-of-way <p>Zoning No EFU zoning crossed</p> <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 2.9 miles of special use airspace. Potential to create restrictions 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected No residential buildings within right-of-way <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 2.2 miles of farmland of statewide importance No high-value soils crossed <p>Livestock Grazing</p>	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-23. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 2—Blue Mountains									
Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	• Crosses 2.5 miles of grazing allotments				
Variation S2-B1	BLM: 0.8 P: 2.9	0	3.3	Existing Land Use • No high residual impacts • 2.0 miles of moderate residual impacts where the alternative route crosses forest/woodlands • 1 residential building within right-of-way Zoning No EFU zoning crossed Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture • 0.1 mile moderate residual impacts where the alternative crosses field crops Important Farmland, High-value Soils, and CRP Lands • Crosses 2.9 miles of farmland of statewide importance • No high-value soils crossed Livestock Grazing • Crosses 0.8 mile of grazing allotments	• No high or moderate residual impacts	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Variation S2-B2	P: 3.8	0	3.8	Existing Land Use • No high residual impacts • 2.2 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential buildings within right-of-way Zoning No EFU zoning crossed Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture • No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands • Crosses 2.9 miles of farmland of statewide importance and 0.1 miles of high-value soils Livestock Grazing • No grazing allotments crossed	• No high or moderate residual impacts	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Variation S2-C1	P: 9.3	0	9.0	Existing Land Use • No high residual impacts • 6.4 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential buildings within right-of-way Zoning No EFU zoning crossed Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture • 0.1 mile moderate residual impacts where the alternative crosses field crops Important Farmland, High-value Soils, and CRP Lands • Crosses 7.8 miles of farmland of statewide importance • No high-value soils crossed Livestock Grazing • Crosses 2.0 miles of grazing allotments	• No high or moderate residual impacts	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Variation S2-C2	P: 8.8	0	8.5	Existing Land Use • No high residual impacts • 6.1 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential building within right-of-way Zoning No EFU zoning crossed	Existing Agriculture • No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands • Crosses 6.5 miles of farmland of statewide importance • No high-value soils crossed	• 0.8 mile of moderate impacts where crossing hunting access areas • Would have the greatest indirect effects to the Morgan Lake Recreation Area	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present

Table 2-23. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 2—Blue Mountains									
Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				<p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 2.9 miles of grazing allotments 				
Variation S2-E1	P: 2.3	0	2.2	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 1.6 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential building within right-of-way <p>Zoning No EFU zoning crossed</p> <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • No moderate or high residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 1.5 miles of farmland of statewide importance • No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 0.9 mile of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S2-E2	P: 2.6	0	2.6	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 1.4 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential building within right-of-way <p>Zoning No EFU zoning crossed</p> <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.1 mile moderate residual impacts where the alternative crosses field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 1.4 miles of farmland of statewide importance • No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 1.4 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S2-F1	P: 12.1	0	10.3	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 1.2 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands • No residential building within right-of-way <p>Zoning No EFU zoning crossed</p> <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.6 mile moderate residual impacts where the alternative crosses field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 2.4 miles of Prime Farmland if irrigated, 4.3 miles of farmland of statewide importance and 2.6 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 4.4 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S2-F2	P: 12.2	0	12.2	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 0.2 mile of moderate residual impacts where the alternative route crosses forest/woodlands • No residential building within right-of-way <p>Zoning No EFU zoning crossed</p> <p>Military Training Lands Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.2 mile moderate residual impacts where the alternative crosses field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 1.5 miles of Prime Farmland if irrigated, 3.0 miles of farmland of statewide importance and 1.8 miles of 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present

Table 2-23. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 2—Blue Mountains									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				<i>Special Designated Areas Not crossed</i>	<i>high-value soils</i> Livestock Grazing • Crosses 5.7 miles of grazing allotments				
Glass Hill	BLM: 0.5 USFS: 1.3 P: 31.9	3.9	30.4	Existing Land Use • No high residual impacts • 13.4 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands • No residential building within right-of-way Zoning • Crosses 4.9 miles of EFU zoning Military Training Lands • Crosses 3.1 miles of special use airspace • Potential to create restrictions in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture • 0.6 mile moderate residual impacts where the alternative crosses field crops Important Farmland, High-value Soils, and CRP Lands • Crosses 2.4 miles of Prime Farmland if irrigated, 18.1 miles of farmland of statewide importance and 2.6 miles of high-value soils Livestock Grazing • Crosses 12.4 miles of grazing allotments	• No high or moderate residual impacts	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Variation S2-D1	P: 4.3	0	2.9	Existing Land Use • No high residual impacts • 3.7 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential building within right-of-way Zoning No EFU zoning crossed Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture • No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands • Crosses 3.5 miles of farmland of statewide importance • No high-value soils crossed Livestock Grazing • No grazing allotments crossed	• No high or moderate residual impacts	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Variation S2-D2	P: 4.1	0	3.1	Existing Land Use • No high residual impacts • 3.2 miles of moderate residual impacts where the alternative route crosses forest/woodlands • No residential building within right-of-way Zoning No EFU zoning crossed Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture • No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands • Crosses 3.3 miles of farmland of statewide importance • No high-value soils crossed Livestock Grazing • No grazing allotments crossed	• No high or moderate residual impacts	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Mill Creek	USFS: 2.5 P: 31.5	7.4	33.2	Existing Land Use • No high residual impacts • 10.9 miles of moderate residual impacts where the alternative route crosses agricultural and	Existing Agriculture • 0.8 mile moderate residual impacts where the alternative crosses field crops	• 1.4 miles of moderate impacts where crossing hunting access areas	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present

Table 2-23. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 2—Blue Mountains

Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				forest/woodlands <ul style="list-style-type: none"> No residential building within right-of-way Zoning <ul style="list-style-type: none"> Crosses 3.0 miles of EFU zoning Military Training Lands: Not crossed Special Designated Areas <ul style="list-style-type: none"> Crosses 1.0 mile of the Ladd Marsh Wildlife Area. 	Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 1.6 miles of Prime Farmland if irrigated, 15.3 miles of farmland of statewide importance and 2.4 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> Crosses 9.8 miles of grazing allotments 				
Table Notes: ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation					CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility			P = Private ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan VRM = visual resource management WSR = Wild and Scenic River	

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Applicant's Proposed Action	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 17.5 miles Moderate: 15.5 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 10 VAUs affected <ul style="list-style-type: none"> 6 Foreground 10 Middleground 1 VAU with Class A within foreground would experience a high degree of impacts. This would lower the score but would not change the rating. 1 VAU with Class B (BA-014 Blue and Wallowa Foothills) would experience a high degree of impacts within the foreground and would change the rating from Class B to Class C <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts be experienced by residences near Morgan Lake and KOP 4-55 (Elk Song Ranch), along Glass Hill Road as well as residences adjacent to I-84 and Heber Road Recreation: KOP 4-40 (Spring Creek USFS Campground) could experience a moderate degree of impacts due to the project being partially obstructed and partially skylined from a distance of approximately 0.3 mile The Grande Tour Route and the Grande Tour Scenic Bikeway would both be crossed experiencing a moderate degree of impacts Travel Routes: High impacts would be experienced by I-84; Moderate impacts would be experienced by USFS Road 21, State Highway 244 and USFS Road 43—Ladd Canyon Road <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU with VQOs established in the Wallowa-Whitman National Forest LRMP 	<p>Inventory</p> <ul style="list-style-type: none"> 103 previously recorded sites in the study corridor 8 previously recorded sites in the direct effects APE Key resources include the Mount Emily Lumber Company Railroad, the Hilgard Cemetery, and Oregon NHT-associated sites. Of these resources, the Mount Emily Lumber Company Railroad is in the direct effects APE, and also is crossed by this alternative route Crosses one unrecorded (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data) There are sites or areas of Native American concern along this alternative route There is the potential for direct effects on undocumented, significant sites in the Glass Hill area Based on RLS cultural data collected for alternative routes in the vicinity of North Powder and La Grande, resources that potentially could be affected visually include residential and commercial buildings, waterworks, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> 1.8 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this alternative route 11.4 miles of moderate cultural resource sensitivity 16.5 miles of low cultural resource sensitivity 4.1 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic and tool scatters, cairns, rock alignments, one habitation site). Most of these sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE One historic property of religious and cultural significance to an Indian tribe has been identified along one of the route variations (Variation S2-B2) considered for the Applicant's Proposed Action Alternative (indirect effects APE) Traditional foods There is the potential for direct effects on undocumented, significant sites of potential tribal significance in the Glass Hill area Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 9.7 miles Moderate: 11.4 miles Low: 12.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments High impact on views from Oregon Trail Monument and Stone Marker south of Hilgard trail-associated cultural sites. Moderate impacts on views from Emily Doone Grave 1868, Trading Post Site, Pioneer Grave Sites, Pioneer Campsite, D. Dodge 1885 Inscription, Stage Station, and Clover Creek Station trail-associated cultural sites <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$13,178 annually during construction and \$4,198 in residual yield losses during operations No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to approximately 9 AUMs with residual forage losses of 3 AUMs each year of operation Moderate impacts on timber resources: the B2H Project could disturb 279 acres of timberlands during construction with residual disturbances equal to 89 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S2-A1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 2.5 miles Moderate: 0.3 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 5 VAUs affected <ul style="list-style-type: none"> 3 Foreground 5 Middleground Lands associated with Class B scenic quality would experience high impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: KOPs 4-40 and 4-19 would have 	<p>Inventory</p> <ul style="list-style-type: none"> 47 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Key resources include the Hilgard Junction, the Hilgard Cemetery, and the Mount Emily Lumber Company; these resources are in the indirect effects APE An additional key resource is the Oregon NHT (unrecorded segments of unknown condition); this linear site is in the indirect effects APE (refer to map MV-25 for inventory data) There are sites of Native American concern 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.4 miles Moderate: 0.4 mile Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population No agricultural impacts No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to nearly 3 AUMs with residual forage losses of less than 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 32 acres of timberlands during construction with residual disturbances equal to roughly 11 acres of timberlands Impacts on property values are minimal and

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>the same moderate impacts</p> <ul style="list-style-type: none"> Travel Routes: High impacts would be experienced by USFS Road 21; Moderate impacts would be experienced by I-84 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU 	<p>along this route variation</p> <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity 1.8 miles of moderate cultural resource sensitivity 1.0 mile of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 		<p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<p>short-term in nature</p> <ul style="list-style-type: none"> No disproportionate impact on environmental justice population
<p>Variation S2-A2</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 0.8 mile Moderate: 1.9 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 5 VAUs affected <ul style="list-style-type: none"> 3 Foreground 5 Middleground Impacts would be less than S1-A1 due to its colocation with the 230-kV transmission line <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: KOPs 4-40 and 4-19 would have the same moderate impacts Travel Routes: High impacts would be experienced by USFS Road 21; Moderate impacts would be experienced by I-84 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU; Non-conformance in Partial Retention VQO and Modification VQO 	<p>Inventory</p> <ul style="list-style-type: none"> 47 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Same key resources as Variation S2-A1 because these route variations follow similar alignments, passing in proximity to the same resources Variation S2-A2 is located farther from unrecorded segments of the Oregon NHT (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Potential for direct effects on undocumented, historic transportation corridors along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity 1.5 miles of moderate cultural resource sensitivity 1.4 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts:</p> <ul style="list-style-type: none"> High: 0.1 mile Moderate: 2.8 miles Low: none <p>Trail Management:</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources:</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources:</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources:</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population No agricultural impacts No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to approximately 6 AUMs with residual forage losses of less than 2 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb 39 acres of timberlands during construction with residual disturbances equal to roughly 12 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S2-B1</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.1 miles Moderate: 2.3 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 3 VAUs affected <ul style="list-style-type: none"> 1 Foreground 3 Middleground Forested and mostly undeveloped lands associated with Class B scenic quality that are crossed would experience high impacts <p>Sensitive Viewing Platforms:</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: No key issues identified Travel Routes: Moderate impacts would be 	<p>Inventory</p> <ul style="list-style-type: none"> 26 previously recorded sites in the study corridor 2 previously recorded sites in the direct effects APE Key resources include one pioneer grave site, the Oregon NHT (contributing segment), and trail-associated sites; these resources are in the indirect effects APE Potential for direct effects on undocumented, mining-related sites There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of La Grande, historic resources that potentially could be 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.2 miles Moderate: 1.5 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$1,480 annually during construction and \$485 residual yield losses during operations No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses of less than 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 43 acres of timberlands during construction with residual disturbances equal to roughly 15 acres of timberlands Impacts on property values are minimal and

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>experienced by U.S. Forest Service Road 21 and State Highway 244</p> <p>Federal Land Conformance:</p> <ul style="list-style-type: none"> No key issues identified 	<p>affected visually include residential and commercial buildings, waterworks, and historic transportation corridors</p> <p>Impacts</p> <ul style="list-style-type: none"> 0.4 mile of high cultural resource sensitivity 3.3 miles of moderate cultural resource sensitivity 0 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 		<p>Hilgard Junction State Park</p> <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> High impacts on views from the Oregon Trail Monument and Stone Marker south of Hilgard trail-associated cultural site. Moderate impacts on views from Emily Doone Grave 1868 trail-associated cultural site No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<p>short-term in nature</p> <ul style="list-style-type: none"> No disproportionate impact on environmental justice population
<p>Variation S2-B2</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 0.8 mile Moderate: 1.8 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 2 Foreground 4 Middleground Forested and mostly undeveloped lands associated with Class B scenic quality that are crossed would experience high impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 1 residence would be found within 0.5 mile from the alignment higher impacts than S2-B1 Recreation: No key issues identified Travel Routes: Moderate impacts would be experienced by U.S. Forest Service Road 21 and State Highway 244 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 27 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Key resources include one pioneer grave site, one contributing segment of the Oregon NHT, trail-associated sites, and one site of Native American concern (historic property of religious and cultural significance to an Indian tribe); these resources are in the indirect effects APE Variation S2-B2 is closer to the Oregon NHT than Variation S2-B1 (indirect effects APE) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of La Grande, historic resources that potentially could be affected visually are the same as those identified along Variation S2-B1. Resources are the same because they occur near an area where the route variations intersect (east/northeast of Sheep Creek) <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high and low cultural resource sensitivity 3.8 miles of moderate cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 0.7 mile Moderate: 3.1 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> High impacts on views from the Oregon Trail Monument and Stone Marker south of Hilgard trail-associated cultural site. Moderate impacts on views from Emily Doone Grave 1868 trail-associated cultural site No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population No agricultural impacts No identifiable impacts on CAFO operations No identifiable impacts on grazing resources Minimal impacts on timber resources: the B2H Project could disturb 44 acres of timberlands during construction with residual disturbances equal to roughly 17 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S2-C1</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.9 miles Moderate: 7.4 miles 	<p>Inventory</p> <ul style="list-style-type: none"> 19 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 2.4 miles Low: 6.9 miles 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses during construction valued at \$1,538 and \$543 in residual yield losses during operations

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 2 Foreground 4 Middleground Mostly undeveloped lands varying from dense forest to grasslands that are associated with Class B scenic quality that are crossed would experience high to moderate impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 2 residences; 1 near Morgan Lake Road and 1 Near Glass Hill Road would experience skylined mostly unimpeded views of the project experiencing high impacts Recreation: No key issues identified Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Key resources include pioneer grave sites, the Oregon NHT (unrecorded, intact segment), and trail-associated sites (refer to map MV-25 for inventory data); these resources are located in the indirect effects APE Potential for direct effects on undocumented, mining-related sites There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of La Grande, historic resources that potentially could be affected visually, include residential and commercial buildings, waterworks, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity 1.9 miles of moderate cultural resource sensitivity 3.3 miles of low cultural resource sensitivity 4.1 miles of no cultural resource sensitivity 	<p>Action Alternative</p>	<p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments Moderate impacts on views from Emily Doone Grave 1868, Trading Post Site, Pioneer Grave Sites, Pioneer Campsite, and Stage Station trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses of less than 1 AUM each year of operation Moderate impacts on timber resources: the B2H Project could disturb 129 acres of timberlands during construction with residual disturbances equal to roughly 42 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S2-C2</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6.1 miles Moderate: 2.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 7 Foreground 11 Middleground Mostly undeveloped lands varying from dense forest to grasslands that are associated with Class B scenic quality that are crossed would experience high to moderate impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Several residences including KOP 4-55 (Elk Song Ranch) would have their views of the alignment partially to fully obstructed by tall evergreen vegetation Recreation: High impacts on KOP 4-28 (Morgan Lake) Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 25 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Same key resources as Variation S2-C1 because they occur near the areas where the route variations become closer to one another or intersect Variation S2-C2 is closer to the Oregon NHT (unrecorded, intact segment) and trail-associated sites than Variation S2-C1; the trail is in the indirect effects APE (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Potential for direct effects on undocumented, significant sites in the Ladd Marsh Wildlife Area, along with the potential for undocumented, mining-related sites south of Morgan Lake Based on RLS cultural data collected for alternative routes in the vicinity of La Grande, resources that potentially could be affected visually are the same as those identified along Variation S2-C1. Resources are the same because they occur near an area where the route variations intersect (west/northwest of Morgan Lake) 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 3.4 miles Low: 5.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments Moderate impacts on views from Emily Doone Grave 1868, Trading Post Site, Pioneer Grave Sites, Pioneer Campsite, and Stage Station trail-associated cultural site <p>Biological, Natural, and Other Resources</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses during construction valued at \$1,432 and \$409 residual yield losses during operations No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses of less than 1 AUM each year of operation Moderate impacts on timber resources: the B2H Project could disturb 126 acres of timberlands during construction with residual disturbances equal to roughly 40 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		<p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity 3.0 miles of moderate cultural resource sensitivity 5.7 miles of low cultural resource sensitivity 0.2 mile of no cultural resource sensitivity 		<p>Resources</p> <ul style="list-style-type: none"> No key issues identified 	
Variation S2-E1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.7 miles Moderate: 0.6 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 2 Foreground 4 Middleground Mostly undeveloped lands varying from dense forest to grasslands that are associated with Class B scenic quality that are crossed would experience high to moderate impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: No key issues identified Travel Routes: Moderate impacts would be experienced by I-84 due to the existing 230-kV <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 6 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE A key resource is the Oregon NHT (unrecorded segments); the trail is in the indirect effects APE (refer to map MV-25 for inventory data) There is an extensive pre-contact lithic procurement area/homestead in the indirect effects APE There are sites of Native American concern along this route variation Potential for direct effects on undocumented, trail-associated sites <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high and moderate cultural resource sensitivity 2.3 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 0.9 mile Moderate: 1.4 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from D. Dodge 1885 Inscription and Possible Pioneer Graves trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population No agricultural impacts No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses equivalent to 0 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 31 acres of timberlands during construction with residual disturbances equal to roughly 10 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S2-E2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.8 miles Moderate: 0.8 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 2 Foreground 4 Middleground Mostly undeveloped lands varying from dense forest to grasslands that are associated with Class B scenic quality that are crossed would experience less impacts when compared to impacts from S2-E1 due to the 230-kV transmission line and less undeveloped land being crossed. <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 1 residence would have partially skylined views of the B2H Project Recreation: No key issues identified Travel Routes: less impacts would be experienced by I-84 due to the distance compared to S2-E1 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 7 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Same key resource as Variation S2-E1. Although these route variations do not share similar alignments, resources are the same because they occur in the areas where the route variations become closer to one another Variation S2-E2 is closer to unrecorded segments of the Oregon NHT (including intact segment) than Variation S2-E1; the trail is in the indirect effects APE (refer to map MV-25 for inventory data) There is an extensive pre-contact lithic procurement area/homestead in the direct effects APE There are sites of Native American concern along this route variation There is the potential for direct effects on undocumented, trail-associated sites along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 0.0 miles of high cultural resource sensitivity 1.1 miles of moderate cultural resource 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.4 miles Moderate: 1.2 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments Moderate impacts on views from D. Dodge 1885 Inscription and Possible Pioneer Graves trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$1,448 annually during construction and residual yield losses of \$452 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses equivalent to 0 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 30 acres of timberlands during construction with residual disturbances equal to approximately 12 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Variation S2-F1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 7.2 miles Moderate: 4.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 4 Foreground 6 Middleground Rolling sage steppe-covered hills that are associated with Class B and Class C scenic quality that are crossed would experience moderate to high impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: No key issues identified Travel Routes: Moderate impacts would be experienced by U.S. Forest Service Road 21 and State Highway 244 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>sensitivity</p> <ul style="list-style-type: none"> 1.5 miles of low cultural resource sensitivity 0.0 miles of no cultural resource sensitivity <p>Inventory</p> <ul style="list-style-type: none"> 32 previously recorded sites in the study corridor 2 previously recorded sites in the direct effects APE Key resources include the Clover Creek Station of the Oregon NHT and unrecorded segment (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data). Of these resources, only the Oregon NHT is in the direct effect APE, and also is crossed by this route variation There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, resources that potentially could be affected visually include buildings, waterworks, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> 1.0 mile of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 3.4 miles of moderate cultural resource sensitivity 7.7 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 4.0 miles Moderate: 2.4 miles Low: 5.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments Moderate impacts on views from D. Dodge 1885 Inscription, Possible Pioneer Graves, and Clover Creek Station trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$8,338 annually during construction and residual yield losses of \$2,366 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses of less than 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 14 acres of timberlands during construction with residual disturbances equal to approximately 5 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S2-F2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.3 mile Moderate: 6.3 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 4 Foreground 6 Middleground Rolling sage steppe-covered hills that are associated with Class B and Class C scenic quality that are crossed would experience moderate to high impacts and is collocated with an existing 230-kV transmission line <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Impacts associated with residences for this route variation would be associated with the residence near I-84 and Heber Road, and the residence along Jimmy Creek Road experiencing high impacts Recreation: No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 43 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Same key resources as Variation S2-F2, since these route variations follow similar alignments, passing in proximity to the same resources (primarily in the vicinity of Jimmy Creek) Crosses one unrecorded segment (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, resources that potentially could be affected visually along this route variation are the same as those identified along Variation S2-F1. Resources are the same because they occur near an area where the route variations are in proximity to one another. Variation S2- 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.8 miles Moderate: 3.9 miles Low: 6.5 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments Moderate impacts on views from D. Dodge 1885 Inscription, Possible Pioneer Graves, and Clover Creek Station trail-associated cultural site <p>Biological, Natural, and Other Resources</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$2,818 annually during construction and residual yield losses of \$827 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to less than 1 AUM with residual forage losses of less than 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 5 acres of timberlands during construction with residual disturbances equal to less than 2 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Travel Routes: Moderate impacts would be experienced by U.S. Forest Service Road 21 and State Highway 244 <p>Federal Land Conformance No key issues identified</p>	<p><i>F2 lies slightly farther from North Powder</i></p> <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity. Miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 3.5 miles of moderate cultural resource sensitivity 8.7 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 		<ul style="list-style-type: none"> No key issues identified 	
Glass Hill	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 15.7 miles Moderate: 12.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 5 Foreground 7 Middleground Lands associated with Class B scenic quality that are crossed would experience high impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts would be experienced by residences near Morgan Lake and, along Glass Hill Road as well as residences adjacent to I-84 and Heber Road Recreation: KOP 4-40 (Spring Creek USFS Campground) could experience a moderate degree of impacts due to the project being partially obstructed and partially skylined from a distance of approximately 0.3 mile The Grande Tour Route and the Grande Tour Scenic Bikeway would both be crossed experiencing a moderate degree of impacts Travel Routes: High impacts would be experienced by I-84; Moderate impacts would be experienced by USFS Road 21, State Highway 244 and USFS Road 43—Ladd Canyon Road <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU with VQOs established in the Wallowa-Whitman National Forest LRMP 	<p>Inventory</p> <ul style="list-style-type: none"> 95 previously recorded sites in the study corridor 8 previously recorded sites in the direct effects APE Same key resources as the Applicant's Proposed Action Alternative, since these two alternative routes are identical over the majority of their length (except where the B2H Project would be located southwest of La Grande) Crosses the Mount Emily Lumber Company Railroad and one unrecorded segment (unknown condition) of the Oregon NHT (refer to map MV-25 for inventory data) There are sites or areas of Native American concern along this alternative route Potential for direct effects on undocumented, significant sites in the Glass Hill area Based on RLS cultural data collected for alternative routes in the vicinity of North Powder and La Grande, resources that potentially could be affected visually are similar those identified along the Applicant's Proposed Action Alternative, since these two alternative routes are identical over the majority of their length (except where the B2H Project would be located southwest of La Grande). The Glass Hill Alternative is farther from North Powder and La Grande <p>Impacts</p> <ul style="list-style-type: none"> 2.1 miles of high cultural resource sensitivity. Miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 9.1 miles of moderate cultural resource sensitivity 17.2 miles of low cultural resource sensitivity 5.3 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 6 additional pre-contact sites along the Applicant's Proposed Action Alternative. Sites identified along these two alternative routes are similar because they occur in the areas where the alignments are shared. Sites are in the indirect effects APE, except for 1 cairn and the Oregon NHT (path of the Forced March of 1879) Potential for direct effects on undocumented, significant sites of potential tribal significance in the Glass Hill area Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 9.6 miles Moderate: 9.2 miles Low: 14.9 miles <p>Trail Management</p> <ul style="list-style-type: none"> Moderate impacts on views from Blue Mountains High Potential Route Segment Moderate impacts on views from Hilgard Junction High Potential Historic Segment High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments High impact on views from Oregon Trail Monument and Stone Marker south of Hilgard trail-associated cultural sites. Moderate impacts on views from Trading Post Site, Pioneer Grave Sites, Pioneer Campsite, D. Dodge 1885 Inscription, Stage Station, and Clover Creek Station trail-associated cultural sites <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$10,120 annually during construction and residual yield losses of \$3,131 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to 10 AUMs with residual forage losses of 3 AUMs each year of operation Moderate impacts on timber resources: the B2H Project could disturb approximately 236 acres of timberlands during construction with residual disturbances equal to 61 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S2-D1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: none 	<p>Inventory</p> <ul style="list-style-type: none"> There are no previously recorded sites along this route variation 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population No agricultural impacts No identifiable impacts on CAFO operations

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Moderate: 2.3 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 1 Foreground 4 Middleground Lands associated with Class B scenic quality that are crossed would experience high impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: No key issues identified Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Impacts</p> <ul style="list-style-type: none"> There is no evidence of cultural resource sensitivity along Variation S2-D1, as no previously recorded sites have been identified along this route variation 	<p>Refer to the Glass Hill Alternative</p>	<ul style="list-style-type: none"> Low: 4.3 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> No identifiable impacts on grazing resources Minimal impacts on timber resources: the B2H Project could disturb approximately 63 acres of timberlands during construction with residual disturbances equal to 21 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S2-D2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: none Moderate: 1.5 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 1 Foreground 4 Middleground Lands associated with Class B scenic quality that are crossed would experience high impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: No key issues identified Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> There are no previously recorded sites along this route variation <p>Impacts</p> <ul style="list-style-type: none"> There is no evidence of cultural resource sensitivity along Variation S2-D2, as no previously recorded sites have been identified along this route variation 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Glass Hill Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 4.1 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population No agricultural impacts No identifiable impacts on CAFO operations No identifiable impacts on grazing resources Minimal impacts on timber resources: the B2H Project could disturb approximately 63 acres of timberlands during construction with residual disturbances equal to 19 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Mill Creek	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 12.4 miles Moderate: 15.9 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 6 Foreground 7 Middleground Affects to the landscape would be similar however impacts would be less due to the collocation of the existing 230-kV transmission line. Lands associated with Class B scenic quality that are crossed would experience high impacts VAU BA-014 Blue and Wallowa Foothills would result in a score drop in scenic quality that would result in the VAU changing from Class B to Class C <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Highest impacts on residents of segment 2 alternatives. Views from the residences in the Rock Creek Canyon area 	<p>Inventory</p> <ul style="list-style-type: none"> 128 previously recorded sites in the study corridor 5 previously recorded sites in the direct effects APE Key resources include pioneer graves, the Hilgard Cemetery, the Mount Emily Lumber Company Railroad, and one NRHP-listed property (Administrative Building, Eastern Oregon State College [La Grande]). Of these resources, the Mount Emily Lumber Company Railroad is in the direct effects APE, and also is crossed by this alternative route Crosses one unrecorded segment of the Oregon NHT (unknown condition) (refer to map MV-25 for inventory data) There are sites or areas of Native American concern along this alternative route There is the potential for direct effects on undocumented, significant sites in the Ladd Marsh Wildlife Area 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 15 additional sites along the Mill Creek Alternative (including one historic property of religious and cultural significance to an Indian tribe [traditional fishery/campsite]). Although the alternative routes do not follow similar alignments, most of the sites occur in the areas where the alignments become closer to one another or intersect. Most of the sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE The Mill Creek Alternative is closer to the historic property of religious and cultural significance to an 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 9.5 miles Moderate: 18.0 miles Low: 6.5 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Blue Mountains High Potential Route Segment and moderate impacts on views from the Ladd Canyon High Potential Route Segment High impacts on views from the NPS Auto Tour Route Moderate impacts on views from Hilgard Junction High Potential Historic Segment <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> Moderate impacts on views from Hilgard Junction State Park <p>Historic and Cultural Resources</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$14,994 annually during construction and residual yield losses of \$4,933 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources: estimated forage losses during construction are equivalent to approximately 10 AUMs with residual forage losses of approximately 3 AUMs each year of operation Moderate impacts on timber resources: the B2H Project could disturb approximately 193 acres of timberlands during construction with residual disturbances equal to 50 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-24. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 2—Blue Mountains

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>and La Grande area (including the City of La Grande sensitive viewing platform: 4-51) would vary, but generally include skylined views that would be partially to fully obstructed by tall evergreen vegetation. Impacts associated with residences for this route variation would be associated with the residence near I-84 and Heber Road, and the residence along Jimmy Creek Road experiencing high impacts</p> <ul style="list-style-type: none"> • Recreation: High impacts on KOP 2-26 and impacts on the views from KOP 4-19 and KOP 4-40 would both be moderate, including skylined views that would be partially obstructed by tall evergreen trees, and where the alternative route would be co-located with an existing 230-kV transmission line. • Travel Routes: This alternative is generally collocated with an existing 230-kV transmission line thus would have lesser impacts on travel routes than the Applicant's Proposed Action Alternative <p>Federal Land Conformance:</p> <ul style="list-style-type: none"> • Non-conformance within the USFS-administered lands through the BA-011 Blue Mountains Forest VAU with VQOs established in the Wallowa-Whitman National Forest LRMP 	<ul style="list-style-type: none"> • Avoids the Glass Hill area • Based on RLS cultural data collected for alternative routes in the vicinity of North Powder and La Grande (La Grande Commercial Historic District), resources that potentially could be affected visually are similar to those identified along the Applicant's Proposed Action Alternative. Compared to the Applicant's Proposed Action Alternative, the Mill Creek Alternative is considerably closer to La Grande and lies slightly farther from North Powder <p>Impacts</p> <ul style="list-style-type: none"> • 0.5 mile of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this alternative route • 18.9 miles of moderate cultural resource sensitivity • 14.6 miles of low cultural resource sensitivity • 0 miles of no cultural resource sensitivity 	<p>Indian tribe than Variation S2-B2</p> <ul style="list-style-type: none"> • Avoids potential resources of Native American concern in the Glass Hill area • Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<ul style="list-style-type: none"> • No direct impacts on contributing trail segments, high impacts on views from contributing trail segments • High impact on views from Emily Doone Grave 1868 trail-associated cultural site. Moderate impacts on views from the Oregon Trail Monument and Stone Marker south of Hilgard, Trading Post Site, Pioneer Grave Sites, Pioneer Campsite, D. Dodge 1885 Inscription, Stage Station, and Clover Creek Station trail-associated cultural sites <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified 	

Table Note:

ACEC = area of critical environmental concern
 APE = area of potential effects
 AUM = animal unit month
 BLM = Bureau of Land Management
 CAFO = confined animal feeding operation
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 FAA = Federal Aviation Authority
 LRMP = land and resource management plan
 KOP = key observation point
 NHT = national historic trail

NPS – National Park Service
 NRHP = National Register of Historic Places
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 RLS = reconnaissance level survey
 ROS = recreation opportunity spectrum
 SEORMP = Southeastern Oregon Resource Management Plan
 USFS = U.S. Forest Service
 VAU = Visual Analysis Unit
 VQO = Visual Quality Objective
 VRM = visual resource management
 WSR = Wild and Scenic River

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Applicant's Proposed Action	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.6 mile 73 acres of high floodzone percentage 5,900 acres of moderate floodzone percentage Moderate water erosion: 12.0 miles Moderate wind erosion: 3.0 miles Farmlands: 1.8 miles Soils with high compaction potential: 6.1 miles Active mines: 1.9 miles Areas with PFYC 3: 4.8 miles Areas with PFYC 4: 15.1 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial, intermittent and 303(d) listed temperature impaired streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 4.6 miles Intermittent Streams: 7.0 miles 303(d) Listed Temperature: 1.4 miles Scrub-shrub Wetland: 0.4 mile Emergent Wetland: 3.2 miles Open Water: 5.0 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 53.8 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 33 known sensitive plant species occurrences in the 1-mile analysis corridor 3 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 30.2 miles of high residual impacts where PHMA is crossed 17.1 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 26.0 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 3.8 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 3.8 miles None: 51.4 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S3-A1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.1 mile 189 acres of moderate floodzone percentage Moderate water erosion: 0.5 mile Soils with high compaction potential: 1.4 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.1 miles Intermittent Streams: 2.2 miles Emergent Wetland: 1.1 miles Open Water: 0.9 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 12.3 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 8.1 miles of high residual impacts where PHMA is crossed 4.3 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> No habitats are crossed, no impacts expected 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.1 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 1.1 miles None: 11.3 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S3-A2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.8 mile 147 acres of moderate floodzone percentage Soils with high compaction potential: 2.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.1 mile Intermittent Streams: 2.2 miles Emergent Wetland: 0.2 mile Open Water: 0.8 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 11.9 miles of moderate residual impacts where alternative route crosses Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 9.0 miles of high residual impacts where PHMA is crossed 3.2 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> No habitats crossed, no impacts expected 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.5 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.5 mile None: 11.7 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S3-B1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.5 mile 899 acres of moderate floodzone percentage Moderate water erosion: 3.4 miles Farmlands: 0.6 mile Soils with high compaction potential: 1.3 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 0.7 mile Open Water: 0.7 mile Wetland permits may be required for any crossing larger 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 13.8 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 13.6 miles of high residual impacts where PHMA is crossed 0.3 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 0.7 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
	<ul style="list-style-type: none"> Active mines: 1.1 miles Areas with PFYC 4: 1.8 miles 	<p>than 0.2 acres of impact</p>	<p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 		<ul style="list-style-type: none"> Low: none None: 13.9 miles Variation S3-B1 does not cross any streams which support special status fish species or protected fish habitats. No impacts from this route variation are anticipated
Variation S3-B2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.0 miles 1,045 acres of moderate floodzone percentage Moderate water erosion: 1.3 miles Farmlands: 0.4 mile Soils with high compaction potential: 1.9 miles Active mines: 0.3 mile Areas with PFYC 4: 3.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 3.1 miles Emergent Wetland: 1.1 miles Open Water: 1.5 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 13.8 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 4.2 miles of high residual impacts where PHMA is crossed 3.6 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 4.3 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: none None: 14.4 miles Variation S3-B2 does not cross any streams which support special status fish species or protected fish habitats. No impacts from this route variation are anticipated
Variation S3-B3	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.9 mile 1,045 acres of moderate floodzone percentage Moderate water erosion: 1.4 miles Farmlands: 0.4 mile Soils with high compaction potential: 1.5 miles Active mines: 0.3 mile Areas with PFYC 4: 4.4 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 2.7 miles Emergent Wetland: 1.1 miles Open Water: 1.5 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 13.9 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 4.2 miles of high residual impacts where PHMA is crossed 1.9 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 4.6 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: none None: 14.7 miles Variation S3-B3 does not cross any streams which support special status fish species or protected fish habitats. No impacts from this route variation are anticipated
Variation S3-B4	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 0.9 mile 1,069 acres of moderate floodzone percentage Moderate water erosion: 1.9 miles Farmlands: 2.2 miles Soils with high compaction potential: 0.9 mile Active mines: Areas with PFYC 4: 5.6 miles 	<p>Residual Impact</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.5 mile Intermittent Streams: 2.2 miles Emergent Wetland: 1.0 mile Open Water: 1.7 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 12.4 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 1 known sensitive plant species occurrence in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 2.3 miles of high residual impacts where PHMA is crossed 1.2 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 4.6 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: none None: 14.3 miles Variation S3-B4 does not cross any streams which support special status fish species or protected fish habitats. No impacts from this route variation are anticipated

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
			<p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 		<p>anticipated</p>
Variation S3-B5	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.1 miles 1,110 acres of moderate floodzone percentage Moderate water erosion: 1.8 miles Farmlands: 2.5 miles Soils with high compaction potential: 1.2 miles Areas with PFYC 4: 4.0 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.5 mile Intermittent Streams: 2.7 miles Emergent Wetland: 1.6 miles Open Water: 1.6 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 12.5 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mountain Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> No sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 2.3 miles of high residual impacts where PHMA is crossed 4.3 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 4.3 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: none None: 14.0 miles Variation S3-B5 does not cross any streams which support special status fish species or protected fish habitats. No impacts from this route variation are anticipated
Variation S3-C1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 4,820 acres of moderate floodzone percentage Moderate water erosion: 7.0 miles Moderate wind erosion: 3.0 miles Farmlands: 1.2 miles Soils with high compaction potential: 1.8 miles Active mines: 0.8 mile Areas with PFYC 3: 4.8 miles Areas with PFYC 4: 9.7 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.6 miles Intermittent Streams: 2.2 miles 303(d) Listed Temperature: 1.4 miles Scrub-shrub Wetland: 0.4 mile Emergent Wetland: 1.0 mile Open Water: 2.3 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 20.0 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Mountain Shrub, Native Grassland, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 33 known sensitive plant species occurrences in the 1-mile analysis corridor 3 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 8.5 miles of high residual impacts where PHMA is crossed 5.3 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 17.5 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 2.6 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 2.6 miles None: 18.5 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S3-C2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 4,410 acres of moderate floodzone percentage Moderate water erosion: 6.0 miles Moderate wind erosion: 2.8 miles Farmlands: 0.9 mile Soils with high compaction potential: 1.9 miles Active mines: 1.8 miles Areas with PFYC 3: 4.8 miles Areas with PFYC 4: 9.5 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.7 miles Intermittent Streams: 2.3 miles 303(d) Listed Temperature: 1.5 miles Scrub-shrub Wetland: 0.7 mile Emergent Wetland: 0.9 mile Open Water: 2.4 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 20.2 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Mountain Shrub, Native Grassland, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 34 known sensitive plant species occurrences in the 1-mile analysis corridor 4 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 8.7 miles of high residual impacts where PHMA is crossed 5.7 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 18.7 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 2.8 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 2.8 miles None: 18.9 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Variation S3-C3	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 3,945 acres of moderate floodzone percentage Moderate water erosion: 4.5 miles Moderate wind erosion: 0.1 miles Farmlands: 1.1 miles Soils with high compaction potential: 5.6 miles Active mines: 3.3 miles Areas with PFYC 3: 5.8 miles Areas with PFYC 4: 4.2 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.4 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.8 miles Intermittent Streams: 3.1 miles 303(d) Listed Temperature: 1.5 miles Scrub-shrub Wetland: 0.6 mile Emergent Wetland: 2.0 miles Open Water: 3.7 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p><i>to occur in proximity</i></p> <p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 19.7 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mountain Shrub, Native Grassland, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 20 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high residual impacts expected 1.1 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 21.1 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 2.2 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 2.2 miles None: 18.9 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S3-C4	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 4,210 acres of moderate floodzone percentage Moderate water erosion: 4.7 miles Farmlands: 1.1 miles Soils with high compaction potential: 5.4 miles Active mines: 3.3 miles Areas with PFYC 3: 5.8 miles Areas with PFYC 4: 3.1 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.4 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.3 miles Intermittent Streams: 2.4 miles 303(d) Listed Temperature: 1.5 miles Scrub-shrub Wetland: 0.6 mile Emergent Wetland: 1.1 miles Open Water: 3.1 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p><i>to occur in proximity</i></p> <p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 19.8 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mountain Shrub, Native Grassland, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 20 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high residual impacts expected 1.1 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 21.4 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 2.0 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 2.0 miles None: 19.4 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S3-C5	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 1,472 acres of moderate floodzone percentage Moderate water erosion: 3.2 miles Farmlands: 0.4 mile Soils with high compaction potential: 4.2 miles Active mines: 1.6 miles Areas with PFYC 3: 5.9 miles Areas with PFYC 4: 2.5 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.7 miles Intermittent Streams: 3.7 miles 303(d) Listed Temperature: 0.4 mile Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.5 mile Open Water: 3.1 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p><i>to occur in proximity</i></p> <p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 18.5 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mixed Conifer Forests, Mountain Shrub, Native Grassland, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 7 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p>	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high residual impacts expected 1.1 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 21.0 miles of low residual impacts where mule deer and elk winter range, and bighorn sheep occupied range is crossed 	<p>Resource Inventory (miles crossed):</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.1 miles <p>Residual Impacts:</p> <ul style="list-style-type: none"> Moderate: none Low: 1.1 miles None: 19.9 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Variation S3-C6	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 1,264 acres of moderate floodzone percentage Moderate water erosion: 3.6 miles Farmlands: 0.5 mile Soils with high compaction potential: 4.2 miles Active mines: 4.2 miles Areas with PFYC 3: 5.8 miles Areas with PFYC 4: 3.6 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 1.2 miles With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.0 miles Intermittent Streams: 5.5 miles 303(d) Listed Temperature: 0.7 mile Scrub-shrub Wetland: 0.4 mile Emergent Wetland: 0.7 mile Open Water: 4.2 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<ul style="list-style-type: none"> No federally listed plants are known to occur in proximity <p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 18.5 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush Steppe, Juniper and Mahogany Woodlands, Mixed Conifer Forests, Mountain Shrub, Native Grassland, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 18 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants are known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high residual impacts expected 9.4 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 24.7 miles of low residual impacts where mule deer and elk winter range, and bighorn sheep occupied range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.4 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 1.4 miles None: 23.3 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Flagstaff A	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.2 miles 6,109 acres of moderate floodzone percentage Moderate water erosion: 10.4 miles Moderate wind erosion: 3.0 miles Farmlands: 3.7 miles Soils with high compaction potential: 6.0 miles Active mines: 0.8 mile Areas with PFYC 3: 4.8 miles Areas with PFYC 4: 17.3 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 4.5 miles Intermittent Streams: 9.0 miles 303(d) Listed Temperature: 1.4 miles Scrub-shrub Wetland: 0.4 mile Emergent Wetland: 4.8 miles Open Water: 5.9 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 52.5 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Juniper and Mahogany Woodland, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 33 known sensitive plant species occurrences in the 1-mile analysis corridor 3 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 18.9 miles of high residual impacts where PHMA is crossed 21.1 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 29.6 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 3.8 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 3.8 miles None: 51.5 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Timber Canyon Alternative	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 4,862 acres of moderate floodzone percentage Moderate landslide potential: 1.6 miles Moderate water erosion: 11.8 miles Moderate wind erosion: 0.9 mile Farmlands: 1.0 mile Soils with high compaction potential: 7.1 miles Active mines: 2.5 miles Areas with PFYC 3: 4.8 miles Areas with PFYC 4: 8.8 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 1.5 miles With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 6.8 miles Intermittent Streams: 12.5 miles 303(d) Listed Temperature: 1.8 miles Scrub-shrub Wetland: 2.1 miles Emergent Wetland: 4.0 miles Open Water: 6.6 miles Crosses the most amount of perennial and intermittent streams of all alternatives 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 66.9 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe Dominant vegetation community crossed would be relatively undisturbed Mixed Conifer Forest and Mountain Shrub 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, no high residual impacts expected 28.8 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 59.0 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 5.1 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 5.1 miles None: 65.2 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
		<ul style="list-style-type: none"> Crosses the greatest total amount of all wetlands of all alternatives Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Sensitive Plants</p> <ul style="list-style-type: none"> 31 known sensitive plant species occurrences in the 1-mile analysis corridor 6 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 		
Flagstaff A – Burnt River Mountain	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.2 miles 5,233 acres of moderate floodzone percentage Moderate water erosion: 7.9 miles Moderate wind erosion: 0.1 mile Farmlands: 3.6 miles Soils with high compaction potential: 9.8 miles Active mines: 3.3 miles Areas with PFYC 3: 5.8 miles Areas with PFYC 4: 11.8 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.4 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 4.7 miles Intermittent Streams: 9.9 miles 303(d) Listed Temperature: 1.5 miles Scrub-shrub Wetland: 0.6 mile Emergent Wetland: 5.8 miles Open Water: 7.3 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 52.2 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Juniper and Mahogany Woodland, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 20 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 10.4 miles of high residual impacts where PHMA is crossed 16.9 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 33.2 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 3.4 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 3.4 miles None: 51.9 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Flagstaff B	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.0 mile 6,044 acres of moderate floodzone percentage Moderate water erosion: 10.0 miles Moderate wind erosion: 3.0 miles Farmlands: 1.6 miles Soils with high compaction potential: 6.3 miles Active mines: 1.1 miles Areas with PFYC 3: 4.8 miles Areas with PFYC 4: 17.7 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 4.6 miles Intermittent Streams: 9.0 miles 303(d) Listed Temperature: 1.4 miles Scrub-shrub Wetland: 0.4 mile Emergent Wetland: 4.3 miles Open Water: 5.8 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 53.9 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Juniper and Mahogany Woodland, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 33 known sensitive plant species occurrences in the 1-mile analysis corridor 3 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 20.8 miles of high residual impacts where PHMA is crossed 18.7 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 29.9 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 3.8 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 3.8 miles None: 52.2 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-25. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 3—Baker Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Flagstaff B – Burnt River West	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.7 miles 2,656 acres of moderate floodzone percentage Moderate water erosion: 5.7 miles Farmlands: 0.8 mile Soils with high compaction potential: 10.2 miles Active mines: 1.9 miles Areas with PFYC 3: 5.9 miles Areas with PFYC 4: 10.5 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.5 Moderate With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 2.7 miles Intermittent Streams: 10.5 miles 303(d) Listed Temperature: 0.4 mile Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 2.9 miles Open Water: 6.5 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 52.0 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 7 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 13.2 miles of high residual impacts where PHMA is crossed 13.4 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 33.4 miles of low residual impacts where mule deer and elk winter range, and bighorn sheep occupied range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.7 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 1.7 miles None: 54.0 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Flagstaff B – Durkee	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.0 mile 2,488 acres of moderate floodzone percentage Moderate water erosion: 6.6 miles Farmlands: 0.9 mile Soils with high compaction potential: 8.7 miles Active mines: 4.5 miles Areas with PFYC 3: 5.8 miles Areas with PFYC 4: 11.6 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 1.2 miles With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 4.0 miles Intermittent Streams: 12.3 miles 303(d) Listed Temperature: 0.7 mile Scrub-shrub Wetland: 0.4 mile Emergent Wetland: 4.0 miles Open Water: 7.7 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 57.0 miles of moderate residual impacts where alternative route crosses Aspen, Dwarf Sagebrush, Juniper and Mahogany Woodland, Mixed Conifer Forest, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 18 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> Known occurrences of Howell's spectacular thelypody within 2.0 miles of alternative 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 12.3 miles of high residual impacts where PHMA is crossed 22.8 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 37.1 miles of low residual impacts where mule deer and elk winter range, and bighorn sheep occupied range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 2.6 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 2.6 miles None: 57.0 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
<p>Table Notes:</p> <p>ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority GHMA = general habitat management area MCR = Middle Columbia River</p>			<p>NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility P = Private PFYC = Potential Fossil Yield Classification system PHMA = priority habitat management area ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan SRB = Snake River Basin VRM = visual resource management WSR = Wild and Scenic River</p>		

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Applicant's Proposed Action	BLM: 15.1 P: 40.1	2.5	48.6	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 0.9 mile of moderate residual impacts where the alternative route crosses agricultural and near residences 1 residential building within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 55.2 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 18.4 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.3 miles of high residual impacts where the alternative crosses pivot irrigation 0.7 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, and field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 4.3 miles of Prime Farmland if irrigated, 36.9 miles of farmland of statewide importance, and 4.6 miles of high-value soils Crosses 2.49 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 35.5 miles of grazing allotments 	<ul style="list-style-type: none"> 6.3 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S3-A1	BLM: 1.3 P: 11.1	0.0	12.3	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 12.4 miles of EFU zoning Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Military Training Lands Not crossed</p> <p>Special Designated Area Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.3 miles of high residual impacts where the alternative crosses pivot irrigation 0.1 miles of moderate residual impacts where the alternative crosses field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 6.4 miles of farmland of statewide importance No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 4.1 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S3-A2	BLM: 0.4 P: 11.8	0.0	12.2	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 12.2 miles of EFU zoning <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.1 miles of moderate residual impacts where the alternative crosses field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 3.2 miles of farmland of statewide importance No high-value soils crossed <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 3.9 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S3-B1	BLM: 5.5 P: 8.4	0.0	11.3	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 13.9 miles of EFU zoning 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 2.3 miles of Prime Farmland if 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				<p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed.</p>	<p>irrigated, 8.3 miles of farmland of statewide importance, and 2.5 miles of high-value soils</p> <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 12.4 miles of grazing allotments 				
Variation S3-B2	BLM: 0.3 P: 14.1	0.0	14.0	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 1.4 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands • No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 14.4 miles of EFU zoning <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.2 miles of high residual impacts where the alternative crosses pivot irrigation • 0.6 miles of moderate residual impacts where the alternative crosses other mechanized irrigation and field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 1.6 miles of Prime Farmland if irrigated, 8.6 miles of farmland of statewide importance, and 2.0 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 9.0 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S3-B3	P: 14.7	0.0	14.4	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 1.4 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands • No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 14.7 miles of EFU zoning <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.2 miles of high residual impacts where the alternative crosses pivot irrigation • 0.6 miles of moderate residual impacts where the alternative crosses other mechanized irrigation and field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 1.6 miles of Prime Farmland if irrigated, 9.2 miles of farmland of statewide importance, and 2.0 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 9.3 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S3-B4	P: 14.3	0.0	14.2	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 2.6 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands • No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 14.3 miles of EFU zoning <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 1.8 miles of moderate residual impacts where the alternative crosses other mechanized irrigation, field crops, and vegetable operations <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 2.7 miles of Prime Farmland if irrigated, 8.7 miles of farmland of statewide importance, and 3.0 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 7.8 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S3-B5	BLM: 0.3 P: 13.7	0.0	13.4	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 2.6 miles of moderate residual impacts where the alternative route crosses agricultural and 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.2 miles of high residual impacts where the alternative crosses pivot irrigation • 1.6 miles of moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				forest/woodlands <ul style="list-style-type: none"> No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 14.0 miles of EFU zoning Military Training Lands Not crossed Special Designated Areas Not crossed	where the alternative crosses other mechanized irrigation, fallow/idle cropland, field crops, and vegetable operations Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 2.9 miles of Prime Farmland if irrigated, 7.7 miles of farmland of statewide importance, and 2.9 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> Crosses 7.6 miles of grazing allotments 				
Variation S3-C1	BLM: 7.6 P: 13.5	6.6	17.3	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 0.9 miles of moderate residual impacts where the alternative route crosses agricultural and near residences One residential building within right-of-way Zoning <ul style="list-style-type: none"> Crosses 21.1 miles of EFU zoning Military Training Lands <ul style="list-style-type: none"> Crosses 18.4 miles of special use airspace <ul style="list-style-type: none"> Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> 0.6 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, and field crops Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 2.0 miles of Prime Farmland if irrigated, 15.3 miles of farmland of statewide importance, and 2.1 miles of high-value soils Crosses 2.49 acres of CRP lands Livestock Grazing <ul style="list-style-type: none"> Crosses 14.1 miles of grazing allotments 	<ul style="list-style-type: none"> 2.6 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S3-C2	BLM: 5.8 P: 15.9	11.5	18.3	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 0.9 miles of moderate residual impacts where the alternative route crosses agricultural and near residences One residential building within right-of-way Zoning <ul style="list-style-type: none"> Crosses 21.7 miles of EFU zoning Military Training Lands <ul style="list-style-type: none"> Crosses 19.0 miles of special use airspace <ul style="list-style-type: none"> Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> 0.6 miles of moderate residual impacts where the alternative crosses flood irrigation or field crops Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 1.9 miles of Prime Farmland if irrigated, 15.9 miles of farmland of statewide importance, and 2.1 miles of high-value soils Crosses 5.85 acres of CRP lands Livestock Grazing <ul style="list-style-type: none"> Crosses 14.1 miles of grazing allotments 	<ul style="list-style-type: none"> 3.7 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S3-C3	BLM 5.7 P: 15.4	6.6	16.8	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 2.0 miles of moderate residual impacts where 	Existing Agriculture <ul style="list-style-type: none"> 0.5 miles of moderate residual impacts where the alternative crosses flood irrigation or field crops 	<ul style="list-style-type: none"> 3.9 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				<p><i>the alternative route crosses agricultural and forest/woodlands and near residences</i></p> <ul style="list-style-type: none"> • 2 residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 21.1 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> • Crosses 18.5 miles of special use airspace • Potential to create restrictions in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 2.1 miles of Prime Farmland if irrigated, 11.8 miles of farmland of statewide importance, and 2.4 miles of high-value soils • Crosses 18.83 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 11.1 miles of grazing allotments 				
Variation S3-C4	BLM: 6.0 P: 15.4	6.5	17.1	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 1.7 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences • 2 residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 21.4 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> • Crosses 18.8 miles of special use airspace • Potential to create restrictions in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.3 miles of moderate residual impacts where the alternative crosses flood irrigation or field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 2.0 miles of Prime Farmland if irrigated, 12.4 miles of farmland of statewide importance, and 2.2 miles of high-value soils • Crosses 9.79 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 11.6 miles of grazing allotments 	<ul style="list-style-type: none"> • 3.9 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S3-C5	BLM: 7.2 P: 13.8	0.0	11.5	<p>Existing Land Use</p> <ul style="list-style-type: none"> • No high residual impacts • 2.1 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands • No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> • Crosses 21.0 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> • Crosses 17.0 miles of special use airspace • Potential to create restrictions in aircraft movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> • 0.1 miles of moderate residual impacts where the alternative crosses flood irrigation or field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> • Crosses 0.5 mile of Prime Farmland if irrigated, 11.5 miles of farmland of statewide importance, and 0.5 miles of high-value soils • Crosses 6.75 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> • Crosses 18.2 miles of grazing allotments 	<ul style="list-style-type: none"> • 5.2 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Variation S3-C6	BLM: 10.5 P: 14.2	0.0	13.2	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 4.3 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 23.5 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 16.4 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.3 miles of moderate residual impacts where the alternative crosses flood irrigation or field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 0.6 mile of Prime Farmland if irrigated, 18.4 miles of farmland of statewide importance, and 0.7 miles of high-value soils Crosses 5.47 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 19.9 miles of grazing allotments 	<ul style="list-style-type: none"> 2.5 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Flagstaff A	BLM: 9.9 P: 45.4	2.5	50.7	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 3.5 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences 1 residential building within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 55.3 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 18.4 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.5 mile of high residual impacts where the alternative crosses pivot irrigation 2.3 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, fallow/idle cropland, field crops, and vegetable operations <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 4.9 miles of Prime Farmland if irrigated, 36.3 miles of farmland of statewide importance, and 5.0 miles of high-value soils Crosses 2.49 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 30.7 miles of grazing allotments 	<ul style="list-style-type: none"> 6.3 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Timber Canyon Alternative	BLM: 8.4 USFS: 19.7 P: 42.2	2.5	57.0	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 27.6 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences 3 residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 38.0 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 3.6 miles of special use airspace Potential to create restrictions in aircraft 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 2.3 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, fallow/idle cropland, field crops, orchards of fruit and tree nuts, and, vegetable operations <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 2.3 miles of Prime Farmland if irrigated, 32.0 miles of farmland of statewide importance, and 2.9 miles of high-value soils Crosses 12.01 acres of CRP lands <p>Livestock Grazing</p>	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				movement during training • Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	• Crosses 50.4 miles of grazing allotments				
Flagstaff A – Burnt River Mountain	BLM: 8 P: 47.3	2.5	50.2	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 4.6 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences 2 residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 55.3 miles of EFU zoning Military Training Lands <ul style="list-style-type: none"> Crosses 18.5 miles of special use airspace <ul style="list-style-type: none"> Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> 0.5 miles of high residual impacts where the alternative crosses pivot irrigation 2.2 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, fallow/idle cropland, field crops, and vegetable operations Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 5.0 miles of Prime Farmland if irrigated, 32.8 miles of farmland of statewide importance, and 5.3 miles of high-value soils Crosses 18.83 acres of CRP lands Livestock Grazing <ul style="list-style-type: none"> Crosses 27.7 miles of grazing allotments 	• 7.6 miles of moderate impacts where crossing hunting access areas	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Flagstaff B	BLM: 9.6 P: 46.4	2.5	51.7	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 2.3 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences 1 residential building within right-of-way Zoning <ul style="list-style-type: none"> Crosses 56 miles of EFU zoning Military Training Lands <ul style="list-style-type: none"> Crosses 18.5 miles of special use airspace <ul style="list-style-type: none"> Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> 0.5 miles of high residual impacts where the alternative crosses pivot irrigation 1.3 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, and field crops Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 3.6 miles of Prime Farmland if irrigated, 37.8 miles of farmland of statewide importance, and 4.1 miles of high-value soils Crosses 2.49 acres of CRP lands Livestock Grazing <ul style="list-style-type: none"> Crosses 32.4 miles of grazing allotments 	• 6.3 miles of moderate impacts where crossing hunting access areas	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present
Flagstaff B – Burnt River West	BLM: 8.3 P: 47.4	0.0	45.8	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 3.5 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 55.7 miles of EFU zoning Military Training Lands	Existing Agriculture <ul style="list-style-type: none"> 0.2 miles of high residual impacts where the alternative crosses pivot irrigation 2.2 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, and field crops Important Farmland, High-value Soils, and CRP Lands	• 8.9 miles of moderate impacts where crossing hunting access areas	• No high or moderate residual impacts	• No lands with wilderness characteristics present	• No potential congressional designations are present

Table 2-26. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 3—Baker Valley

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				<ul style="list-style-type: none"> Crosses 17.0 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<ul style="list-style-type: none"> Crosses 2.1 miles of Prime Farmland if irrigated, 30.8 miles of farmland of statewide importance, and 2.5 miles of high-value soils Crosses 6.75 acres of CRP lands <p>Livestock Grazing:</p> <ul style="list-style-type: none"> Crosses 36.3 miles of grazing allotments 				
Flagstaff B - Durkee	BLM: 12.5 P: 47.4	0.0	47.5	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 5.7 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near residences No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 58.4 miles of EFU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 16.4 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.5 miles of high residual impacts where the alternative crosses pivot irrigation 2.2 miles of moderate residual impacts where the alternative crosses flood irrigation, other mechanized irrigation, fallow/idle cropland, field crops, and vegetable operations <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 2.2 miles of Prime Farmland if irrigated, 40.9 miles of farmland of statewide importance, and 2.7 miles of high-value soils Crosses 5.47 acres of CRP lands <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 38.2 miles of grazing allotments 	<ul style="list-style-type: none"> 6.2 miles of moderate impacts where crossing hunting access areas 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table Note:
 ACEC = area of critical environmental concern
 APE = area of potential effects
 BLM = Bureau of Land Management
 CAFO = confined animal feeding operation
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 FAA = Federal Aviation Authority

NHT = national historic trail
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 ROS = recreation opportunity spectrum
 SEORMP = Southeastern Oregon Resource Management Plan
 VRM = visual resource management
 WSR = Wild and Scenic River

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Applicant's Proposed Action	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 28.9 miles Moderate: 17.6 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 10 VAUs affected <ul style="list-style-type: none"> 6 Foreground 10 Middleground 1 VAU with B scenic quality would experience high impacts on visible areas within the foreground, and 1 VAU with B scenic quality would experience moderate impacts on visible areas within the foreground change from B to C scenic quality within the visible foreground <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts would result in the following; the communities of Durkee, Weatherby, and Dixie, along with scattered residences along the I-84 corridor Fewer impacts on residence with where alignment would be collocated with existing 138-kV and 230-kV transmission lines Recreation: Hells Canyon All American Road, Grande Tour Scenic Bikeway and also the Snake River-Mormon Basin Back Country Byway would all experience high impacts Travel Routes: Views from I-84 and Highway 203 would experience high impacts <p>Federal Land Conformance</p> <ul style="list-style-type: none"> BLM Management Objectives in a few areas including NHT related KOP 5-60 (National Historic Oregon Trail Interpretive Center Entrance State Highway 86) with 0.7 visible miles in VRM Class III, and Goodale's Cutoff NHT related linear viewing platform with a strong residual impact in VRM Class III with 0.8 visible miles that would not be in conformance. Hells Canyon linear viewing platform also would have a strong residual contrast within VRM Class III with 0.8 mile of visible miles that would not be in conformance 	<p>Inventory</p> <ul style="list-style-type: none"> 72 previously recorded sites in the study corridor 10 previously recorded sites in the direct effects APE Key resources include the Lime-Dixie Cemetery, the Oregon NHT, trail-associated sites, and the Goodale's Cutoff Study Trail. Of these resources, the Oregon NHT and the Goodale's Cutoff Study Trail are in the direct effects APE, and also are crossed by the alternative route Crosses two previously recorded, contributing segments of the Oregon NHT Crosses unrecorded segments of the Oregon NHT multiple times (refer to map MV-25 for inventory data) Crosses one previously recorded, contributing segment of the Goodale's Cutoff Study Trail An additional key resource is the historic Slough House Stage Station (indirect effects APE) There are sites or areas of Native American concern along this route Potential for direct effects on unrecorded, significant sites along the Burnt River Canyon and the Durkee areas Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, Durkee, Weatherby, and the Virtue Flat Mining Area, resources that potentially could be affected visually include numerous historic buildings and structures, waterworks, mining operations, and historic transportation corridors. The Virtue Flat Mining Area is crossed at Link 3-28. Signature Rock is located 3 miles to the east of Link 3-28. This alternative route avoids the Baker City Historic District <p>Impacts</p> <ul style="list-style-type: none"> 3.6 miles of high cultural resource sensitivity 21.9 miles of moderate cultural resource sensitivity 27.7 miles of low cultural resource sensitivity 2.0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic procurement areas, cairns, rock alignments); most of the sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE There is the potential for direct effects on unrecorded, significant sites (primarily rock features) of tribal significance along the Burnt River Canyon and the Durkee areas Traditional foods Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 19.9 miles Moderate: 16.2 miles Low: 19.1 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill and Straw Ranch I portions <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> Two contributing trail segment crossed, high impacts on views from contributing trail segments High impact on views from Oregon Trail Monument trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.9 miles Moderate: 2.8 miles Low: 7.3 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$48,543 annually during construction and residual yield losses of \$15,170 each year of operation No identifiable impacts on CAFO operations High impacts on grazing resources with annual forage losses of approximately 72 AUMs during construction and a residual loss of approximately 23 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 5 acres of timberlands during construction with residual disturbances equal to less than 2 acres of timberlands Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-A1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: none Moderate: 5.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 2 Foreground 6 Middleground 1 VAU with B scenic quality would experience moderate impacts on visible areas within the foreground change from B to C scenic quality within the visible foreground through lands which 	<p>Inventory</p> <ul style="list-style-type: none"> 8 previously recorded sites in the study corridor 2 previously recorded sites in the direct effects APE A key resource is the Oregon NHT (unrecorded, segments); this resource is in the indirect effects APE (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, resources that potentially could be affected visually, include numerous historic buildings, structures, and waterworks 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 12.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$5,432 annually during construction and residual yield losses of \$1,429 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 3 AUMs during construction and a residual loss of less than 1 AUM each year of operation Minimal impacts on timber resources: the

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>are forested and mostly undeveloped</p> <p>Sensitive Viewing Platforms:</p> <ul style="list-style-type: none"> Residences: Residences would not have a view of the B2H Project within the foreground thus only moderate impacts on views from residences Recreation: No key issues identified Travel Routes: No key issues identified <p>Federal Land Conformance:</p> <ul style="list-style-type: none"> No key issues identified 	<p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high and moderate cultural resource sensitivity 10.9 miles of low cultural resource sensitivity 1.5 miles of no cultural resource sensitivity 		<p>Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<p>B2H Project could disturb less than 1 acre of timberlands during construction and continued operations</p> <ul style="list-style-type: none"> Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-A2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: none Moderate: 1.3 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 3 Foreground 6 Middleground This route is Collocated with an existing 230-kV transmission line and would result in less than S3-A1 and would still result in Class B change to Class C landscape <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Residences would not have a view of the B2H Project within the foreground thus only moderate impacts on views from residences Recreation: No key issues identified Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 8 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Same key resource as Variation S3-A1 because these two route variations follow similar alignments, passing in proximity to the same resources There are sites of Native American concern along this route variation Although Variation S3-A2 and Variation S3-A1 do not share the same alignment, they are in proximity to one another, and the same resources that potentially could be affected visually along Variation S3-A1 are the same as those identified along Variation S3-A2 <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high and moderate cultural resource sensitivity 11.3 miles of low cultural resource sensitivity 0.9 mile of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts:</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 12.2 miles <p>Trail Management:</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources:</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources:</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources:</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$2,691 annually during construction and residual yield losses of \$679 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 3 AUMs during construction and a residual loss of less than 1 AUM each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-B1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 4.2 miles Moderate: 8.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 3 Foreground 7 Middleground Class B and Class C landscapes with project contrast varying from moderate to high and would result in Class B change to Class C landscape <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on views of the 4 residences found near the northernmost portion of the route variation Recreation: Hells Canyon All American Road, Grande Tour Scenic Bikeway and also the Snake River-Mormon Basin Back Country Byway would all experience high impacts Travel Routes: Moderate impacts on I-84 and Highway 203 <p>Federal Land Conformance</p>	<p>Inventory</p> <ul style="list-style-type: none"> 34 previously recorded sites in the study corridor 2 previously recorded sites in the direct effects APE Key resources include the Oregon NHT, trail-associated sites/components (monuments and landmarks), and the Goodale's Cutoff Study Trail. Of these resources, the Oregon NHT (one previously recorded, contributing segment) and the Goodale's Cutoff Study Trail (one previously recorded, contributing segment) are in the direct effects APE, and also are crossed by the route variation An additional key resource is the historic Slough House Stage Station (indirect effects APE) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity the Virtue Flat Mining Area, resources that potentially could be affected visually, include numerous historic mining operations. Signature Rock has been documented approximately 3 miles east of the route variation. Variation S3-B1 avoids the Baker City Commercial 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.1 miles Moderate: 5.1 miles Low: 6.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route – Flagstaff Hill portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments High impact on views from Oregon Trail Monument trail-associated cultural site 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$1,478 annually during construction and residual yield losses of \$462 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 28 AUMs during construction and a residual loss of approximately 9 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 2 acre of timberlands during construction with a residual disturbance to less than 1 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Goodale’s Cutoff NHT related linear viewing platform would be affected with strong residual impact in VRM Class III with 0.8 visible miles of the B2H Project that would not be in conformance, Hells Canyon linear viewing platform also would have a strong residual contrast within VRM Class III with 0.8 mile of visible miles of the B2H Project that would not be in conformance 	<p>Historic District</p> <p>Impacts</p> <ul style="list-style-type: none"> 1.1 miles of high cultural resource sensitivity 7.4 miles of moderate cultural resource sensitivity 4.9 miles of low cultural resource sensitivity 0.5 mile of no cultural resource sensitivity 		<p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale’s Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 2.9 miles Moderate: 2.8 miles Low: 6.9 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	
Variation S3-B2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6.6 miles Moderate: 7.5 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 8 VAUs affected <ul style="list-style-type: none"> 3 Foreground 8 Middleground The project contrast associated with this route variation would be predominately moderate and would result in Class B change to Class C landscape <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on views of the 4 residences found near the northernmost portion of the route variation Recreation: Hells Canyon All American Road, Grande Tour Scenic Bikeway and also the Snake River-Mormon Basin Back Country Byway Would all experience high impacts Travel Routes: High impacts on views associated with Highway 203 and moderate impacts on I-84 due to existing transmission lines <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 27 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Same key resources as Variation S3-B1. Although these route variations do not share similar alignments, key resources are the same because they occur near the areas where the route variations become closer to one another or intersect Crosses the Virtue Flat Segment of the Oregon NHT Crosses one unrecorded segment of the Goodale’s Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of the community of Baker and the Virtue Flat Mining Area, resources that potentially could be affected visually, along this route variation, include numerous historic buildings, structures, waterworks, mining operations, and transportation corridors. This route variation does not cross the historic mining area and lies farther from Signature Rock. One unidentified Goal 5 Resource is located approximately 4.2 miles northwest of this route variation. In addition, this route variation is closer to resources associated with the Baker City Historic District than Variation S3-B1 <p>Impacts</p> <p>1.1 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale’s Cutoff Study Trail along this route variation</p> <ul style="list-style-type: none"> 4.9 miles of moderate cultural resource sensitivity 8.2 miles of low cultural resource sensitivity 0.2 mile of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.7 miles Moderate: 6.7 miles Low: 4.5 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments Moderate impact on views from the possible site of the “Lone Tree” trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale’s Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 0.6 mile Low: 9.7 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$8,454 annually during construction and residual yield losses of \$2,482 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 4 AUMs during construction and a residual loss of approximately 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb 9 acre of timberlands during construction with a residual disturbance of approximately 3 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-B3	<p>Residual Impacts</p> <p>Viewers</p>	<p>Inventory</p> <ul style="list-style-type: none"> 28 previously recorded sites in the study corridor 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.7 miles 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> High: 6.4 miles Moderate: 6.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 10 VAUs affected <ul style="list-style-type: none"> 6 Foreground 10 Middleground <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Similar to Variation S3-B2, High impacts on views of the 4 residences found near the northernmost portion of the route variation and would moderately impact the southernmost residences with views of larger turning structures Recreation: Hells Canyon All American Road, Grande Tour Scenic Bikeway and also the Snake River-Mormon Basin Back Country Byway Would all experience high impacts Travel Routes: Similar to Variation S3-B2 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> 1 previously recorded site in the direct effects APE Same key resources as Variation S3-B1. Although these route variations do not share similar alignments, key resources are the same because they occur near the areas where the route variations become closer to one another or intersect Crosses the Virtue Flat Segment of the Oregon NHT Crosses one unrecorded segment of the Goodale's Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of the community of Baker and the Virtue Flat Mining Area, resources that potentially could be affected visually are the same as those identified along Variation S3-B2. These route variations follow similar alignments, passing in proximity to the same resources <p>Impacts</p> <ul style="list-style-type: none"> 1.1 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale's Cutoff Study Trail along this route variation 4.9 miles of moderate cultural resource sensitivity 8.5 miles of low cultural resource sensitivity 0.2 mile of no cultural resource sensitivity 	<p>Applicant's Proposed Action Alternative</p>	<ul style="list-style-type: none"> Moderate: 6.6 miles Low: 4.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments Moderate impact on views from the possible site of the "Lone Tree" trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 0.6 mile Low: 9.7 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<p>losses valued at \$8,222 annually during construction and residual yield losses of \$2,249 each year of operation</p> <ul style="list-style-type: none"> No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 4 AUMs during construction and a residual loss of approximately 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb less than 7 acre of timberlands during construction with a residual disturbance of approximately 2 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S3-B4</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 5.2 miles Moderate: 6.97 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 8 VAUs affected <ul style="list-style-type: none"> 3 Foreground 8 Middleground Collocated to a higher degree than S3-B2 with predominantly moderate impacts and would have less of an impact compared to Variation S3-B2, Variation S3-B3, or Variation S3-B5 <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Similar to S3-B3 Recreation: Similar to S3-B2 Travel Routes: Similar to S3-B2 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 25 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Same key resources as Variation S3-B1 because these route variations follow similar alignments, passing in proximity to the same resources Crosses the Virtue Flat Segment of the Oregon NHT Crosses one unrecorded segment of the Goodale's Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of Baker City Historic District and the Virtue Flat Mining Area, resources that potentially could be affected visually are the same as those identified along Variation S3-B2. These two route variations follow similar alignments, passing in proximity to the same resources 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 1.2 miles Moderate: 6.4 miles Low: 4.7 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$29,083 annually during construction and residual yield losses of \$7,653 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 2 AUMs during construction and a residual loss of less than 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 7 acre of timberlands during construction with a residual disturbance of approximately 3 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		<p>Impacts</p> <ul style="list-style-type: none"> 1.2 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale’s Cutoff Study Trail along this route variation 4.2 miles of moderate cultural resource sensitivity 8.7 miles of low cultural resource sensitivity 0.2 mile of no cultural resource sensitivity 		<p>crossed, high impacts on views from contributing trail segments</p> <ul style="list-style-type: none"> Moderate impact on views from the possible site of the “Lone Tree” trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale’s Cutoff Study Trail Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 9.9 miles <p>Key Issues</p> <ul style="list-style-type: none"> Views of B2H Project screened 	<ul style="list-style-type: none"> No disproportionate impact on environmental justice population
Variation S3-B5	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6.3 miles Moderate: 7.5 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 8 VAUs affected <ul style="list-style-type: none"> 3 Foreground 8 Middleground Collocated with an existing 230-kV transmission line, impacts on scenic quality would be slightly less than that of Variation S3-B2 or Variation S3-B3 <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 4 northernmost residences would experience high impacts on views southernmost residences would be moderately affected with views similar to Variation S3-B2 Recreation: Passes 2 of the previously mentioned routes with less impacts as it is through agricultural lands Travel Routes: Similar to S3-B2 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 23 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Same key resources as Variation S3-B1 because these route variations follow similar alignments, passing in proximity to the same resources Crosses the Virtue Flat Segment of the Oregon NHT Crosses one unrecorded segment of the Goodale’s Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of Baker City Historic District and the Virtue Flat Mining Area, resources that potentially could be affected visually are the same as those identified along Variation S3-B2. These route variations follow similar alignments, passing in proximity to the same resources <p>Impacts</p> <ul style="list-style-type: none"> 1.1 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale’s Cutoff Study Trail along this route variation 4.3 miles of moderate cultural resource sensitivity 8.4 miles of low cultural resource sensitivity 0.2 mile of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT Residual Impacts</p> <ul style="list-style-type: none"> High: 1.1 miles Moderate: 7.0 miles Low: 4.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment Moderate impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments Moderate impact on views from the possible site of the “Lone Tree” trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale’s Cutoff Study Trail Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 9.9 miles <p>Key Issues</p> <ul style="list-style-type: none"> Views of B2H Project screened 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$28,587 annually during construction and residual yield losses of \$8,111 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 2 AUMs during construction and a residual loss of less than 1 AUM each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 10 acres of timberlands during construction with a residual disturbance of approximately 5 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-C1	<p>Residual Impacts</p>	<p>Inventory</p>	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are 	<p>Oregon NHT</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>Viewers</p> <ul style="list-style-type: none"> High: 17.4 miles Moderate: 3.0 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 4 Foreground 4 Middleground Predominantly high impacts on Class B and Class C landscapes. Impacts on scenic quality associated with Variation S3-C1 would decrease the existing B scenic quality rating to C scenic quality within the visible foreground of one VAU <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on views associated with these areas; the communities of Durkee, Weatherby, and Dixie and areas along I-84 Recreation: Snake River-Mormon Basin Back Country Byway would be affected with high impacts Travel Routes: Moderate impacts on views associated with I-84 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> 30 previously recorded sites in the study corridor 6 previously recorded sites in the direct effects APE Key resources include the Lime-Dixie Cemetery, the Oregon NHT, and the Rattlesnake Springs Landmark of the Oregon NHT. Of these resources, the Oregon NHT is in the direct effects APE Crosses one previously recorded, contributing segment of the Oregon NHT Crosses unrecorded segments of the Oregon NHT (refer to map MV-25 for inventory data) multiple times There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of Durkee and Weatherby, resources that potentially could be affected visually, include numerous historic buildings, structures, waterworks, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> 2.5 miles of high cultural resource sensitivity 12.0 miles of moderate cultural resource sensitivity 6.6 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<p>discussed by alternative route. Refer to the Applicant's Proposed Action Alternative</p>	<p>Residual Impacts</p> <ul style="list-style-type: none"> High: 15.5 miles Moderate: 5.6 miles Low: none <p>Trail Management:</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Straw Ranch 1 portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<ul style="list-style-type: none"> Moderate agricultural impacts with yield losses valued at \$40,678 annually during construction and residual yield losses of \$14,357 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of 41 AUMs during construction and a residual loss of approximately 14 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 2 acres of timberlands during construction with a residual disturbance of less than 1 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-C2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 19.3 miles Moderate: 1.7 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 4 Foreground 4 Middleground Predominantly high impacts on Class B and Class C landscapes. Impacts on scenic quality associated with this route variation would be similar to Variation S3-C1 <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Similar impacts as Variation S3-C1 yet would be closer in proximity to through the community of Durkee Recreation: Similar to S3-C1 Travel Routes: High impacts on views associated with I-84 due to head-on views <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 37 previously recorded sites in the study corridor 5 previously recorded sites in the direct effects APE Same key resources as Variation S3-C1 because these route variations follow similar alignments, passing in proximity to the same resources Crosses one previously recorded, contributing segment of the Oregon NHT Crosses unrecorded segments of the Oregon NHT (refer to map MV-25 for inventory data) multiple times There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of Durkee and Weatherby, resources that potentially could be affected visually are the same as those identified along Variation S3-C1. These route variations follow the same alignment, passing in proximity to the same resources <p>Impacts</p> <ul style="list-style-type: none"> 2.5 miles of high cultural resource sensitivity 11.7 miles of moderate cultural resource sensitivity 7.5 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts:</p> <ul style="list-style-type: none"> High: 18.0 miles Moderate: 3.7 miles Low: none <p>Trail Management:</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Straw Ranch 1 portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$46,535 annually during construction and residual yield losses of \$16,169 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 45 AUMs during construction and a residual loss of approximately 16 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb 2 acres of timberlands during construction with a residual disturbance of less than 1 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Variation S3-C3	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 16.2 miles 	<p>Inventory</p> <ul style="list-style-type: none"> 33 previously recorded sites in the study corridor 2 previously recorded sites in the direct effects APE 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 11.7 miles 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$27,210 annually during

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Moderate: 4.9 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 4 Foreground 4 Middleground Predominantly high impacts through Class B and Class C landscapes and would decrease the existing B scenic quality rating to C scenic quality within the visible foreground of one VAU <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Less visible to views associated with residences and would not come within 0.5 mile of residences as Variation S3-C1 and Variation S3-C2 Recreation: Similar to S3-C1 Travel Routes: High impacts on views associated with I-84 due to two crossings with head-on views <p>Federal Land Conformance:</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Same key resources as Variation S3-C1. Although the route variations do not follow similar alignments, most of the resources occur in the areas where the alignments become closer to one another Variation S3-C3 crosses one unrecorded segment (unknown condition) of the Oregon NHT at Link 3-60 and avoids the trail crossing near Durkee (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Potential for direct effects on unrecorded, significant sites along the Burnt River Canyon area Based on RLS cultural data collected for alternative routes in the vicinity of Durkee and Weatherby, resources that potentially could be affected visually are similar to those identified along Variation S3-C1. Variation S3-C3 lies farther from Durkee <p>Impacts</p> <ul style="list-style-type: none"> 1.8 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 10.9 miles of moderate cultural resource sensitivity 6.8 miles of low cultural resource sensitivity 1.6 miles of no cultural resource sensitivity 		<ul style="list-style-type: none"> Moderate: 4.3 miles Low: 5.1 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Straw Ranch 1 portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources:</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources:</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<p>construction and residual yield losses of \$10,037 each year of operation</p> <ul style="list-style-type: none"> No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 32 AUMs during construction and a residual loss of 12 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 25 acres of timberlands during construction with a residual disturbance of less than 8 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S3-C4</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 15.7 miles Moderate: 5.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 4 Foreground 4 Middleground Higher impacts through Class B when compared to Variation S3-C3 and would decrease the existing B scenic quality rating to C scenic quality within the visible foreground of one VAU <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Less visible to views associated with residences and would not come within 0.5 mile of residences as Variation S3-C1 and Variation S3-C2 and would affect views of one less residence Recreation: High impacts on Snake River-Mormon Basin Back Country Byway and also would moderately impact KOP 5-81 (Burnt River) Travel Routes: High impacts on views associated with I-84 due to two crossings with head-on views <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 33 previously recorded sites in the study corridor 3 previously recorded sites in the direct effects APE Same key resources as Variation S3-C1 because these route variations share the same alignment, passing in proximity to the same resources Variation S3-C4 crosses one unrecorded segment (unknown condition) of the Oregon NHT at Link 3-60 and avoids the trail crossing near Durkee (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Potential for direct effects on unrecorded, significant sites along the Burnt River Canyon area Based on RLS cultural data collected for alternative routes in the vicinity of Durkee and Weatherby, resources that potentially could be affected visually are the same as those identified along Variation S3-C3. These route variations share the same alignment, passing in proximity to the same resources <p>Impacts</p> <ul style="list-style-type: none"> 1.8 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts:</p> <ul style="list-style-type: none"> High: 11.7 miles Moderate: 4.3 miles Low: 5.4 miles <p>Trail Management:</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Straw Ranch 1 portion <p>Scenic and Recreation Resources:</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources:</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources:</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<ul style="list-style-type: none"> Low and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$24,155 annually during construction and residual yield losses of \$8,873 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 32 AUMs during construction and a residual loss of 12 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 24 acres of timberlands during construction with a residual disturbance of approximately 7 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Variation S3-C5	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 8.1 miles Moderate: 8.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 3 Foreground 4 Middleground Predominantly high impacts through Class B and Class C landscapes and would decrease the existing B scenic quality rating to C scenic quality within the visible foreground of one VAU <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: This route would only affect the views associated with three residences that are within 0.5 mile away from the B2H Project at the southernmost part of segment 3 Recreation: High impacts on Snake River-Mormon Basin Back Country Byway and KOP 5-81 (Burnt River) Travel Routes: High impacts on views associated with I-84 due to head-on views <p>Federal Land Conformance</p> <ul style="list-style-type: none"> This route would not be in conformance with VRM Class II with 0.8 visible miles of the B2H Project from KOP Burnt River Canyon affecting the KOP with strong residual impacts 	<p>Inventory</p> <ul style="list-style-type: none"> 10.8 miles of moderate cultural resource sensitivity 7.2 miles of low cultural resource sensitivity 1.6 miles of no cultural resource sensitivity <p>Inventory</p> <ul style="list-style-type: none"> 31 previously recorded sites in the study corridor 2 previously recorded sites in the direct effects APE Same key resources as Variation S3-C1. Although the route variations do not follow similar alignments, most of the resources occur in the areas where the alignments become closer to one another Variation S3-C5 crosses one unrecorded segment (unknown condition) of the Oregon NHT at Link 3-60 and then deviates significantly from the historic trail for the majority of its length (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Potential for direct effects on unrecorded, significant sites along the Burnt River Canyon area Based on RLS cultural data collected for alternative routes in the vicinity of Durkee and Weatherby, resources that potentially could be affected visually are similar to those identified along Variation S3-C3. Variation S3-C5 lies farther from Durkee and Weatherby <p>Impacts</p> <ul style="list-style-type: none"> 0.9 mile of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 6.6 miles of moderate cultural resource sensitivity 9.7 miles of low cultural resource sensitivity 3.8 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 5.0 miles Moderate: 2.4 miles Low: 13.6 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Straw Ranch 1 portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<ul style="list-style-type: none"> Low and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$30,705 annually during construction and residual yield losses of \$13,448 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 62 AUMs during construction and a residual loss of 27 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 36 acres of timberlands during construction with a residual disturbance of approximately 12 acre of timberland during continued operations Impacts on property values are minimal and short-term in nature <p>No disproportionate impact on environmental justice population</p>
Variation S3-C6	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 13.8 miles Moderate: 6.1 miles <p>Scenic Quality and Landscape Character:</p> <ul style="list-style-type: none"> 4 VAUs affected <ul style="list-style-type: none"> 3 Foreground 4 Middleground Higher impacts through Class B when compared to other route variations through this section of the project and would decrease the existing B scenic quality rating to C scenic quality within the visible foreground of one VAU <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: This would avoid affecting most residences except for three residences found at the southernmost part of Segment 3 Recreation: Similar to S3-C3 	<p>Inventory</p> <ul style="list-style-type: none"> 27 previously recorded sites in the study corridor 1 previously recorded site in the direct effects APE Similar to key resources identified along Variation S3-C3, except that Variation S3-C6 avoids the Rattlesnake Springs Landmark of the Oregon NHT. Although the route variations do not follow similar alignments, most of the resources occur in the areas where the alignments become closer to one another Crosses one unrecorded segment (unknown condition) of the Oregon NHT at Link 3-60 and then deviates significantly from the historic trail (refer to map MV-25 for inventory data) There are sites of Native American concern along this route variation Potential for direct effects on unrecorded, significant sites (primarily rock features) along the Burnt River Canyon area 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 3.5 miles Moderate: 2.4 miles Low: 9.6 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Straw Ranch 1 portion <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, high impacts on views from contributing trail segments <p>Biological, Natural, and Other</p>	<ul style="list-style-type: none"> Low and temporary impact on employment and population Low agricultural impacts with yield losses valued at \$14,603 annually during construction and residual yield losses of \$6,461 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 75 AUMs during construction and a residual loss of 33 AUMs each year of operation Moderate impacts on timber resources: the B2H Project could disturb approximately 88 acres of timberlands during construction with a residual disturbance of less than 31 acres of timberland during continued operations Impacts on property values are minimal and short-term in nature

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> Travel Routes: Similar to S3-C3 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> This route would not be in conformance with VRM Class II with 0.1 visible miles of the B2H Project from KOP Burnt River Canyon affecting the KOP with strong residual impacts 	<ul style="list-style-type: none"> Based on RLS cultural data collected for alternative routes in the vicinity of Durkee and Weatherby, resources that potentially could be affected visually are similar to those identified along Variation S3-C3. Variation S3-C6 lies farther from Durkee and Weatherby <p>Impacts</p> <ul style="list-style-type: none"> 0.5 mile of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this route variation 3.6 miles of moderate cultural resource sensitivity 9.5 miles of low cultural resource sensitivity 11.1 miles of no cultural resource sensitivity 		<p>Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Goodale's Cutoff Study Trail 	<p>No disproportionate impact on environmental justice population</p>
<p>Flagstaff A</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 31.0 miles Moderate: 16.7 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 6 Foreground 11 Middleground Similar impacts on the landscape character yet scenic quality would experience less of an impact due to the collocation with an existing 230-kV transmission line along the east edge of Baker <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts would result in the following; the communities of Durkee, Weatherby, and Dixie, along with scattered residences along the I-84 corridor Recreation: Hells Canyon All American Road, Grande Tour Scenic Bikeway and also the Snake River-Mormon Basin Back Country Byway would all experience high impacts Travel Routes: Similar to the Applicant's Proposed Action, views from I-84 and Highway 203 would experience high impacts this Alternative would parallel I-84 for a longer distance <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Flagstaff A Alternative does not cross U.S. Forest Service land. This alternative would not be in conformance with VRM Class II with 0.6 visible miles of the B2H Project from KOP Burnt River Canyon and would affect the KOP with strong residual impacts 	<p>Inventory</p> <ul style="list-style-type: none"> 61 previously recorded sites in the study corridor 9 previously recorded sites in the direct effects APE Same key resources as the Applicant's Proposed Action Alternative, except that the Flagstaff A Alternative avoids the historic Slough House Stage Station (Stop). Although the alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared, or are in proximity to one another North Powder Valley and east/southeast of Lone Pine Mountain) Crosses two previously recorded, contributing segments of the Oregon NHT Crosses unrecorded segments of the Oregon NHT multiple times (refer to map MV-25 for inventory data) Crosses one unrecorded segment of the Goodale's Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites or areas of Native American concern along this alternative route Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, Baker City, Durkee, Weatherby, and the Virtue Flat Mining Area, resources that potentially could be affected visually are similar to those identified along the Applicant's Proposed Action Alternative. The Flagstaff A Alternative is located in the vicinity of one undetermined Goal 5 Resource and lies farther from the Virtue Flat Mining Area. Compared to the Applicant's Proposed Action Alternative, the Flagstaff A Alternative is closer to the Baker City Historic District <p>Impacts</p> <ul style="list-style-type: none"> 3.6 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale's Cutoff Study Trail along 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for four additional sites along the Flagstaff A Alternative. Most of the sites identified along these alternative routes occur in the areas where the alignments are shared (North Powder Valley and east/southeast of Lone Pine Mountain), or are in proximity to one another. Most of the sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE Potential for direct effects on unrecorded, significant sites (primarily rock features) along the Durkee area Avoids potential resources of Native American concern in the Burnt River Canyon area. Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 18.9 miles Moderate: 18.1 miles Low: 16.8 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill and Straw Ranch I portions <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> Two contributing trail segment crossed, high impacts on views from contributing trail segments Moderate impact on views from the possible site of the "Lone Tree" trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 10.3 miles <p>Key Issues</p> <ul style="list-style-type: none"> Views of B2H Project screened 	<ul style="list-style-type: none"> Low and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$76,161 annually during construction and residual yield losses of \$23,329 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 55 AUMs during construction and a residual loss of approximately 17 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 11 acres of timberlands during construction with a residual disturbance of less than 3 acres of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		this alternative route <ul style="list-style-type: none"> 18.8 miles of moderate cultural resource sensitivity 31.2 miles of low cultural resource sensitivity 1.7 miles of no cultural resource sensitivity 			
Timber Canyon Alternative	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 56.3 miles Moderate: 10.2 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 10 VAUs affected <ul style="list-style-type: none"> 8 Foreground 10 Middleground 1 Class A would experience high impacts and 6 Class B crossed and 2 Class B VAUs would drop in rating to a Class C <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: KOP 4-60 (Medical Springs Community) would experience high levels of residual impacts Views of residences west of Richland would experience high impacts as well. Views associated with residences north of New Bridge would be moderately affected Recreation: Head-on views of the B2H Project to the Grande Tour Scenic Bikeway as well as the Grande Tour Route, the Snake River-Mormon Basin Back Country Byway, Powder River Wild and Scenic/Thief Valley Road, and Hells Canyon All American Road, all experiencing high impacts on views Travel Routes: Daly Creek, Eagle Creek, Manning Creek Road, Sparta Road, State Highway 203, U.S. Forest Service Road 67-Big Creek, U.S. Forest Service Road 70, and U.S. Forest Service Road 250 would all experience introduce high levels of residual impacts <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Sparta Road would have moderate residual impacts on 1.0 visible mile of views associated with VRM Class II. There also would be areas of non-conformance on USFS-administered lands in the BA-013 Wallowa Mountains VAU and BA-014 Blue and Wallowa Foothills VAU. The areas of non-conformance with VQOs in the BA-013 Wallowa Mountains VAU established in the Wallowa-Whitman National Forest LRMP would include 21 acres of non-conformance with the Retention VQO and 18 acres of non-compliance with the Partial Retention VQO. 	<p>Inventory</p> <ul style="list-style-type: none"> 225 previously recorded sites in the study corridor 15 previously recorded sites in the direct effects APE Key resources include the Lime-Dixie Cemetery, the Oregon NHT, the Rattlesnake Springs Landmark of the Oregon NHT, and the Goodale's Cutoff Study Trail. Of these sites, the Oregon NHT and the Goodale's Cutoff Study Trail are in the direct effects APE, and also are crossed by this alternative route Crosses one previously recorded, contributing segment of the Oregon NHT Crosses unrecorded segments of the Oregon NHT multiple times (refer to map MV-25 for inventory data) Crosses two previously recorded, contributing segments (including a spur) of the Goodale's Cutoff Study Trail There are sites or areas of Native American concern along this alternative route Based on RLS cultural data collected for alternative routes in the vicinity of Sparta, Weatherby, and North Powder, resources that potentially could be affected visually, include numerous historic buildings, waterworks, and historic transportation corridors <p>Impacts</p> <ul style="list-style-type: none"> 7.8 miles of high cultural resource sensitivity 23.4 miles of moderate cultural resource sensitivity 33.2 miles of low cultural resource sensitivity 5.9 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic and tool scatters, lithic procurement areas, cairns, rock alignments, rockshelters, potential medicine wheel); most of these sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE The Medical Hot Springs and surroundings (indirect effects APE) Avoids potential resources of Native American concern in the Burnt River Canyon area Traditional foods Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 9.2 miles Moderate: 1.7 miles Low: 5.8 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Goodale's Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 8.8 miles Moderate: 5.3 miles Low: 10.4 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Low and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$57,920 annually during construction and residual yield losses of \$20,755 each year of operation No identifiable impacts on CAFO operations High impacts on grazing resources with annual forage losses of approximately 79 AUMs during construction and a residual loss of approximately 28 AUMs each year of operation Moderate impacts on timber resources: the B2H Project could disturb less than 476 acres of timberlands during construction with a residual disturbance of approximately 125 acres of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
Flagstaff A – Burnt River Mountain	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 29.8 miles Moderate: 18.6 miles 	<p>Inventory</p> <ul style="list-style-type: none"> 64 previously recorded sites in the study corridor 6 previously recorded sites in the direct effects APE Same key resources as the Applicant's Proposed Action Alternative, except that the Flagstaff A: Burnt 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 12 additional sites along the Flagstaff A – Burnt River Mountain Alternative. Sites are similar 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 15.1 miles Moderate: 16.8 miles Low: 21.9 miles 	<ul style="list-style-type: none"> Low and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$63,542 annually during construction and residual yield losses of

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> • 11 VAUs affected <ul style="list-style-type: none"> – 6 Foreground – 11 Middleground • Similar to Flagstaff A Alternative however this alternative will extend to the west of Durkee Valley and would be collocated with a 138-kV and a 69-kV transmission line for less of the distance when compared to the Applicant’s Proposed Alternative resulting in a higher degree of impacts on scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: Highest impacts on residences happen near Weatherby and Dixie as well as northeast of Baker City as well as areas paralleling I-84 but would residences where I-84 crosses Durkee • Recreation: High impacts on views would result for the following; Hells Canyon All American Road, The Grande Tour Scenic Bikeway following U.S. 203, and The Snake River-Mormon Basin Back Country Byway • Travel Routes: I-84 linear viewing platform and Highway 203 linear viewing platform would have high impacts on views Alder Creek Road also would have strong residual impacts <p>Federal Land Conformance</p> <ul style="list-style-type: none"> • No key issues identified 	<p>River Mountain Alternative avoids the historic Slough House Stage Station. Although these alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared, or are in proximity to one another</p> <ul style="list-style-type: none"> • Crosses one previously recorded, contributing segment of the Oregon NHT • Crosses one unrecorded segment of the Goodale’s Cutoff Study Trail (refer to map MV-26 for inventory data) • There are sites or areas of Native American concern along this alternative route • There is the potential for direct effects on unrecorded, significant sites (primarily rock features) along the Burnt River Canyon area • Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, Baker City, Durkee, Weatherby, and the Virtue Flat Mining Area, resources that potentially could be affected visually are similar to those identified along the Applicant’s Proposed Action Alternative. The Flagstaff A – Burnt River Mountain Alternative lies farther from Durkee and the Virtue Flat Mining Area. In addition, this alternative route is located in the vicinity of one undetermined Goal 5 Resource. Compared to the Applicant’s Proposed Action Alternative, the Flagstaff A – Burnt River Mountain Alternative is closer to the Baker City Historic District <p>Impacts</p> <ul style="list-style-type: none"> • 2.9 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale’s Cutoff Study Trail along this alternative route • 17.7 miles of moderate cultural resource sensitivity • 31.4 miles of low cultural resource sensitivity • 3.3 miles of no cultural resource sensitivity 	<p>because they occur in the areas where the alignments are shared (North Powder Valley and between the Dry Creek area and Ranch Creek), or are in proximity to one another. Most of the sites are in the indirect effects APE</p> <ul style="list-style-type: none"> • The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE • Potential for direct effects on unrecorded, significant sites (primarily rock features) along the Burnt River Canyon and Durkee areas • Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern. 	<p>Trail Management</p> <ul style="list-style-type: none"> • High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment • High impacts on views from the NPS Auto Tour Route • High impacts on views from the Oregon Trail ACEC – Flagstaff Hill and Straw Ranch I portions <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • One contributing trail segment crossed, high impacts on views from contributing trail segments • Moderate impact on views from the possible site of the “Lone Tree” trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Goodale’s Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: none • Low: 10.3 miles <p>Key Issues</p> <ul style="list-style-type: none"> • Views of B2H Project screened 	<p>\$19,857 each year of operation</p> <ul style="list-style-type: none"> • No identifiable impacts on CAFO operations • Moderate impacts on grazing resources with annual forage losses of approximately 47 AUMs during construction and a residual loss of approximately 15 AUMs each year of operation • Minimal impacts on timber resources: the B2H Project could disturb approximately 31 acres of timberlands during construction with a residual disturbance of less than 8 acres of timberland during continued operations • Impacts on property values are minimal and short-term in nature • No disproportionate impact on environmental justice population
Flagstaff B	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> • High: 31.1 miles • Moderate: 15.9 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> • 11 VAUs affected <ul style="list-style-type: none"> – 6 Foreground – 11 Middleground • Similar to Applicant’s Proposed Alternative yet would be predominantly collocated with the existing 230-kV transmission line and have less of an impact to scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: The highest impacts on residences 	<p>Inventory</p> <ul style="list-style-type: none"> • 66 previously recorded sites in the study corridor • 9 previously recorded sites in the direct effects APE • Same key resources as the Applicant’s Proposed Action Alternative, except that the Flagstaff B Alternative avoids the historic Slough House Stage Station. Although these alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared, or are in proximity to one another • Crosses two previously recorded, contributing segments of the Oregon NHT • Crosses unrecorded segments of the Oregon NHT multiple times (refer to map MV-25 for inventory data) 	<ul style="list-style-type: none"> • Similar previously recorded sites of tribal significance as the Applicant’s Proposed Action Alternative, except for slight variations in the number of sites and site types. Most of the sites occur in the areas where the alignments are shared (North Powder Valley and east/southeast of Lone Pine) or are in proximity to one another. Most of the sites are in the indirect effects APE • The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE • Avoids potential resources of Native American concern in the Burnt River Canyon area • Ongoing coordination and consultation with Native American sovereign tribal 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: 19.5 miles • Moderate: 17.7 miles • Low: 16.8 miles <p>Trail Management</p> <ul style="list-style-type: none"> • High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment • High impacts on views from the NPS Auto Tour Route • High impacts on views from the Oregon Trail ACEC – Flagstaff Hill and Straw Ranch I portions 	<ul style="list-style-type: none"> • Low and temporary impact on employment and population • Moderate agricultural impacts with yield losses valued at \$55,005 annually during construction and residual yield losses of \$16,676 each year of operation • No identifiable impacts on CAFO operations • Moderate impacts on grazing resources with annual forage losses of approximately 57 AUMs during construction and a residual loss of approximately 17 AUMs each year of operation • Minimal impacts on timber resources: the B2H Project could disturb less than 9 acres of timberlands during construction with a

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>happen near Weatherby and Dixie as well as northeast of Baker City as well as areas paralleling interstate 84</p> <ul style="list-style-type: none"> Recreation: High impacts on views would result for the following; Hells Canyon All American Road, The Grande Tour Scenic Bikeway following U.S. 203, and The Snake River-Mormon Basin Back Country Byway Travel Routes: The highest impacts on travel routes would be associated with views associated with the I-84 linear viewing platform and Highway 203 linear viewing platform <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Crosses one unrecorded segment of the Goodale’s Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites or areas of Native American concern along this alternative route Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, Baker City, Durkee, Weatherby, and the Virtue Flat Mining Area, resources that potentially could be affected visually are similar to those identified along the Applicant’s Proposed Action Alternative. The Flagstaff B Alternative lies farther from the Virtue Flat Mining Area. In addition, this alternative route is located in the vicinity of one undetermined Goal 5 Resource. Compared to the Applicant’s Proposed Action Alternative, the Flagstaff B Alternative is closer to the Baker City Historic District <p>Impacts</p> <ul style="list-style-type: none"> 3.6 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale’s Cutoff Study Trail along this alternative route 19.4 miles of moderate cultural resource sensitivity 31.3 miles of low cultural resource sensitivity 1.7 miles of no cultural resource sensitivity 	<p>governments may identify additional resources of concern</p>	<p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> Two contributing trail segments crossed, high impacts on views from contributing trail segments Moderate impact on views from the possible site of the “Lone Tree” trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p><u>Goodale’s Cutoff Study Trail</u></p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 0.6 mile Low: 10.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<p>residual disturbance of less than 3 acres of timberland during continued operations</p> <ul style="list-style-type: none"> Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Flagstaff B – Burnt River West</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 21.8 miles Moderate: 17.2 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 11 VAUs affected <ul style="list-style-type: none"> 6 Foreground 11 Middleground Located west of the Applicant’s Proposed Action, would have a higher degree of impacts on scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: The highest impacts on residences happen near Old U.S. 30 west of I-84 and Dixie as well as northeast of Baker City adjacent to agricultural lands and would not affect views to residences in Durkee Recreation: high impacts on KOP 5-81 (Burnt River) as well as the following linear viewing platforms; Hells Canyon All American Road, The Grande Tour Scenic Bikeway following U.S. 203, and The Snake River-Mormon Basin Back Country Byway Travel Routes: High impacts on I-84 linear viewing platform and Highway 203 linear viewing platform <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance to BLM VRM Class II 	<p>Inventory</p> <ul style="list-style-type: none"> 67 previously recorded sites in the study corridor 4 previously recorded sites in the direct effects APE Same key resources as the Applicant’s Proposed Action Alternative, except that the Flagstaff B: Burnt River West Alternative avoids the historic Slough House Stage Station. Although these alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared, or are in proximity to one another Crosses one previously recorded, contributing segment of the Oregon NHT Crosses one unrecorded segment of the Goodale’s Cutoff Study Trail (refer to map MV-26 for inventory data) There are sites or areas of Native American concern along this alternative route Potential for direct effects on unrecorded, significant sites (primarily rock features) along the Burnt River Canyon area Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, Baker City, Durkee, Weatherby, and the Virtue Flat Mining Area, resources that potentially could be affected visually are similar to those identified along the Applicant’s Proposed Action Alternative. The Flagstaff B – Burnt River West Alternative lies 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Applicant’s Proposed Action Alternative, except for 12 additional sites along the Flagstaff B – Burnt River West Alternative. Sites are similar because they occur in the areas where the alignments are shared (North Powder Valley and between the Dry Creek area and Ranch Creek) or are in proximity to one another. Most of the sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE Potential for direct effects on unrecorded, significant sites (primarily rock features) along the Burnt River Canyon and Durkee areas Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 9.0 miles Moderate: 14.5 miles Low: 30.2 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Flagstaff Hill and Straw Ranch I portions <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> One contributing trail segment crossed, high impacts on views from contributing trail segments Moderate impact on views from the possible site of the “Lone Tree” trail-associated cultural site <p>Biological, Natural, and Other Resources</p>	<ul style="list-style-type: none"> Low and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$41,443 annually during construction and residual yield losses of \$14,169 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 73 AUMs during construction and a residual loss of approximately 25 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 31 acres of timberlands during construction with a residual disturbance of less than 8 acres of timberland during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>Management Objectives, 0.6 mile of the B2H being visible from KOP 5-81 Burnt River would not be in conformance due to the strong impacts</p>	<p>farther from Durkee, Weatherby, and the Virtue Flat Mining Area. In addition, this alternative route is located in the vicinity of one undetermined Goal 5 Resource. Compared to the Applicant's Proposed Action Alternative, the Flagstaff B – Burnt River West Alternative is closer to the Baker City Historic District</p> <p>Impacts</p> <ul style="list-style-type: none"> • 2.0 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale's Cutoff Study Trail along this alternative route • 14.0 miles of moderate cultural resource sensitivity • 34.8 miles of low cultural resource sensitivity • 4.9 miles of no cultural resource sensitivity 		<ul style="list-style-type: none"> • No key issues identified <p>Goodale's Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: 0.6 mile • Low: 10.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> • Potential designation could be locally compromised 	
<p>Flagstaff B – Durkee</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> • High: 27.5 miles • Moderate: 19.0 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> • 11 VAUs affected <ul style="list-style-type: none"> – 5 Foreground – 11 Middleground • Further west and south than Flagstaff B–Burnt River West Alternative, this would cross a higher degree of visual variety thus would result in higher impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: Highest impacts on residences happen near Old U.S. 30 west of I-84 and Dixie as well as northeast of Baker City adjacent to agricultural lands • Recreation: High impacts on views would result for on the following linear viewing platforms; Hells Canyon All American Road, The Grande Tour Scenic Bikeway following U.S. 203, and The Snake River-Mormon Basin Back Country Byway • Travel Routes: The highest impacts on travel routes would be associated with views associated with one crossing of the I-84 linear viewing platform <p>Federal Land Conformance</p> <ul style="list-style-type: none"> • Non-conformance to BLM VRM Class II Management Objectives, 0.6 mile of the B2H being visible from KOP 5-81 Burnt River would not be in conformance due to the strong impacts 	<p>Inventory</p> <ul style="list-style-type: none"> • 63 previously recorded sites in the study corridor • 4 previously recorded sites in the direct effects APE • Same key resources as the Applicant's Proposed Action Alternative, except that the Flagstaff B: Durkee Alternative avoids the historic Slough House Stage Station. Although these alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared, or are in proximity to one another • Crosses one previously recorded, contributing segment of the Oregon NHT • Crosses one unrecorded segment of the Goodale's Cutoff Study Trail (refer to map MV-26 for inventory data) • There are sites or areas of Native American concern along this alternative route • Potential for direct effects on undocumented, significant sites south of Alder Creek and west of the Durkee Valley • Based on RLS cultural data collected for alternative routes in the vicinity of North Powder, Baker City, Durkee, Weatherby, and the Virtue Flat Mining Area, resources that potentially could be affected visually are similar to those identified along the Applicant's Proposed Action Alternative. The Flagstaff B – Durkee Alternative lies farther from Durkee, Weatherby, and the Virtue Flat Mining Area. In addition, this alternative route is located in the vicinity of one undetermined Goal 5 Resource. Compared to the Applicant's Proposed Action Alternative, the Flagstaff B – Durkee Alternative is closer to the Baker City Historic District <p>Impacts</p> <ul style="list-style-type: none"> • 1.6 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Goodale's Cutoff Study Trail along 	<ul style="list-style-type: none"> • Similar previously recorded sites of tribal significance as the Applicant's Proposed Action Alternative, except for 11 additional sites of tribal significance along the Flagstaff B – Durkee Alternative. Sites are similar because they occur in the areas where the alignments are shared (North Powder Valley and between the Dry Creek area and Ranch Creek) or are in proximity to one another. Most of the sites are in the indirect effects APE • The Oregon NHT (path of the Forced March of 1879) is in the direct effects APE • Potential for direct effects on unrecorded, significant sites (primarily rock features) along the Burnt River Canyon and Durkee areas. • There is the potential for direct effects on undocumented, significant sites south of Alder Creek and west of the Durkee Valley. • Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern. 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: 7.5 miles • Moderate: 14.5 miles • Low: 26.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> • High impacts on views from Flagstaff Hill/NHOTIC High Potential Historic Segment • High impacts on views from the NPS Auto Tour Route • High impacts on views from the Oregon Trail ACEC – Flagstaff Hill and Straw Ranch I portions <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • High impacts on views from the NHOTIC <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • One contributing trail segment crossed, high impacts on views from contributing trail segments • Moderate impact on views from the possible site of the "Lone Tree" trail-associated cultural site <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Goodale's Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: 0.6 mile • Low: 10.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> • Potential designation could be locally compromised 	<ul style="list-style-type: none"> • Low and temporary impact on employment and population • Moderate agricultural impacts with yield losses valued at \$31,189 annually during construction and residual yield losses of \$10,962 each year of operation • No identifiable impacts on CAFO operations • Moderate impacts on grazing resources with annual forage losses of approximately 88 AUMs during construction and a residual loss of approximately 31 AUMs each year of operation • Moderate impacts on timber resources: the B2H Project could disturb approximately 84 acres of timberlands during construction with a residual disturbance of less than 23 acres of timberland during continued operations • Impacts on property values are minimal and short-term in nature • No disproportionate impact on environmental justice population

Table 2-27. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 3—Baker Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
		this alternative route <ul style="list-style-type: none"> • 11.0 miles of moderate cultural resource sensitivity • 34.2 miles of low cultural resource sensitivity • 12.8 miles of no cultural resource sensitivity 			
Table Note: ACEC = area of critical environmental concern APE = area of potential effects AUM = animal unit month BLM = Bureau of Land Management CAFO = confined animal feeding operation CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority KOP = key observation point LRMP = land and resource management plan NHT = national historic trail			NHOTIC = National Historic Oregon Trail Interpretive Center NPS = National Park Service NWSTF = Naval Weapons Systems Training Facility P = Private RLS = reconnaissance level survey ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan VAU = Visual Analysis Unit VQO = Visual Quality Objective VRM = visual resource management WSR = Wild and Scenic River		

Table 2-28. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 4—Brogan

Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Applicant's Proposed Action	Resource Inventory (miles crossed) <ul style="list-style-type: none"> • Recent Quaternary faults: 0.8 mile • Older Quaternary faults: 0.4 mile • Moderate water erosion: 13.2 miles • Moderate wind erosion: 1.5 miles • Compaction potential: 26.5 miles • Active Mines: 3.8 miles • Leases: 6.0 miles • Producing wells: 1.1 miles • PFYC 3: 5.8 miles • PFYC 4: 11.0 miles 	Residual Impacts <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> – Forested Wetland: 0.4 mile • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 1.9 miles – Intermittent Streams: 11.4 miles – Scrub-shrub Wetland: 0.1 mile – Emergent Wetland: 0.9 mile – Open Water: 5.2 miles • Fewest amount of residual impacts on all wetland types of all alternatives • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Residual Impacts Vegetation Communities <ul style="list-style-type: none"> • 30.0 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe Sensitive Plants <ul style="list-style-type: none"> • 10 known sensitive plant species occurrences in the 1-mile study corridor • 2 sensitive plant species known to occur in 1-mile study corridor Federally Listed Plants <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	Greater Sage-Grouse <ul style="list-style-type: none"> • 20.3 miles of high residual impacts where PHMA is crossed • 18.7 miles of moderate residual impacts where GHMA is crossed Big Game <ul style="list-style-type: none"> • 40.1 miles of low residual impacts where mule deer and elk winter range is crossed 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: 1.0 mile Residual Impacts <ul style="list-style-type: none"> • Moderate: none • Low: 1.0 mile • None: 39.1 miles • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S4-A1	Resource Inventory (miles crossed) <ul style="list-style-type: none"> • 1,891 acres of moderate floodzone percentage • Moderate water erosion: 1.2 miles • Moderate wind erosion: 0.5 mile • Compaction potential: 0.9 mile • PFYC 3: 2.7 miles • PFYC 4: 0.5 mile 	Residual Impacts <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> – Forested Wetland: 0.1 mile • With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.6 mile – Intermittent Streams: 0.6 mile – Emergent Wetland: 0.4 mile – Open Water: 0.1 mile • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Residual Impacts Vegetation Communities <ul style="list-style-type: none"> • 4.2 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe. Sensitive Plants <ul style="list-style-type: none"> • 10 known sensitive plant species occurrences in the 1-mile study corridor • 2 sensitive plant species known to occur in 1-mile study corridor Federally Listed Plants <ul style="list-style-type: none"> • No federally listed plants known to occur 	Greater Sage-Grouse <ul style="list-style-type: none"> • PHMA not crossed, high residual impacts not expected • 4.8 miles of moderate residual impacts where GHMA are crossed Big Game <ul style="list-style-type: none"> • 5.9 miles of low residual impacts where mule deer and elk winter range is crossed 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: 0.3 mile Residual Impacts <ul style="list-style-type: none"> • Moderate: none • Low: 0.3 mile • None: 5.6 miles • With mitigation, only low residual impacts on redband trout occupied streams are anticipated

Table 2-28. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 4—Brogan					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Variation S4-A2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 2,392 acres of moderate floodzone percentage Moderate water erosion: 2.4 miles Moderate wind erosion: 0.7 mile Compaction potential: 0.7 mile PFYC 3: 3.1 miles PFYC 4: 0.6 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.3 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 0.4 mile Scrub-shrub Wetland: 0.3 mile Open Water: 0.3 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p><i>in proximity</i></p> <p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 4.3 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe. <p>Sensitive Plants</p> <ul style="list-style-type: none"> 10 known sensitive plant species occurrences in the 1-mile study corridor 2 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA are not crossed, high residual impacts not expected 4.8 miles of moderate residual impacts where GHMA is crossed <p>Big Game Species</p> <ul style="list-style-type: none"> 6.0 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.3 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.3 mile None: 5.7 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S4-A3	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 2,346 acres of moderate floodzone percentage Moderate water erosion: 2.4 miles Moderate wind erosion: 0.7 mile Compaction potential: 0.8 mile PFYC 3: 3.3 miles PFYC 4: 0.6 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.3 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 0.4 mile 303(d) Temperature Listed: 0.1 mile Scrub-shrub Wetland: 0.3 mile Open Water: 0.3 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 4.6 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 9 known sensitive plant species occurrences in the 1-mile study corridor 2 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, high residual impacts not expected 4.8 miles of moderate residual impacts where GHMA is crossed <p>Big Game</p> <ul style="list-style-type: none"> 6.1 miles of low residual impacts where mule deer and elk winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.3 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.3 mile None: 5.8 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Tub Mountain South	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Recent Quaternary faults: 0.1 mile 3,355 acres of high floodzone percentage 7,083 acres of moderate floodzone percentage Moderate water erosion: 24.8 miles Moderate wind erosion: 6.9 miles Farmlands: 1.5 miles Compaction potential: 23.8 miles Active Mines: 3.7 miles Leases: 22.7 miles Producing wells: 3.7 miles PFYC 3: 3.1 miles PFYC 4: 27.4 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 1.0 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.9 miles Intermittent Streams: 8.9 miles Scrub-shrub Wetland: 0.9 mile Emergent Wetland: 0.9 mile Open Water: 5.1 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 20.2 miles of moderate residual impacts where alternative route crosses Desert Shrub, Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 29 known sensitive plant species occurrences in the 1-mile study corridor 3 sensitive plant species known to occur in 1-mile study corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 6.8 miles of high residual impacts where PHMA is crossed 10.2 miles of moderate residual impacts where GHMA is crossed <p>Big Game</p> <ul style="list-style-type: none"> 38.3 miles of low residual impacts where mule deer, elk, and pronghorn winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.5 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 1.5 miles None: 39 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Willow Creek	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Recent Quaternary faults: 0.1 mile 452 acres of high floodzone percentage 3,478 acres of moderate floodzone percentage Moderate water erosion: 15.5 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.4 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub- 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 22.6 miles of moderate residual impacts where alternative route crosses Dwarf Sagebrush, Mountain Shrub, Native Grasslands, Riparian Conservation 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> 15.5 miles of high residual impacts where PHMA is crossed 14.5 miles of moderate residual impacts where GHMA is crossed <p>Big Game</p>	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat : none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.9 mile

Table 2-28. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 4—Brogan					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
	<ul style="list-style-type: none"> Moderate wind erosion :5.5 miles Farmlands: 0.5 mile Compaction potential: 20.5 miles Active Mines: 2.7 miles Leases: 4.6 miles Producing wells: 1.1 miles PFYC 3: 2.7 miles PFYC 4: 21.7 miles 	shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.4 miles Intermittent Streams: 9.1 miles Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.7 mile Open Water: 5.5 miles <ul style="list-style-type: none"> Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Areas, and Tall Sagebrush Steppe Sensitive Plants <ul style="list-style-type: none"> 17 known sensitive plant species occurrences in the 1-mile study corridor 4 sensitive plant species known to occur in 1-mile study corridor Federally Listed Plants <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<ul style="list-style-type: none"> 32.3 miles of low residual impacts where mule deer, elk, and pronghorn winter range is crossed 	Residual Impacts <ul style="list-style-type: none"> Moderate: none Low: 0.9 mile None: 33.7 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Table Notes: ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority GHMA = general habitat management area MCR = Middle Columbia River			NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility P = Private PFYC = Potential Fossil Yield Classification system PHMA = priority management area ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan SRB = Snake River Basin VRM = visual resource management WSR = Wild and Scenic River		

Table 2-29. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 4—Brogan									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Applicant's Proposed Action	BLM: 20.2 State: 2.9 P: 17.0	0.0	20.0	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 0.1 miles of moderate residual impacts where the alternative route crosses agricultural. No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 12.7 miles of EFU zoning and 27.3 miles of ERU Zoning Military Training Lands <ul style="list-style-type: none"> Crosses 4.6 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 7.9 miles of farmland of statewide importance No high-value soils crossed Livestock Grazing <ul style="list-style-type: none"> Crosses 26.1 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses semi-primitive non-motorized ROS; motorized vehicle should avoid crossing but if a vehicle must cross, existing trails or roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S4-A1	BLM: 0.7 P: 5.2	0.0	5.9	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 0.1 miles of moderate residual impacts where the alternative route crosses agricultural No residential buildings within right-of-way 	Existing Agriculture <ul style="list-style-type: none"> No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 5.1 miles of farmland of 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-29. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 4—Brogan									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				Zoning <ul style="list-style-type: none"> • Crosses 5.9 miles of EFU zoning Military Training Lands Not crossed Special Designated Areas Not crossed	<i>statewide importance</i> <ul style="list-style-type: none"> • No high-value soils crossed Livestock Grazing <ul style="list-style-type: none"> • Crosses 0.6 miles of grazing allotments 				
Variation S4-A2	BLM: 0.7 P: 5.3	0.0	5.9	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts • No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> • Crosses 6.0 miles of EFU zoning Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> • No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> • Crosses 5.4 miles of farmland of statewide importance • No high-value soils crossed Livestock Grazing <ul style="list-style-type: none"> • Crosses 0.6 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Variation S4-A3	BLM: 0.8 P: 5.3	0.0	6.0	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts • No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> • Crosses 6.1 miles of EFU zoning Military Training Land Not crossed Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> • No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> • Crosses 0.1 mile of Prime Farmland if irrigated, 5.3 miles of farmland of statewide importance • No high-value soils crossed Livestock Grazing <ul style="list-style-type: none"> • Crosses 0.7 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Tub Mountain South	BLM: 25.7 P: 14.8	11.1	28.3	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts • 3.0 miles of moderate residual impacts where the alternative route crosses agricultural • No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> • Crosses 14.1 miles of EFU zoning Military Training Lands Not crossed Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> • 0.7 miles high residual impacts where the alternative crosses pivot irrigation • 2.1 miles moderate residual impacts where the alternative crosses field crops, flood and other mechanized irrigation Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> • Crosses 2.8 miles of Prime Farmland if irrigated, 9.7 miles of farmland of statewide importance and 3.6 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> • Crosses 28.9 miles of grazing allotments 	<ul style="list-style-type: none"> • No high or moderate residual impacts • Crosses semi-primitive non-motorized ROS; motorized vehicle should avoid crossing but if a vehicle must cross, existing trails or roads should be used 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No lands with wilderness characteristics present 	<ul style="list-style-type: none"> • No potential congressional designations are present
Willow Creek	BLM: 15.2 P: 19.4	0.0	25.7	Existing Land Use <ul style="list-style-type: none"> • No high residual impacts 	Existing Agriculture <ul style="list-style-type: none"> • 1.8 miles high residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual impacts 	<ul style="list-style-type: none"> • No high or moderate residual 	<ul style="list-style-type: none"> • No lands with wilderness 	<ul style="list-style-type: none"> • No potential congressional

Table 2-29. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 4—Brogan

Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				<ul style="list-style-type: none"> 2.1 miles of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands. No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 12.0 miles of EFU zoning Military Training Lands Not crossed Special Designated Areas Not crossed	where the alternative crosses pivot irrigation <ul style="list-style-type: none"> 0.6 miles moderate residual impacts where the alternative crosses field crops, flood and other mechanized irrigation Alternative crosses an airstrip used for aerial spraying Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 1.1 miles of Prime Farmland if irrigated, 7.4 miles of farmland of statewide importance and 1.1 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> Crosses 19.3 miles of grazing allotments 		impacts on road facilities. Moderate level of impacts associated with crossing an existing airstrip	characteristics present	designations are present
Table Note: ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation CRP = Conservation Reserve Program					EFU = exclusive farm use ERU = Exclusive Range Use FAA = Federal Aviation Authority NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility P = Private	ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan VRM = visual resource management WSR = Wild and Scenic River			

Table 2-30. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 4—Brogan

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Applicant's Proposed Action	Residual Impacts Viewers <ul style="list-style-type: none"> High: 7.1 miles Moderate: 9.0 miles Scenic Quality and Landscape Character <ul style="list-style-type: none"> 17 VAUs affected <ul style="list-style-type: none"> 9 Foreground 17 Middleground 5 VAU with Class B. High impacts occur on two VAUs, BA-014 Blue and Wallowa Foothills and MA-011 Cow Creek, where the B2H Project would dominate the landscape through the introduction of skylined transmission line structures within the foreground and would change the rating from Class B to Class C Sensitive Viewing Platforms <ul style="list-style-type: none"> Residences: 2 residences in the community of Dixie and a residence found north of U.S. Highway 26 would have views with high impacts due to the 	Inventory <ul style="list-style-type: none"> 81 previously recorded sites in the study corridor 10 previously recorded sites in the direct effects APE Key resources include one NRHP-listed property (Oregon Commercial Company Building [Huntington]), the Huntington Old Cemetery, the Lime-Dixie Cemetery, the Oregon NHT, and trail-associated landmarks. These resources are in the indirect effects APE There are sites or areas of Native American concern along this route Based on RLS cultural data collected for alternative routes in the vicinity of Huntington and the Vale Irrigation District, resources that potentially could be affected visually, include numerous historic buildings, structures, waterworks, 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic and tool scatters, cairns, rock alignments); these resources are in the indirect effects APE The Oregon NHT (path of the Forced March 1879) is in the indirect effects APE Traditional foods Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	Oregon NHT Residual Impacts <ul style="list-style-type: none"> High: 4.3 miles Moderate: 3.6 miles Low: 2.6 miles Trail Management <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route Scenic and Recreation Resources <ul style="list-style-type: none"> No key issues identified Historic and Cultural Resources <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments Biological, Natural, and Other Resources <ul style="list-style-type: none"> No key issues identified Olds Ferry Road Study Trail <ul style="list-style-type: none"> This alternative is not located in proximity to the Olds Ferry Road Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$122,522 annually during construction and residual yield losses of \$42,728 each year of operation No identifiable impacts on CAFO operations High impacts on grazing resources with annual forage losses of approximately 73 AUMs during construction and a residual loss of approximately 25 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb less than 1 acre of timberlands during construction and continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-30. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 4—Brogan

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>B2H Project</p> <ul style="list-style-type: none"> Recreation: Views of the Snake River-Mormon Back Country Byway would experience high impacts due to the B2H Project being partially skylined at approximately 0.25 mile away from the linear viewing platform Travel Routes: The highest impacts on travel routes would be associated with U.S. Highway 26 where the B2H Project would Cross with head-on views <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>and transportation corridors. Historic resources associated with the Vale Irrigation District are located east of Link 4-70 in the indirect effects APE. Additional resources include one unidentified Goal 5 Resource and Emigrant Graves (Goal 5 Resource)</p> <p>Impacts</p> <ul style="list-style-type: none"> 0.1 mile of high cultural resource sensitivity 6.3 miles of moderate cultural resource sensitivity 24.5 miles of low cultural resource sensitivity 9.2 miles of no cultural resource sensitivity 			
<p>Variation S4-A1</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 3.5 miles Moderate: 2.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 3 Foreground 7 Middleground High impacts would occur on VAU BA-014 Blue and Wallowa Foothills and would change the rating from Class B to Class C <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 2 residences in the community of Dixie would have views with high impacts due to the B2H Project Recreation: Views of the Snake River-Mormon Back Country Byway would experience high impacts due to the B2H Project being partially skylined at approximately 0.25 mile away from the linear viewing platform Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 16 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Key resources include one NRHP-listed property (Oregon Commercial Company Building [Huntington]), the Huntington Cemetery, the Lime-Dixie Cemetery, and the Oregon NHT. These cultural resources are in the indirect effects APE There are sites of Native American concern along this route variation Based on RLS cultural data collected for alternative routes in the vicinity of Huntington, resources that potentially could be affected visually include numerous historic buildings and structures. Additional resources include one unidentified Goal 5 Resource and Emigrant Graves (Goal 5 Resource) <p>Impacts</p> <ul style="list-style-type: none"> 0.1 mile of high cultural resource sensitivity 2.8 miles of moderate cultural resource sensitivity 0.6 mile of low cultural resource sensitivity 2.4 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 3.5 miles Moderate: 2.4 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Olds Ferry Road Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Olds Ferry Road Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$34,320 annually during construction and residual yield losses of \$13,992 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 4 AUMs during construction and a residual loss of less than 2 AUMs each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S4-A2</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 4.6 miles Moderate: 1.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 3 Foreground 7 Middleground Moderate impacts would occur on VAU BA-014 Blue and Wallowa Foothills and would change the 	<p>Inventory</p> <ul style="list-style-type: none"> 16 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Same key resources as Variation S4-A1 because these two route variations follow similar alignments, passing in proximity to the same resources There are sites of Native American concern along this route variation 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 4.1 miles Moderate: 1.9 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$26,294 annually during construction and residual yield losses of \$9,926 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 4 AUMs during construction and a residual loss of approximately 1 AUMs each year of operation

Table 2-30. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 4—Brogan

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>rating from Class B to Class C</p> <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Similar impacts as Variation S4-A1 Recreation: Similar to Variation S4-A1 Travel Routes: Moderate impacts would be experienced by viewers of I-84 due to the partially obstructed views due to topography <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Although Variation S4-A2 and Variation S4-A1 do not share the same alignment, they are in proximity to one another, and the same resources that potentially could be affected visually along Variation S4-A2 are the same as those identified along Variation S4-A1 <p>Impacts</p> <ul style="list-style-type: none"> 0.1 mile of high cultural resource sensitivity 3.1 miles of moderate cultural resource sensitivity 0.5 mile of low cultural resource sensitivity 2.3 miles of no cultural resource sensitivity 		<p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Olds Ferry Road Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Olds Ferry Road Study Trail 	<ul style="list-style-type: none"> No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Variation S4-A3</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 4.7 miles Moderate: 1.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 3 Foreground 7 Middleground Similar alignment as Variation S4-A2 and would have similar impacts on the scenic quality <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Similar impacts as Variation S4-A1 Recreation: Similar to Variation S4-A1 Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 16 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE Same key resources as Variation S4-A1 because these two route variations follow similar alignments, passing in proximity to the same resources There are sites of Native American concern along this route variation Although Variation S4-A3 and Variation S4-A1 do not share the same alignment, they are in proximity to one another, and the same resources that potentially could be affected visually along Variation S4-A3 are the same as those identified along Variation S4-A1 <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high cultural resource sensitivity 3.3 miles of moderate cultural resource sensitivity 0.5 mile of low cultural resource sensitivity 2.3 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 4.2 miles Moderate: 1.9 miles Low: none <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Olds Ferry Road Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Olds Ferry Road Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$24,750 annually during construction and residual yield losses of \$9,504 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 4 AUMs during construction and a residual loss of less than 2 AUMs each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population
<p>Tub Mountain South</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 18.7 miles Moderate: 18.2 miles <p>Scenic Quality and Landscape Character:</p> <ul style="list-style-type: none"> 13 VAUs affected <ul style="list-style-type: none"> 10 Foreground 13 Middleground 4 VAUs with Class B scenery High impacts would occur on VAU MA-039 Treasure Valley with a Class B rating VAUs would experience decreases in scenic quality rating scores. The decreases in scores associated with MA-039 Treasure Valley and moderate impacts would reduce the scores in BA-014 Blue and Wallowa Foothills and MA-119 Danger Point to the threshold where their scenic 	<p>Inventory</p> <ul style="list-style-type: none"> 122 previously recorded sites in the study corridor 9 previously recorded sites in the direct effects APE Key resources include one NRHP-listed property (Oregon Commercial Company Building [Huntington]), the Huntington Old Cemetery, the Lime-Dixie Cemetery, the Olds Ferry Railroad Station, the Olds Ferry Road Study Trail, and the Sand Dunes site. These resources are in the indirect effects APE Additional key resources include the Oregon NHT and trail-associated sites. Of these resources, only the Oregon NHT 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic and tool scatters, lithic scatters, lithic procurement areas, human burial sites, campsites, cairns, rock alignments, one rockshelter). Most of the sites are in the indirect effects APE The Oregon NHT (path of the Forced March 1879) 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 15.1 miles Moderate: 9.8 miles Low: 10.1 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from Alkali Springs High Potential Route Segment Moderate impacts on views from Farewell Bend High Potential Historic Segment High impacts on views from the NPS Auto Tour Route High impacts on views from the Oregon Trail ACEC – Birch Creek portion <p>Scenic and Recreation Resources</p>	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$421,676 annually during construction and residual yield losses of \$128,583 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of 134 AUMs during construction and a residual loss of approximately 41 AUMs each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short-term in nature No disproportionate impact on

Table 2-30. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 4—Brogan

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>quality rating would change from Class B to Class C</p> <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Two residences in the Community of Dixie and Residences located southeast of Willow Creek would experience high impacts on their views due to the unobstructed views across flat agricultural land Recreation: No key issues identified Travel Routes: I-84 and would experience high impacts on views associated with this travel route due to views of partially skylined transmission line structures U.S. Highway 26 also would experience high residual impacts <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Views from NHT-related KOP 8-3 (Oregon Trail Area of Critical Environmental Concern—Birch Creek) would include 2.1 miles where the B2H Project would not meet VRM Class III objectives 	<p>(five unrecorded, intact segments) are crossed by this alternative route (refer to map MV-25 for inventory data)</p> <ul style="list-style-type: none"> There are numerous sites or areas of Native American concern along this alternative route Based on RLS cultural data collected for alternative routes in the vicinity of Huntington and the Vale Irrigation District, resources that potentially could be affected visually are similar to those identified along the Applicant’s Proposed Action Alternative. Although these alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared (from Dixie Creek to Durbin Creek, northwest of Huntington or intersect (near Bully Creek). Compared to the Applicant’s Proposed Action Alternative, the Tub Mountain South Alternative is closer to the Huntington Survey District’s western boundary <p>Impacts</p> <ul style="list-style-type: none"> 1.4 miles of high cultural resource sensitivity. Additional miles of high cultural resource sensitivity would be anticipated due to one unrecorded segment of the Oregon NHT along this alternative route 18.7 miles of moderate cultural resource sensitivity 14.0 miles of low cultural resource sensitivity 6.4 miles of no cultural resource sensitivity 	<p>is in the direct effects APE</p> <ul style="list-style-type: none"> Farewell Bend (indirect effects APE) Traditional foods There is the potential for direct effects on unrecorded, significant sites of tribal significance in or near a broad cultural landscape that extends from the Farewell Bend area to the south, just east of this alternative route Nonspecific tribal concerns <ul style="list-style-type: none"> Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<ul style="list-style-type: none"> High impacts on views from the Birch Creek Interpretive Site. Moderate impacts on views from Farewell Bend State Recreation Area, Alkali Springs Interpretive Site, and Tub Mountain Interpretive Site. <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> Five contributing trail segment crossed, high impacts on views from contributing trail segments High impacts on views from Birch Creek trail-associated cultural site. Moderate impacts on views from Pioneer Graves near Farewell Bend, Olds Ferry Site, Tub Springs, and Mud Springs trail-associated cultural sites <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Olds Ferry Road Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: 5.6 miles Low: 6.9 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<p>environmental justice population</p>
Willow Creek	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 6.7 miles Moderate: 14.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 13 VAUs affected <ul style="list-style-type: none"> 7 Foreground 13 Middleground Due to high impacts MA-039 Treasure Valley from Class A and VAUs BA-014 Blue and Wallow Foothills would experience decreases in scenic quality rating scores <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Highest impacts on residential viewers would occur in two general areas; residences in Dixie would be similar to those described for the Applicant’s Proposed Action Alternative Action. Residences located northwest of Jamieson less than 0.5 mile from this alternative, would have their views highly affected as well Recreation: Views of the Snake River-Mormon 	<p>Inventory</p> <ul style="list-style-type: none"> 93 previously recorded sites in the study corridor 5 previously recorded sites in the direct effects APE Key resources include one NRHP-listed property (Oregon Commercial Company Building [Huntington]), the Huntington Cemetery, the Lime-Dixie Cemetery, the Dell Cemetery, the Dalles-Boise Military Road, the Oregon NHT, and Oregon NHT-associated landmarks. These resources are in the indirect effects APE There are sites or areas of Native American concern along this alternative route Potential to encounter undocumented, significant pre-contact and historic sites near the Striped Mountain area Based on RLS cultural data collected for alternative routes in the vicinity of 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic and tool scatters, cairns, rock alignments, one rock image site). Of these resources, only one rock feature is in the direct effects APE The Oregon NHT (path of the Forced March of 1879) is in the indirect effects APE The Striped Mountain area (indirect effects APE) Holt Pictograph (vicinity of the study corridor) 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 4.3 miles Moderate: 7.2 miles Low: 6.0 miles <p>Trail Management</p> <ul style="list-style-type: none"> High impacts on views from the NPS Auto Tour Route <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No direct impacts on contributing trail segments, moderate impacts on views from contributing trail segments <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Olds Ferry Road Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$233,924 annually during construction and residual yield losses of \$72,776 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of approximately 84 AUMs during construction and a residual loss of approximately 26 AUMs each year of operation Minimal impacts on timber resources: the B2H Project could disturb approximately 2 acres of timberlands during construction with residual impacts affecting less than 1 acre during continued operations Impacts on property values are minimal and short-term in nature No disproportionate impact on environmental justice population

Table 2-30. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 4—Brogan

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>Back Country Byway would experience high impacts due to the B2H Project being partially skylined at approximately 0.25 mile away from the linear viewing platform</p> <ul style="list-style-type: none"> Travel Routes: The highest impacts on travel routes would be associated with U.S. Highway 26 where the B2H Project would Cross with head-on views <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Huntington and the Vale Irrigation District, resources that potentially could be affected visually are the same as those identified along the Applicant’s Proposed Action Alternative. Although the alternative routes do not follow similar alignments, most of the resources occur in the areas where the alignments are shared (northwest of Huntington and southwest of Hope Flat)</p> <p>Impacts</p> <ul style="list-style-type: none"> 0.6 mile of high cultural resource sensitivity 10.2 miles of moderate cultural resource sensitivity 19.7 miles of low cultural resource sensitivity 4.1 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Traditional foods Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern. 	<ul style="list-style-type: none"> Low: 6.7 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation would not be compromised 	

Table Notes:
 ACEC = area of critical environmental concern
 APE = area of potential effects
 AUM = animal unit month
 CAFO = confined animal feeding operation
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 FAA = Federal Aviation Authority
 KOP = key observation point
 NHT = national historic trail

NPS = National Park Service
 NRHP = National Register of Historic Places
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 RLS = reconnaissance level survey
 ROS = recreation opportunity spectrum
 SEORMP = Southeastern Oregon Resource Management Plan
 VAU = Visual Analysis Unit
 VRM = visual resource management
 WSR = Wild and Scenic River

Table 2-31. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 5—Malheur

Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Applicant’s Proposed Action	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 497 acres of high floodzone percentage 706 acres of moderate floodzone percentage Moderate water erosion: 13.3 miles Moderate wind erosion: 0.8 mile Compaction potential: 25.2 miles Active mines: 0.3 mile Leases: 16.5 miles Producing wells: 2.0 miles PFYC 4: 25.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.5 miles Intermittent Streams: 10.7 miles Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.6 mile Open Water: 3.6 miles Fewest impacts on all stream types of all alternatives Fewest total impacts on all wetland types of all alternatives Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 22.2 miles of moderate residual impacts where alternative route crosses Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 20 known sensitive plant species occurrences in the 1-mile analysis corridor 5 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> Potentially occupied habitats are not crossed, moderate residual impacts not expected 1.8 miles of low residual impacts where suitable habitats are crossed <p>Greater Sage-Grouse:</p> <ul style="list-style-type: none"> PHMA not crossed, high residual impacts not expected 11.2 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 38.2 miles of low residual impacts where mule deer, elk, and pronghorn winter range are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 1.1 miles <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 1.1 miles None: 39.3 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S5-A1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Moderate water erosion: 1.0 mile Compaction potential: 5.0 miles Leases: 4.3 miles PFYC 4: 6.1 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 1.9 miles of moderate residual impacts where alternative route crosses Riparian Conservation Areas and Tall Sagebrush Steppe 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> Potentially occupied habitats are not crossed, moderate residual impacts not expected 0.5 mile of low residual impacts where suitable habitats are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none

Table 2-31. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 5—Malheur					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
		<ul style="list-style-type: none"> Perennial Streams: 0.1 mile Intermittent Streams: 1.6 miles Emergent Wetland: 0.2 mile Open Water: 1.0 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA or GHMA not crossed, impacts not expected <p>Big game</p> <ul style="list-style-type: none"> 5.8 miles of low residual impacts where mule deer and pronghorn winter range are crossed 	<ul style="list-style-type: none"> Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: none None: 7.4 miles Variation S5-A1 does not cross any streams which support special status fish species or protected fish habitats. Impacts are not anticipated
Variation S5-A2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Compaction potential: 4.8 miles Leases: 6.7 miles PFYC 4: 7.4 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.2 mile Intermittent Streams: 2.0 miles Open Water: 0.9 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 2.7 miles of moderate residual impacts where alternative route crosses Desert Shrub, Riparian Conservation Areas and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 3 known sensitive plant species occurrences in the 1-mile analysis corridor 2 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> 0.1 mile of moderate residual impacts where potentially occupied habitats are crossed 0.6 mile of low residual impacts where suitable habitats are crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA or GHMA not crossed, impacts not expected <p>Big game</p> <ul style="list-style-type: none"> 6.2 miles of low residual impacts where mule deer and pronghorn winter range are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: none <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: none None: 7.4 miles Variation S5-A2 does not cross any streams which support special status fish species or protected fish habitats. Impacts are not anticipated
Variation S5-B1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 497 acres of high floodzone percentage 112 acres of moderate floodzone percentage Moderate water erosion: 1.5 miles Compaction potential: 1.5 miles PFYC 4: 1.1 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.6 mile Intermittent Streams: 0.2 mile Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.1 mile Open Water: 0.7 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 2.2 miles of moderate residual impacts where alternative route crosses Native Grasslands, Riparian Conservation Areas and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> Potentially occupied habitats are not crossed, moderate residual impacts not expected 0.7 mile of low residual impacts where suitable habitats are crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, impacts not expected 0.2 mile of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 2.5 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.6 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.6 mile None: 1.9 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S5-B2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> 749 acres of high floodzone percentage 109 acres of moderate floodzone percentage Moderate water erosion: 1.3 miles Farmlands: 0.1 mile Compaction potential: 0.6 mile PFYC 4: 1.4 miles 	<p>Total Residual Impacts (miles crossed)</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.1 mile With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.3 mile Intermittent Streams: 0.1 mile Scrub-shrub Wetland: 0.6 mile Emergent Wetland: 0.4 mile Open Water: 0.8 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> 2.0 miles of moderate residual impacts where alternative route crosses Riparian Conservation Areas and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 2 known sensitive plant species occurrences in the 1-mile analysis corridor 1 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> Potentially occupied habitats are not crossed, moderate residual impacts not expected 0.8 mile of low residual impacts where suitable habitats are crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, high residual impacts not expected 1.1 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 2.8 miles of low residual impacts where mule deer winter range is crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.2 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.2 mile None: 2.6 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Malheur S	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Class B faults: 0.1 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only low residual impacts on 	<p>Residual Impacts</p>	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> 0.9 mile of moderate residual impacts where 	<p>Resource Inventory (miles crossed):</p> <ul style="list-style-type: none"> Bull trout critical habitat: none

Table 2-31. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 5—Malheur

Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
	<ul style="list-style-type: none"> 2,026 acres of moderate floodzone percentage Moderate water erosion: 11.5 miles Moderate wind erosion: 0.2 mile Compaction potential: 28.7 miles Active mines: 3.9 miles Leases: 12.1 miles Producing wells: 2.0 miles PFYC 4: 22.9 miles 	perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.3 miles Intermittent Streams: 11.4 miles 303(d) Listed Temperature: 0.1 mile Scrub-shrub Wetland: 0.2 mile Emergent Wetland: 0.3 mile Open Water: 4.7 miles <ul style="list-style-type: none"> Greatest amount of impact on all total streams Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Vegetation Communities <ul style="list-style-type: none"> 28.6 miles of moderate residual impacts where alternative route crosses Desert Shrub, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe Sensitive Plants <ul style="list-style-type: none"> 16 known sensitive plant species occurrences in the 1-mile analysis corridor 5 sensitive plant species known to occur in 1-mile analysis corridor Federally Listed Plants <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	potentially occupied habitats are crossed <ul style="list-style-type: none"> 2.0 miles of low residual impacts where suitable habitats are crossed Greater Sage-Grouse <ul style="list-style-type: none"> PHMA not crossed, high residual impacts not expected 22.4 miles of moderate residual impacts where GHMA is crossed Big game <ul style="list-style-type: none"> 32.6 miles of low residual impacts where mule deer, elk, and pronghorn winter range are crossed 	<ul style="list-style-type: none"> Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.5 mile Residual Impacts: <ul style="list-style-type: none"> Moderate: none Low: 0.5 mile None: 43.0 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Malheur A	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Class B faults: 0.1 mile 1,005 acres of moderate floodzone percentage Moderate water erosion: 10.6 miles Moderate wind erosion: 0.5 mile Compaction potential: 29.1 miles Active mines: 6.0 miles Leases: 12.1 miles Producing wells: 2.0 miles PFYC 4: 23.3 miles 	Residual Impacts <ul style="list-style-type: none"> With mitigation, only low residual impacts on perennial and intermittent streams are anticipated <ul style="list-style-type: none"> Perennial Streams: 1.3 miles Intermittent Streams: 11.2 miles 303(d) Listed Temperature: 0.1 mile Emergent Wetland: 0.3 mile Open Water: 4.7 miles Wetland permits may be required for any crossing larger than 0.2 acres of impact 	Residual Impacts Vegetation Communities <ul style="list-style-type: none"> 30.3 miles of moderate residual impacts where alternative route crosses Desert Shrub, Dwarf Sagebrush Steppe, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe Sensitive Plants <ul style="list-style-type: none"> 13 known sensitive plant species occurrences in the 1-mile analysis corridor 5 sensitive plant species known to occur in 1-mile analysis corridor Federally Listed Plants <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	Columbia spotted frog <ul style="list-style-type: none"> 0.9 mile of moderate residual effects where potentially suitable habitats crossed 2.0 miles of low residual impacts where suitable habitats are crossed Greater Sage-Grouse <ul style="list-style-type: none"> PHMA not crossed, high residual impacts not expected 25.6 miles of moderate residual impacts where GHMA is crossed Big game <ul style="list-style-type: none"> 32.0 miles of low residual impacts where mule deer, elk, and pronghorn winter range are crossed 	Resource Inventory (miles crossed) <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.5 mile Residual Impacts <ul style="list-style-type: none"> Moderate: none Low: 0.5 mile None: 42.6 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Table Notes: ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation GHMA = general habitat management area CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority MCR = Middle Columbia River NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility P = Private PFYC = Potential Fossil Yield Classification system PHMA = priority habitat management area ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan SRB = Snake River Basin VRM = visual resource management WSR = Wild and Scenic River					

Table 2-32. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 5—Malheur

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Applicant's Proposed Action	BLM: 30.4 BOR: 0.8 P: 9.2	30.2	24.9	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 0.3 mile of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands. No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 1.9 miles of EFU zoning and 38.4 miles of ERU zoning 	Existing Agriculture <ul style="list-style-type: none"> 0.1 mile moderate residual impacts where the alternative crosses field crops Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 0.1 mile of farmland of statewide importance and 7.0 miles of high-value soils 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses semi-primitive non-motorized ROS; motorized vehicles should avoid crossing but if a vehicle must cross, existing trails and roads should be 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics crossed 	<ul style="list-style-type: none"> Crosses the Owyhee River below the Dam suitable WSR segment for 0.9 mile adjacent (but outside of a utility corridor designated in the SEORMP)

Table 2-32. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 5—Malheur

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				Military Training Lands <ul style="list-style-type: none"> Crosses 37.9 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Livestock Grazing <ul style="list-style-type: none"> Crosses 38.8 miles of grazing allotments 	used			<ul style="list-style-type: none"> Short term increase in noise and dust and increased activity along both sides of the river Would not alter the river's free-flowing condition
Variation S5-A1	BLM: 1.1 P: 6.3	0.0	3.7	Existing Land Use <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 1.4 miles of EFU zoning and 6.0 miles of ERU zoning Military Training Lands <ul style="list-style-type: none"> Crosses 7.4 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 1.5 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> Crosses 7.1 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> Developed to avoid lands with wilderness characteristics. Does not cross No lands with wilderness characteristics crossed 	<ul style="list-style-type: none"> Avoids the Owyhee River below the Dam suitable WSR segment
Variation S5-A2	BLM: 7.4 P: 0.0	0.0	3.1	Existing Land Use <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way Zoning: <ul style="list-style-type: none"> No EFU zoning crossed and 2.5 miles of ERU zoning crossed Military Training Lands <ul style="list-style-type: none"> Crosses 7.4 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas Not crossed	Existing Agriculture <ul style="list-style-type: none"> No moderate or high residual impacts expected Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 1.9 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> Crosses 7.4 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses semi-primitive non-motorized ROS; motorized vehicles should avoid crossing but if a vehicle must cross, existing trails and roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> 4.7 miles of Variation S5-A2 would cross the Double Mountain Unit. This crossing would create a new unit boundary and remove 1,890 acres from the contiguous unit. 	<ul style="list-style-type: none"> Avoids the Owyhee River below the Dam suitable WSR segment

Table 2-32. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 5—Malheur

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Variation S5-B1	BLM: 2.1 BOR: 0.4	52.0	2.6	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 0.1 mile of moderate residual impacts where the alternative route crosses forest/woodlands No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> No EFU zoning crossed and 6.0 miles of ERU zoning crossed <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 2.5 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands:</p> <ul style="list-style-type: none"> Crosses 1.0 miles of high-value soils <p>Livestock Grazing:</p> <ul style="list-style-type: none"> Crosses 2.0 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics crossed 	<ul style="list-style-type: none"> Crosses the Owyhee River below the Dam suitable WSR segment for 0.9 mile adjacent (but outside of a utility corridor designated in the SEORMP) Short term increase in noise and dust and increased activity along both sides of the river Would not alter the river's free-flowing condition
Variation S5-B2	BLM: 1.3 BOR: 0.2	46.4	2.8	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 0.9 mile of moderate residual impacts where the alternative route crosses agricultural. No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 1.4 miles of EFU zoning and 1.4 miles of ERU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 2.8 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.5 mile moderate residual impacts where the alternative crosses flood irrigation, fallow/idle cropland, and field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 0.3 mile of Prime Farmland if irrigated, 1.1 miles of farmland of statewide importance, and 0.8 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 0.8 mile of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics crossed 	<ul style="list-style-type: none"> Avoids the Owyhee River Below the Dam suitable WSR segment. Right-of-way of route variation crosses the suitable segment for 80 feet. Short term increase in noise and dust and increased activity along both sides of the river
Malheur S	BLM: 39.2 BOR: 0.5 P: 3.8	20.0	25.4	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 0.1 mile of moderate residual impacts where the alternative route crosses agricultural No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 0.5 mile of EFU zoning and 42.9 miles of ERU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 26.5 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.4 mile moderate residual impacts where the alternative crosses fallow/idle cropland and field crops <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 3.3 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 42.8 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses 1.3 miles Owyhee River Below the Dam SRMA; SRMA coincides with Owyhee River Below the Suitable WSR and Owyhee River Below the Dam ACEC (these designations are considered utility avoidance areas) Crosses semi-primitive non-motorized ROS; motorized vehicles 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> Developed to avoid lands with wilderness characteristics. Does not cross No lands with wilderness characteristics crossed 	<ul style="list-style-type: none"> Crosses the suitable WSR for 1.1 miles, and is located in the utility avoidance area Short term increase in noise and dust and increased activity along both sides of the river Would not alter the river's free-flowing condition

Table 2-32. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 5—Malheur

Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
				Special Designated Areas <ul style="list-style-type: none"> Crosses 1.5 miles of the Owyhee River Below the Dam ACEC 		should avoid crossing but if a vehicle must cross, existing trails and roads should be used			
Malheur A	BLM: 37.9 BOR: 0.8 P: 4.3	14.2	25.6	Existing Land Use <ul style="list-style-type: none"> No high residual impacts 0.1 mile of moderate residual impacts where the alternative route crosses agricultural No residential buildings within right-of-way Zoning <ul style="list-style-type: none"> Crosses 0.5 miles of EFU zoning and 42.5 miles of ERU zoning Military Training Lands <ul style="list-style-type: none"> Crosses 26.1 miles of special use airspace Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA Special Designated Areas <ul style="list-style-type: none"> Crosses 2.5 miles of the Owyhee River Below the Dam ACEC (1 mile of this is within West-wide Energy Corridor) 	Existing Agriculture: <ul style="list-style-type: none"> 0.2 mile moderate residual impacts where the alternative crosses field crops Important Farmland, High-value Soils, and CRP Lands: <ul style="list-style-type: none"> Crosses 3.0 miles of high-value soils Livestock Grazing: <ul style="list-style-type: none"> Crosses 42.4 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses 2.4 miles Owyhee River Below the Dam SRMA; SRMA coincides with Owyhee River Below the Suitable WSR and Owyhee River Below the Dam ACEC (these designations are considered utility avoidance areas) Crosses semi-primitive non-motorized ROS; motorized vehicles should avoid crossing but if a vehicle must cross, existing trails and roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics crossed 	<ul style="list-style-type: none"> Crosses the suitable WSR for 1.1 miles. Colocated in a BLM utility corridor and West Wide Energy Corridor and would parallel an existing 500-kV transmission line Short term increase in noise and dust and increased activity along both sides of the river Would not alter the river's free-flowing condition

Table Note:
 ACEC = area of critical environmental concern
 APE = area of potential effects
 BLM = Bureau of Land Management
 CAFO = confined animal feeding operation
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 ERU = Exclusive Range Use
 FAA = Federal Aviation Authority
 NHT = national historic trail
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 ROS = recreation opportunity spectrum
 SEORMP = Southeastern Oregon Resource Management Plan
 VRM = visual resource management
 WSR = Wild and Scenic River

Table 2-33. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 5—Malheur

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Applicant's Proposed Action	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 8.7 miles Moderate: 10.8 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 17 VAUs affected <ul style="list-style-type: none"> 9 Foreground 17 Middleground Of the 7 VAUs with Class B scenic quality, 4 would experience high impacts MA-039 Treasure Valley, MA-060 Owyhee Tunnel, MA-119 Danger Point, and MA-122 Owyhee River. MA-060 Owyhee Tunnel and MA-119 Danger Point would change from Class B to Class C scenic quality ratings in the foreground <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 1 residence along the Owyhee River would experience skylined, partially backdropped views of the B2H Project Recreation: KOP 8-33 (Double Mountain-Twin Spring Rd North) KOP 8-52 (Lower Owyhee Interpretive Site), KOP 8-52 (Lower Owyhee Interpretive Site) and the Owyhee Below the Dam ACEC would all experience high impacts on views Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> The B2H Project would not be in conformance with the BLM VRM Class objectives adjacent to KOP 13-1 (Owyhee WSR). Specifically, 1.5 miles of the B2H Project would be visible crossing BLM VRM Class II and 1.1 miles would be visible crossing BLM VRM Class III 	<p>Inventory</p> <ul style="list-style-type: none"> 59 previously recorded sites in the study corridor 22 previously recorded sites in the direct effects APE A key resource is the Meek Cutoff Study Trail (noncontributing segment); this resource is in the direct effects APE, and also is crossed by the alternative route The Oregon NHT is located outside of the study corridor There are sites or areas of Native American concern along this alternative route Potential for direct effects on undocumented, significant sites along this alternative route, primarily along the Malheur and Owyhee river crossings Based on RLS cultural data collected for alternative routes in the vicinity of Owyhee Dam Historic District (NRHP-listed), resources that potentially could be affected visually include numerous historic water control features, ditches, and canals. Of the alternative routes considered for Segment 5, the Applicant's Proposed Action Alternative lies farther from the historic district <p>Impacts</p> <ul style="list-style-type: none"> 4.6 miles of high cultural resource sensitivity 9.4 miles of moderate cultural resource sensitivity 20.5 miles of low cultural resource sensitivity 5.9 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., pre-contact lithic scatters, lithic and tool scatters, campsites, cairn). Most of the sites are in the indirect effects APE Avoids the Oregon NHT (path of the Forced March of 1879) Traditional foods Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 11.9 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Meek Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 5.4 miles Moderate: 2.9 miles Low: 8.8 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$396,010 annually during construction and residual yield losses of \$112,112 each year of operation No identifiable impacts on CAFO operations High impacts on grazing resources with annual forage losses of approximately 95 AUMs during construction and a residual loss of less than 27 AUMs each year of operation Minimal impacts on timber resources with construction and continued operations affecting less than 1 acre of timberland Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population
Variation S5-A1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 0.9 mile Moderate: 0.4 mile <p>Scenic Quality and Landscape Character:</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 1 Foreground 6 Middleground VAU MA-041 Sourdough Basin would experience high impacts <p>Sensitive Viewing Platforms:</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: KOP 8-33 (Double Mountain-Twin Spring Rd North) would experience high impacts on views Travel Routes: The high impacts would occur on the following travel routes: U.S. Highway 20, Mitchell Butte Road, and Owyhee River Canyon Entry Road <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 2 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE There are no known key resources identified along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high and moderate cultural resource sensitivity 2.8 miles of low cultural resource sensitivity 4.6 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Oregon NHT <p>Meek Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 5.5 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$81,939 annually during construction and residual yield losses of \$21,021 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 15 AUMs during construction and a residual loss of less than 4 AUMs each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population

Table 2-33. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 5—Malheur

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Variation S5-A2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 2.3 miles Moderate: 2.3 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 1 Foreground 6 Middleground Similar to S5-A1 <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: No key issues identified Recreation: KOP 8-90 (Double Mountain Wilderness Characteristic Area–Negro Rock Creek North) and KOP 8-33 (Double Mountain-Twin Spring Rd North) would experience high impacts on views Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 4 previously recorded sites in the study corridor There are no previously recorded sites in the direct effects APE There are no known key resources identified along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 0 miles of high and moderate cultural resource sensitivity 5.8 miles of low cultural resource sensitivity 1.6 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Oregon NHT <p>Meek Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 3.1 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$88,862 annually during construction and residual yield losses of \$19,747 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 16 AUMs during construction and a residual loss of less than 4 AUMs each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population
Variation S5-B1	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 2.1 miles Moderate: 0.4 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected <ul style="list-style-type: none"> 1 Foreground 6 Middleground High impacts would occur on 3 Class B VAUs (MA-039 Treasure Valley, MA-060 Owyhee Tunnel, and MA-122 Owyhee River) <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: 1 residence along the Owyhee River would experience skylined, partially backdropped views of the B2H Project Recreation: High impacts on views of KOP 8-52 (Lower Owyhee Interpretive Site), KOP 13-1 (Owyhee WSR) and the Owyhee Below the Dam ACEC Travel Routes: High impacts would be experienced by views of the Owyhee River Canyon Entry Road travel route <p>Federal Land Conformance</p> <ul style="list-style-type: none"> The B2H Project would not be in conformance due to views from KOP 13-1 (Owyhee WSR) for 1.5 miles crossing BLM VRM Class II and 1.1 miles would crossing BLM VRM Class III 	<p>Inventory</p> <ul style="list-style-type: none"> 7 previously recorded sites in the study corridor 4 previously recorded sites in the direct effects APE There are no known key resources identified along this route variation There are sites or areas of Native American concern along this route variation Potential for direct effects on undocumented, archaeological sites along this route variation, primarily along the Owyhee River crossing <p>Impacts</p> <ul style="list-style-type: none"> 1.1 miles of high cultural resource sensitivity 1.0 mile of moderate cultural resource sensitivity 0.4 mile of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 2.5 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Meek Cutoff Study Trail</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Meek Cutoff Study Trail 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$5,914 annually during construction and residual yield losses of \$1,980 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 3 AUMs during construction and a residual loss of approximately 1 AUMs each year of operation Minimal impacts on timber resources with construction and continued operations affecting less than 1 acre of timberland Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population
Variation S5-B2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 2.1 miles Moderate: 0.7 mile <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 6 VAUs affected 	<p>Inventory</p> <ul style="list-style-type: none"> 7 previously recorded sites in the study corridor 3 previously recorded sites in the direct effects APE There are no known key resources identified along this route variation There are sites or areas of Native American 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant’s Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 2.8 miles <p>Trail Management:</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Minimal agricultural impacts with yield losses valued at \$18,646 annually during construction and residual yield losses of \$4,501 each year of operation No identifiable impacts on CAFO operations

Table 2-33. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 5—Malheur

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<ul style="list-style-type: none"> - 1 Foreground - 6 Middleground • Moderate impacts would result on VAU MA-122 (Owyhee River) as this route is located further east on agricultural lands when compared to S5-B1 <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: This route variation would be in closer proximity to more residences introducing views of the B2H route traversing the steep slopes, creating partially to fully skylined views of the route • Recreation: Less impacts on KOP 8-52 (Lower Owyhee Interpretive Site), KOP 13-1 (Owyhee WSR) and the Owyhee Below the Dam ACEC when compared to S5-B2 • Travel Routes: Lower duration of high impacts would be experienced by views of the Owyhee River Canyon Entry Road travel route when compared to S5-B1 <p>Federal Land Conformance</p> <ul style="list-style-type: none"> • No key issues identified 	<p>concern along this route variation</p> <ul style="list-style-type: none"> • Potential for direct effects on undocumented, archaeological sites along this route variation, primarily along the Owyhee River crossing <p>Impacts</p> <ul style="list-style-type: none"> • 1.0 mile of high cultural resource sensitivity • 0.7 mile of moderate cultural resource sensitivity • 1.1 miles of low cultural resource sensitivity • 0 miles of no cultural resource sensitivity 		<p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Meek Cutoff Study Trail</p> <ul style="list-style-type: none"> • This route variation is not located in proximity to the Meek Cutoff Study Trail 	<ul style="list-style-type: none"> • Minimal impacts on grazing resources with annual forage losses of less than 2 AUMs during construction and a residual loss of less than 1 AUMs each year of operation • No identifiable impacts on timber resources • Impacts on property values are minimal and short term in nature • No disproportionate impact on environmental justice population
Malheur S	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> • High: 9.2 miles • Moderate: 13.4 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> • 18 VAUs affected <ul style="list-style-type: none"> - 9 Foreground - 18 Middleground • 1 VAU with Class A and 3 VAUs with Class B would experience high residual impacts <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> • Residences: 1 residence would be have partially obstructed views of the B2H Project • Recreation: KOP 8-94 (Double Mountain Wilderness Characteristic Area: Negro Rock Creek South) and KOP 8-85 (Sourdough Mountain Wilderness Characteristic Area: Twin Spring Road) would be highly affected due to views of a partially backdropped partially skylined transmission line structures • Travel Routes: U.S. Highway 20 and the Owyhee River Canyon Entry Road linear viewing platforms would have similar high impacts as the Applicant's Proposed Action Alternative <p>Federal Land Conformance</p> <ul style="list-style-type: none"> • This route would not be in conformance with VRM Class II objectives on views from KOP 8-96 (Owyhee River Recreation Site) for 0.6 mile 	<p>Inventory</p> <ul style="list-style-type: none"> • 100 previously recorded sites in the study corridor • 16 previously recorded sites in the direct effects APE • A key resource is the Meek Cutoff Study Trail (noncontributing segment); this resource is in the direct effects APE, and also is crossed by the alternative route • The Oregon NHT is located outside of the study corridor • There are sites or areas of Native American concern along this alternative route • Potential for direct effects on undocumented, significant sites along the Negro Rock Canyon area and the Malheur and Owyhee river crossings • Based on RLS cultural data collected for alternative routes in the vicinity of Owyhee Dam Historic District (NRHP-listed), resources that potentially could be affected are similar to those identified along the Applicant's Proposed Action Alternative. The Malheur S Alternative is significantly closer to the Owyhee Dam Historic District <p>Impacts</p> <ul style="list-style-type: none"> • 3.0 miles of high cultural resource sensitivity • 7.1 miles of moderate cultural resource sensitivity • 32.1 miles of low cultural resource sensitivity • 1.3 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> • Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> - Archaeological resources (e.g., lithic and tool scatters, lithic scatters, campsites, lithic procurement areas, rockshelters, cairn). Most of the sites are in the indirect effects APE - Avoids the Oregon NHT (path of the Forced March of 1879) - Crosses the Negro Rock Canyon area - Traditional foods • Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: none • Moderate: none • Low: 5.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> • No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> • No key issues identified <p>Meek Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> • High: 5.6 miles • Moderate: 2.9 miles • Low: 6.8 miles <p>Key Issues</p> <ul style="list-style-type: none"> • Potential designation could be locally compromised 	<ul style="list-style-type: none"> • Minimal and temporary impact on employment and population • High agricultural impacts with yield losses valued at \$320,752 annually during construction and residual yield losses of \$95,939 each year of operation • No identifiable impacts on CAFO operations • High impacts on grazing resources with annual forage losses of approximately 102 AUMs during construction and a residual loss of approximately 31 AUMs each year of operation • Minimal impacts on timber resources with construction and continued operations affecting less than 1 acre of timberland • Impacts on property values are minimal and short term in nature • No disproportionate impact on environmental justice population

Table 2-33. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails, and Socioeconomics and Environmental Justice in Segment 5—Malheur

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Malheur A	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 8.1 miles Moderate: 15.8 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 18 VAUs affected <ul style="list-style-type: none"> 11 Foreground 18 Middleground Similar to Malheur S Alternative except where this alternative would be in closer proximity to an existing 500-kV transmission line <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Highly impact views from a single residence along the Owyhee River Recreation: KOP 8-4 (Buck Gulch Proposed Wilderness Study Area), KOP 8-84 (Burnt Mountain Wilderness Characteristic Area: (Old Mormon hand cart trail)), and Viewers associated with the Owyhee Below the Dam ACEC would experience high impacts Travel Routes: Similar to Malheur S Alternative <p>Federal Land Conformance</p> <ul style="list-style-type: none"> Non-conformance with VRM Class II objectives as viewed from KOP 8-96 (Owyhee River Recreation Site) for 0.6 mile and 0.8 mile as viewed from KOP 8-95 (Owyhee Canyon Recreation Site) 	<p>Inventory</p> <ul style="list-style-type: none"> 91 previously recorded sites in the study corridor 16 previously recorded sites in the direct effects APE A key resource is the Meek Cutoff Study Trail (noncontributing segment); this resource is in the direct effects APE, and also is crossed by the alternative route The Oregon NHT is located outside of the study corridor There are sites or areas of Native American concern along this alternative route Same potential for direct effects on undocumented, significant sites along the Negro Rock Canyon area and the Malheur and Owyhee river crossings, as described for the Malheur A Alternative Based on RLS cultural data collected for alternative routes in the vicinity of Owyhee Dam Historic District (NRHP-listed), resources that potentially could be affected visually are similar to those identified along the Malheur S Alternative, except that the Malheur A Alternative encompasses a portion of the historic district <p>Impacts</p> <ul style="list-style-type: none"> 1.7 miles of high cultural resource sensitivity 7.8 miles of moderate cultural resource sensitivity 32.3 miles of low cultural resource sensitivity 1.3 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Similar previously recorded sites of tribal significance as the Malheur S Alternative, except for 8 fewer sites along the Malheur A Alternative. Sites are similar because they occur in the areas where the alignments are shared (between Bully Creek and Sand Hollow Creek [north of Grassy Mountain] or are in proximity to one another. Most of the sites are in the indirect effects APE Avoids the Oregon NHT (path of the Forced March of 1879) Crosses the Negro Rock Canyon area Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 5.4 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Meek Cutoff Study Trail</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: 5.6 miles Moderate: 2.9 miles Low: 6.8 miles <p>Key Issues</p> <ul style="list-style-type: none"> Potential designation could be locally compromised 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$289,338 annually during construction and residual yield losses of \$83,051 each year of operation No identifiable impacts on CAFO operations High impacts on grazing resources with annual forage losses of approximately 98 AUMs during construction and a residual loss of less than 28 AUMs each year of operation Minimal impacts on timber resources with construction and continued operations affecting less than 1 acre of timberland Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population

Table Note:

ACEC = area of critical environmental concern
 APE = area of potential effects
 AUM = animal unit month
 BLM = Bureau of Land Management
 CAFO = confined animal feeding operation
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 ERU = Exclusive Range Use
 FAA = Federal Aviation Authority
 KOP = key observation point

NHT = national historic trail
 NRHP = National Register of Historic Places
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 RLS = reconnaissance level survey
 ROS = recreation opportunity spectrum
 SEORMP = Southeastern Oregon Resource Management Plan
 VAU = Visual Analysis Unit
 VRM = visual resource management
 WSR = Wild and Scenic River

Table 2-34. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 6—Treasure Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
Applicant's Proposed Action	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 1.4 miles • 1,541 acres of high floodzone percentage • 564 acres of moderate floodzone percentage • Moderate susceptibility water erosion: 2.1 miles • Moderate susceptibility wind erosion: 0.6 mile • Farmlands: 3.0 miles • Compaction potential: 2.1 miles • Active mines: 4.3 miles • PFYC 3: 14.5 miles • PFYC 4: 2.8 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> – Forested Wetland: 0.2 mile • With mitigation, only low residual impacts on perennial, intermittent and 303(d) listed sediment impaired streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.7 mile – Intermittent Streams: 5.7 miles – 303(d) Listed Sediment: 0.2 mile – Scrub-shrub Wetland: 0.3 mile – Emergent Wetland: 0.4 mile – Open Water: 2.3 miles • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Residual Impacts</p> <p>Vegetation Communities</p> <ul style="list-style-type: none"> • 15.0 miles of moderate residual impacts where alternative route crosses Desert Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 20 known sensitive plant species occurrences in the 1-mile analysis corridor • 8 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> • 2.1 miles of low residual impacts where suitable habitat is crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA not crossed, high residual impacts not expected • 7.6 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> • 38.2 miles of low residual impacts where mule deer winter range and bighorn sheep population management units are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: 0.8 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: none • Low: 0.8 mile • None: 27.2 miles • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S6-A1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.8 mile • Moderate susceptibility water erosion: 0.8 mile • Moderate susceptibility wind erosion: 0.1 mile • Farmlands: 0.4 mile • Compaction potential: 1.4 miles • Active mines: 2.3 miles • PFYC 3: 3.7 miles • PFYC 4: 2.1 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.2 mile – Intermittent Streams: 2.3 miles – Scrub-shrub Wetland: 0.2 mile – Emergent Wetland: 0.3 mile – Open Water: 1.2 miles • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Vegetation Communities</p> <ul style="list-style-type: none"> • 5.1 miles of moderate residual impacts where alternative route crosses Desert Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 6 known sensitive plant species occurrences in the 1-mile analysis corridor • 2 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> • 1.0 mile of low residual impacts where suitable habitat is crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA and GHMA not crossed, impacts not expected <p>Big game</p> <ul style="list-style-type: none"> • 9.0 miles of low residual impacts where mule deer winter range and bighorn sheep population management units are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: 0.1 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: none • Low: 0.1 mile • None: 9.2 miles • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S6-A2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.2 mile • Moderate susceptibility water erosion: 0.6 mile • Moderate susceptibility wind erosion: 0.1 mile • Farmlands: 0.8 mile • Compaction potential: 1.5 miles • Active Mines: 1.9 miles • PFYC 3: 1.9 miles • PFYC 4: 8.9 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only low residual impacts on perennial and intermittent streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.1 mile – Intermittent Streams: 2.2 mile – Emergent Wetland: 0.3 mile – Open Water: 0.4 mile • Fewest additional impacts on all stream types of all route variations • Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Vegetation Communities</p> <ul style="list-style-type: none"> • 5.0 miles of moderate residual impacts where alternative route crosses Desert Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 8 known sensitive plant species occurrences in the 1-mile analysis corridor • 3 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> • No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> • 0.3 mile of low residual impacts where suitable habitat is crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA or GHMA not crossed, impacts not expected <p>Big game</p> <ul style="list-style-type: none"> • 8.7 miles of low residual impacts on big game species habitats where mule deer winter range and bighorn sheep population management units are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: 0.1 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: none • Low: 0.1 mile • None: 8.8 miles • With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S6-B1	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Older Quaternary faults: 0.6 mile • 785 acres of high floodzone percentage • 294 acres of moderate floodzone percentage • Moderate susceptibility water erosion: 1.0 mile • Moderate susceptibility wind erosion: 0.3 mile • Farmlands: 0.7 mile 	<p>Residual Impacts</p> <ul style="list-style-type: none"> • With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> – Forested Wetland: 0.2 mile • With mitigation, only low residual impacts on perennial, intermittent and 303(d) listed sediment impaired streams, and scrub-shrub, emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> – Perennial Streams: 0.2 mile – Intermittent Streams: 3.1 miles – 303(d) Listed Sediment: 0.2 mile 	<p>Vegetation Communities</p> <ul style="list-style-type: none"> • 7.9 miles of moderate residual impacts where alternative route crosses Desert Shrub, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> • 10 known sensitive plant species occurrences in the 1-mile analysis corridor • 6 sensitive plant species known to occur 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> • 0.7 mile of low residual impacts where suitable habitat is crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> • PHMA not crossed, high residual impacts not expected • 7.6 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> • 10.8 miles of low residual impacts 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> • Bull trout critical habitat: none • Chinook salmon critical habitat: none • MCR steelhead critical habitat: none • SRB steelhead critical habitat: none • Redband trout occupied streams: 0.4 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> • Moderate: none • Low: 0.4 mile • None: 14.0 miles

Table 2-34. Alternative Route Comparison Summary for Earth Resources, Water Resources, Vegetation Resources, Wildlife Resources, and Fish Resources in Segment 6—Treasure Valley					
Alternative Route	Earth Resources	Water Resources	Vegetation Resources	Wildlife Resources	Fish Resources
	<ul style="list-style-type: none"> Active mines: 2.0 miles 	<ul style="list-style-type: none"> Scrub-shrub Wetland: 0.1 mile Emergent Wetland: 0.1 mile Open Water: 0.3 mile Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>in 1-mile analysis corridor</p> <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>where mule deer winter range and bighorn sheep population management units are crossed</p>	<ul style="list-style-type: none"> With mitigation, only low residual impacts on redband trout occupied streams are anticipated
Variation S6-B2	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Older Quaternary faults: 1.2 miles 768 acres of high floodzone percentage 185 acres of moderate floodzone percentage Moderate susceptibility water erosion: 0.4 mile Farmlands: 0.1 mile Active mines: 1.7 miles PFYC 3: 8.2 miles 	<p>Residual Impacts</p> <ul style="list-style-type: none"> With mitigation, only moderate residual impacts on forested wetland are anticipated <ul style="list-style-type: none"> Forested Wetland: 0.2 mile With mitigation, only low residual impacts on perennial, intermittent and 303(d) listed sediment impaired streams, and emergent and open water wetlands, are anticipated <ul style="list-style-type: none"> Perennial Streams: 0.3 mile Intermittent Streams: 3.0 miles 303(d) Listed Sediment: 0.1 mile Emergent Wetland: 0.1 mile Open Water: 0.3 mile Fewest additional impacts on wetlands of all route variations Wetland permits may be required for any crossing larger than 0.2 acres of impact 	<p>Vegetation Communities</p> <ul style="list-style-type: none"> 9.5 miles of moderate residual impacts where alternative route crosses Desert Shrub, Juniper and Mahogany Woodland, Native Grasslands, Riparian Conservation Areas, and Tall Sagebrush Steppe <p>Sensitive Plants</p> <ul style="list-style-type: none"> 10 known sensitive plant species occurrences in the 1-mile analysis corridor 6 sensitive plant species known to occur in 1-mile analysis corridor <p>Federally Listed Plants</p> <ul style="list-style-type: none"> No federally listed plants known to occur in proximity 	<p>Columbia spotted frog</p> <ul style="list-style-type: none"> 0.5 mile of low residual impacts where suitable habitat is crossed <p>Greater Sage-Grouse</p> <ul style="list-style-type: none"> PHMA not crossed, high residual impacts not expected 9.7 miles of moderate residual impacts where GHMA is crossed <p>Big game</p> <ul style="list-style-type: none"> 13.2 miles of low residual impacts where mule deer winter range and bighorn sheep population management units are crossed 	<p>Resource Inventory (miles crossed)</p> <ul style="list-style-type: none"> Bull trout critical habitat: none Chinook salmon critical habitat: none MCR steelhead critical habitat: none SRB steelhead critical habitat: none Redband trout occupied streams: 0.4 mile <p>Residual Impacts</p> <ul style="list-style-type: none"> Moderate: none Low: 0.4 mile None: 13.7 miles With mitigation, only low residual impacts on redband trout occupied streams are anticipated
<p>Table Note:</p> <p>ACEC = area of critical environmental concern APE = area of potential effects BLM = Bureau of Land Management CAFO = confined animal feeding operation CRP = Conservation Reserve Program EFU = exclusive farm use FAA = Federal Aviation Authority GHMA = general habitat management area MCR = Middle Columbia River</p>			<p>NHT = national historic trail NWSTF = Naval Weapons Systems Training Facility P = Private PFYC = Potential Fossil Yield Classification system PHMA = priority habitat management area ROS = recreation opportunity spectrum SEORMP = Southeastern Oregon Resource Management Plan SRB = Snake River Basin VRM = visual resource management WSR = Wild and Scenic River</p>		

Table 2-35. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 6—Treasure Valley									
Alternative Route	Land Use			Summary	Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet						
Applicant's Proposed Action	BLM: 21.4 State: 2.4 P: 4.2	40.7	24.6	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 0.8 mile of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near other structures No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> No EFU zoning crossed and crosses 4.1 miles of ERU zoning <p>Military Training Lands</p> <ul style="list-style-type: none"> Crosses 1.0 mile of special use airspace 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> 0.3 mile moderate residual impacts where the alternative crosses flood irrigation <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 5.7 miles of Prime Farmland if irrigated, 2.6 miles of farmland of statewide importance, and 5.4 miles of high-value soils <p>Livestock Grazing</p>	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses primitive and semi-primitive non-motorized ROS area; motorized vehicles should avoid crossing these areas; if vehicle must cross, existing trails and roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present

Table 2-35. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 6—Treasure Valley									
Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				<ul style="list-style-type: none"> Potential to create restrictions in aircraft movement during training Requires obstruction evaluation/airport airspace analysis in coordination with the FAA <p>Special Designated Areas</p> <ul style="list-style-type: none"> Would temporarily disturb 193 acres of the Hard Trigger herd management area during construction. 	<ul style="list-style-type: none"> Crosses 24.6 miles of grazing allotments 				
Variation S6-A1	BLM: 8.1 P: 1.2	0	6.7	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> No EFU zoning crossed and crosses 2.6 miles of ERU zoning <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 0.7 mile of Prime Farmland if irrigated, no miles of farmland of statewide importance, and 0.6 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 8.4 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses semi-primitive non-motorized ROS area; motorized vehicles should avoid crossing this area; if vehicle must cross existing trails and roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S6-A2	BLM: 5.8 State: 0.7 P: 2.4	30.3	8.5	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts No residential buildings within right-of-way <p>Zoning</p> <ul style="list-style-type: none"> Crosses 0.3 mile of EFU zoning and 1.8 miles of ERU zoning <p>Military Training Lands Not crossed</p> <p>Special Designated Areas Not crossed</p>	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 0.9 mile of Prime Farmland if irrigated, 0.5 mile of farmland of statewide importance, and 1.4 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 6.6 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses primitive ROS area; motorized vehicles should avoid crossing this area; if vehicle must cross existing trails and roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S6-B1	BLM: 10.7 State: 2.4 P: 1.3	74.3	13.7	<p>Existing Land Us</p> <ul style="list-style-type: none"> No high residual impacts 0.3 mile of moderate residual impacts where the alternative route crosses agricultural and forest/woodlands and near other structures No residential buildings within right-of-way <p>Zoning No EFU or ERU zoning crossed</p> <p>Military Training Lands Not crossed</p> <p>Special Designated Areas</p> <ul style="list-style-type: none"> Would temporarily disturb 193 acres of the Hard Trigger herd management area during construction. 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected <p>Important Farmland, High-value Soils, and CRP Lands</p> <ul style="list-style-type: none"> Crosses 2.5 miles of Prime Farmland if irrigated, 2.6 miles of farmland of statewide importance, and 2.2 miles of high-value soils <p>Livestock Grazing</p> <ul style="list-style-type: none"> Crosses 13.5 miles of grazing allotments 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses primitive ROS area; motorized vehicles should avoid crossing this area; if vehicle must cross, existing trails and roads should be used 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics present 	<ul style="list-style-type: none"> No potential congressional designations are present
Variation S6-B2	BLM: 10.3 State: 2.8 P: 1.0	73.0	11.9	<p>Existing Land Use</p> <ul style="list-style-type: none"> No high residual impacts 0.3 mile of moderate residual impacts where the 	<p>Existing Agriculture</p> <ul style="list-style-type: none"> No moderate or high residual impacts expected 	<ul style="list-style-type: none"> No high or moderate residual impacts Crosses primitive ROS 	<ul style="list-style-type: none"> No high or moderate residual impacts 	<ul style="list-style-type: none"> No lands with wilderness characteristics 	<ul style="list-style-type: none"> No potential congressional designations are

Table 2-35. Alternative Route Comparison Summary for Land Use, Agriculture, Recreation, Transportation, Lands with Wilderness Characteristics, and Potential Congressional Designations in Segment 6—Treasure Valley

Alternative Route	Land Use				Agriculture	Recreation	Transportation	Lands with Wilderness Characteristics	Potential Congressional Designations
	Land Ownership (Percent)	Percent within Utility Corridors	Total Miles of Parallel Facilities within 2,000 feet	Summary					
				alternative route crosses agricultural and forest/woodlands <ul style="list-style-type: none"> No residential buildings within right-of-way Zoning No EFU or ERU zoning crossed Military Training Lands Not crossed Special Designated Areas <ul style="list-style-type: none"> Would temporarily disturb 193 acres of the Hard Trigger herd management area during construction. 	Important Farmland, High-value Soils, and CRP Lands <ul style="list-style-type: none"> Crosses 1.4 miles of Prime Farmland if irrigated, 3.0 miles of farmland of statewide importance, and 1.6 miles of high-value soils Livestock Grazing <ul style="list-style-type: none"> Crosses 13.6 miles of grazing allotments 	area; motorized vehicles should avoid crossing this area; if vehicle must cross, existing trails and roads should be used		present	present

Table Notes:
 APE = area of potential effect
 BLM = Bureau of Land Management
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 ERU = Exclusive Range Use
 FAA = Federal Aviation Administration
 NHT = National historic trail
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 ROS = Recreation opportunity spectrum
 VAU = visual analysis unit

Table 2-36. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails and Socioeconomics and Environmental Justice in Segment 6—Treasure Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Applicant's Proposed Action	Residual Impacts Viewers <ul style="list-style-type: none"> High: 2.3 miles Moderate: 11.3 miles Scenic Quality and Landscape Character <ul style="list-style-type: none"> 15 VAUs affected <ul style="list-style-type: none"> 10 Foreground 15 Middleground 1 Class A VAU, MA-078 Succor Creek, would be highly affected and OW-020 Jump Creek, also a Class A landscape, would be moderately affected by the B2H Project. Additionally, two of the four Class B VAUs (MA-039 Treasure Valley and OW-019 Treasure Valley) would experience high residual impacts VAUs MA-078 Succor Creek and OW-020 Jump Creek from Class A to Class B Sensitive Viewing Platforms <ul style="list-style-type: none"> Residences: KOP 12-28 Residences on Jump Creek Road) and residences on Poison Creek Road would 	Inventory <ul style="list-style-type: none"> 175 previously recorded sites in the study corridor 26 previously recorded sites in the direct effects APE Key resources include the Alkali Springs Site (pre-contact village/campsite with Paleoindian component), the Wilson Cemetery, the WWII Marsing Bomb Range, the NRHP-listed Bernard's Ferry, the NHT-listed Poison Creek Stage Station, and the Southern Alternate Route of the Oregon NHT. These resources are in the indirect effects APE An additional key resource, Graveyard Point, is in the indirect effects APE Potential for direct effects on undocumented, historic road corridors along this route Givens Hot Spring (Oregon NHT-associated resource) is in the vicinity of the study corridor There are sites or areas of Native American 	<ul style="list-style-type: none"> Native American tribes have expressed concern about potential direct and indirect effects on the following resources: <ul style="list-style-type: none"> Archaeological resources (e.g., lithic scatters, lithic and tool scatters, campsites, lithic procurement areas, human burial sites, cairns, rock alignments, rockshelters). Most of the sites are in the indirect effects APE The Oregon NHT (path of the Forced March of 1879) is in the indirect effects APE Graveyard Point (indirect effects APE) Traditional foods One extensive, pre-contact lithic procurement area has been documented within the boundaries of Graveyard Point (historic resource) and 	Oregon NHT Residual Impacts <ul style="list-style-type: none"> High: none Moderate: none Low: 15.0 miles Trail Management <ul style="list-style-type: none"> No key issues identified Scenic and Recreation Resources <ul style="list-style-type: none"> No key issues identified Historic and Cultural Resources <ul style="list-style-type: none"> No key issues identified Biological, Natural, and Other Resources <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population High agricultural impacts with yield losses valued at \$174,834 annually during construction and residual yield losses of \$49,496 each year of operation No identifiable impacts on CAFO operations Moderate impacts on grazing resources with annual forage losses of 49 AUMs during construction and a residual loss of less than 14 AUM each year of operation Minimal impacts on timber resources with construction and operations affecting less than 1 acre of timberland Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population

Table 2-36. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails and Socioeconomics and Environmental Justice in Segment 6—Treasure Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p>experience high impacts on views</p> <ul style="list-style-type: none"> Recreation: Only moderate impacts would result due to existing 500-kV transmission line as well as an existing 230-kV transmission line. Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>concern along this route</p> <ul style="list-style-type: none"> Potential to encounter pre-contact rock art and habitation sites (pithouses) in the Givens Hot Springs area Based on RLS cultural data, resources that potentially could be affected visually include the NRHP-listed Map Rock Petroglyphs Historic District and the Givens Hot Springs area <p>Impacts</p> <ul style="list-style-type: none"> 5.2 miles of high cultural resource sensitivity 15.6 miles of moderate cultural resource sensitivity 7.2 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<p>in the indirect effects APE for this route</p> <ul style="list-style-type: none"> Ongoing coordination and consultation with Native American sovereign tribal governments may identify additional resources of concern 		
<p>Variation S6-A1</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.8 miles Moderate: 2.0 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 3 Foreground 7 Middleground High impacts on a Class B VAU (OW-019 Treasure Valley) would reduce the scenic quality rating. Moderate impacts would reduce the scenic quality rating in MA-078 Succor Creek from Class A to Class B within the middleground <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on views on residences found near Poison Creek Road Recreation: No key issues identified Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 52 previously recorded sites in the study corridor 15 previously recorded sites in the direct effects APE Key resources include the NHT-listed Poison Creek Stage Station and Graveyard Point. These resources are in the indirect effects APE The Southern Alternate Route of the Oregon NHT is in the vicinity of the study corridor There are sites or areas of Native American concern along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 1.4 miles of high cultural resource sensitivity 4.0 miles of moderate cultural resource sensitivity 3.9 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Oregon NHT 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$52,510 annually during construction and residual yield losses of \$17,107 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 23 AUMs during construction and a residual loss of approximately 7 AUM each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population
<p>Variation S6-A2</p>	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.1 miles Moderate: 3.5 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 7 VAUs affected <ul style="list-style-type: none"> 3 Foreground 7 Middleground High impacts on a Class B VAU (OW-019 Treasure Valley) would reduce the scenic quality rating. Moderate impacts would reduce the scenic quality rating in MA-078 Succor Creek from Class A to Class B within the middleground <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: Similar to Variation S6-A1 Recreation: No key issues identified Travel Routes: No key issues identified 	<p>Inventory</p> <ul style="list-style-type: none"> 49 previously recorded sites in the study corridor 7 previously recorded sites in the direct effects APE Same key resource as Variation S6-A1, except that Variation S6-A2 is considerably closer to the NRHP-listed Poison Creek Stage Station and Graveyard Point The Southern Alternate Route of the Oregon NHT is in the vicinity of the study corridor There are sites or areas of Native American concern along this route variation <p>Impacts</p> <ul style="list-style-type: none"> 2.7 miles of high cultural resource sensitivity 3.7 miles of moderate cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <ul style="list-style-type: none"> This route variation is not located in proximity to the Oregon NHT 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$74,052 annually during construction and residual yield losses of \$22,216 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 17 AUMs during construction and a residual loss of approximately 5 AUM each year of operation No identifiable impacts on timber resources Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population

Table 2-36. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails and Socioeconomics and Environmental Justice in Segment 6—Treasure Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
Variation S6-B1	<p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified <p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 0.5 miles Moderate: 7.5 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 9 VAUs affected <ul style="list-style-type: none"> 6 Foreground 9 Middleground This alternative would lower the existing scenic quality scores in adjacent Class B VAUs, including high impacts on a Class B VAU OW-019 Treasure Valley and would moderately impact the Class A VAU OW-020 Jump Creek and lower its rating to Class B within the foreground distance zone, by being influenced by the B2H Project located closer to the VAU than the existing 500-kV transmission line <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on views from residential KOP 12-28 Residences on Jump Creek Road Recreation: Moderate impacts on views from KOP 12-17 (Squaw Creek Canyon) and KOP 12-21 (Wilson Creek Trailhead) Travel Routes: No key issues identified <p>Federal Land Conformance</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> 2.5 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity <p>Inventory</p> <ul style="list-style-type: none"> 112 previously recorded sites in the study corridor 10 previously recorded sites in the direct effects APE Key resources include the Alkali Springs Site (pre-contact village/campsite with Paleoindian component), WWII Marsing Bomb Range, the NHT-listed Poison Creek Stage Station, and the Southern Alternate Route of the Oregon NHT. These resources are in the indirect effects APE Crosses one multi-component site (pre-contact rock shelter/inscriptions [NRHP eligible]) Givens Hot Spring (Oregon NHT-associated resource) is in the vicinity of the study corridor There are numerous sites or areas of Native American concern along this route variation Potential to encounter pre-contact rock art and habitation sites (pithouses) in the Givens Hot Springs area Based on RLS cultural data collected for the Applicant's Proposed Action Alternative, resources that potentially could be affected visually include the NRHP-listed Map Rock Petroglyphs Historic District and the Givens Hot Springs area <p>Impacts</p> <ul style="list-style-type: none"> 1.5 miles of high cultural resource sensitivity 9.6 miles of moderate cultural resource sensitivity 3.3 miles of low cultural resource sensitivity 0 miles of no cultural resource sensitivity 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 12.2 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$83,068 annually during construction and residual yield losses of \$23,351 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of 22 AUMs during construction and a residual loss of approximately 6 AUM each year of operation Minimal impacts on timber resources with construction and operations affecting less than 1 acre of timberland Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population
Variation S6-B2	<p>Residual Impacts</p> <p>Viewers</p> <ul style="list-style-type: none"> High: 1.1 miles Moderate: 6.2 miles <p>Scenic Quality and Landscape Character</p> <ul style="list-style-type: none"> 9 VAUs affected <ul style="list-style-type: none"> 6 Foreground 9 Middleground Two Class A VAUs would be moderately affected by the B2H Project (OW-007 Salmon Butte and OW-020 Jump Creek) in addition to moderate impacts on a Class B VAU (OW-019 Treasure Valley) and would lower the existing scenic quality scores in adjacent Class A and B VAUs, including reducing OW-020 Jump Creek from Class A to Class B within the foreground distance zone <p>Sensitive Viewing Platforms</p> <ul style="list-style-type: none"> Residences: High impacts on views from residential 	<p>Inventory</p> <ul style="list-style-type: none"> 109 previously recorded sites in the study corridor 8 previously recorded sites in the direct effects APE Same key resource as Variation S6-B1 because these route variations follow similar alignments, passing in proximity to the same resources The Southern Alternate Route of the Oregon NHT is in the indirect effects APE There are numerous sites or areas of Native American concern along this route variation Potential to encounter undocumented, significant pre-contact sites in the Givens Hot Springs area Based on RLS cultural data collected for the Applicant's Proposed Action Alternative, resources that potentially could be affected 	<ul style="list-style-type: none"> Due to the nature of available data, resources of Native American concern only are discussed by alternative route. Refer to the Applicant's Proposed Action Alternative 	<p>Oregon NHT</p> <p>Residual Impacts</p> <ul style="list-style-type: none"> High: none Moderate: none Low: 11.5 miles <p>Trail Management</p> <ul style="list-style-type: none"> No key issues identified <p>Scenic and Recreation Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> No key issues identified <p>Biological, Natural, and Other Resources</p> <ul style="list-style-type: none"> No key issues identified 	<ul style="list-style-type: none"> Minimal and temporary impact on employment and population Moderate agricultural impacts with yield losses valued at \$60,707 annually during construction and residual yield losses of \$18,018 each year of operation No identifiable impacts on CAFO operations Minimal impacts on grazing resources with annual forage losses of approximately 23 AUMs during construction and a residual loss of less than 7 AUM each year of operation Minimal impacts on timber resources with construction and operations affecting less than 1 acre of timberland Impacts on property values are minimal and short term in nature No disproportionate impact on environmental justice population

Table 2-36. Alternative Route Comparison Summary for Visual Resources, Cultural Resources, Native American Concerns, National Historic Trails and Socioeconomics and Environmental Justice in Segment 6—Treasure Valley

Alternative Route	Visual Resources	Cultural Resources	Native American Concerns	National Historic Trails	Socioeconomics and Environmental Justice
	<p><i>KOP 12-28 Residences on Jump Creek Road</i></p> <ul style="list-style-type: none"> • <i>Recreation: Moderate impacts on views from KOP 12-21 (Wilson Creek Trailhead)</i> • <i>Travel Routes: No key issues identified</i> <p>Federal Land Conformance</p> <ul style="list-style-type: none"> • <i>No key issues identified</i> 	<p><i>visually are the same as those identified along Variation S6-B1. Variation S6-B2 is slightly closer to resources associated with the NRHP-listed Map Rock Petroglyphs Historic District and the Givens Hot Springs area</i></p> <p>Impacts</p> <ul style="list-style-type: none"> • <i>3.1 miles of high cultural resource sensitivity</i> • <i>4.9 miles of moderate cultural resource sensitivity</i> • <i>6.1 miles of low cultural resource sensitivity</i> • <i>0 miles of no cultural resource sensitivity</i> 			

Table Notes:
 APE = area of potential effect
 AUM = animal unit month
 BLM = Bureau of Land Management
 CAFO = confined animal feeding operations
 CRP = Conservation Reserve Program
 EFU = exclusive farm use
 KOP = key observation point

NHT = National historic trail
 NRHP = National Register of Historic Places
 NWSTF = Naval Weapons Systems Training Facility
 P = Private
 RLS = reconnaissance level survey
 ROS = Recreation opportunity spectrum
 VAU = visual analysis unit