

Exhibit S

Historic, Cultural, and Archaeological Resources

Boardman to Hemingway Transmission Line Project



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Amended Preliminary Application for Site Certificate

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
Amended Project Order	First Amended Project Order, Regarding Statutes, Administrative Rules and Other Requirements Applicable to the Proposed Boardman to Hemingway Transmission Line (December 22, 2014)
APE	Area of Potential Effect
ASP	Archaeological Survey Plan
B2H	Boardman to Hemingway Transmission Line Project
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
BOR	Bureau of Reclamation
CIS	Commission on Indian Services
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
DOD/USACE	Department of Defense/United States Army Corps of Engineers
EFSC or Council	Energy Facility Siting Council
FWS	U.S. Fish and Wildlife Service
GIS	geographic information system
HPMP	Historic Properties Management Plan
IDP	Inadvertent Discovery Plan
IF	isolated find
ILS	intensive-level survey
IPC	Idaho Power Company
kV	kilovolt
m	meter
MPDF	Multiple Property Documentation Form
NEPA	National Environmental Policy Act of 1969
NHT	National Historic Trail
NHPA	National Historic Preservation Act
NOI	Notice of Intent to File an Application for Site Certificate
NPS	National Park Service
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rules
ODOE	Oregon Department of Energy
ORS	Oregon Revised Statute
PA	Programmatic Agreement
Project	Boardman to Hemingway Transmission Line Project
RLS	reconnaissance-level survey
SHPO	State Historic Preservation Office
TCP	traditional cultural property
THPO	Tribal Historic Preservation Officer
U.S.C.	United States Code
USFS	United States Forest Service
USGS	U.S. Geological Survey
VAHP	Visual Assessment of Historic Properties Study Plan

1 Exhibit S

2 Historic, Cultural, and Archaeological Resources

3 1.0 INTRODUCTION

4 Exhibit S provides information on the historic, cultural, and archaeological resources that may
5 potentially be impacted by the Boardman to Hemingway Transmission Line Project (Project).¹ The
6 information in Exhibit S demonstrates that the Project will comply with the Oregon Energy Facility
7 Siting Council's (EFSC or Council) Historic, Cultural, and Archaeological Resources Standard,
8 Oregon Administrative Rule (OAR) 345-022-0090, by showing that the construction and operation
9 of the Project, taking into account mitigation, are not likely to result in significant adverse impacts
10 to: historic, cultural, or archaeological resources that are listed or eligible for listing on the National
11 Register of Historic Places (NRHP); archaeological objects, or archaeological sites.

12 Information concerning the location of archaeological sites or objects are exempt from public
13 disclosure under Oregon Revised Statute (ORS) 192.501(11).² Therefore, such information,
14 including archaeological survey reports, is provided confidentially to the Oregon Department of
15 Energy (ODOE).

16 2.0 APPLICABLE STATUTES, RULES, AND AMENDED PROJECT

17 ORDER PROVISIONS

18 2.1 EFSC Administrative Rules

19 2.1.1 Site Certificate Application Requirements

20 OAR 345-021-0010(1)(s) provides Idaho Power Company (IPC) must include information in
21 Exhibit S or confidential submissions of the following information regarding historic, cultural, and
22 archaeological resources:

23 *(A) Historic and cultural resources within the analysis area that have been listed, or*
24 *would likely be eligible for listing, on the National Register of Historic Places.*

25 *(B) For private lands, archaeological objects, as defined in ORS 358.905(1)(a), and*
26 *archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.*

27 *(C) For public lands, archaeological sites, as defined in ORS 358.905(1)(c), within the*
28 *analysis area.*

29 *(D) The significant potential impacts, if any, of the construction, operation and retirement*
30 *of the proposed facility on the resources described in paragraphs (A), (B) and (C) and a*
31 *plan for protection of those resources that includes at least the following:*

¹ This Exhibit includes desktop data regarding cultural resources identified within the Site Boundary, as well as a high level summary of field survey data collected to date. The State Historic Preservation Office (SHPO) is yet to concur with findings of field surveys. Therefore, IPC's analysis of potential significant adverse impacts to cultural resources is not considered final for SHPO purposes but this Exhibit is considered complete for ODOE purposes. IPC will submit more complete field survey data in support of its Application for Site Certificate in a manner and on a schedule agreeable to ODOE.

² OAR 345-021-0010(s) provides that "information concerning the location of archaeological sites or objects may be exempt from public disclosure under ORS 192.502(4) or ORS 192.501(11)," and that the applicant "shall submit such information separately, clearly marked as 'confidential,' and shall request that the Department and the Council keep the information confidential to the extent permitted by law."

1 (i) A description of any discovery measures, such as surveys, inventories, and
2 limited subsurface testing work, recommended by the State Historic Preservation
3 Officer or the National Park Service of the U.S. Department of Interior for the
4 purpose of locating, identifying and assessing the significance of resources listed
5 in paragraphs (A), (B) and (C).

6 (ii) The results of the discovery measures described in subparagraph (i), together
7 with an explanation by the applicant of any variations from the survey, inventory,
8 or testing recommended.

9 (iii) A list of measures to prevent destruction of the resources identified during
10 surveys, inventories and subsurface testing referred to in subparagraph (i) or
11 discovered during construction.

12 (E) The applicant's proposed monitoring program, if any, for impacts to historic, cultural
13 and archaeological resources during construction and operation of the proposed facility.

14 **2.1.2 General Standards for Siting Facilities**

15 Subsection (1) of the Historic, Cultural, and Archaeological Resources Standard at OAR 345-
16 022-0090(1)³ provides IPC must demonstrate that the construction and operation of the Project,
17 taking into account mitigation, are not likely to result in significant adverse impacts to:

18 (a) Historic, cultural or archaeological resources that have been listed on, or would likely
19 be listed on the National Register of Historic Places;

20 (b) For a facility on private land, archaeological objects, as defined in ORS
21 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and

22 (c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).

23 **2.2 Amended Project Order Provisions**

24 The Amended Project Order includes the following discussion:

25 *The application shall include map(s) showing important historic trails located within the*
26 *Cultural Resources analysis area, including the segments of the Oregon Trail that are*
27 *listed or eligible for listing on the National Register, and discuss measures to avoid or*
28 *mitigate for impacts to historic trails. SHPO has advised that the proposed transmission*
29 *line crosses many land forms that are generally perceived to have a high probability for*
30 *possessing archaeological sites and buried human remains.*

31 *As discussed previously, the applicant has proposed a "phased survey" approach for*
32 *data collection during the site certificate review process. The Department understands*
33 *that the entirety of the site boundary for the proposed facility may not have yet been*
34 *surveyed for cultural resources. Nevertheless, Exhibit S shall include as much*
35 *information as possible about the field surveys conducted to date for cultural resources*
36 *on state, private, and federal lands, and the schedule for future surveys.*

37 *The application shall include the survey methodology, qualifications of survey personnel,*
38 *survey areas, and the results of all surveys. At the time of this writing, the applicant and*

³ Subsections (2) and (3) of the Historic, Cultural, and Archaeological Resources Standard apply to power generation facilities and special criteria facilities, respectively. Since the Project does not include a power generation or special criteria facility, subsections (2) and (3) of OAR 345-022-0090 do not apply to the Project.

1 state and federal agencies have been participating in a cultural resources workgroup.
2 Include in Exhibit S (or as attachments to Exhibit S), the description of the workgroup, its
3 membership, its purpose, and copies of any work plans that the workgroup has
4 developed governing survey methodologies. Provide a copy of any programmatic
5 agreements or memorandums of understanding related to cultural resources.

6 Exhibit S should include analysis of how the evidence provided supports a finding by the
7 Council that the proposed facility meets the Council's cultural resources protection
8 standard. Provide proposed site certificate conditions for the Council's consideration
9 related to requirements for the applicant to complete all unfinished surveys within the
10 project's site boundary prior to construction. The proposed site certificate conditions
11 should also address submittal requirements for reporting future survey results, obtaining
12 SHPO's approval of pre-construction cultural resource survey documents, and the
13 applicant's proposed approach to document approval of final results by agencies or the
14 Council prior to commencing construction activities.

15 (Amended Project Order, Section III(s)).

16 The NOI listed the following tribes as "being expected to have an interest in the Project's
17 Proposed Corridor": Burns-Paiute Tribe, Shoshone-Paiute Tribes of Duck Valley Indian
18 Reservation, Confederated Tribes of the Umatilla Indian Reservation (CTUIR),
19 Confederated Tribes of Warm Springs Reservation, Nez Perce Tribe, Confederated
20 Tribes of the Colville Reservation, Fort McDermitt Shoshone-Paiute Tribes, Shoshone-
21 Bannock Tribes of Fort Hall Indian Reservation, and the Klamath Tribes.

22 In June 2012, the applicant contacted the Legislative Commission on Indian Services
23 (CIS) regarding tribes, tribal lands, and tribal resources potentially affected by the B2H
24 facility. In its response, the CIS identified three federally recognized tribal governments
25 in Oregon that should be consulted regarding the proposed facility: Confederated Tribes
26 of the Umatilla, Confederated Tribes of the Warm Springs, and Burns Paiute Tribe. In
27 addition, the CIS recommended the applicant contact with out-of-state tribal
28 governments, as the traditional territory of these tribes extends into Oregon near the
29 proposed facility. These tribes are the Confederated Tribes of the Yakama Nation, the
30 Nez Perce Tribe, and the Colville Confederated Tribes. The response from the CIS shall
31 be included as an attachment to Exhibit S.

32 The affected tribes, as identified by the CIS, provide technical review and
33 recommendations in reference to the Council's Historic, Cultural and Archaeological
34 Resources Standard (OAR 345-022-0090). The application shall include evidence of
35 consultation with affected tribes regarding archaeological and cultural sites and materials
36 that may be found on the proposed facility site.

37 The Department understands that the project will require approval from federal agencies,
38 and that federal agencies are engaging in formal government-to-government
39 consultation with affected Indian tribes under the requirements of the National Historic
40 Preservation Act (NHPA). To the extent it aids in establishing compliance with the
41 applicant's obligations under this siting process, the applicant may rely on the evidence
42 resulting from the tribal consultations required by the NHPA. A Programmatic Agreement
43 (PA) to govern compliance with the NHPA has been proposed and is currently under
44 development between multiple federal agencies, the Oregon, Washington, and Idaho

1 SHPOs, IPC, the CTUIR, and possibly other potentially affected tribes. As of the date of
2 publication of this amended Project Order, the PA has not been finalized nor executed.⁴

3 The CTUIR provided detailed written comments to the NOI regarding impacts to First
4 Food resources, habitat fragmentation, introduction of weed species, effects to historic
5 properties, insufficient noise and visual analysis in the application, cumulative impacts,
6 cultural resource impacts, and Umatilla Indian Reservation impacts. If a concern
7 expressed by the CTUIR or other tribal government is under Council jurisdiction and not
8 elsewhere addressed in the application for site certificate, the applicant may address the
9 issue(s) in Exhibit BB. Any permits or easements required by the CTUIR or other tribal
10 governments are outside of the Council jurisdiction and are the responsibility of the
11 applicant.

12 (Amended Project Order, Section V).

13 **2.3 Applicable Oregon Revised Statutes**

14 **2.3.1 Definitions**

15 With respect to compliance with the identified statutes related to historic, cultural, and
16 archaeological resources, the following definitions apply:

- 17 • “Burial” means “any natural or prepared physical location whether originally below, on or
18 above the surface of the earth, into which, as a part of a death rite or death ceremony of
19 a culture, human remains were deposited” (ORS 358.905(1)(e)).
- 20 • “Funerary objects” means “any artifacts or objects that, as part of a death rite or
21 ceremony of a culture, are reasonably believed to have been placed with individual
22 human remains either at the time of death or later” (ORS 358.905(1)(f)).
- 23 • “Human remains” means “the physical remains of a human body, including, but not
24 limited to, bones, teeth, hair, ashes or mummified or otherwise preserved soft tissues of
25 an individual” (ORS 358.905(1)(g)).
- 26 • “Indian tribe” means “any tribe of Indians recognized by the Secretary of the Interior or
27 listed in the Klamath Termination Act, 25 U.S.C. [United States Code] 3564 et seq., or
28 listed in the Western Oregon Indian Termination Act, 25 U.S.C. 3691 et seq., if the
29 traditional cultural area of the tribe includes Oregon lands” (ORS 97.740(4) (incorporated
30 by reference in ORS 358.905(1)(d))).
- 31 • “Object of cultural patrimony” means “an object having ongoing historical, traditional or
32 cultural importance central to the native Indian group or culture itself, rather than
33 property owned by an individual native Indian, and which, therefore, cannot be alienated,
34 appropriated or conveyed by an individual regardless of whether or not the individual is a
35 member of the Indian tribe. The object shall have been considered inalienable by the
36 native Indian group at the time the object was separated from such group” (ORS
37 358.905(1)(h)(A)). The term does not include “unassociated arrowheads, baskets or
38 stone tools or portions of arrowheads, baskets or stone tools” (ORS 358.905(1)(h)(B)).
- 39 • “Professional archaeologist” means “a person who has extensive formal training and
40 experience in systematic, scientific archaeology” (97.740(6)).

⁴ The PA was finalized after the date of the Amended Project Order (see Exhibit S, Attachment S-5).

- 1 • “Sacred object” means “an archaeological object or other object that: (A) Is
2 demonstrably revered by any ethnic group, religious group or Indian tribe as holy; (B) Is
3 used in connection with the religious or spiritual service or worship of a deity or spirit
4 power; or (C) Was or is needed by traditional native Indian religious leaders for the
5 practice of traditional native Indian religion” (ORS 358.905(1)(k)).

6 **2.3.2 Indian Graves and Protected Objects**

7 ORS 97.745 provides protection for Indian graves and protected objects, including cairns,
8 burials, human remains, funerary objects, sacred objects, and objects of cultural patrimony of
9 any native Indian. It describes acts prohibited in relation to the above resources, the applicability
10 of the statute, and the notification procedures for when suspected Indian human remains are
11 discovered. The statute states:

12 (1) *Except as provided in ORS 97.750, no person shall willfully remove, mutilate, deface,
13 injure or destroy any cairn, burial, human remains, funerary object, sacred object or
14 object of cultural patrimony of any native Indian. Persons disturbing native Indian cairns
15 or burials through inadvertence, including by construction, mining, logging or agricultural
16 activity, shall at their own expense reinter the human remains or funerary object under
17 the supervision of the appropriate Indian tribe.*

18 (2) *Except as authorized by the appropriate Indian tribe, no person shall:*

19 (a) *Possess any native Indian artifacts, human remains or funerary object having
20 been taken from a native Indian cairn or burial in a manner other than that
21 authorized under ORS 97.750.*

22 (b) *Publicly display or exhibit any native Indian human remains, funerary object,
23 sacred object or object of cultural patrimony.*

24 (c) *Sell any native Indian artifacts, human remains or funerary object having been
25 taken from a native Indian cairn or burial or sell any sacred object or object of
26 cultural patrimony.*

27 (3) *This section does not apply to:*

28 (a) *The possession or sale of native Indian artifacts discovered in or taken from
29 locations other than native Indian cairns or burials; or*

30 (b) *Actions taken in the performance of official law enforcement duties.*

31 (4) *Any discovered human remains suspected to be native Indian shall be reported to
32 the state police, the State Historic Preservation Officer, the appropriate Indian tribe and
33 the Commission on Indian Services.*

34 **2.3.3 Archaeological Objects and Sites**

35 ORS 358.920 identifies prohibited acts on public and private lands in Oregon, relative to
36 archaeological resources. It states that disturbances to archaeological sites or objects on public
37 or private lands must be completed under a permit issued under ORS 390.235 and provides
38 direction for disposition of those archaeological materials and any human remains and
39 associated funerary objects. The section is not applicable to the disturbance of Native American
40 cairns, which is covered by the provisions of ORS 97.740 to 97.760. The statute states:

1 (1)(a) A person may not excavate, injure, destroy or alter an archaeological site or object
2 or remove an archaeological object located on public or private lands in Oregon unless
3 that activity is authorized by a permit issued under ORS 390.235.

4 (b) Collection of an arrowhead from the surface of public or private land is
5 permitted if collection can be accomplished without the use of any tool.

6 (c) It is prima facie evidence of a violation of this section if:

7 (A) A person possesses the objects described in paragraph (a) of this
8 subsection;

9 (B) A person possesses any tool that could be used to remove such
10 objects from the ground; and

11 (C) A person does not possess a permit required under ORS 390.235.

12 (2) A person may not sell, purchase, trade, barter or exchange or offer to sell, purchase,
13 trade, barter or exchange any archaeological object that has been removed from an
14 archaeological site on public land or obtained from private land within the State of
15 Oregon without the written permission of the landowner.

16 (3)(a) A person may not sell, trade, barter or exchange or offer to sell, trade, barter or
17 exchange any archaeological object unless the person furnishes the purchaser a
18 certificate of origin to accompany the object that is being sold or offered. The certificate
19 shall include:

20 (A) For objects obtained from public land:

21 (i) A statement that the object was originally acquired before
22 October 15, 1983.

23 (ii) The location from which the object was obtained and a brief
24 cumulative description of how the object had come into the
25 possession of the current owner in accordance with the provisions
26 of ORS 358.905 to 358.961 and 390.235.

27 (iii) A statement that the object is not human remains, a funerary
28 object, sacred object or object of cultural patrimony.

29 (B) For objects obtained from private land:

30 (i) A statement that the object is not human remains, a funerary
31 object, sacred object or object of cultural patrimony.

32 (ii) A copy of the written permission of the landowner to acquire
33 the object.

34 (b) As used in this subsection, "certificate of origin" means a signed and
35 notarized statement that meets the requirements of paragraph (a) of this
36 subsection.

37 (4)(a) If the archaeological object was acquired after October 15, 1983, from public
38 lands, any object not described in paragraph (b) of this subsection is under the
39 stewardship of the state and shall be delivered to the Oregon State Museum of
40 Anthropology. The museum shall work with the appropriate Indian tribe and other
41 interested parties to develop appropriate curatorial facilities for artifacts and other

1 material records, photographs and documents relating to the cultural or historic
2 properties in this state. Generally, artifacts shall be curated as close to the community of
3 their origin as their proper care allows. If it is not feasible to curate artifacts within this
4 state, the museum may after consultation with the appropriate Indian tribe or tribes enter
5 into agreements with organizations outside this state to provide curatorial services; and

6 (b) If the object is human remains, a funerary object, a sacred object or an object
7 of cultural patrimony, it shall be dealt with according to ORS 97.740, 97.745 and
8 97.750.

9 (5) A person may not excavate an archaeological site on privately owned property
10 unless that person has the property owner's written permission.

11 (6) If human remains are encountered during excavations of an archaeological site on
12 privately owned property, the person shall stop all excavations and report the find to the
13 landowner, the state police, the State Historic Preservation Officer and the Commission
14 on Indian Services. All funerary objects relating to the burial shall be delivered as
15 required by ORS 358.940.

16 (7) This section does not apply to a person who disturbs an Indian cairn or burial. Any
17 person who disturbs an Indian cairn or burial for any reason shall comply with the
18 provisions of ORS 97.740 to 97.760.

19 (8) Violation of the provisions of this section is a Class B misdemeanor.

20 **2.3.4 Archaeological Sites and Historical Material**

21 ORS 390.235 sets forth the permit requirements and rules for excavation or removal of
22 archaeological or historical materials as follows:

23 (1)(a) A person may not excavate or alter an archaeological site on public lands, make
24 an exploratory excavation on public lands to determine the presence of an
25 archaeological site or remove from public lands any material of an archaeological,
26 historical, prehistorical or anthropological nature without first obtaining a permit issued
27 by the State Parks and Recreation Department.

28 (b) If a person who obtains a permit under this section intends to curate or
29 arrange for alternate curation of an archaeological object that is uncovered
30 during an archaeological investigation, the person must submit evidence to the
31 State Historic Preservation Officer that the Oregon State Museum of
32 Anthropology and the appropriate Indian tribe have approved the applicant's
33 curatorial facilities.

34 (c) No permit shall be effective without the approval of the state agency or local
35 governing body charged with management of the public land on which the
36 excavation is to be made, and without the approval of the appropriate Indian
37 tribe.

38 (d) The State Parks and Recreation Director, with the advice of the Oregon
39 Indian tribes and Executive Officer of the Commission on Indian Services, shall
40 adopt rules governing the issuance of permits.

41 (e) Disputes under paragraphs (b) and (c) of this subsection shall be resolved in
42 accordance with ORS 390.240.

1 (f) Before issuing a permit, the State Parks and Recreation Director shall consult
2 with:

3 (A) The landowning or land managing agency; and

4 (B) If the archaeological site in question is associated with a prehistoric or
5 historic native Indian culture:

6 (i) The Commission on Indian Services; and

7 (ii) The most appropriate Indian tribe.

8 (2) The State Parks and Recreation Department may issue a permit under subsection
9 (1) of this section under the following circumstances:

10 (a) To a person conducting an excavation, examination or gathering of such
11 material for the benefit of a recognized scientific or educational institution with a
12 view to promoting the knowledge of archaeology or anthropology;

13 (b) To a qualified archaeologist to salvage such material from unavoidable
14 destruction; or

15 (c) To a qualified archaeologist sponsored by a recognized institution of higher
16 learning, private firm or an Indian tribe as defined in ORS 97.740.

17 (3) Any archaeological materials, with the exception of Indian human remains, funerary
18 objects, sacred objects and objects of cultural patrimony, recovered by a person granted
19 a permit under subsection (2) of this section shall be under the stewardship of the State
20 of Oregon to be curated by the Oregon State Museum of Anthropology unless:

21 (a) The Oregon State Museum of Anthropology with the approval from the
22 appropriate Indian tribe approves the alternate curatorial facilities selected by the
23 permittee;

24 (b) The materials are made available for nondestructive research by scholars;
25 and

26 (c)(A) The material is retained by a recognized scientific, educational or Indian
27 tribal institution for whose benefit a permit was issued under subsection (2)(a) of
28 this section;

29 (B) The governing board of a public university listed in ORS 352.002, with the
30 concurrence of the appropriate Indian tribe, grants approval for material to be
31 curated by an educational facility other than the institution that collected the
32 material pursuant to a permit issued under subsection (2)(a) of this section; or

33 (C) The sponsoring institution or firm under subsection (2)(c) of this section
34 furnishes the Oregon State Museum of Anthropology with a complete catalog
35 of the material within six months after the material is collected.

36 (4) The Oregon State Museum of Anthropology shall have the authority to transfer
37 permanent possessory rights in subject material to an appropriate Indian tribe.

38 (5) Except for sites containing human remains, funerary objects and objects of cultural
39 patrimony as defined in ORS 358.905, or objects associated with a prehistoric Indian
40 tribal culture, the permit required by subsection (1) of this section or by ORS 358.920

1 shall not be required for forestry operations on private lands for which notice has been
2 filed with the State Forester under ORS 527.670.

3 (6) As used in this section:

4 (a) "Private firm" means any legal entity that:

5 (A) Has as a member of its staff a qualified archaeologist; or

6 (B) Contracts with a qualified archaeologist who acts as a consultant to
7 the entity and provides the entity with archaeological expertise.

8 (b) "Qualified archaeologist" means a person who has the following qualifications:

9 (A) A post-graduate degree in archaeology, anthropology, history,
10 classics or other germane discipline with a specialization in archaeology,
11 or a documented equivalency of such a degree;

12 (B) Twelve weeks of supervised experience in basic archaeological field
13 research, including both survey and excavation and four weeks of
14 laboratory analysis or curating; and

15 (C) Has designed and executed an archaeological study, as evidenced by
16 a Master of Arts or Master of Science thesis, or report equivalent in scope
17 and quality, dealing with archaeological field research.

18 (7) Violation of the provisions of subsection (1)(a) of this section is a Class B
19 misdemeanor.

20 2.4 Additional Regulatory Context

21 As described in detail in Exhibit C, a substantial portion of the Project is located on private lands
22 (69 percent or 186 miles); however, the Project also crosses stretches of land managed by the
23 Bureau of Land Management (BLM), the Bureau of Reclamation (BOR), the Department of
24 Defense/United States Army Corps of Engineers (DOD/USACE), the State of Oregon, and the
25 United States Forest Service (USFS) (24 percent or 65.4 miles across BLM-managed land, 0.2
26 percent or 0.5-mile across BOR-managed lands, 4 percent or 10.5 miles across DOD/USACE-
27 managed lands, 3 percent or 7.1 miles on National Forest System lands, and 0.4 percent or 1.1
28 miles across State lands [Exhibit C, Table C-1]). The BLM is the lead federal agency
29 responsible for completing the National Environmental Policy Act (NEPA) environmental
30 analysis, which will address, among other things, cultural, historical, and archaeological impacts
31 of the Project and compliance with Section 106 of the National Historic Preservation Act
32 (NHPA). Although compliance with Section 106 of the NHPA does not equate to compliance
33 with the EFSC standards, studies conducted in support of Section 106 compliance are utilized
34 to support compliance with EFSC standards.

35 2.4.1 Section 106 Cultural Resources Working Group and Consulting Parties

36 Here, consistent with Section 106, the BLM has convened a cultural resources working group,
37 comprising representatives of the Oregon State Office and Vale District Office of the BLM and
38 its contractor; USFS; Bonneville Power Administration (BPA); the Advisory Council on Historic
39 Preservation (ACHP); Oregon and Idaho SHPOs; ODOE; CTUIR; CTUIR Tribal Historic
40 Preservation Officer (THPO); Shoshone Paiute Tribe; Shoshone Bannock Tribe; Malheur,
41 Baker, Union, Umatilla, and Morrow Counties; Oregon Commission on Historic Trails; Oregon-
42 California Trails Association; Stop Idaho Power; and IPC. In addition to the working group, 32

1 consulting parties have been identified for the Project, including federal, state, and local
 2 agencies; IPC; tribes; historic preservation groups; and, public community groups and
 3 individuals with an interest in the Project. These are listed below:

- BLM
- USACE
- U.S. Department of the Navy, Naval Weapons Training Facility Boardman
- USFS, Regional Office
- U.S. National Park Service (NPS), Ice Age Floods National Geologic Trail
- NPS, Pacific Northwest Region
- Idaho SHPO
- Washington SHPO
- Burns Paiute Tribe
- Shoshone-Bannock Tribes of Fort Hall
- Baker County
- Union County
- National Trust for Historic Preservation
- Oregon Historic Trails Advisory Council
- IPC
- Halt Idaho Power
- BPA
- BOR
- U.S. Fish and Wildlife Service (FWS), Umatilla National Wildlife Refuge
- USFS, Wallowa-Whitman National Forest
- NPS National Lewis and Clark Trail Offices
- ACHP
- Oregon SHPO
- ODOE⁵
- CTUIR
- Shoshone-Paiute Tribes of the Duck Valley Indian Reservation
- Morrow County
- Lewis and Clark Trail Heritage Foundation
- Oregon-California Trails Association
- City of Baker City
- Private Individual
- Poison Creek Neighborhood Group

4 To date, the Cultural Resources Working Group has provided an open forum for identifying and
 5 resolving issues related to cultural resources. Through in-person meetings and conference calls,
 6 the cultural resources working group defined the size and boundaries of the analysis area for
 7 the Project; reviewed, commented upon, and/or approved archaeological and historic properties
 8 study plans; and prepared a PA. The study plans are provided here as Attachments S-1
 9 (Archaeological Survey Plan [ASP]) and S-2 (Visual Assessment of Historic Properties Study
 10 Plan [VAHP]). The PA is provided as Attachment S-5.

11 **2.4.2 Oregon Tribes Identified by Legislative Commission on Indian Services**

12 IPC contacted the Oregon CIS with a request to identify all tribes potentially affected by the
 13 construction and operation of the facility. A copy of this correspondence is provided as
 14 Attachment S-3. The Commission identified the CTUIR, the Confederated Tribes of Warm
 15 Springs, and the Burns Paiute Tribe. These tribes have been invited to participate in the
 16 activities of the Cultural Resources Working Group. In addition, the Commission recommended
 17 coordination with additional tribes located outside of the state of Oregon, including the Yakama
 18 Indian Nation, the Nez Perce Tribe, and the Confederated Tribes of the Colville Indian
 19 Reservation.

20 The BLM has initiated government-to-government consultation with the following Indian tribes
 21 that may be affected by the Project and invited them to be consulting parties to the PA: CTUIR,

⁵ ODOE's involvement in the Section 106 Cultural Resources Working Group was intended to facilitate the use of the federal Section 106 for compliance with ODOE's state regulatory requirements.

1 Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, Nez Perce Tribe, Yakama
2 Nation, Confederated Tribes of the Colville Reservation, Burns Paiute Tribe, Fort McDermitt
3 Paiute and Shoshone Tribe, Shoshone-Bannock Tribes of the Fort Hall Indian Reservation, and
4 the Confederated Tribes of Warm Springs. The CTUIR, Shoshone-Paiute Tribes of the Duck
5 Valley Indian Reservation, the Burns Paiute, the Fort McDermitt Paiute and Shoshone-Bannock
6 Tribes of the Fort Hall Indian Reservation have expressed interest in the Project and a desire to
7 review studies conducted on their ancestral lands.

8 **3.0 ANALYSIS**

9 Analyses for the Project have been completed or are in the process of being completed through
10 several different studies and documents listed below. Those that have been completed are
11 included as attachments to this Exhibit. Some of the studies are sensitive in nature and are
12 included under separate confidential cover. These are not considered part of the public record
13 because they contain confidential material regarding the extent and nature of protected cultural
14 and historic resources. The studies or documents include:

- 15 • PA;
- 16 • ASP;
- 17 • VAHP (survey plan for aboveground resources);
- 18 • Cultural Resources Technical Report (“Technical Report”) – *Confidential* (for
19 archaeological resources);
- 20 • High Probability Areas Assessment – *Confidential* (for archaeological resources);
- 21 • Enhanced Archaeological Survey (testing of high probability areas, resource boundary
22 probing, and NRHP-eligibility testing) – *Confidential* (for archaeological resources);
- 23 • Reconnaissance Level Survey – Visual Assessment of Historic Properties (RLS) –
24 *Confidential* (for aboveground resources);
- 25 • Intensive Level Survey – Visual Assessment of Historic Properties (ILS) – *Confidential*
26 (for aboveground resources);
- 27 • Historic Properties Management Plan (HPMP) and Inadvertent Discovery Plan (IDP)
28 (drafts); and
- 29 • National Historic Trails (NHT) Study.

30 With the exception of the NHT Study, all documents are applicable to the entirety of the Project,
31 regardless of land ownership. The NHT Study focuses on NHTs on federal lands within 5 miles
32 of the Project centerline. Other trails on all lands within 5 miles of the Project centerline are
33 addressed by the Technical Report, RLS, and ILS.

34 **3.1 Analysis Area**

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

- 40 • The Proposed Route, consisting of 270.8 miles of new 500-kilovolt (kV) electric
41 transmission line, removal of 12 miles of existing 69-kV transmission line, rebuild of 0.9
42 mile of a 230-kV transmission line, and rebuild of 1.1 miles of an existing 138-kV
43 transmission line;

- 1 • Four alternatives that each could replace a portion of the Proposed Route, including the
2 West of Bombing Range Road Alternative 1 (3.7 miles), West of Bombing Range Road
3 Alternative 2 (3.7 miles), Morgan Lake Alternative (18.5 miles), and Double Mountain
4 Alternative (7.4 miles);
- 5 • One proposed 20-acre station (Longhorn Station);
- 6 • Ten communication station sites of less than ¼-acre each and two alternative
7 communication station sites;
- 8 • Permanent access roads for the Proposed Route, including 206.3 miles of new roads
9 and 223.2 miles of existing roads requiring substantial modification, and for the
10 Alternative Routes including 30.2 miles of new roads and 22.7 miles of existing roads
11 requiring substantial modification; and
- 12 • Thirty-one temporary multi-use areas and 299 pulling and tensioning sites of which four
13 will have light-duty fly yards within the pulling and tensioning sites.

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

17 In order to address visual effects to aboveground resources, the analysis area for aboveground
18 resources is extended to include areas within 5 miles of the Proposed Route centerline and with
19 a view of the Project.

20 **3.2 Methods**

21 The effort to complete IPC's cultural resources inventory is guided by four main goals aimed at
22 ensuring compliance with the EFSC standards. These goals include (1) identification of historic,
23 cultural, and archaeological resources within the Site Boundary; (2) interpretation of those
24 identified resources within a regional context; (3) evaluation of identified resources for protection
25 under the EFSC standard; and (4) assessment of potential Project impacts on protected
26 resources. A description of the discovery measures, such as surveys, inventories, and limited
27 subsurface testing work that IPC is undertaking for the purpose of locating, identifying, and
28 assessing the significance of resources listed in paragraphs (A), (B), and (C) of OAR 345-021-
29 0010(1)(s), is described in detail in the sections below. Studies that have and will be conducted
30 are summarized in Table S-1. Resources that are addressed by these studies can be
31 categorized as archaeological or aboveground resources. Those studies that have been
32 completed are included as attachments to this exhibit.

1 **Table S-1. Cultural Resource Studies Completed or To Be Completed**

Study	Description	Completed/ To Be Completed
Archaeological Resources		
Archaeological Survey Plan (ASP)	Survey plan for archaeological studies.	Completed (2012)
Cultural Resources Technical Report/ Archaeological Survey (Technical Report)	Report of archaeological resources identified in archaeology survey area (i.e. Project footprint). Preliminary report completed 2017. Will be updated with results of the Enhanced Archaeological Survey after the site certificate, prior to construction. To avoid unnecessary ground disturbance of archaeological resources, the enhanced archaeological survey will be conducted within the selected route only.	After site certificate, prior to construction
High Probability Areas Assessment	Identifies areas of high sediment deposition or poor ground surface visibility with increased likelihood of subsurface archaeological resources. High Probability Areas will be systematically probed subsurface during the Enhanced Archaeological Survey.	Completed (2017)
Enhanced Archaeological Survey	Report of subsurface probing in high probability areas, site boundary probing, and NRHP-eligibility testing. Anticipated to be presented as update or amendment to Technical Report. To avoid unnecessary ground disturbance of archaeological resources, the enhanced archaeological survey will be conducted within the selected route only.	After site certificate, prior to construction
Aboveground Resources		
Visual Assessment of Historic Properties Study Plan (VAHP)	Survey plan for aboveground resources.	Completed (2013)
Reconnaissance Level Survey – Visual Assessment of Historic Properties (RLS)	Report of previously recorded built environment resources (buildings, structures, and trails) as well as archaeological sites with above-ground features (such as cairns) within the indirect analysis area (5 miles from route centerline).	Completed (2015)
Intensive Level Survey – Visual Assessment of Historic Properties (ILS)	Report providing detailed analysis of those properties from the RLS that have sufficient integrity, for which an NRHP criterion might apply, and have the potential to be affected by the Project.	Completed (2017)
National Historic Trails Study (NHT Study)	Report of federally designated National Historic Trails resources on federal lands in indirect analysis area (5 miles from route centerline).	Completed (2014)

1 The cultural resources study was initiated by a Class I record search and literature review
2 conducted at the Oregon SHPO, CTUIR THPO, the USFS, and the appropriate BLM offices, to
3 identify previous cultural resource surveys and previously recorded archaeological sites and
4 objects within the Site Boundary. Additional data were obtained from IPC. Following completion
5 of the background research, an ASP and a VAHP were prepared to guide survey and
6 documentation of archaeological and aboveground resources.⁶ The ASP and VAHP are
7 provided as Attachments S-1 and S-2, respectively. An archaeological survey and an RLS and
8 ILS of aboveground resources have been completed in compliance with these plans. A
9 comprehensive Cultural Resources Technical Report (confidential Attachment S-6),
10 documenting the results of the record search, literature review, and archaeological inventory, is
11 provided in confidential Attachment S-6. The RLS and ILS reports (confidential Attachments S-7
12 and S-10, respectively) documenting implementation of the VAHP have also been completed.

13 **3.2.1 Class I Literature Review**

14 The Class I literature review presented in the technical report (confidential Attachment S-6) for
15 the Project provides an in-depth discussion of the environmental and cultural contexts of the
16 analysis areas, including an overview of prehistory, ethnography, and history. This document
17 also contains a summary of existing cultural resources data based on the results of the
18 background research within 2 miles of the Proposed Route centerline. The RLS (confidential
19 Attachment S-7) and ILS (confidential Attachment S-10) expand on this data up to 5 miles from
20 the Proposed Route centerline.

21 As part of the Class I literature review, a literature review, site file search, and map review were
22 conducted online and at the Oregon SHPO, CTUIR THPO, USFS, and BLM offices to identify
23 previous cultural resource surveys and previously recorded cultural resources within the
24 background research analysis area. Additional information was provided by IPC. These
25 previous surveys and their resource data form the foundation for the field studies. Data sources
26 from previous large-scale survey efforts near the analysis area provided the most substantive
27 pre-field data. The results of the literature review, together with the results of field surveys
28 discussed below, are documented in the Cultural Resources Technical Report provided in
29 confidential Attachment S-6, the RLS provided in confidential Attachment S-7, and the ILS
30 provided in confidential Attachment S-10.

31 Record searches at federal, tribal, and state agencies in Oregon were conducted multiple times
32 between January 2011 and December 2016. The record searches for archaeological resources
33 focused on collecting information regarding previously recorded cultural resources within 2 miles
34 of the Proposed Route centerline, for a study area width of 4 miles. The records searches for
35 aboveground resources focused on collecting information within 5 miles of the Proposed Route
36 centerline, for a study area width of 10 miles. The searches gathered information on previously
37 recorded cultural resources, NRHP-eligible or -listed properties, historic cemeteries, historic
38 trails, and previously surveyed areas. Data were collected for both archaeological and historic
39 sites and included site location, age, type, ownership, NRHP status, and a brief description of
40 site attributes. The purpose of the record searches was to establish a basis for the type and
41 frequency of archaeological and historic sites to be encountered during the course of the Project
42 surveys. Record searches were conducted for the Project on multiple occasions to adjust for

⁶ Both the ASP and VAHP describe IPC's discovery and analysis methods in support of BLM's NHPA and NEPA processes, as well as the EFSC process. As a result, the plans may use terminology and/or references to study areas driven by the federal agency reviews. For Exhibit S, however, IPC has distilled relevant survey results to provide ODOE and EFSC with only the information required to demonstrate that the Project will meet EFSC standards.

1 route changes. Additional sources of information included the Oregon Historic Trails website
2 (<http://www.oregonhistorictrailsfund.org>), U.S. Geological Survey (USGS) Mineral Resource
3 Data System, Oregon Historic Sites Database, General Land Office plats, and early USGS and
4 state maps.

5 **3.2.2 Archaeological Field Surveys**

6 The ASP outlines archaeological field methodology, including archaeological survey methods
7 and resource recordation procedures. The ASP was developed in cooperation with the BLM and
8 the Section 106 Cultural Resources Work Group; a copy of the plan is included here as
9 Attachment S-1.

10 **3.2.2.1 Archaeological Survey**

11 Upon completion of the literature review, an archaeological survey was initiated within the Site
12 Boundary. The archaeological survey is being conducted in two phases. Phase 1 has been
13 completed, and consisted of an intensive pedestrian inventory of the entire Site Boundary to which
14 IPC has right of entry. Any additional surveys required to complete an inventory of 100 percent of
15 the selected route, as well as any necessary subsurface inventory or evaluation efforts, will be
16 conducted during Phase 2. All survey efforts are and will be carried out according to the methods
17 and standards required by the Oregon SHPO *Guidelines for Conducting Field Archaeology in*
18 *Oregon* (Oregon SHPO 2007). On state and private lands, statutes and regulations may apply,
19 including but not limited to ORS 97.740-760 (Indian Graves and Protected Objects), ORS
20 358.905-955 (Archaeological Objects and Sites), and ORS 390.235. All inventory methods on
21 federal land follow those prescribed by the federal land-managing agency's protocols (primarily
22 BLM and USFS). Individuals conducting archaeological field investigations meet professional
23 qualifications as defined in ORS 390.235(6)(b) as well as *Archaeology and Historic Preservation:*
24 *Secretary of the Interior's Standards and Guidelines*, "Professional Qualifications Standards" (48
25 [190] Federal Register 44738-44739 [9-29-83, Part IV]). These qualifications are required by the
26 Oregon SHPO under ORS 390.235(6)(b) for individuals or groups conducting research as a result
27 of federal or state permits and licenses in the State of Oregon. Prior to any future subsurface
28 inventory or evaluation efforts that require Archaeological Resources Protection Act permits, BLM
29 is required to consult with participating tribes.

30 Per Oregon SHPO guidelines, the analysis area was examined with intensive surface inventory
31 methods using pedestrian transect intervals of 65 feet (20 meters [m]) or less. The survey area
32 for the Proposed Route and alternatives covers 250 feet (75 m) on either side of the centerline
33 for the 500-foot (150-m)-wide Site Boundary. The survey corridor for new access roads or
34 unsurfaced roads requiring reconstruction or widening is 100 feet (30 m) on either side of the
35 centerline. The survey convention for ancillary features, such as laydown areas and the
36 communication facilities, includes a buffer of 150 feet (45 m) around the footprint of the
37 proposed activity. Survey is not required for existing roads that occur outside of the Project site
38 boundary.

39 Survey standards include identification of areas of archaeological sensitivity; identification of
40 visible archaeological sites or other indicators of the presence or absence of sites; identification
41 and documentation of the extent of prior significant ground disturbance; identification of potential
42 archaeological issues requiring consideration during Project planning; and the determination,
43 when possible, of sites that meet established criteria of eligibility for the NRHP. Project
44 components, including the Proposed Route, access roads requiring improvement or new
45 construction, laydown areas, communication facilities, and other related transmission
46 infrastructure, are subject to inventory. Exceptions are areas that have been subjected to
47 extensive disturbance (e.g., paved roads and highways, parking lots, and lawns), areas deemed

1 hazardous (e.g., loose talus slopes, slippery bedrock exposures, deep streams), or excessively
2 steep (35°+) slopes.

3 **3.2.2.2 Enhanced Archaeological Survey**

4 Since certain environmental conditions and modern disturbances may obscure surface evidence
5 of past human activities, enhanced survey measures, including subsurface shovel probes, will
6 be included where necessary as a second phase of the archaeological survey effort. Prior to
7 excavation of any shovel probes, a probing plan detailing the approach to subsurface survey will
8 be submitted to state and federal agencies for consultation and approval, and all appropriate
9 federal and state permits will be obtained. Excavation or removal (collection) of archaeological
10 resources from any federally managed land (e.g., BLM, USFS, or other federal agencies)
11 necessitates an Archaeological Resource Protection Act permit from the federal land manager.
12 Subsurface probing on non-federal public lands, inclusive of any state, county, or municipal
13 lands, will be conducted under a State of Oregon Archaeological Excavation Permit per
14 ORS 390.235(1)(a) and OAR 736-051-0080 to -0090. Subsurface probing is planned to occur
15 prior to ground-disturbing construction activity.

16 Oregon State guidelines allow for shovel probing to assist in: (1) the identification of cultural
17 resources during surface survey (site discovery probes); and (2) as a method of subsurface
18 reconnaissance to test for the presence/absence of cultural remains and cultural site boundary
19 definition (site boundary probes). Identifying cultural site boundaries during survey is important
20 because a site's location relative to the Project is critical to assessing Project effects and
21 developing appropriate mitigation measures. When cultural site boundaries cannot be defined
22 based on surface evidence alone, subsurface probing has the potential to provide crucial data to
23 guide Project design and resource management decisions. Both site discovery probes and
24 cultural site boundary probes may be employed as necessary to assist with resource
25 identification and assessment.

26 Much of the surveyed Site Boundary was found to have acceptable ground surface visibility to
27 confidently identify surface expressions of archaeological resources. In areas of poor ground
28 surface visibility or areas with increased potential for subsurface archaeological deposits due to
29 sedimentation, shovel probing will be conducted. Twenty-seven of these "high probability areas"
30 where site discovery probes will be conducted have been identified along the Proposed Route,
31 two have been identified along the Double Mountain Alternative, and four have been identified
32 along the Morgan Lake Alternative (see confidential Attachment S-4). These areas were
33 identified regardless of land ownership, and include BLM, USFS, and private lands. No such
34 areas were identified along the West of Bombing Range Road Alternative 1 or Alternative 2.

35 To avoid unnecessary disturbance of archaeological resources, Site Boundary probing and
36 NRHP-eligibility testing will be conducted at archaeological resources within the selected route
37 only and prior to ground-disturbing construction activity.

38 **3.2.3 Historic Properties and Trails Inventory**

39 IPC has prepared a VAHP (Attachment S-2) in consultation with the Section 106 Cultural
40 Resources Working Group. The VAHP, which guided the survey of aboveground resources
41 potentially affected by the construction and operation of the facility, is provided as Attachment
42 S-2. Consistent with the VAHP, IPC prepared a confidential RLS (confidential Attachment S-7)
43 and confidential ILS (confidential Attachment S-10), filed with ODOE as separate, confidential
44 documents, in accordance with ORS 192.501(11). The reports include a delineation of the
45 indirect Area of Potential Effect (APE), existing historic resource data, survey objectives, field

1 investigation methods, RLS and ILS data (as appropriate), recommendations, and references.
2 For the purposes of Exhibit S, the APE is also referred to as the indirect analysis area.

3 The RLS was designed to provide an inventory of buildings, structures, districts, objects, and
4 trails within the indirect APE by systematically documenting intact resources by location, theme,
5 and chronological period. The survey is focused on properties over 45 years old, including
6 houses, barns and farms, churches, public buildings, schools, commercial structures, industrial
7 structures, cemeteries, landscapes, historic linear features such as trails, rail lines and roads, as
8 well as archaeological sites with aboveground features. Background research was conducted
9 before, during, and after fieldwork and included examination of individual properties and the
10 analysis area as a whole. Examples of sources being used in the survey work include the
11 Oregon SHPO Historic Sites Database, historic USGS quadrangle maps and aerial
12 photographs, Sanborn maps, Metsker maps, plat maps, tax records, county histories, historical
13 societies, preservation groups, local government agencies, local citizens, local libraries, and
14 museums.

15 As noted in the VAHP, the visual assessment of historic properties is conducted in phases and
16 includes both the RLS (Phase 1) and ILS (Phase 2). An RLS interim report was completed in
17 December 2012 and was revised in coordination with the Cultural Resources Working Group in
18 August 2013, October 2014, and then finalized in September 2015. The RLS report focuses on
19 information collected during fieldwork, such as architectural characteristics, a resource's
20 approximate construction date, and any applicable NRHP criteria. This report makes
21 recommendations on properties that should be eliminated from further study because they are
22 unlikely to be eligible for the NRHP, fail to meet NRHP criteria, lack integrity, and/or the Project
23 has no potential to affect. The RLS also provides a catalog of properties used to identify
24 individual or concentrations of historic resources that are worthy of further study. The ILS
25 (Phase 2) analyzes those properties from the RLS that have sufficient integrity and for which an
26 NRHP criterion might apply and that have the potential to be affected by the Project. The history
27 of each property was documented and then comparatively analyzed against the historic context
28 of the survey area. This provides a framework for determining whether the resource meets any
29 of the NRHP Criteria of Evaluation.

30 Fieldwork for the ILS was conducted between October 2014 and October 2016. The report
31 includes the background information compiled for the inventory plan, a revised historic context,
32 recommendations concerning resource eligibility for the NRHP, as well as recommendations for
33 avoidance, effect minimization, and mitigation measures to reduce impacts to below significant
34 adverse levels consistent with the EFSC Standard for Historic, Cultural and Archaeological
35 Resources (OAR 345-022-0900). The ILS also addresses aboveground resources in Project
36 areas that have been re-routed since completion of the RLS in 2015.

37 **3.2.4 Cultural Resources Technical Report**

38 A Cultural Resources Technical Report documenting the implementation of the ASP has been
39 prepared and is included as confidential Attachment S-6, filed with ODOE as a separate,
40 confidential document, in accordance with ORS 192.501(11). This report summarizes the
41 results of the Class I literature review (within 2 miles of Proposed Route centerline) and the
42 Class III archaeological survey, and documents identification of areas of archaeological
43 sensitivity; identification of visible archaeological sites or other indicators of the presence or
44 absence of sites; identification and documentation of the extent of prior significant ground
45 disturbance; identification of potential archaeological issues requiring consideration during
46 Project planning; and the recommendation, when possible, of sites that meet established
47 criteria of eligibility for the NRHP. The entire Site Boundary of the Project has been
48 inventoried with the exception of areas to which access has been denied, or that have

1 previously been subjected to extensive disturbance (e.g., paved roads and highways, parking
2 lots, and lawns), areas deemed hazardous (e.g., loose talus slopes, slippery bedrock
3 exposures, deep streams, and electrical substations), or excessively steep (35°+) slopes.
4 Areas of denied access will be subject to complete survey after receipt of the site certificate,
5 prior to facility construction. Areas that have been surveyed are depicted on Figures S-2
6 through S-6 in Section 3.5.2.

7 **3.2.5 Programmatic Agreement**

8 A PA for managing historic properties that may be affected by the Project was prepared by
9 BLM, acting as the designated lead federal agency and in consultation with the Section 106
10 Cultural Resources Working Group. The intent and applicability of the PA is for compliance with
11 the NHPA and Section 106; however, studies and consultations completed under the direction
12 of the PA may support the EFSC permitting process. The PA is included as Attachment S-5.
13 Signatories to the PA include BLM, USFS, BPA, USACE, BOR, Oregon SHPO, Idaho SHPO,
14 Washington Department of Archaeology and Historic Preservation (SHPO), CTUIR THPO, and
15 ACHP. Invited signatories to the PA include NPS and IPC. Concurring parties may include
16 ODOE, Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, CTUIR, Shoshone-
17 Bannock Tribes of the Fort Hall Indian Reservation, Nez Perce Tribes, Confederated Tribes of
18 the Colville Reservation, Burns Paiute Tribe, Fort McDermitt Paiute and Shoshone Tribe, the
19 Confederated Tribes of Warm Springs Indian Reservation, the Confederated Tribes of the
20 Yakama Nation, the Oregon-California Trails Association, Oregon Historic Trails Advisory
21 Council, FWS, and the Lewis and Clark Heritage Trail Foundation. The final PA has been
22 signed by all required parties.

23 The large scope of the Project necessitates a phased approach to the cultural resources study
24 given that access has been restricted to some properties, thus precluding completion of all
25 necessary studies prior to this application for site certificate.

26 The PA allows for identification of cultural resources as well as NRHP site evaluation and effect
27 determinations on the Proposed Route and all alternative routes. The final determinations of
28 Project effects to historic properties and the resolution of adverse effects will be outlined in a
29 HPMP, per the PA. Although the HPMP required by the PA will be submitted by BLM for review by
30 all PA parties, it is anticipated to be specific to compliance with Section 106 of the NHPA. In order
31 to comply with the EFSC permitting process, an ODOE-specific HPMP for private and state lands
32 has been drafted and is included as Attachment S-9. Approaches to identification and effect
33 determinations are similar between the two HPMPs; however, the ODOE-specific HPMP also
34 addresses archaeological resources and objects on private lands, regardless of NRHP-eligibility
35 status.

36 **3.3 Historic and Cultural Resources**

37 OAR 345-021-0010(1)(s): ...The applicant shall include information in Exhibit S or in
38 confidential submissions providing evidence to support a finding by the Council as required
39 by OAR 345-022-0090, including: (A) Historic and cultural resources within the analysis area
40 that have been listed, or would likely be eligible for listing, on the National Register of Historic
41 Places.

42 This section identifies historic and cultural resources within the Site Boundary that have been
43 listed, or have been determined or recommended eligible for listing, on the NRHP. Based on the
44 results of background research and field surveys, 97 sites and site components in the analysis
45 area (including the indirect analysis area) are either listed on the NRHP or have been
46 recommended as eligible for inclusion on the NRHP. Forty-five of the resources are within the

1 Site Boundary, 43 of the resources are in the indirect analysis area, and 9 of the resources are
2 in both the Site Boundary and indirect analysis area. The Oregon NHT is the only NHT within
3 the Site Boundary and is crossed 17 times by the Site Boundary in four counties, including
4 SHPO's Alkali Spring Segment in Malheur County. While some segments of the Oregon NHT
5 are NRHP-listed, no Oregon NHT listed segments are within the Site Boundary.

6 Table S-2, below, summarizes historic and cultural resources within the Site Boundary and/or
7 Indirect Analysis Area, including archaeological sites, currently determined or recommended
8 eligible for listing on or already listed on the NRHP, by site number (where assigned), site type,
9 and county. These resources have been identified through background research and field
10 surveys conducted for the Project. Segments of the Oregon NHT and other Oregon Trail
11 segments are listed multiple times, as the trail is crossed multiple times by the Project and
12 Indirect Analysis Area. The 96 resources that are NRHP-listed or –eligible include 18 pre-
13 contact sites, 7 multicomponent (pre-contact and historic) sites, 64 historic sites, and 3 TCPs.

14 Table S-3 lists the resources identified within the Site Boundary and indirect analysis area that
15 have not been evaluated for NRHP eligibility. For the purposes of impact analysis, these
16 unevaluated resources will be treated as NRHP-eligible until determined otherwise. This listing
17 of 167 resources includes 125 pre-contact sites, 7 multicomponent sites, 33 historic sites, and 2
18 sites of indeterminate age or cultural affiliation. Only unevaluated resources within the selected
19 route will be further analyzed or tested to determine NRHP eligibility. This will occur prior to
20 ground-disturbing construction activity.

21 The Project will cross areas with a high probability for containing cultural resources, including
22 state and national historic trails. Historic trails of concern, as listed in ORS 358.057, include the
23 Oregon Trail, Lewis and Clark National Trail, Cutoff to the Barlow Road, Meek's Cutoff,
24 Nathaniel Wyeth Route, Upper Columbia Route, and Wyeth and Lee Trail. These trails are
25 depicted in Figure S-1. Thorough documentation and evaluation of these and other historic
26 roads and trails has been included in archaeological and historic studies, including the Cultural
27 Resources Technical Report (confidential Attachment S-6), the RLS (confidential Attachment S-
28 7), the ILS (confidential Attachment S-10), and the NHT study (Attachment S-8). Trails are a
29 significant focus of planning and mitigation efforts.

1 **Table S-2. Cultural Resources Listed or Eligible for the NRHP in the Analysis Area¹**

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County	NRHP Status
126CSF-12 B2H-MO-047	Historic	West Extension Irrigation Canal	Proposed Route	Site Boundary/ Indirect Analysis Area	Morrow	Eligible
35MW00224	Historic	Well Spring site - Homestead, Oregon Trail	Proposed Route/ Double Mountain Alternative	Indirect Analysis Area	Morrow	Listed
35MW00230 B2H-MO-004	Historic	Emigrant Cemetery	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Indirect Analysis Area	Morrow	Listed
3B2H-CH-01 B2H-MO-007	Historic	Oregon Trail - Well Spring Segment	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Indirect Analysis Area	Morrow	Listed
4B2H-EK-02	Historic	Oregon Trail Segment	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Site Boundary	Morrow	Eligible
4B2H-EK-04	Historic	Railroad & Utility Line	Proposed Route	Site Boundary	Morrow	Eligible
5B2H-SA-01	Historic	Oregon Trail Segment	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Site Boundary	Morrow	Eligible
CFR 1064	Historic	Vey Ranch/Century Farm	Proposed Route	Indirect Analysis Area	Morrow	Eligible
CFR 1093	Historic	Thomson-Myers Farm/Century Farm	Proposed Route	Indirect Analysis Area	Morrow	Eligible

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County	NRHP Status
SL-MO-003	TCP	Nisxt	Proposed Route	Indirect Analysis Area	Morrow	Eligible
SL-MO-001, SL-MO-005	TCP	Sand Hollow Battleground	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Site Boundary/ Indirect Analysis Area	Morrow	Eligible
SL-MO-004	TCP	Sisupa	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Site Boundary/ Indirect Analysis Area	Morrow	Eligible
B2H-UM-006	Historic	Daly Wagon Road	Proposed Route	Site Boundary/ Indirect Analysis Area	Umatilla	Eligible
CFR 1098	Historic	Gilliland Farm/Century Farm	Proposed Route	Indirect Analysis Area	Umatilla	Eligible
None Assigned	Historic	Historic Lookout Tower	Proposed Route	Indirect Analysis Area	Umatilla	Eligible
Range Unit 12 Site 1	Pre-Contact	Rock Feature	Proposed Route	Indirect Analysis Area	Umatilla	Eligible
Range Unit 12 Site 2	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Umatilla	Eligible
UP-102	Historic	Two log cabins	Proposed Route	Indirect Analysis Area	Umatilla	Eligible
35UN00052	Multi- component	Quarry & Homestead	Proposed Route, Morgan Lake Alternative	Site Boundary	Union	Eligible
35UN00074	Multi- component	Lithic Scatter, Homestead, Grave, Campground, & Trail	Proposed Route, Morgan Lake Alternative	Site Boundary/ Indirect Analysis Area	Union	Eligible
35UN00097	Multi- component	Temporary Camp & Ranching	Morgan Lake Alternative	Site Boundary	Union	Eligible

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County	NRHP Status
35UN00299	Historic	Mt. Emily Logging Railroad	Proposed Route, Morgan Lake Alternative	Site Boundary/ Indirect Analysis Area	Union	Eligible
35UN00517	Historic	Oregon Trail - Blue Mountain Segment	Proposed Route	Indirect Analysis Area	Union	Eligible
6B2H-RP-09	Historic	Cairn(s) & Trail	Proposed Route	Site Boundary	Union	Eligible
B2H-UN-001	Historic	Oregon Trail Interpretive Park ACEC-California Gulch/Blue Mountain Segment	Proposed Route	Indirect Analysis Area	Union	Eligible
B2H-UN-004	Historic	Old Railroad Grade	Proposed Route/ Morgan Lake Alternative	Indirect Analysis Area	Union	Eligible
B2H-UN-178	Historic	Brandt, Charles, Blacksmith Shop	Proposed Route	Indirect Analysis Area	Union	Eligible
B2H-UN-219	Historic	11102 Island Ave	Proposed Route	Indirect Analysis Area	Union	Eligible
B2H-UN-220	Historic	11106 Island Ave	Proposed Route	Indirect Analysis Area	Union	Eligible
CFR 1003	Historic	Gekeler Farm	Proposed Route/ Morgan Lake Alternative	Indirect Analysis Area	Union	Eligible
CFR 1166	Historic	Smutz Farm	Proposed Route/ Morgan Lake Alternative	Indirect Analysis Area	Union	Eligible
CFR 1169	Historic	Muilenburg Farm	Proposed Route/ Morgan Lake Alternative	Indirect Analysis Area	Union	Eligible
0503050143SI	Historic	Meeker Oregon Trail Monument	Proposed Route/ Existing 138 kV Rebuild	Indirect Analysis Area	Baker	Listed
0503050144SI	Historic	Kiwanis Oregon Trail Monument	Proposed Route/ Existing 138 kV Rebuild	Indirect Analysis Area	Baker	Eligible
28015	Historic	Building(s)	Proposed Route	Site Boundary	Baker	Listed
35BA01366	Historic	Oregon Trail Segments	Proposed Route	Indirect Analysis Area	Baker	Eligible

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County	NRHP Status
3B2H-CH-05 B2H-BA-285 (Trail)	Historic	Oregon Trail ACEC - Straw Ranch 1 and 2 & Utility Line	Proposed Route	Site Boundary/ Indirect Analysis Area	Baker	Eligible (Trail)
4B2H-EK-06	Historic	Water Conveyance	Proposed Route	Site Boundary	Baker	Eligible
4B2H-EK-07	Historic	Water Conveyance	Proposed Route	Site Boundary	Baker	Eligible
4B2H-EK-15	Historic	Water Conveyance	Proposed Route	Site Boundary	Baker	Eligible
4B2H-EK-18	Historic	Water Conveyance	Proposed Route	Site Boundary	Baker	Eligible
4B2H-EK-19	Historic	OR&N/OWR&N/UPRR Segment	Proposed Route	Site Boundary	Baker	Eligible
4B2H-EK-29	Historic	Wagon Road	Proposed Route	Site Boundary	Baker	Eligible
4B2H-EK-31	Historic	Benson Reservoir	Proposed Route	Site Boundary	Baker	Eligible
B2H-BA-178	Historic	Baker City Historic District	Proposed Route/ Existing 138 kV Rebuild	Indirect Analysis Area	Baker	Listed
B2H-BA-281	Historic	Oregon Trail ACEC - White Swan segment	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-282	Historic	Oregon Trail ACEC - Virtue Flat Oregon Trail (Flagstaff Hill)	Proposed Route	Site Boundary/ Indirect Analysis Area	Baker	Eligible
B2H-BA-283	Historic	Virtue Flat Mining Area	Proposed Route/ Existing 138 kV Rebuild	Indirect Analysis Area	Baker	Eligible
B2H-BA-284	Historic	Stone house and complex	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-288	Historic	Durkee School	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-289	Historic	Sacred Heart Catholic Church	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-290	Historic	Plano Road School House	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-291	Historic	Oregon Trail ACEC - Swayze Creek segment	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-296	Historic	Rattlesnake Springs Landmark	Proposed Route	Indirect Analysis Area	Baker	Eligible

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County	NRHP Status
B2H-BA-298	Historic	Homestead/Ranching Complex	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-327	Historic	Goodale's/Sparta Trail	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-BA-337	Historic	Oregon Trail ACEC - Powell Creek segment	Proposed Route	Indirect Analysis Area	Baker	Eligible
B2H-DM-07	Historic	Nitzlander Homestead	Proposed Route	Site Boundary	Baker	Eligible
2B2H-SA-08	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur	Eligible
35ML00747	Historic	Little Tub Spring and Quarry	Proposed Route	Indirect Analysis Area	Malheur	Eligible
35ML01619	Multi-component	Quarry, Refuse Scatter, & Water Conveyance	Proposed Route	Site Boundary	Malheur	Eligible (Pre-Contact Component)
35ML01674	Historic	Vine's Ditch	Proposed Route	Site Boundary/ Indirect Analysis Area	Malheur	Eligible
35ML01675	Historic	Vale to Juntura OSL/UPRR Segment	Proposed Route	Site Boundary	Malheur	Eligible
35ML01676	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur	Eligible
35ML01677	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur	Eligible
35ML01682	Pre-Contact	Temporary Camp	Proposed Route	Site Boundary	Malheur	Eligible
35ML01684	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur	Eligible
35ML16175 B2H-MA-002	Historic	Abandoned Vale to Juntura OSL Grade (UPRR)	Proposed Route	Indirect Analysis Area	Malheur	Eligible
3B2H-SA-16 B2H-MA-047 (Utility Line)	Historic	IPC Utility Line & Water Conveyance	Proposed Route	Site Boundary/ Indirect Analysis Area	Malheur	Eligible (Utility Line)
3B2H-SA-26	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur	Eligible
3B2H-SA-27	Multi-component	Lithic Scatter & Refuse Scatter	Proposed Route	Site Boundary	Malheur	Eligible (Pre-Contact Component)
3B2H-SA-28	Pre-Contact	Quarry	Proposed Route	Site Boundary	Malheur	Eligible
3B2H-SA-30	Pre-Contact	Quarry	Proposed Route	Site Boundary	Malheur	Eligible
3B2H-SA-31	Pre-Contact	Quarry	Proposed Route	Site Boundary	Malheur	Eligible
3B2H-SA-32	Pre-Contact	Quarry	Proposed Route	Site Boundary	Malheur	Eligible

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County	NRHP Status
3B2H-SA-46 B2H-MA-001	Historic	Vale Oregon Main Canal	Proposed Route	Site Boundary/ Indirect Analysis Area	Malheur	Eligible
3B2H-SA-48 B2H-MA-044 (Canal)	Historic	Structure & South Canal - Owyhee Irrigation Project	Proposed Route	Site Boundary/ Indirect Analysis Area	Malheur	Eligible
4B2H-EK-41	Historic	Oregon Trail Segment	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-42	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-46	Historic	Vale Oregon Main Canal	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-47	Historic	Vale Oregon Main Canal Lateral	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-48	Multi- component	Quarry & Refuse Scatter	Proposed Route	Site Boundary	Malheur	Eligible (Pre-Contact Component)
4B2H-EK-49	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-50	Multi- component	Lithic/Tool Scatter & Refuse Scatter	Proposed Route	Site Boundary	Malheur	Eligible (Pre-Contact Component)
4B2H-EK-51	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-52	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur	Eligible
4B2H-EK-53	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur	Eligible
6B2H-SA-04	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur	Eligible
B2H-MA-010 (see also 35ML00747)	Historic	Oregon Trail ACEC - Tub Mountain segment	Proposed Route/ Existing 138 kV Rebuild	Indirect Analysis Area	Malheur	Eligible
B2H-MA-041	Historic	Oregon Trail ACEC - Alkali Springs Segment	Proposed Route	Site Boundary/ Indirect Analysis Area	Malheur	Eligible
B2H-MA-042	Historic	Oregon Trail ACEC-Birch Creek segment	Proposed Route/ Existing 138 kV Rebuild	Indirect Analysis Area	Malheur	Eligible
B2H-SA-39	Historic	Mussell Ditch	Proposed Route	Site Boundary	Malheur	Eligible

¹ This table lists all currently NRHP-listed or recommended NRHP-eligible cultural resources in the Site Boundary or indirect Analysis Area, as determined by background research and field surveys. NRHP eligibility recommendations are pending SHPO concurrence. ACEC – Area of Critical Environmental Concern; TCP – traditional cultural property; UPRR – Union Pacific Railroad

1 **Table S-3. Unevaluated Cultural Resources in the Analysis Area¹**

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
126CSF-Resource 11	Historic	Survey Marker ²	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Site Boundary	Morrow
126CSF-Resource 4	Historic	Road	Proposed Route, West of Bombing Range Road Alternative 2	Site Boundary	Morrow
35MW00001	Pre-Contact	Midden	Proposed Route	Indirect Analysis Area	Morrow
35MW00002	Pre-Contact	Camp, shell midden, lithic scatter	Proposed Route	Indirect Analysis Area	Morrow
35MW00011	Pre-Contact	Midden	Proposed Route	Indirect Analysis Area	Morrow
35MW00227	Historic	Road	Proposed Route, West of Bombing Range Road Alternative 1, West of Bombing Range Road Alternative 2	Site Boundary	Morrow
35MW00245	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Morrow
35MW00248	Pre-Contact	Rock Cairns	Proposed Route	Indirect Analysis Area	Morrow
6B2H-MC-35	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Morrow
JDRS-79	Historic	Road	Proposed Route	Site Boundary	Morrow
35UM40072	Historic	Grave associated with Oregon Trail	Proposed Route	Indirect Analysis Area	Umatilla
6B2H-MC-13	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-14	Historic	Refuse & Structure	Proposed Route	Site Boundary	Umatilla
6B2H-MC-15	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-18	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-19	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-20	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-22	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-23	Pre-Contact	Hunting Blind	Proposed Route	Site Boundary	Umatilla
6B2H-MC-24	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
6B2H-MC-25	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-30	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-MC-31	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-RP-11	Pre-Contact	Cairn(s) & Hunting Blind	Proposed Route	Site Boundary	Umatilla
6B2H-RP-12	Pre-Contact	Cairn(s) & Hunting Blind	Proposed Route	Site Boundary	Umatilla
6B2H-RP-14	Pre-Contact	Cairn(s) & Lithic Scatter	Proposed Route	Site Boundary	Umatilla
6B2H-TH-01	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Umatilla
6B2H-TH-02	Pre-Contact	Cairn(s) & Hunting Blind	Proposed Route	Site Boundary	Umatilla
6B2H-TH-03	Historic	Survey Marker ²	Proposed Route	Site Boundary	Umatilla
6B2H-TH-04	Undetermined	Cairn(s)	Proposed Route	Site Boundary	Umatilla
B2H-BS-40	Historic	Homestead	Proposed Route	Site Boundary	Umatilla
UP-103	Historic	Buckhorn Cabin	Proposed Route	Indirect Analysis Area	Umatilla
UP-106	Historic	Historic Cabin	Proposed Route	Indirect Analysis Area	Umatilla
01S3700E00001	Historic	Logging Railways	Proposed Route/ Morgan Lake Alternative	Indirect Analysis Area	Union
02S3600E13001 SL-UN-003	Historic	Map E8:Rugg Cabin. T2S, R36E, S13. (Report # 16245)	Proposed Route	Indirect Analysis Area	Union
02S3600E15001	Historic	Cabin	Proposed Route	Indirect Analysis Area	Union
02S3600E23001	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Union
02S3600E23002	Multicomponent	Cabin, Rock Wall	Proposed Route	Indirect Analysis Area	Union
09/1708-N39	Pre-Contact	Unknown	Proposed Route	Site Boundary	Union
35UN00252	Pre-Contact	Rock Cairns	Proposed Route	Indirect Analysis Area	Union
35UN00304	Historic	Shepherdier Cairn, lithic scatter	Proposed Route	Indirect Analysis Area	Union
35UN00307	Pre-Contact	Elkhorn Hunting Blind- 1	Proposed Route	Indirect Analysis Area	Union
35UN00308	Pre-Contact	Elk Site - 2	Proposed Route	Indirect Analysis Area	Union

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
35UN00309	Pre-Contact	Elkhorn Rock Shelter - 1	Proposed Route	Indirect Analysis Area	Union
35UN00310	Pre-Contact	Elkhorn Rock Walls - 1	Proposed Route	Indirect Analysis Area	Union
35UN00311	Pre-Contact	Elkhorn Cairn - 1	Proposed Route	Indirect Analysis Area	Union
35UN00312	Pre-Contact	Elk Site - 7	Proposed Route	Indirect Analysis Area	Union
35UN00313	Pre-Contact	Elkhorn Cairn - 3	Proposed Route	Indirect Analysis Area	Union
35UN00314	Pre-Contact	Elkhorn Hunting Blind - 2	Proposed Route	Indirect Analysis Area	Union
35UN00315	Pre-Contact	Elkhorn Cairn - 4	Proposed Route	Indirect Analysis Area	Union
35UN00316	Pre-Contact	Elkhorn Cairn - 5	Proposed Route	Indirect Analysis Area	Union
35UN00317	Pre-Contact	Elkhorn Cairn - 6	Proposed Route	Indirect Analysis Area	Union
35UN00318	Pre-Contact	Elkhorn Cairn - 7	Proposed Route	Indirect Analysis Area	Union
35UN00319	Pre-Contact	Elk Site - 14	Proposed Route	Indirect Analysis Area	Union
35UN00351	Pre-Contact	Curved Rock Alignment	Proposed Route	Indirect Analysis Area	Union
35UN00356	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Union
35UN00375	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Union
35UN00388	Pre-Contact	Rock Feature & Scatter	Proposed Route	Indirect Analysis Area	Union
35UN00393	Pre-Contact	Rock alignment, lithic scatter	Proposed Route	Indirect Analysis Area	Union
35UN00395	Pre-Contact	Rock cairns, rock alignment	Proposed Route	Indirect Analysis Area	Union
35UN00396	Pre-Contact	Rock Features	Proposed Route	Indirect Analysis Area	Union
35UN00410	Pre-Contact	Rock Feature	Proposed Route	Indirect Analysis Area	Union
35UN00418	Pre-Contact	Rock Feature	Proposed Route	Indirect Analysis Area	Union
35UN00435	Historic	Oregon Trail (in Ladd Canyon)	Proposed Route	Indirect Analysis Area	Union
35UN00443	Pre-Contact	Stacked Rock Features	Proposed Route	Indirect Analysis Area	Union
35UN00450	Pre-Contact	Stacked Rock Feature	Proposed Route	Indirect Analysis Area	Union
35UN00459	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Union
35UN00481	Historic	Rock Alignment(s)	Proposed Route	Site Boundary	Union

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
35UN00483	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Union
35UN00493	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Union
35UN00499	Pre-Contact	Rock alignment	Proposed Route	Indirect Analysis Area	Union
35UN00543	Historic	Cairn(s)	Morgan Lake Alternative	Site Boundary	Union
35UN00582 (02S3600E20009)	Historic	Cabin	Proposed Route	Indirect Analysis Area	Union
35UN00624	Pre-Contact	Rock Cairn Burial	Proposed Route/ Morgan Lake Alternative	Indirect Analysis Area	Union
6B2H-MC-06	Pre-Contact	Cairn(s) & Lithic/Tool Scatter	Proposed Route	Site Boundary	Union
6B2H-MC-07	Historic	Homestead & Ranching	Proposed Route	Site Boundary	Union
6B2H-RP-08	Pre-Contact	Cairn(s)	Morgan Lake Alternative	Site Boundary	Union
6B2H-RP-10	Historic	Cairn(s)	Morgan Lake Alternative	Site Boundary	Union
B2H-BS-45	Multicomponent	Lithic Scatter & Refuse Scatter	Proposed Route, Morgan Lake Alternative	Site Boundary	Union
B2H-BS-46	Pre-Contact	Temporary Camp	Proposed Route, Morgan Lake Alternative	Site Boundary	Union
B2H-SA-24	Undetermined	Rock Alignment(s)	Morgan Lake Alternative	Site Boundary	Union
28167	Historic	Structure	Proposed Route	Site Boundary	Baker
0503050240SI	Historic	Historic structure complex, refuse scatter	Proposed Route	Indirect Analysis Area	Baker
0503050330SI	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Baker
0503050331SI	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Baker
0503050334SI	Pre-Contact	Rock cairn, rock alignment	Proposed Route	Indirect Analysis Area	Baker
0503050352SI	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Baker
0503050489SI (BK 572)	Pre-Contact	Rock Cairn and lithic scatter	Proposed Route	Indirect Analysis Area	Baker
14S44E14-2	Pre-Contact	Rock cairns, rock alignment, lithic scatter; Three Stone Rock Stacks	Proposed Route	Indirect Analysis Area	Baker

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
35BA00078	Pre-Contact	7 rock alignments	Proposed Route	Indirect Analysis Area	Baker
35BA00084	Pre-Contact	Quarry	Proposed Route	Site Boundary	Baker
35BA00118	Pre-Contact	Small rock shelter and lithic scatter	Proposed Route	Indirect Analysis Area	Baker
35BA00158	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Baker
35BA00159	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Baker
35BA00372	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Baker
35BA00374	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Baker
35BA00381	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Baker
35BA00382	Pre-Contact	Rock cairn, lithic scatter	Proposed Route	Indirect Analysis Area	Baker
35BA00386	Pre-Contact	Rock Cairns	Proposed Route	Indirect Analysis Area	Baker
35BA00388	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Baker
35BA00544 (0503050138SI)	Pre-Contact	Rock Alignment	Proposed Route/ Existing 138-kV Rebuild	Indirect Analysis Area	Baker
35BA00863	Historic	Historic component includes structural remains	Proposed Route	Indirect Analysis Area	Baker
35BA00889	Pre-Contact	Pritchard Rock Blind	Proposed Route	Indirect Analysis Area	Baker
35BA00913	Pre-Contact	Rock Alignment	Proposed Route	Indirect Analysis Area	Baker
35BA01229	Pre-Contact	2 rock shelters and lithic scatter	Proposed Route	Indirect Analysis Area	Baker
35BA01242	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Baker
35BA01377	Pre-Contact	Rock cairn and lithic scatter	Proposed Route	Indirect Analysis Area	Baker
35BA01423	Pre-Contact	Hunting blind rock stacks. Identified by CTUIR informant near ODOT borrow pit	Proposed Route	Indirect Analysis Area	Baker
35BA01507	Historic	Three rock pile graves with metal crosses	Proposed Route	Indirect Analysis Area	Baker
35BA01508	Pre-Contact	Clay Pit graves. Three graves defined by rock piles	Proposed Route	Indirect Analysis Area	Baker

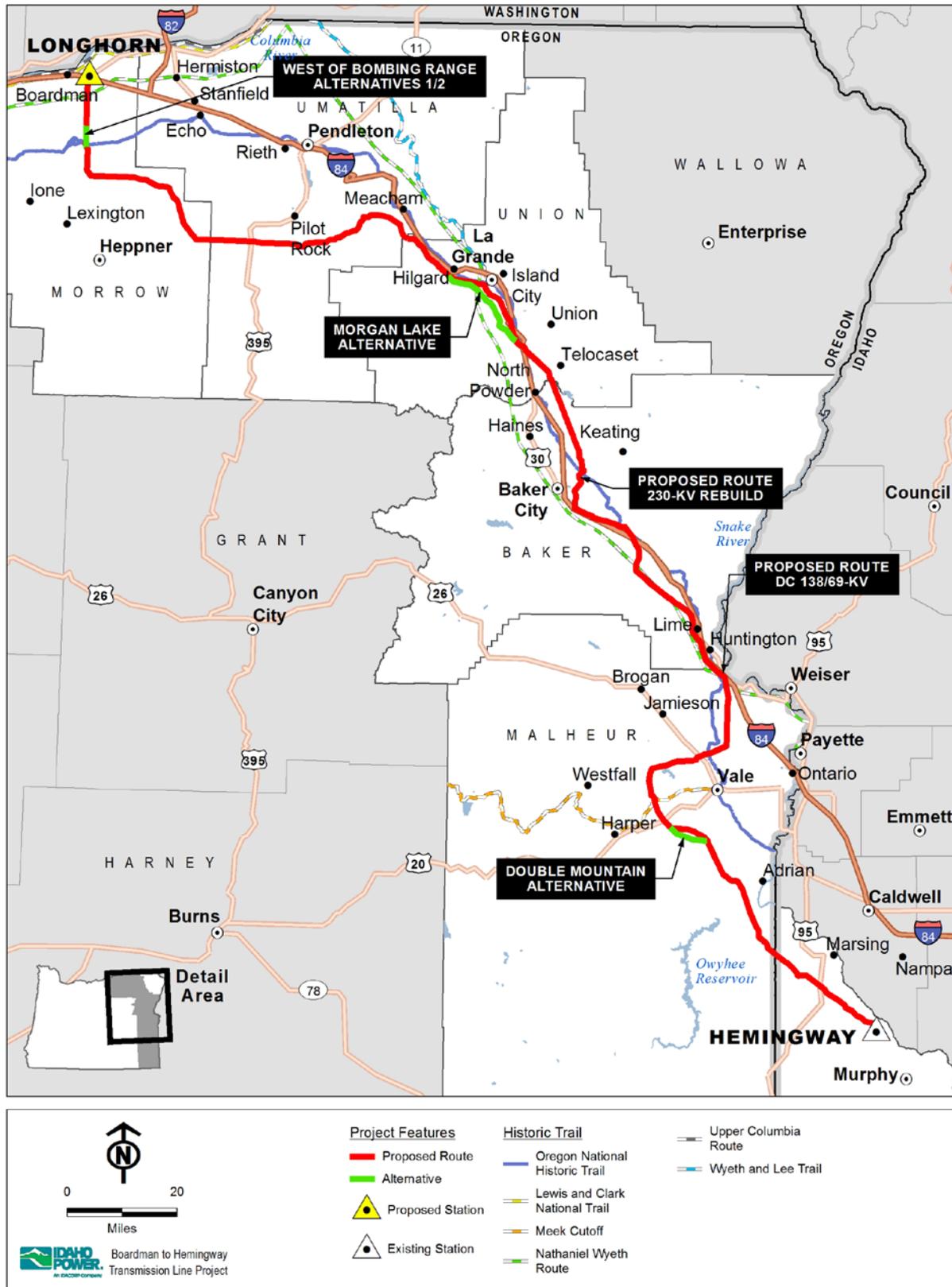
Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
35BA01517	Pre-Contact	Single rock stack feature/guy wires/pole	Proposed Route	Indirect Analysis Area	Baker
35BA01518	Pre-Contact	Single stacked rock feature	Proposed Route	Indirect Analysis Area	Baker
3B2H-CH-09	Pre-Contact	Stone Cairn, lithic and tool scatter.	Proposed Route	Indirect Analysis Area	Baker
3B2H-DM-11	Multicomponent	Lithic Scatter & Refuse Scatter	Proposed Route	Site Boundary	Baker
3B2H-DM-15	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Baker
3B2H-SA-14	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Baker
4B2H-EK-08	Historic	Mining	Proposed Route	Site Boundary	Baker
4B2H-EK-10	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Baker
4B2H-EK-26	Historic	Railroad	Proposed Route	Site Boundary	Baker
4B2H-EK-32	Multicomponent	Lithic/Tool Scatter, Ranching Complex, & Water Conveyance	Proposed Route	Site Boundary	Baker
4B2H-EK-38	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Baker
6B2H-MC-02	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Baker
6B2H-MC-05	Pre-Contact	Cairn(s)	Proposed Route	Site Boundary	Baker
6B2H-RP-03	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Baker
6B2H-SA-07	Historic	Homestead	Proposed Route	Site Boundary	Baker
6B2H-SA-08	Historic	Road	Proposed Route	Site Boundary	Baker
6B2H-SA-14	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Baker
B2H-JF-04	Pre-Contact	Rock Cairn and lithic scatter	Proposed Route	Indirect Analysis Area	Baker
SL-BA-008	Pre-Contact	Unnamed grave (T9S, R41E, S25)	Proposed Route	Indirect Analysis Area	Baker
SL-BA-010	Historic	Wagon Trail (T11S, R42E, S32) (report #17966)	Proposed Route	Indirect Analysis Area	Baker
35ML01382	Multicomponent	Lithic Scatter & Refuse Scatter	Proposed Route	Site Boundary	Baker, Malheur
0503040078SI	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
0503040216SI	Pre-Contact	Rock alignment, lithic scatter	Proposed Route	Indirect Analysis Area	Malheur
35ML00086	Pre-Contact	Holtz Pictographs	Proposed Route	Indirect Analysis Area	Malheur
35ML00550	Pre-Contact	Ali-Alk Rock shelter	Proposed Route	Indirect Analysis Area	Malheur
35ML00552	Pre-Contact	Ali-Alk Stacked Stone Rings	Proposed Route	Indirect Analysis Area	Malheur
35ML00891	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
35ML00959	Pre-Contact	Quarry	Proposed Route	Site Boundary	Malheur
35ML01459	Pre-Contact	Rockshelter	Proposed Route	Indirect Analysis Area	Malheur
35ML01515	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
35ML01516	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur
35ML01518	Historic	Refuse Scatter	Proposed Route	Site Boundary	Malheur
35ML01522	Pre-Contact	Open Camp	Proposed Route	Site Boundary	Malheur
35ML01548	Pre-Contact	SM Site-1 (Stacked Rock Feature)	Proposed Route	Indirect Analysis Area	Malheur
35ML01549	Pre-Contact	SM Site-2 (Stacked Rock Feature)	Proposed Route	Indirect Analysis Area	Malheur
35ML01550	Pre-Contact	SM Site-3 (Stacked Rock Feature)	Proposed Route	Indirect Analysis Area	Malheur
35ML01552	Pre-Contact	SM Site-5 (Stacked Rock Feature)	Proposed Route	Indirect Analysis Area	Malheur
35ML01553	Pre-Contact	SM Site-6 (Stacked Rock Feature)	Proposed Route	Indirect Analysis Area	Malheur
35ML01641	Historic	Refuse Scatter	Proposed Route	Site Boundary	Malheur
35ML01679	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
35ML01680	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur
35ML01681	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
35ML01959	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Malheur
35ML01960	Pre-Contact	Rock Cairn	Proposed Route	Indirect Analysis Area	Malheur
3B2H-SA-16	Historic	Utility Line & Water Conveyance (Canal component only.)	Proposed Route	Site Boundary	Malheur
4B2H-EK-43	Historic	Water Conveyance	Proposed Route	Site Boundary	Malheur

Site #	Site Class	Site Type	Route	Site Boundary/ Indirect Analysis Area	County
B2H-BS-58	Multicomponent	Lithic Scatter & Refuse Scatter	Proposed Route	Site Boundary	Malheur
B2H-BS-59	Multicomponent	Lithic Scatter & Refuse Scatter	Proposed Route	Site Boundary	Malheur
B2H-BS-65	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
B2H-BS-72	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
B2H-BS-73	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
B2H-BS-74	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
B2H-EE-37	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
B2H-EE-38	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur
B2H-SA-29	Pre-Contact	Lithic Scatter	Proposed Route	Site Boundary	Malheur
B2H-SA-37	Historic	Water Conveyance	Proposed Route	Site Boundary	Malheur
B2H-SA-42	Pre-Contact	Quarry	Proposed Route	Site Boundary	Malheur
B2H-SA-44	Pre-Contact	Lithic/Tool Scatter	Proposed Route	Site Boundary	Malheur

¹ This table lists all currently unevaluated cultural resources in the Site Boundary, as determined by background research and field surveys. Some of these sites may be determined eligible for listing as site evaluations are conducted.

² Survey markers are protected under ORS 209.150 and must not be disturbed.



1

2 **Figure S-1. Oregon Historic Trails**

3.4 Archaeological Objects and Sites

OAR 345-021-0010(1)(s)(B): For private lands, archaeological objects, as defined in ORS 358.905(1)(a), and archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.

OAR 345-021-0010(1)(s)(C): For public lands, archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.

The following sections discuss the archaeological resources that have been identified through background research and field surveys on private and public lands within the analysis area that fall within the definition of either an archaeological object under ORS 358.905(1)(a) or an archaeological site under ORS 358.905(1)(c). For private and public lands, archaeological objects are defined in ORS 358.905(1)(a) and archaeological sites are defined in ORS 358.905(1)(c). “Archaeological object” means an object that: (A) is at least 75 years old; (B) is part of the physical record of an indigenous or other culture found in the state or waters of the state; and (C) is material remains of past human life or activity that are of archaeological significance including, but not limited to, monuments, symbols, tools, facilities, technological by-products and dietary by-products. For private and public lands, archaeological sites are defined in ORS 358.905(1)(c). “Archaeological site” means a geographic locality in Oregon including, but not limited to, submerged and submersible lands and the bed of the sea within the state’s jurisdiction, that contains archaeological objects and the contextual associations of the archaeological objects with (i) each other; or (ii) biotic or geological remains or deposits. Archaeological sites and objects include historic properties, unevaluated properties, and sites found to be not significant or not eligible for inclusion in the NRHP.

The field surveys have identified 181 newly recorded sites, updated 16 previously recorded resources, and identified 129 newly recorded isolated finds (IFs) within the Project Site Boundary.

The newly recorded sites include 60 pre-contact sites, 8 multicomponent sites, 111 historic sites, and 2 undetermined sites. The sites are dominated by pre-contact lithic and tool scatters and cairns, as well as historic refuse scatters, water conveyance features, and mining localities. One of the historic sites is within an area that is overlapped by both the Proposed Route and Double Mountain Alternative, while another two historic sites are within areas overlapped by the Proposed Route and both West of Bombing Range Road alternatives.

The Class I literature review identified 60 sites, including 2 traditional cultural properties (TCPs) and 17 IFs that are located within the Site Boundary. The Proposed Route crosses 57 of the sites, some multiple times. Six of those sites are also crossed by the West of Bombing Range Road Alternatives 1 and 2, while another 7 are also crossed by the Morgan Lake Alternative. Three sites are only crossed by the Morgan Lake Alternative. None of the previously recorded sites are within the Double Mountain Alternative. All 17 of the previously recorded IFs are within the Proposed Route. Two of those IFs are also within the Morgan Lake Alternative in areas where the routes overlap. None of the previously recorded IFs are within the Double Mountain or West of Bombing Range 1 or 2 alternatives.

As noted above, only 16 of the previously recorded sites were updated by the field surveys, including 6 pre-contact sites, 4 multicomponent sites, and 6 historic sites. Three of the previously recorded sites were found to extend into the Site Boundary as a result of field surveys (i.e., the initial background research showed the resources outside of the Site Boundary, but field surveys expanded the resource’s boundary into the Site Boundary). Thirteen of the updated sites are within the Proposed Route, two are within the Morgan Lake Alternative, and one is within both the Proposed Route and Morgan Lake Alternative. None are within the Double Mountain Alternative or either of the West of Bombing Range Road alternatives.

1 Of the resources not identified by the field surveys, 22 were likely not re-located during field surveys
 2 due to poor surface visibility or destruction of the sites. Another ten were within survey areas where
 3 access was denied by landowners. One site, 35ML00475 (0503040078SI), is believed to be misplotted
 4 in the SHPO database and recorded by Tetra Tech as one of two “newly recorded” sites. Two sites
 5 were determined to have been mistakenly entered in SHPO’s database as cultural resources (these
 6 were determined to be survey areas rather than sites). One site extends into Oregon, but is managed
 7 by the Idaho SHPO and is therefore not addressed here (the site is addressed in the Project’s Idaho
 8 survey reports). No information pertaining to the two TCPs could be obtained from CTUIR or BLM and
 9 therefore could not be fully addressed by the field surveys. Twelve of the resources are documented as
 10 along existing roads that did not require survey, per the PA. Seven of the resources were identified in
 11 the Class I research through review of historic maps and other documents (i.e., “potential resources”)
 12 and no archaeological evidence of the resources was observed during the surveys. Thus, these
 13 potential resources could not be ground-truthed. Five of the resources had not been formally recorded
 14 and were instead documented by the survey as “new resources.”

15 All newly recorded and updated previously recorded archaeological resources are detailed in the
 16 Technical Report (confidential Attachment S-6). Table S-4 summarizes the 197 sites. (Note: one newly
 17 recorded historic site is overlapped by both the Proposed Route and Double Mountain Alternative and
 18 is therefore presented in the counts for both; two newly recorded historic sites are overlapped by the
 19 Proposed Route and both West of Bombing Range Road alternatives and are therefore presented in
 20 the counts for all three; and one previously recorded pre-contact site is overlapped by the Proposed
 21 Route and Morgan Lake Alternative and presented in the counts for both.)

22 **Table S-4. Identified Archaeological Sites by Class and Route Segment in the**
 23 **Analysis Area¹**

Route Segments	Pre-Contact Site	Historic Site ²	Multi-component	Unknown Site Type	Total
Proposed Route					
Proposed Route, Morrow County	1	7	0	0	8
Proposed Route, Umatilla County	16	21	0	1	38
Proposed Route, Union County	4	8	2	0	14
Proposed Route, Baker County	9	36	2	0	47
Proposed Route, Malheur County	33	33	5	0	71
Total	63	105	9	1	178
Alternative Routes					
Double Mountain Alternative	2	2	0	0	4
Morgan Lake Alternative	2	11	1	1	15
West of Bombing Range Road Alternative 1	0	2	0	0	2
West of Bombing Range Road Alternative 2	0	2	0	0	2

¹ This table lists archaeological sites present within the Site Boundary, as identified by background research and field surveys, excluding previously recorded resources that were not re-located during field studies.

² One historic site is overlapped by both the Proposed and the Double Mountain Alternative route and is therefore presented twice in the counts for historic archaeological sites. Two historic sites are overlapped by the Proposed Route, West of Bombing Range Road Alternative 1, and West of Bombing Range Road Alternative 2 and are therefore presented three times in the counts for historic archaeological sites. One pre-contact site is overlapped by the Proposed Route and Morgan Lake Alternative and is therefore presented twice in the counts for pre-contact archaeological sites.

3.4.1 Archaeological Sites and Objects on Private Lands

Record searches and field surveys indicate that of the archaeological sites identified in the analysis area, 129 are located on private land. Private land was determined with use of the BLM's "BLM OR Management Ownership Dissolve Polygon" layer, published on October 14, 2015. These spatial data provide information related to surface jurisdiction of lands located in the states of Oregon and Washington. "Private land" was determined by using the property status values of "Private Individual or Company," "Private Non-Industrial Owner," and "Private Urban Lands" within the BLM OR Management Ownership Polygon layer. These sites are summarized below in Table S-5. Thirty-five of the sites are pre-contact, 87 are historic, 5 are multicomponent, and 2 are of unknown time period. The Morgan Lake Alternative is the only alternative route with sites on private land. A site-specific list of recorded sites is provided in the Cultural Resources Technical Report (confidential Attachment S-6).

Table S-5. Identified Archaeological Sites on Private Land by Class and Route Segment in the Analysis Area¹

Route Segments	Pre-Contact Site	Historic Site	Multi-component	Unknown Site Type	Total
Proposed Route					
Proposed Route, Morrow County	1	5	0	0	6
Proposed Route, Umatilla County	16	20	0	1	37
Proposed Route, Union County	3	5	2	0	10
Proposed Route, Baker County	6	30	2	0	38
Proposed Route, Malheur County	7	16	0	0	23
Total	33	76	4	1	114
Alternative Routes					
Double Mountain Alternative	0	0	0	0	0
Morgan Lake Alternative	2	11	1	1	15
West of Bombing Range Road Alternative 1	0	0	0	0	0
West of Bombing Range Road Alternative 2	0	0	0	0	0

¹ This table lists all previously and newly recorded archaeological sites, by site class, identified on private lands within the Site Boundary, as determined during completion of background research and field surveys. Private Land was determined with use of the Bureau of Land Management "BLM OR Management Ownership Dissolve Polygon" layer, published on 10-14-2015. This spatial data provides information related to surface jurisdiction of lands located in the states of Oregon and Washington. "Private land" was determined by using the property status values of "Private Individual or Company," "Private Non-Industrial Owner," and "Private Urban Lands" within the BLM OR Management Ownership Polygon layer.

3.4.2 Archaeological Sites on Public Lands

Record searches and field surveys indicate that, of the newly recorded and updated archaeological sites in the analysis area, 73 are located on public land, summarized below in Table S-6. (Note, one historic site is overlapped by both the Proposed Route and Double Mountain Alternative and is therefore counted twice in the table's total.) Public land was determined with use of the BLM OR Management Ownership Polygon geographic information system (GIS) layer published on October 14, 2015. This layer provides information related to surface jurisdiction, and category of lands located in the states of Oregon and Washington. "Public land" was determined by using the federal status value of "PD - Public Domain" within the BLM OR Management Ownership Polygon layer. Four of these sites are within the Double

1 Mountain Alternative portion of the analysis area, two are within the Morgan Lake Alternative
 2 portion, and 68 are within the Proposed Route. The Double Mountain Alternative and Proposed
 3 Route share one historic site. Sites include 33 pre-contact sites, 35 historic sites, and 5
 4 multicomponent sites. A site-specific list of recorded sites is provided in the Cultural Resources
 5 Technical Report (confidential Attachment S-6).

6 **Table S-6. Identified Archaeological Sites on Public Land by Class and Route**
 7 **Segment in the Analysis Area¹**

Route Segments	Pre-Contact Site	Historic Site	Multi-component	Unknown Site Type	Total
Proposed Route					
Proposed Route, Morrow County	0	0	0	0	0
Proposed Route, Umatilla County	0	1	0	0	1
Proposed Route, Union County	1	0	0	0	1
Proposed Route, Baker County	3	11	0	0	14
Proposed Route, Malheur County	26	21	5	0	52
Total	30	33	5	0	68
Alternative Routes					
Double Mountain Alternative	2	2	0	0	4
Morgan Lake Alternative	1	1	0	0	2
West of Bombing Range Road Alternative 1	0	0	0	0	0
West of Bombing Range Road Alternative 2	0	0	0	0	0

¹ This table lists all previously and newly recorded archaeological sites, by site class, identified on public lands within the Site Boundary, as determined during completion of background research and field surveys. Public Land was determined with use of the Bureau of Land Management "BLM OR Management Ownership Polygon" geographic information system (GIS) layer published on 10-14-2015. This layer provides information related to surface jurisdiction, and category of lands located in the states of Oregon and Washington. "Public land" was determined by using the federal status value of "PD - Public Domain" within the BLM OR Management Ownership Polygon layer.

² One historic site is overlapped by both the Proposed and Double Mountain Alternative route and is therefore presented twice in the total counts for historic archaeological sites.

8

1 **3.4.3 Traditional Cultural Properties**

2 As noted above, two TCPs were identified by the Class I literature review. Both are mapped in
3 SHPO's database as encompassing a portion of the Site Boundary.

4 Sand Hollow Battleground is the site of the largest battle of the Cayuse War, involving the First
5 Oregon Rifle Regiment and the Umatilla, Cayuse, Palouse, and Walla Walla tribes (Minthorn
6 2006; Mitchell 2003). Sisupa is the site of a campsite between the Columbia River and lone
7 (Hunn et al. 2015). No information regarding the two TCPs could be obtained from the CTUIR or
8 BLM. Although minimal information regarding the locations was gleaned from Mitchell (2003),
9 Minthorn (2006), and Hunn et al. (2015), the significance of the sites to the tribes and the
10 qualities that make them TCPs are not detailed in these sources.

11 **3.5 Significant Potential Impacts**

12 OAR 345-021-0010(1)(s)(D): The significant potential impacts, if any, of the construction,
13 operation and retirement of the proposed facility on the resources described in paragraphs (A),
14 (B) and (C) and a plan for protection of those resources that includes at least the following:

15 This section addresses the significant potential impacts, if any, of the construction and
16 operation of the Project on the cultural resources described in paragraphs (A), (B), and (C) of
17 OAR 345-021-0010(1)(s) and a plan for protection of those resources. Significant impacts may
18 occur as a result of direct or indirect (i.e., visual) disturbance of NRHP-listed or -eligible
19 cultural resources or any archaeological sites or objects on any lands. NRHP-eligibility
20 determinations of resources and acceptance of archaeological resources identified thus far are
21 pending review and concurrence by SHPO. Final impact analyses will follow completion of the
22 enhanced archaeological survey, NRHP-eligibility and archaeological site boundary testing,
23 and SHPO concurrence with findings. Required information will be provided in amended or
24 new reports submitted as separate confidential documents, in accordance with ORS
25 192.501(11), at a later date, but prior to ground-disturbing construction activity.

26 **3.5.1 Cultural Resources Inventory Methodology**

27 OAR 345-021-0010(1)(s)(D)(i): A description of any discovery measures, such as surveys,
28 inventories, and limited subsurface testing work, recommended by the State Historic
29 Preservation Officer or the National Park Service of the U.S. Department of Interior for the
30 purpose of locating, identifying and assessing the significance of resources listed in
31 paragraphs (A), (B) and (C).

32 A description of discovery measures, planned or currently underway, including surveys,
33 inventories, and limited subsurface testing work, as recommended by the SHPO and the NPS for
34 the purpose of locating, identifying, and assessing the significance of resources listed in
35 paragraphs (A), (B), and (C) of OAR 345-021-0010(1)(s), is presented above in Section 3.2 and in
36 the ASP (Attachment S-1) and VAHP (Attachment S-2). Continued survey efforts will focus on
37 high probability areas, confirming archaeological site boundaries, and 100 percent inventory of
38 any modifications to existing and new access roads, laydown service areas, communication
39 stations, tensioning and pulling sites, guard structures, or other Project alterations identified
40 subsequent to the initial survey. For those unevaluated sites that cannot be avoided by Project
41 activities, a resource-specific evaluation or testing plan consistent with the HPMP will be
42 developed after completion of the archaeological survey (including inaccessible areas and
43 subsurface testing) to determine the NRHP eligibility of the sites.

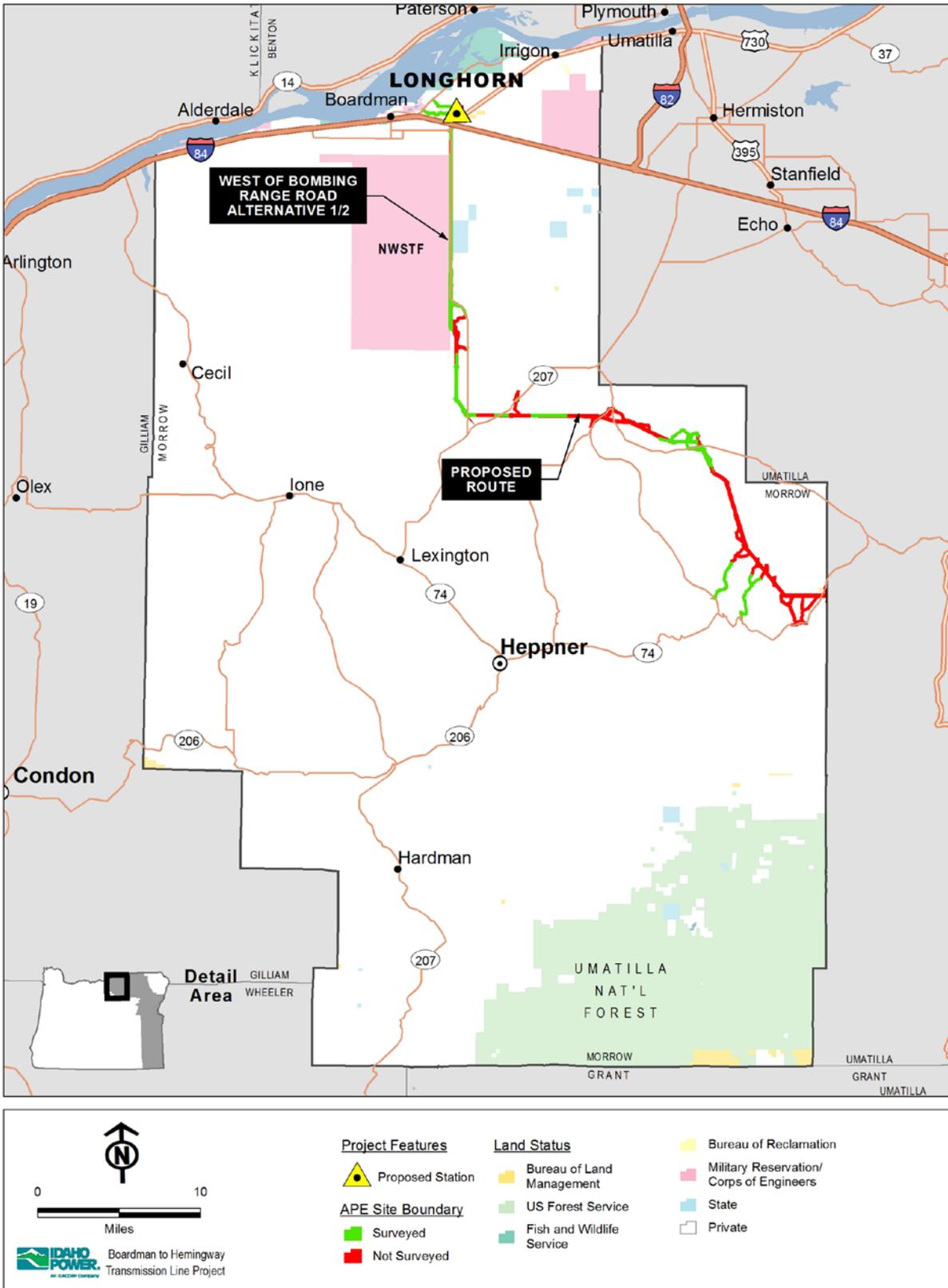
3.5.2 Cultural Resources Survey and Inventory Results

OAR 345-021-0010(1)(s)(D)(ii): The results of the discovery measures described in subparagraph (i), together with an explanation by the applicant of any variations from the survey, inventory, or testing recommended.

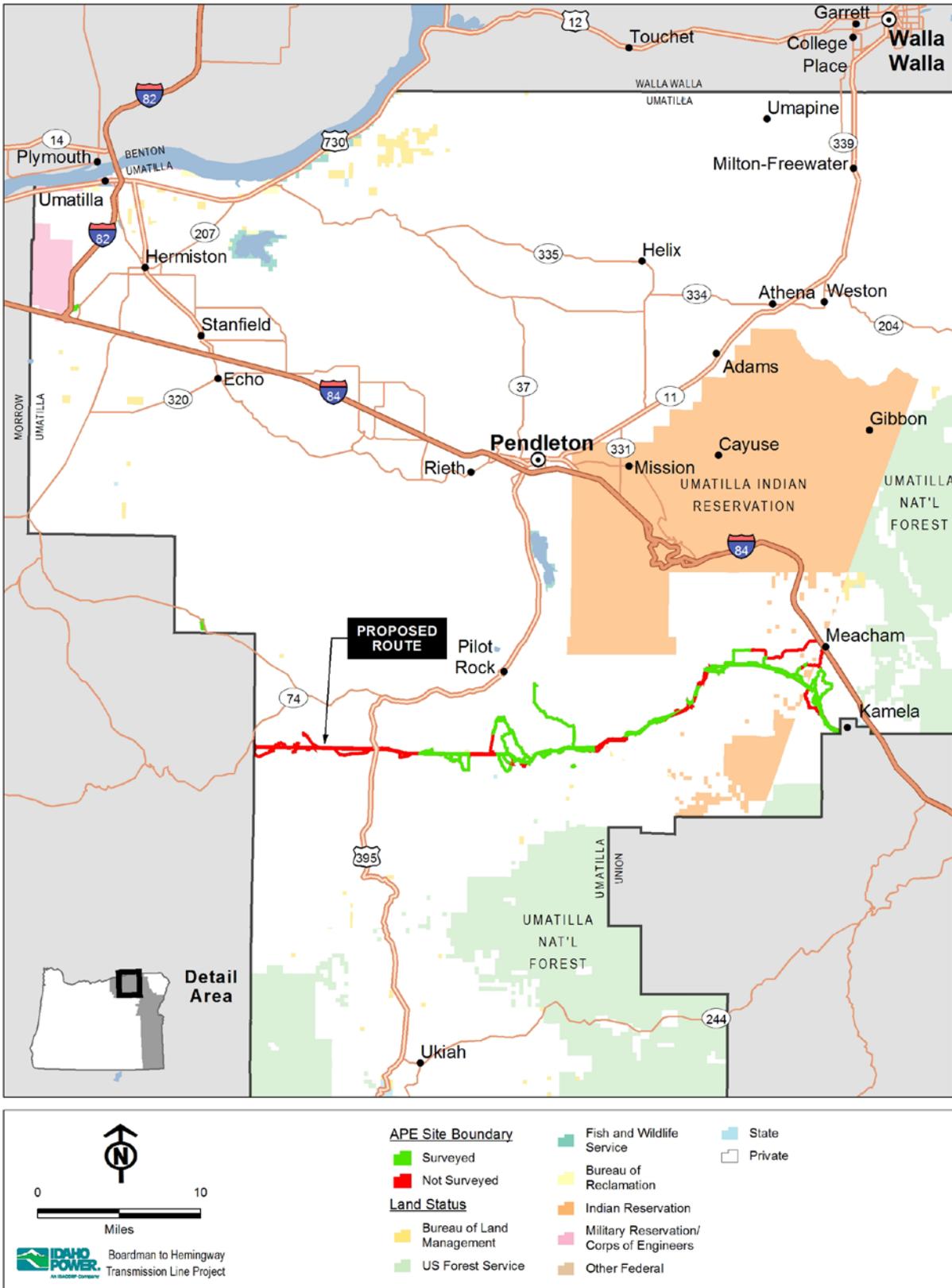
This section addresses the results of the surveys and inventories that were recommended by the Cultural Resources Working Group. Work completed to date includes (1) the compilation of the background research data, as outlined in Section 3.2.1; (2) the preparation of an ASP and VAHP, as discussed in Section 3.2.2 and Section 3.2.3, respectively; (3) progress on the Phase 1 archaeological survey, discussed in Section 3.2.2.1 and presented in Table S-7, below; (4) completion of the Phase 1 RLS and Phase 2 ILS for aboveground resources, discussed in Section 3.2.3; and (5) preparation of a PA for managing cultural resources, discussed in Section 3.2.5.

3.5.2.1 Archaeological Resources

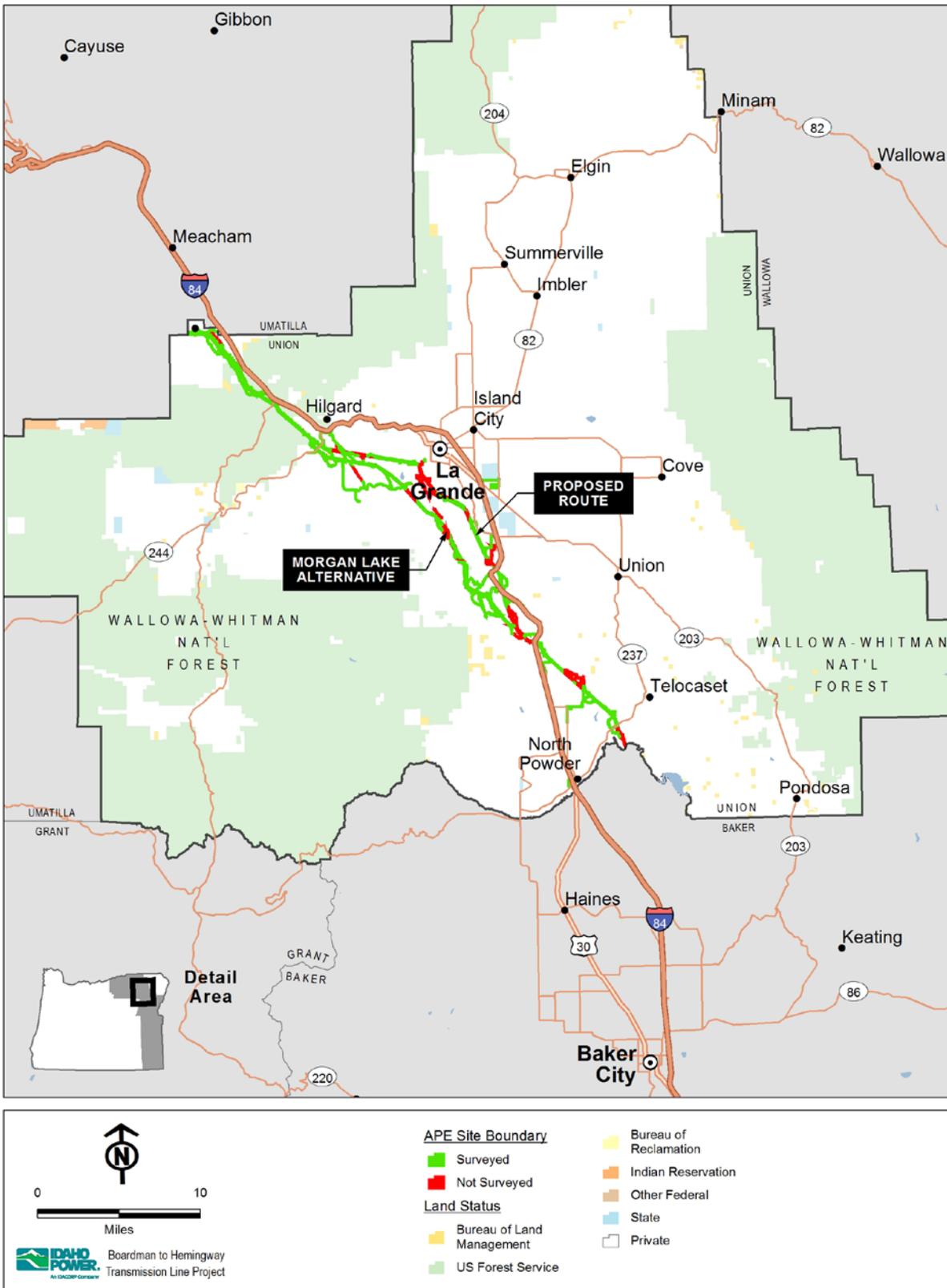
Six pedestrian survey sessions of accessible private and public lands were conducted between the spring of 2011 and the summer of 2016. The first survey session occurred between May and August 2011, the second session between October and November 2011, the third session between May 2012 and August 2012, the fourth session between June and July 2013, the fifth session between April and May 2014, and the sixth session between June and September 2016. The pedestrian surveys covered approximately 198.2 linear miles (72.7 percent) of the Proposed Route in Oregon, 482.2 miles (71.9 percent) of the associated access roads, and 2,558.1 acres (70.1 percent) of the attendant facilities (Longhorn Station, communication stations, multi-use areas, and pulling and tensioning sites). The surveys also covered approximately 7.4 linear miles (100 percent) of the currently proposed Double Mountain Alternative, 20.9 miles (94.6 percent) of the associated access roads, and 108.2 acres (99.5 percent) of the attendant facilities. For the Morgan Lake Alternative, the surveys covered approximately 15.9 linear miles (85.8 percent) of the route, 53.2 miles (85.5 percent) of the associated roads, and 262.5 acres (85.7 percent) of the related and supporting facilities. Approximately 3.7 linear miles (100 percent) of the West of Bombing Range Road 1 Alternative, 3.5 miles (80 percent) of the associated roads, and 26.7 acres (99 percent) of the related and supporting facilities have been surveyed. Approximately 3.7 linear miles (100 percent) of the West of Bombing Range Road 2 Alternative, 4.7 miles (84.5 percent) of the associated roads, and 18.86 acres (98.6 percent) of the related and supporting facilities have also been surveyed. Areas that have been surveyed and areas that have not yet been surveyed are depicted, by county, in Figures S-2 through S-6. Table S-7 includes the status of the archaeological survey by Project segment. The Phase I archaeological survey is complete for the Proposed Route and alternative routes, where access was obtained (69.2 percent of the Proposed Route, 85.9 percent of the Morgan Lake Alternative, and 100 percent of the Double Mountain and both West of Bombing Range Road alternatives).



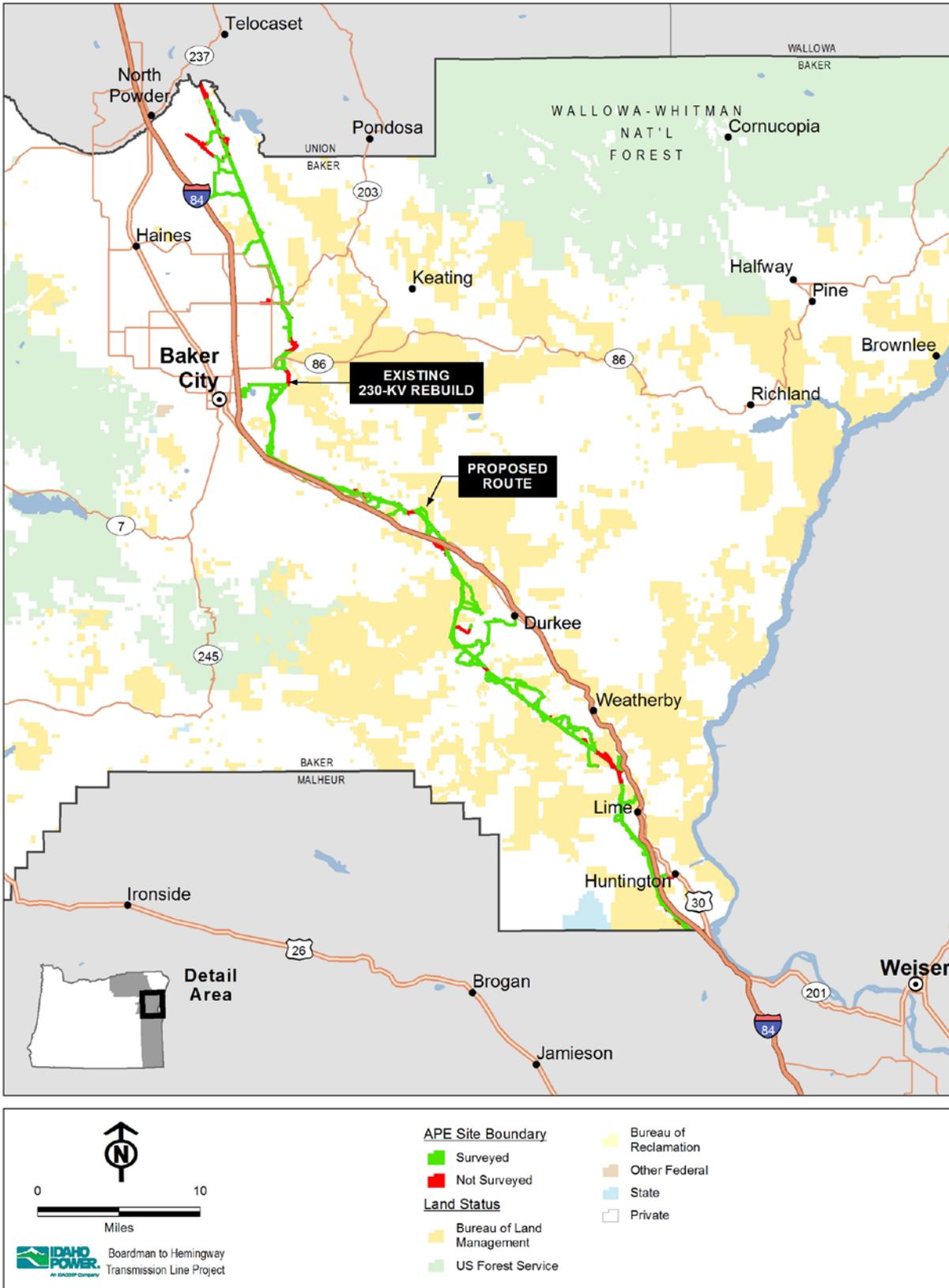
1 Figure S-2. Surveyed Areas of the Site Boundary, Morrow County



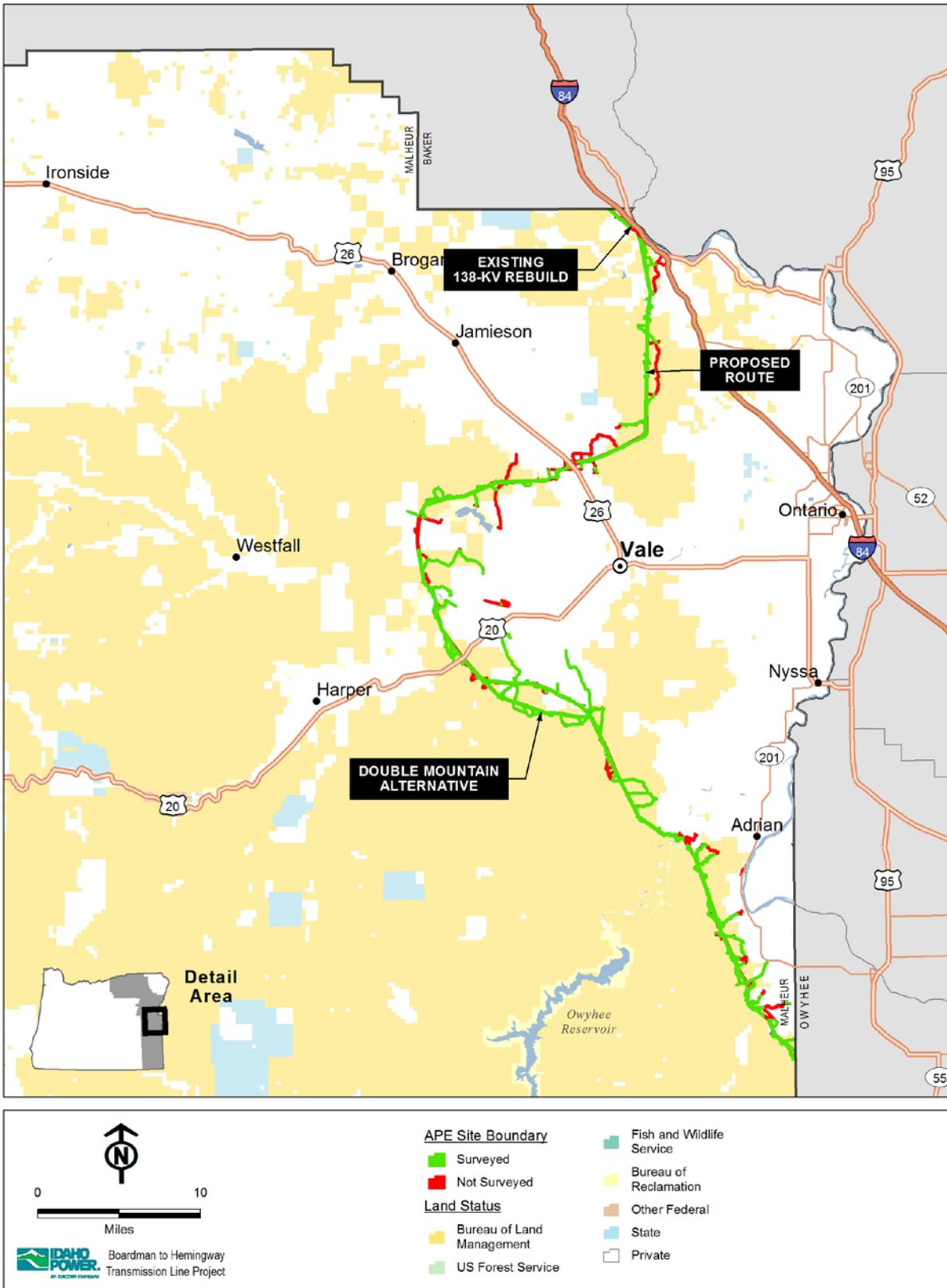
1 **Figure S-3. Surveyed Areas of the Site Boundary, Umatilla County**



1 Figure S-4. Surveyed Areas of the Site Boundary, Union County



1 Figure S-5. Surveyed Areas of the Site Boundary, Baker County



1 **Figure S-6. Surveyed Areas of the Site Boundary, Malheur County**

1 **Table S-7. Summary of Phase 1 Archaeological Survey**

County	Total Miles	Surveyed Miles	Percent Complete
Proposed Route			
Proposed Route, Morrow County	47.46	23.16	48.8%
Proposed Route, Umatilla County	40.88	23.63	57.8%
Proposed Route, Union County	39.89	26.50	66.4%
Proposed Route, Baker County	69.22	57.94	83.7%
Proposed Route, Malheur County	75.16	67.04	89.2%
Alternative Routes			
Double Mountain Alternative	7.40	7.40	100%
Morgan Lake Alternative	18.47	15.87	85.9%
West of Bombing Range Road Alternative 1	3.73	3.73	100%
West of Bombing Range Road Alternative 2	3.73	3.73	100%

2 For the Proposed Route and all alternatives, the transmission line corridor survey areas were
3 500 feet wide (250 feet on either side of centerline of right-of-way), while the road corridors were
4 200 feet wide (100 feet either side of road centerline), consistent with the ASP and PA. This
5 translates to a total of 29,770.98 acres surveyed between May 2011 and September 2016.
6 Unsurveyed portions of the APE were inaccessible due to landowner restrictions at the time of
7 survey or health and safety concerns.

8 As noted in Section 3.4, archaeological survey efforts have resulted in the new recording of 310
9 archaeological resources (sites and IFs) and the updating of 16 previously recorded resources.
10 They include 66 pre-contact sites, 12 multicomponent sites, 117 historic sites, 2 undetermined
11 sites, 90 pre-contact IFs, 5 multicomponent IFs, and 34 historic IFs. One of the historic sites is
12 within an area that is overlapped by both the Proposed Route and Double Mountain Alternative,
13 while another 2 historic sites are within areas overlapped by the Proposed Route and both West
14 of Bombing Range Road alternatives. One of the previously recorded pre-contact sites is
15 overlapped by the Proposed Route and Morgan Lake Alternative. Thirty-two of the previously
16 recorded resources were not identified during field surveys either due to poor ground surface
17 visibility, destruction of the resources, or inaccessibility. Another 25 resources within accessible
18 survey areas were also not identified due to varying issues:

- 19 • One previously recorded site, 35ML00475 (0503040078SI), is believed to be misplotted
20 in the SHPO database and has been recorded by Tetra Tech as one of two “newly
21 recorded” sites. It has been recommended that if the mapped location cannot be
22 avoided, the likely misplotted location of 35ML00475 be revisited and subsurface
23 probing conducted to confirm the absence of the resource at that location.
- 24 • Another two previously recorded sites, Geothermal Sites 5132 and 5133, were
25 mistakenly entered in SHPO’s database as cultural resources. No further management
26 of these non-resources is recommended.
- 27 • Seven resources were identified in the Class I research through review of historic maps
28 and other documents, but no archaeological evidence of the resources were observed
29 during the surveys. It has been recommended that no further management of these
30 resources is necessary.
- 31 • One previously recorded site is managed by the Idaho SHPO (the resource boundary
32 extends into Oregon, while the datum and trinomial are in Idaho) and is addressed by
33 the Project’s Idaho survey reports.

- 1 • Two TCPs, Sand Hollow Battleground and Sisupa, are within the Site Boundary;
 2 however, no information could be obtained from the CTUIR or BLM. As such, it has been
 3 recommended that these resources be directly avoided and construction of Project
 4 elements in their viewsheds be avoided.
- 5 • The remaining 12 previously recorded resources within the Site Boundary are
 6 documented as along existing roads that did not require improvement for use by the
 7 Project. As such, survey was not required at these resource locations and no impact to
 8 the resources are anticipated. No further management of the resources is considered
 9 necessary as long as the Project is not altered to require ground disturbance at the site
 10 locations.

11 Resources that were identified during the field surveys are summarized below in Table S-8. (Note,
 12 one historic archaeological site is overlapped by both the Proposed Route and Double Mountain
 13 Alternative and is therefore presented in the counts for both; two historic sites are overlapped by
 14 the Proposed Route and both West of Bombing Range Road alternatives and are therefore
 15 presented in the counts for all three.)

16 **Table S-8. Archaeological Sites and Isolated Finds¹**

Route Segments	Archaeological Sites ²	Isolated Finds	Total
Proposed Route			
Proposed Route, Morrow County	8	1	9
Proposed Route, Umatilla County	38	9	47
Proposed Route, Union County	9	4	13
Proposed Route, Baker County	46	32	78
Proposed Route, Malheur County	68	73	141
Total	169	119	288
Alternative Routes			
Double Mountain Alternative	4	5	9
Morgan Lake Alternative	15	4	19
West of Bombing Range Road Alternative 1	2	0	2
West of Bombing Range Road Alternative 2	2	0	2

¹ This table lists archaeological sites and isolated finds present within the Site Boundary, as identified during field surveys, excluding previously recorded resources that were not re-located during field studies.

² One site is overlapped by both the Proposed and Double Mountain Alternative route and is therefore presented twice in the total counts for Archaeological Sites. Two sites are overlapped by the Proposed Route, West of Bombing Range Road Alternative 1, and West of Bombing Range Road Alternative 2 and are therefore presented three times in the counts for in the total counts for Archaeological Sites. One updated previously recorded site is overlapped by both the Proposed and Morgan Lake Alternative routes and is therefore presented twice in the total counts for Archaeological Sites.

17 Table S-9 summarizes the archaeological site and IF types that were identified in the analysis
 18 area. Pre-contact sites largely consist of lithic and tool scatters, followed by stone cairns (some
 19 associated with lithic scatters and hunting blinds), quarries, and temporary camps. Historic sites
 20 and site components represent a wide variety of activities. Many are domestic or roadside
 21 refuse scatters, followed by water conveyance features; several mining sites are also
 22 represented, as are homesteads, agricultural and ranching-related sites, and road and trail
 23 segments. The 32 previously recorded resources that were not identified during field surveys
 24 either due to ground surface visibility, destruction, or inaccessibility included 18 sites and 14 IFs.
 25 The sites include 5 pre-contact lithic scatters, 1 pre-contact open camp, 1 pre-contact quarry, 2
 26 multicomponent sites, 2 historic buildings (which will be addressed by the ILS), 1 historic cairn,

1 2 historic refuse scatters, 2 historic road segments, 1 historic rock alignment, and 1 historic
 2 survey marker. The multicomponent sites include 1 pre-contact lithic scatter with a historic
 3 homestead, grave, campground, and trail and 1 pre-contact lithic/tool scatter with a historic
 4 refuse scatter. The IFs include 2 pre-contact bifaces, 6 pieces of pre-contact debitage, 1 piece
 5 of pre-contact groundstone, 1 pre-contact tool, one multicomponent IF (pre-contact debitage
 6 with historic refuse), 1 historic piece of agricultural machinery with refuse, 1 piece of historic
 7 logging material, and 1 piece of historic refuse. It is unclear at this time if these resources still
 8 exist at their mapped location. These 32 previously recorded resources that were not identified
 9 are not included in Table S-9; however, it has been recommended that these locations be
 10 avoided. If avoidance is infeasible, it has been recommended that the surveyed resource
 11 locations be revisited and subsurface probing conducted to confirm the presence or absence of
 12 each resource and an NRHP-eligibility recommendation made based on that work. For those
 13 resources that were in inaccessible survey areas, the resource locations will be surveyed when
 14 access is granted by landowners and NRHP-eligibility recommendations made. Site-specific
 15 information on sites and IFs are provided in the Cultural Resources Technical Report
 16 (confidential Attachment S-6).

17 **Table S-9. Identified Site and IF Types within the Analysis Area¹**

Resource Type	#	Resource Type	#
Pre-Contact Sites		Historic Sites (Continued)	
Cairn(s)	16	Road	7
Cairn(s) & Hunting Blind	3	Structure	3
Cairn(s) & Lithic Scatter	1	Structure & Water Conveyance	2
Cairn(s) & Lithic/Tool Scatter	2	Survey Marker	1
Hunting Blind	1	Trail Segment	4
Lithic Scatter	9	Trail Segment & Utility Line	1
Lithic/Tool Scatter	24	Utility Line	5
Quarry	6	Utility Line & Water Conveyance	1
Temporary Camp	3	Water Conveyance	20
Multicomponent Sites		Undetermined Sites	
Cairn(s), Quarry, & Homestead	1	Cairn(s)	1
Lithic Scatter & Refuse Scatter	3	Rock Alignment	1
Lithic/Tool Scatter & Refuse Scatter	3	Pre-Contact IFs	
Lithic/Tool Scatter, Homestead, & Refuse Scatter	1	Biface(s)	4
Lithic/Tool Scatter, Ranching, Water Conveyance	1	Biface(s) & Debitage	3
Quarry & Refuse Scatter	1	Core(s)	6
Quarry, Refuse Scatter, & Water Conveyance	1	Core(s) & Debitage	2
Temporary Camp & Ranching	1	Core(s), Debitage, & Tested Cobble(s)	1
Historic Sites		Core(s), Debitage, & Utilized Flake(s)	2
Agriculture	11	Debitage	49
Agriculture & Other	1	Debitage & Tested Cobble(s)	1
Agriculture, Ranching	1	Debitage & Tool(s)	2
Cairn(s)	1	Debitage & Utilized Flake(s)	3
Cairn(s) & Trail	1	Other	1
Farmstead	1	Projectile Point(s)	10

Resource Type	#	Resource Type	#
Homestead	5	Utilized Flake(s)	6
Logging/Railroad	1	Multicomponent IFs	
Mining	14	Debitage & Refuse	3
Railroad	3	Debitage, Preform(s), & Refuse	1
Railroad & Utility Line	1	Debitage, Tested Cobble(s), & Refuse	1
Ranching	7	Historic IFs	
Refuse Scatter	24	Agriculture	3
Refuse Scatter & Structure	1	Other	2
Refuse Scatter & Survey Marker	1	Refuse	29

¹ This table lists archaeological sites and isolated finds present within the Site Boundary, as identified during field surveys, excluding previously recorded resources that were not re-located during field studies.

1
2 Of the archaeological resources identified within the analysis area, new or updated, 42 sites
3 have been recommended as NRHP-eligible (including one historic road identified only by the
4 ILS). Two of the NRHP-eligible sites are overlapped by the Proposed Route and both West of
5 Bombing Range Road alternatives. Another 86 sites have been recommended as not eligible for
6 listing on the NRHP. Fifty-four sites could not be evaluated for NRHP eligibility based solely on
7 the current survey findings. Twelve sites include components or unassociated features where
8 each component or feature has a differing NRHP-eligibility recommendation (i.e. one
9 component recommended NRHP-eligible, while the other is recommended as not eligible). Four
10 additional sites include survey markers that, while not NRHP-eligible, are protected by state
11 laws. One of these protected sites is overlapped by both the Proposed Route and Double
12 Mountain Alternative. Two of the sites include a separate site component or feature that has
13 been recommended as not eligible for listing on the NRHP, while one includes a site component
14 that could not be evaluated. All of the IFs identified by the surveys have been preliminarily
15 recommended as not eligible for listing on the NRHP; however, future shovel probing of these
16 localities may reclassify these resources as potentially NRHP-eligible sites. All NRHP eligibility
17 recommendations are considered preliminary and require the concurrence of the SHPO. None
18 of the identified archaeological resources are listed on the NRHP. The recommendations are
19 summarized in Table S-10. (Note, one state-protected site is overlapped by both the Proposed
20 Route and Double Mountain Alternative and is therefore presented in the counts for both; two
21 sites listed as NRHP-eligible are overlapped by the Proposed Route, West of Bombing Range
22 Road Alternative 1, and West of Bombing Range Road Alternative 2 and are therefore
23 presented three times in the counts for these routes; one unevaluated site is overlapped by the
24 Proposed Route and Morgan Lake Alternative and is therefore presented in the counts for both.)

25 It has been recommended that sites and components recommended as NRHP-eligible be
26 avoided. If avoidance is infeasible, it is recommended that data recovery, additional research,
27 and/or consultation with local Native American tribes be conducted. Similarly, survey markers,
28 although not eligible for listing on the NRHP, are protected by State laws and should be
29 avoided. Unevaluated sites and components require subsurface testing, additional research,
30 and/or further consultation to determine their significance. These sites are considered potentially
31 NRHP-eligible for the purposes of impact analyses and should be avoided. If avoidance is not
32 feasible, then the sites should be evaluated following completion of the recommended
33 treatments. Treatments, such as testing and data recovery, are discussed in the ODOE-specific
34 HPMP (Attachment S-9) and will be detailed in future associated resource-specific mitigation
35 plans.

1 **Table S-10. NRHP Eligibility Recommendations for Archaeological Sites Identified**
 2 **within the Analysis Area¹**

Route Segments	Eligible ^{2, 3}	Protected ^{2, 3, 4}	Not Eligible	Unevaluated ^{2, 3}
Proposed Route				
Proposed Route, Morrow County	5	0	2	1
Proposed Route, Umatilla County	1	1	18	18
Proposed Route, Union County	2	0	5	5
Proposed Route, Baker County	8	1	22	15
Proposed Route, Malheur County	29	2	19	20
Total	45	4	66	59
Alternative Routes				
Double Mountain Alternative	0	1	3	0
Morgan Lake Alternative	2	0	10	5
West of Bombing Range Road Alternative 1	2	0	0	0
West of Bombing Range Road Alternative 2	2	0	0	0

¹ This table lists archaeological sites within the Site Boundary that were located during field studies. It does not include previously recorded resources that were not re-located.⁷

² 16 sites include multiple components with differing NRHP-eligibility recommendations or protection statuses. Where this occurs, the site has been included in the count of the more protective recommendation. These include one site listed as NRHP-eligible, but with one eligible and one unevaluated component; eight sites listed as eligible, but one eligible and one not eligible component; five sites listed as unevaluated, but with one unevaluated and one not eligible component; two sites listed as protected, but with a not eligible component and a protected survey/project marker (one of these is overlapped by both the Proposed Route and Double Mountain Alternative); and one site listed as protected, but with an unevaluated component and a protected survey/project marker.

³ One site is overlapped by both the Proposed and Double Mountain Alternative route and is therefore presented twice in the total counts for protected sites. Two sites are overlapped by the Proposed Route, West of Bombing Range Road Alternative 1, and West of Bombing Range Road Alternative 2 and are therefore presented three times in the total counts for eligible sites. One updated previously recorded site is overlapped by both the Proposed Route and Morgan Lake Alternative and is therefore presented twice in the total counts for unevaluated sites.

⁴ Protected resources consist of survey or agency project markers that are protected by state laws, but are not considered NRHP-eligible.

3 3.5.2.2 Aboveground Resources

4 In addition to examining the analysis area, the RLS also addresses an indirect analysis area for
 5 visual, audible, and atmospheric impacts on aboveground cultural resources. Aboveground
 6 resources consist of historic built environment resources (i.e., buildings), historic trails and
 7 monuments, pre-contact cairns/rock features, and pre-contact rock art. The RLS indirect
 8 analysis area (also known as the APE) consists of 5 miles or to the visual horizon, whichever is
 9 closer, on either side of the centerline of the Proposed Route and alternatives. This area was

⁷ As used here, "re-located" refers to "re-finding" a previously recorded resource, not moving something to a new location.

1 reduced to focus on areas where a resource could be visually affected by the Project, based
2 upon a GIS bare-earth viewshed analysis.

3 The RLS fieldwork identified 764 built environment resources in Oregon (this includes multiple
4 crossings of historic trails and pre-contact resources, such as quarries and cairns). These
5 results are detailed in confidential Attachment S-7. Table S-11 summarizes the resources
6 identified by the RLS fieldwork within the Site Boundary and the indirect analysis area. Fifteen of
7 the resources are within the Site Boundary of the Proposed Route. None of the resources are
8 within the Site Boundary of the Double Mountain Alternative.

9 **Table S-11. Aboveground Resource Types Identified by the RLS**

Resource Type	Count ¹	In Site Boundary ²	Resource Type	Count ¹	In Site Boundary ²
Building	606	1	Quarry/Workshop	3	0
Cabin	5	0	Railroad	3	3
Cabin & Rock Wall	1	0	Rock Alignment	13	0
Cairn(s)	11	0	Rock Alignment & Lithic Scatter	2	0
Cairn(s) & Rock Alignment	2	0	Rock Art	3	0
Cairn(s), Rock Alignment, & Lithic Scatter	1	0	Rock Feature	9	0
Cemetery	2	0	Rock Pile & Lithic Scatter	2	0
Historic District	2	0	Rock Shelter	4	0
Historic Structure Complex	1	0	Site	31	1
Homestead	1	0	Spring	1	0
House Pits	2	0	Structure	6	0
Hunting Blind	2	0	Survey District	1	1
Lewis and Clark Trail	1	0	Trail	1	0
Logging/Railroad	2	1	Trail - Oregon Trail Monument	2	0
Midden	2	0	Trail - Oregon Trail Segment	5	2
Midden, Lithic Scatter	1	0	Trail - Oregon Trail, Meek's Cutoff Segment	2	2
Mining	1	0	Transportation	1	0
Object	10	0	Unidentified Goal 5 Resource	4	0
Pre-Contact Camp	1	0	Utility Line	1	1
Quarry	2	0	Water Conveyance	5	3
Quarry/Lithic Scatter	9	0			

¹ The "count" includes aboveground resources present within the Site Boundary and the RLS indirect analysis area, as identified during RLS field surveys. Numbers do not reflect aboveground resources directly within the Site Boundary.

² All resources within the Site Boundary are within the Proposed Route. No resources identified by the RLS are within the Site Boundary of the Double Mountain Alternative.

1 The majority of identified resources in Oregon date from the 1890s to the 1930s. The resource
 2 base is indicative of the expansion and economic development of communities such as Baker
 3 City, La Grande, North Powder, Huntington, and Pilot Rock. A smaller number of resources date
 4 from the 1940s to present. The least number of resources date from the 1840s to 1880s or do
 5 not have recorded dates. Most built environment resources in Oregon tended to be related to
 6 domestic and commercial uses, with smaller numbers of resources related to agriculture,
 7 government, industry, recreation and culture, religion, and transportation. The two most
 8 prevalent building materials used among the surveyed resources were brick and wood. Other
 9 building materials included concrete, metal, stone, stucco, and synthetic siding. The stylistic
 10 attribution of built environment resources ranges in diversity and period depending upon
 11 location. Most resources situated in towns, for instance, tended to draw from Victorian, Period
 12 Revival, nineteenth and twentieth century American Movements, Modern Period, and the
 13 Classical Revival stylistic traditions. Vernacular, utilitarian, and resources that lacked attribution
 14 tended to be situated in rural locations.

15 The RLS identified eight locations where segments of a historic trail or associated trail feature
 16 were present either within the Site Boundary or within the visual indirect analysis area used in
 17 the RLS. One of these (a Meek's Cutoff segment) is crossed by both the Proposed Route and
 18 the Double Mountain Alternative. The trail segments are summarized in Table S-12.

19 **Table S-12. Historic Trail Segments Identified by the RLS¹**

Route Segments	Description	NRHP-Eligibility Status	Site Boundary/ Indirect RLS Analysis Area
Proposed Route			
Proposed Route, Morrow County	Lewis and Clark Trail	Eligible/Significant	Indirect RLS Analysis Area
Proposed Route, Union County	Oregon Trail Whiskey Creek (B2H-UN-005)	Unevaluated	Indirect RLS Analysis Area
Proposed Route, Baker County	Oregon Trail Straw Ranch (B2H-BA-285)	Eligible/Contributing	Site Boundary
	Oregon Trail Goal 5 Segment (2 segments) (B2H-BA-337)	Unevaluated	Indirect RLS Analysis Area
Proposed Route, Malheur County	Trail (0503040050SI)	Unevaluated	Indirect RLS Analysis Area
	Meek Cutoff (2 segments)	Not Contributing	Site Boundary
Alternative Route			
Double Mountain Alternative	Meek Cutoff (1 segment) (B2H-MA-003)	Not Eligible	Indirect RLS Analysis Area

¹ This table lists historic trail segments and associated features present within the Site Boundary and indirect analysis area, as identified during field surveys for the RLS.

20 Of the resources identified by the RLS, the majority (384) have been evaluated as likely NRHP-
 21 eligible as contributing elements to a district or potential district. An additional 187 have been
 22 evaluated as not contributing (i.e., elements that would not be NRHP-eligible individually or
 23 within a district or potential district) and 119 have not been evaluated for NRHP eligibility. Two
 24 sites, one evaluated as non-contributing and another that could not be evaluated, are
 25 overlapped by both the Proposed Route and Double Mountain Alternative. The remaining
 26 resources have been evaluated as either NRHP-eligible, are NRHP-listed (individually or as a
 27 district), or have been determined to have not been built during the historic period. Table S-13
 28 summarizes the NRHP eligibility of the aboveground resources identified by the RLS as within

1 the Site Boundary and the RLS' indirect analysis area. (Note, two resources, one non-
 2 contributing and one unevaluated, are overlapped by both the Proposed Route and Double
 3 Mountain Alternative and are therefore presented in the counts for both. Both of these are within
 4 the RLS' indirect analysis area.) Only 15 of the identified aboveground resources are within the
 5 Site Boundary of the Proposed Route. These include 3 NRHP-eligible/Contributing resources in
 6 Baker (2) and Morrow (1) counties; 2 NRHP-ineligible/Non-Contributing resources in Malheur
 7 County; and 10 unevaluated resources in Morrow (2), Union (2), Baker (2), and Malheur (4)
 8 counties. No aboveground resources are within the Site Boundary of the Double Mountain
 9 Alternative.

10 **Table S-13. Aboveground Resources Identified by the RLS¹**

Route Segments	NRHP Eligibility Evaluation										Total
	EC	ES	NC ²	NP	NRB	NRD	NRHD	NRI	NS	UN ²	
Proposed Route											
Proposed Route, Morrow County	16	1	24	0	0	0	0	1	0	9	51
Proposed Route, Umatilla County	65	0	45	6	0	0	0	1	0	3	120
Proposed Route, Union County	80	3	77	13	5	1	0	8	1	45	233
Proposed Route, Baker County	218	2	39	23	0	1	2	6	0	43	334
Proposed Route, Malheur County	5	0	2	0	0	0	0	0	0	19	26
Total	384	6	187	42	5	2	2	16	1	119	764
Alternative Route											
Double Mountain Alternative	0	0	1	0	0	0	0	0	0	1	2

¹ This table lists aboveground resources present within the Site Boundary and the RLS indirect analysis area, as identified during field surveys for the RLS. Numbers do not reflect aboveground resources directly within the Site Boundary.

² Two resources are overlapped by both the Proposed and Alternative routes and are therefore presented twice in the total counts for Aboveground Resources.

EC – Eligible Contributing (not likely eligible individually, but would be as part of a group)

ES – Eligible Significant (likely individually eligible)

NC – Not Contributing (not likely eligible as a group or individually)

NP – Not to period (not built within the historic period-end of study)

NRB – Individually listed on the NRHP and listed as Contributing to a District (NRD)

NRD – National Register District (the district itself as a unit/single entity)

NRHD – Included within a NRHP Historic District (NRD)

NRI – Individually listed on the NRHP (not in a district)

NS – Listed as part of an NRI, but not the focal building-an associated feature.

UN – Unevaluated (usually archaeological or has not been visited yet)

11 The RLS recommended that built-environment resources, unevaluated resources, NRHP-
 12 eligible resources, NRHP-listed resources, and Goal 5 resources with the potential to have
 13 indirect visual effects from the Project be assessed in the ILS to confirm whether they are
 14 NRHP-eligible and, if so, whether they would be potentially affected.

15 The potential for effects to resources was estimated during fieldwork based on maps of the Site
 16 Boundary and observations of existing conditions that included considerations such as

1 topography and vegetation. For those unevaluated and eligible resources that have not been
2 formally determined eligible, additional research and fieldwork was conducted to verify eligibility.
3 For those historic properties that are either listed in the NRHP or have been formally determined
4 eligible for the NRHP, Project effects will be assessed utilizing the methods outlined in the
5 VAHP (Attachment S-2). This visibility analysis may include utilizing Project simulations as a
6 means for assessing Project effects to historic properties. For archaeological sites with
7 aboveground features, an additional level of screening analysis and research was performed
8 prior to assessing the Project effects to these resources. Many of the archaeological sites with
9 aboveground features remain unevaluated as they consist of features that lack diagnostic
10 components to verify dating and/or cultural affiliation. In these instances, an effects analysis was
11 performed to provide an estimate of Project effects. For these resources, it is recommended that
12 ODOE or SHPO consult to ensure that these resources are appropriately considered.

13 The majority of eligible and/or NRHP-listed properties are located in towns like North Powder,
14 Pilot Rock, La Grande, and Island City that are far enough from the Project that there will be no
15 view of the Project because of topography or surrounding development. The GIS bare-earth
16 model as well as fieldwork was used to verify that these communities would experience little to
17 no view of the Project. In these cases, there will either be no potential for an effect (because the
18 Project is not at all visible) or no adverse effect (because the Project is so distant that any
19 change to the setting will be extremely minor). Due to the layout of the street grid in Baker City,
20 minimal effects from the east edge of the Baker City Historic District are anticipated. Additional
21 effects analysis for this resource occurred during the ILS. Huntington, which contains one
22 property listed on the NRHP, will be assessed for potential impacts as a historic grouping (as
23 there appears to be insufficient integrity as a district).

24 The ILS study included 217 resources in Oregon. These resources included NRHP-listed
25 resources as well as historic resources that were recommended for additional study or NRHP
26 evaluation, or were unevaluated resources, archaeological sites with aboveground features, or
27 were newly identified following a updated literature search and data gap analysis to cover
28 portions of the Project APE that were not previously identified. Of the 217 resources, 141 were
29 evaluated for Project effects while 76 were eliminated from the study for various reasons.

30 Of the 76 eliminated from the study, twenty resources are not in the APE for the EFSC study,
31 and 3 have insufficient location information to be evaluated and thus were no longer considered
32 in the study. An additional 30 resources were eliminated from the analysis because they were
33 found to be not eligible. Twenty-two resources retain no aboveground features. One resource,
34 a small segment of canal, was combined with another resource that evaluated the same canal
35 closer to the Project.

36 The 141 resources advanced for additional analysis were eligible for the NRHP, listed on the
37 NRHP, or unevaluated and analyzed for project effects. Thirty-nine of these resources would
38 have no view of the Project and would not be indirectly affected by the Project. No adverse
39 effects are anticipated for 67 resources. Potential adverse effects are anticipated for 23
40 resources.

41 Twelve resources require further consultation and research before making a recommendation
42 on Project effects. These include 35MW1, 35MW2, 35MW11, SL-MO-003, SL-MO-004, UP-102,
43 UP-103, UP-106, Unassigned Site (Lookout), Range Unit 12 Site 1, Range Unit 12 Site 2, and
44 SL-MO-001 (SL-MO-005). It should be noted that remote impact assessments were performed
45 for sites where property owner access was denied. These remote impact assessments were
46 performed for 35MW245, 35MW248, 35UM472, Elkhorn cairn concentration, 35UN304,
47 35UN307, 35UN375, 35UN388, 35UN393, 35UN396, 35UN410, 35UN418, 35UN493,
48 35UN499, and 35UN624.

1 VAHP forms are provided for the 99 resources that will have a view of the Project. Some
 2 resources are grouped onto a single VAHP form based on their geographic proximity and
 3 shared integrity of setting, feeling, and association; this resulted in a total of 54 VAHP forms,
 4 provided in confidential Attachment S-10.

5 The Project will have no adverse effect on 67 resources and will have potential indirect adverse
 6 effects on 23 resources. The Project will cross 5 historic properties with the potential for direct
 7 adverse effects. A list of sites with potential adverse effects and proposed mitigation measures
 8 is provided in Table S-14. The majority of potential adverse effects could occur to stacked rock
 9 features/cairns. Due to the difficulty in dating and attributing cultural origin, additional
 10 consultation with ODOE or SHPO is recommended as an interim step towards determining if
 11 mitigation would be appropriate.

12 **Table S-14. Project Effects to and Proposed Mitigation of Aboveground Resources**

ID Number	Resource Name	Effect	Proposed Mitigation
CFR 1064	Vey Ranch	Potential Adverse Effect	NR Nomination, Public Interpretation Funding
35MW1	Midden	Further research and consultation necessary	Consultation
35MW2	Camp, shell midden, lithic scatter	Further research and consultation necessary	Consultation
35MW11	Midden	Further research and consultation necessary	Consultation
SL-MO-001, SL-MO-005	Sand Hollow Battle Ground - (Associated Report #26196)	Further research and consultation necessary	Consultation
35MW248	Rock Cairns	Potential Adverse Effect	Consultation
SL-MO-003	Map A2: Nisxt (Associated Report #26592)	Further research and consultation necessary	Consultation
SL-MO-004	Map B2, C2, C3: Sisupa (Associated Report #26196)	Further research and consultation necessary	Consultation
UP-102	Two Log Cabins	Further research and consultation necessary	Consultation
UP-103	Buckhorn Cabin	Further research and consultation necessary	Consultation
UP-106	Historic Cabin	Further research and consultation necessary	Consultation
Site	Historic Lookout Tower	Further research and consultation necessary	Consultation

ID Number	Resource Name	Effect	Proposed Mitigation
Range Unit 12 Site 1	Rock Cairn	Further research and consultation necessary	Consultation
Range Unit 12 Site 2	Rock Cairn	Further research and consultation necessary	Consultation
B2H-UM-006	Daly Wagon Road	Potential Adverse Effect	Public Interpretation Funding, Print/Media Publication
35UN459	Rock Cairn	Potential Adverse Effect	Consultation
35UN493	Rock Cairn	Potential Adverse Effect	Consultation
B2H-BA-282	Oregon Trail ACEC - Virtue Flat segment and Flagstaff Hill	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
B2H-BA-285 (3B2H-CH-05)	Oregon Trail ACEC - Straw Ranch 1 and 2	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
B2H-BA-327	Goodale's/Sparta Trail	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
0503050334SI	Rock cairn, rock alignment	Potential Adverse Effect	Consultation
14S44E14-2	Rock cairns, rock alignment, lithic scatter; Three Stone Rock Stacks	Potential Adverse Effect	Consultation
35BA372	Rock Cairn	Potential Adverse Effect	Consultation
35BA388	Rock Alignment	Potential Adverse Effect	Consultation
35BA1423	Hunting blind rock stacks. Identified by CTUIR informant near ODOT borrow pit	Potential Adverse Effect	Consultation
B2H-MA-041	Oregon Trail ACEC - Alkali Springs Segment	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
B2H-MA-042	Oregon Trail ACEC-Birch Creek segment	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
35ML550	Ali-Alk Rock shelter	Potential Adverse Effect	Consultation

ID Number	Resource Name	Effect	Proposed Mitigation
35ML1549	SM Site-2 (Stacked Rock Feature)	Potential Adverse Effect	Consultation
35ML1550	SM Site-3 (Stacked Rock Feature)	Potential Adverse Effect	Consultation
35ML1552	SM Site-5 (Stacked Rock Feature)	Potential Adverse Effect	Consultation
35ML1553	SM Site-6 (Stacked Rock Feature)	Potential Adverse Effect	Consultation
35ML552	Ali-Alk Stacked Stone Rings	Potential Adverse Effect	Consultation
35ML1959	Rock Cairn	Potential Adverse Effect	Consultation
35ML1960	Rock Cairn	Potential Adverse Effect	Consultation

1 3.5.2.3 Aboveground Resources: Oregon Trail-ILS

2 This section provides an overview of resources associated with the Oregon Trail that
3 summarizes identification and evaluation efforts during the ILS and an analysis of potential
4 Project impacts. The resources discussed in this section are also mentioned in the resource
5 counts and tables in previous parts of Exhibit S but are presented in summary form here to
6 provide a unified discussion.

7 The evaluation of segments, sites, and side trails associated with the Oregon Trail was
8 performed consistent with the currently proposed Multiple Property Documentation Form
9 (MPDF) for the Oregon Trail, Oregon 1840-1880 as well as *Guidance for Recording and*
10 *Evaluating Linear Cultural Resources* (Oregon SHPO 2013). The MPDF has been approved by
11 the Oregon State Advisory Commission on Historic Preservation but has yet to be approved by
12 the Keeper of the National Register. The draft MPDF provides a framework for evaluating the
13 various property types associated with the Oregon Trail in the State of Oregon that could be
14 buildings, structures, objects, or sites as well as districts. The MPDF also considers the Oregon
15 Trail a linear historic district (in its totality) that contains contributing and non-contributing
16 resources located within its historic boundaries. The Oregon Trail is also considered to be
17 significant at the national level and has been designated as an NHT (see Attachment S-8).

18 The MPDF discusses several Property Types associated with the Oregon Trail and specifically
19 discusses the associated resources that fall under this typology. The following is a list of MPDF
20 Property Types and associated resources located within the Project APE: river crossings, fords,
21 and ferries; intersecting routes; Indian agencies/reservations; Euro-American towns; springs;
22 mountain ascents and descents; valleys; landmarks; battle sites; and important camping sites.

23 Consistent with both the *Guidance for Recording and Evaluating Linear Cultural Resources* and
24 the Project Study Plan, the Oregon Trail analysis consisted of a literature review, survey and
25 field recordation through a RLS and ILS, photographs and maps, evaluation, integrity
26 assessment, and Project impacts assessment. Table S-15 lists 28 resources associated with
27 the Oregon Trail that were assessed during fieldwork; 25 resources were assessed as a part of
28 the aboveground resources analysis, two with the archaeological resources analysis, and one in
29 both studies (Table S-15). Of the 28 Oregon Trail resources, 3 were identified as being within
30 the Site Boundary (B2H-BA-285, 4B2H-EK-41, and 5B2H-SA-01). Seventeen NRHP-eligible
31 Oregon Trail-related resources were recommended for the visual impacts assessment and

- 1 following that analysis eight resources had the potential to be adversely affected by the Project
 2 (Table S-16).

3 **Table S-15. List of Oregon Trail-Related Resources**

ID Number (Archaeology ID)¹	Resource Name	Eligibility Recommendation²	APE	Status
B2H-MO-002	Willow Creek Campground	UN (not evaluated)	Not in APE	No further work
B2H-MO-004 (35MW230)	Emigrant Cemetery	EC (contributing resource to Well Springs Segment – pending NRHP revision)	Proposed Route/ West of Bombing Range Road Alternative 1/2	Impact Analysis
B2H-MO-007 (3B2H-CH-01; 4B2H-VIZ-EK-01; and 35MW224)	Oregon Trail (Well Springs Segment)*	NRHP-Listed	Proposed Route/West of Bombing Range Road Alternative 1/2	Impact Analysis
B2H-MO-008 (3B2H-SA-05)	Oregon Trail: Unnamed segment	EC (1 contributing segment (Sand Hollow); 1 non- contributing segment (Lindsay Feedlot Lane)	Proposed Route/West of Bombing Range Road Alternative 1/2	Impact Analysis
SL-MO-001; SL- MO-005	Sand Hollow Battle Ground – (Associated Report #26196)	Previously determined eligible (resource is also a historic property with religious and cultural significance)	Proposed Route/West of Bombing Range Road Alternative ½	Consultation Required
4B2H-EK-02	Oregon Trail Segment (Unnamed)	EC	Proposed Route (Site Boundary)	See Attachment- 6
5B2H-SA-01	Oregon Trail Segment (Unnamed)	EC	Proposed Route (Site Boundary)	See Attachment- 6
B2H-UN-001 (35UN517)	Oregon Trail Interpretive Park ACEC – California Gulch/Blue Mountain	EC	Proposed Route	Impact Analysis
B2H-UN-005 (O-BK-UN-1)	Oregon Trail: Whiskey Creek Segment	NC (non- contributing segment)	Proposed Route/ Morgan Lake Alternative	No Further Work
35UN435	Oregon Trail (in Ladd Canyon)	UN	No View of Project	No Further Work
35UM365	Meacham Pioneer Memorial Cemetery Site	NC	No View of Project	No Further Work

ID Number (Archaeology ID)¹	Resource Name	Eligibility Recommendation²	APE	Status
35UM472	Grave Associated with Oregon Trail	UN	Proposed Route	Impact Analysis
0503050143SI	Meeker Oregon Trail Monument	NRHP (Listing Pending)	Proposed Route/Existing 230kV Rebuild	Impact Analysis
0503050144SI	Kiwanis Oregon Trail Monument	EC	Proposed Route/Existing 230kV Rebuild	Impact Analysis
B2H-BA-281	Oregon Trail ACEC -- White Swan	EC	Proposed Route	Impact Analysis
B2H-BA-282	Oregon Trail ACEC - Virtue Flat (Flagstaff Hill, NHOTIC)	EC (NRHP listing pending)	Proposed Route/ Existing 230-kV Rebuild	Impact Analysis
3B2H-CH-05 B2H-BA-285	Oregon Trail ACEC -- Straw Ranch 1 and 2 (near Pleasant Valley & Durkee)	EC	Proposed Route	Impact Analysis
B2H-BA-286	Signature Rock	UN (Could not relocate – search area is several square miles)	Proposed Route	No Further Work
B2H-BA-291 (35BA1366)	Oregon Trail ACEC -- Swayze Creek (near Plano Road) (includes Sisely Creek Segment)	EC	Proposed Route	Impact Analysis
B2H-BA-296	Rattlesnake Springs Landmark	EC (RLS)	No View of Project	No Further Work
B2H-BA-327	Goodale's/Sparta Trail	EC (area assessed overlaps with B2H-BA-282)	Proposed Route/ Existing 230-kV Rebuild	Impact Analysis
B2H-BA-337	Oregon Trail ACEC – Powell Creek Segment (Chimney Creek)	EC	Proposed Route	Impact Analysis
4B2H-EK-41	Oregon Trail Segment (Unnamed)	EC	Proposed Route	See Attachment-6
B2H-MA-003	Meek Cutoff	NC (non-contributing segment)	Proposed Route/ Double Mountain Alternative	No Further Work
B2H-MA-010 (see also 35ML747)	Oregon Trail ACEC -- Tub Mountain	EC	Proposed Route/Existing 138-kV Rebuild	Impact Analysis

ID Number (Archaeology ID) ¹	Resource Name	Eligibility Recommendation ²	APE	Status
B2H-MA-041	Oregon Trail: Alkali Springs Segment	EC	Proposed Route	Impact Analysis
B2H-MA-042	Oregon Trail ACEC – Birch Creek	EC	Proposed Route/Existing 138-kV Rebuild	Impact Analysis
B2H-MA-007	Dalles Military Road	NC	Not in APE	No Further Work

¹ Some Oregon Trail Area of Critical Environmental Concern (ACEC) segments are listed in the OHSD by different names than in the BLM's Oregon National Historic Trail Management Plan (1989). This table lists the BLM name first with the OHSD name in parentheses.

² NRHP eligibility evaluations: EC=Eligible/Contributing, ES=Eligible/Significant, NC=Not Eligible, UN=Unevaluated

1 **Table S-16. Project Impacts to and Proposed Mitigation for Oregon Trail**
 2 **Resources**

ID Number	Resource Name	Effect	Proposed Mitigation
SL-MO-001, SL-MO-005	Sand Hollow Battle Ground - (Associated Report #26196) (for its associations with Oregon Trail)	Potential Adverse Effect	Consultation
5B2H-SA-01	Oregon Trail (Unnamed Segment)	Potential Adverse Effect (Site Boundary)	See Attachment-6
B2H-BA-282	Oregon Trail ACEC - Virtue Flat segment and Flagstaff Hill*	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
3B2H-CH-05 B2H-BA-285	Oregon Trail ACEC - Straw Ranch 1 and 2	Potential Adverse Effect (Site Boundary)	Design Modification, Public Interpretation Funding, Print/Media Publication See Attachment-6
B2H-BA-327	Goodale's/Sparta Trail	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
B2H-MA-041	Oregon Trail ACEC - Alkali Springs Segment	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
B2H-MA-042	Oregon Trail ACEC- Birch Creek segment	Potential Adverse Effect	Design Modification, Public Interpretation Funding, Print/Media Publication
4B2H-EK-41	Oregon Trail Segment	Potential Adverse Effect (Site Boundary)	See Attachment-6

1 In addition to considering the potential for site-specific impacts, an analysis that considers the
2 potential cumulative impacts to Oregon Trail Resources was prepared. Utilizing various Oregon
3 Trail GIS data sets from the NPS, Oregon SHPO, and BLM, data were collected on a
4 cumulative basis to provide a general indication of potential cumulative visual impacts from
5 within the Project indirect APE based on a bare earth digital elevation model. There are some
6 notable limitations in using this data. First, the bare earth model is based only on the
7 topographic screening a viewer would experience in the absence of intervening vegetation,
8 buildings/structures and/or hazy atmospheric conditions. For approximately 29 miles between
9 Emigrant Springs State Heritage Area and La Grande, Oregon, for instance, most views of the
10 Project would be obscured by tall evergreen tree vegetation and rolling topography. Additionally,
11 the model does not gauge the number of towers that would be visible or the extent of tower
12 heights that would be visible from the length of the Oregon Trail.

13 The data were compiled to illustrate the potential for cumulative indirect impacts but is not truly
14 reflective of the magnitude of impacts. As noted in Table S-15, impacts to individual Oregon Trail-
15 related resources vary by individual site due to a number of variables including distance,
16 intervening topography, vegetation, atmospheric conditions, and the built environment. In addition,
17 in many instances, the physical setting and/or landscape surrounding the Oregon Trail has been
18 diminished through the introduction of roads, electrical distribution and transmission lines,
19 fencelines, and other forms of development. Depending upon the extent of alterations to the
20 existing setting, Project-related impacts are reduced if they occur in previously altered physical
21 settings. An additional consideration is the historical integrity of the Oregon Trail and its related
22 resources as its presence on the landscape has been diminished over time, thus creating a
23 discontinuous historic district with contributing and non-contributing segments and sites.

24 As an overview of the cumulative impacts analysis, of the 177.97 miles of the Congressionally
25 Designated Route of the Oregon NHT, 43.89 miles would have a potential view that is within
26 0.5 mile of the Site Boundary. For "Contributing Trail Segments" or segments of the Oregon
27 Trail that have been previously identified by surveys or listed on the National Register,
28 approximately 89.35 miles of these segments lies within the 5-mile APE and about 27.43 miles
29 would have a potential view that is within 0.5 mile of the Site Boundary.

30 While the cumulative effect data provide a general indication of the magnitude for indirect
31 impacts, the site-specific analysis performed during the ILS and included in Table S-15 is more
32 precise in its assessment of impacts and informs Project planning in an effort to avoid, reduce,
33 or mitigate impacts. Due to the generalized nature of the cumulative impacts data, IPC
34 proposes site-specific mitigation measures in Table S-19.

35 **3.5.3 Direct Impacts to Cultural Resources**

36 Direct impacts may occur as a result of direct disturbance of NRHP-listed or -eligible cultural
37 resources or any archaeological sites or objects on any lands.

38 As noted above, archaeological survey efforts have resulted in the recording or updating of 326
39 archaeological resources. These resources include 67 pre-contact sites, 12 multicomponent sites,
40 112 historic sites, 2 undetermined sites, 90 pre-contact IFs, 5 multicomponent IFs, and 38 historic
41 IFs. Some of these resources are also aboveground resources, such as pre-contact cairns and
42 homesteads. An additional four aboveground resources without archaeological components are
43 also within the Site Boundary. The Proposed Route will impact 299 of the identified resources,
44 while the Double Mountain Alternative will impact 9 of the resources, the Morgan Lake Alternative
45 will impact 22 of the resources, and both West of Bombing Range Road alternatives will impact 2
46 of the resources.

1 An additional 32 previously recorded resources were not identified during field surveys either due
2 to poor ground surface visibility, destruction of the resources, or access issues. Two additional
3 resources are TCPs for which no information could be obtained. Additional resources may exist
4 within inaccessible, areas. Only the Double Mountain and both West of Bombing Range Road
5 alternatives have been 100 percent surveyed. Of the archaeological sites and aboveground
6 resources identified by the surveys, 45 have been recommended as NRHP-eligible. However,
7 the NRHP eligibility of one of those resources is based on a ditch segment recorded east of the
8 Site Boundary during surveys for a prior route alignment. Although mapped by SHPO as within
9 the Direct APE, no evidence of the resource was observed during survey of the current
10 alignment and Site Boundary. Therefore, impacts to only 44 NRHP-eligible sites are considered
11 here. None of the identified resources are listed on the NRHP. NRHP-eligibility determinations
12 of resources and acceptance of archaeological resources identified thus far are pending review
13 and concurrence by SHPO. Additional archaeological sites and objects that may be NRHP-
14 eligible may exist within inaccessible parcels of the analysis area.

15 Ground disturbance within the boundaries of the 44 NRHP-eligible archaeological sites within
16 the Site Boundary, any of the 325 archaeological sites and objects identified by surveys, or
17 either of the two TCPs will be considered direct impacts to cultural resources. These will be
18 permanent impacts since archaeological resources are non-renewable resources. Similar
19 permanent direct impacts may occur at the locations of the 32 previously recorded resources
20 that were not identified during field surveys if their locations cannot be accessed for survey or it
21 cannot be confirmed that those in surveyed areas no longer exist. Since there is always
22 potential for unidentified archaeological resources to exist, even in areas surveyed for cultural
23 resources, additional permanent direct impacts may also occur as a result of ground
24 disturbance in unidentified archaeological resources.

25 These direct impacts will be mitigated through IPC's proposed measures to prevent destruction
26 of historic, cultural, and archaeological resources (see Section 3.5.5), HPMP and IDP (see
27 Section 3.6), and site certificate conditions (see Section 5.0).

28 Table S-17 summarizes the type, timing, duration, and mitigation measures related to the
29 Project's potential permanent direct impacts to historic, cultural, and archaeological resources.

30

1 **Table S-17. Type, Timing, Duration, and Mitigation Measures Related to**
 2 **Permanent Direct Impacts to Historic, Cultural, and Archaeological Resources**

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Mitigation Measures
Ground disturbance to identified NRHP-eligible resources, archaeological sites, and archaeological objects.	Permanent direct	Construction, Operation	Permanent	IPC will take prudent and feasible measures to avoid identified cultural resources during the micro-siting process (see Section 3.5.5.2). Avoidance areas will be marked and monitored during construction, as detailed in the PA, HPMP, and Site Certificate Conditions (see Sections 3.6 and 5.0). Where avoidance is infeasible, resource-specific treatment measures will be developed, per the PA and HPMP (see Sections 3.6 and 4.0).
Ground disturbance to unidentified NRHP-eligible or -listed resources, archaeological sites, and archaeological objects in inaccessible areas.	Permanent direct	Construction, Operation	Life of the Project	IPC will complete archaeological survey of inaccessible parcels after receipt of the site certificate, but prior to initiation of construction (see Sections 4.0 and 5.0).
Ground disturbance to unidentified NRHP-eligible or -listed resources, archaeological sites, and archaeological objects in surveyed areas.	Permanent direct	Construction, Operation	Life of the Project	As part of the Enhanced Archaeological Survey, IPC will conduct shovel probing at the locations of previously recorded resources mapped within the footprint of the final design and not identified during survey to confirm their presence or absence. Additionally, IPC will implement the final HPMP with IDP (see Section 5.0). Both will occur after receipt of the site certificate, but prior to initiation of construction.

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Mitigation Measures
Ground disturbance to unidentified NRHP-eligible or -listed resources, archaeological sites, and archaeological objects in high probability areas.	Permanent direct	Construction, Operation	Life of the Project	As part of the Enhanced Archaeological Survey, IPC will conduct shovel probing at high probability areas after receipt of the site certificate, but prior to initiation of construction (see Section 4.0).
Disturbance of known TCPs.	Permanent direct	Construction, Operation	Life of the Project	BLM will continue government-to-government consultations with the CTUIR regarding the TCPs within the Site Boundary to determine the nature of the resources and appropriate mitigation. Results will be implemented in the Construction POD.

1

2 **3.5.4 Indirect Impacts to Cultural Resources**

3 Indirect impacts may occur as a result of new construction within the viewshed of NRHP-listed
4 or –eligible aboveground resources, such as trails, buildings, and cairns, as well as TCPs.
5 Impacts will only occur for those resources where the viewshed, setting, and landscape
6 contributes to the NRHP eligibility of the resource.

7 The RLS fieldwork identified 764 built environment resources in Oregon (this includes multiple
8 crossings of historic trails and pre-contact resources, such as quarries and cairns). The majority
9 (384) were evaluated as likely NRHP-eligible as contributing elements to a group of resources.
10 An additional 187 were evaluated as not contributing (i.e., elements that would not be NRHP-
11 eligible individually or as a group) and 119 were not evaluated for NRHP eligibility. The
12 remaining resources were evaluated as either NRHP-eligible, are NRHP-listed (individually or
13 as a district), or were determined to have not been built during the historic period. The ILS
14 studied 217 resources from the RLS. Of these, 141 were evaluated for Project effects while 76
15 were eliminated from the study because they were not eligible for the NRHP, identified as not
16 located in the APE, or removed from the study because they did not contain aboveground
17 features or had incomplete locational data.

18 The 141 resources advanced for additional analysis of Project effects were recommended as
19 eligible for the NRHP, are listed on the NRHP, or are unevaluated. NRHP-eligibility
20 determinations of resources are pending review and concurrence by SHPO. Thirty-nine of these
21 resources would have no view of the Project and would not be indirectly affected by the Project.
22 An additional 12 resources require additional research and consultation. No adverse effects are
23 anticipated for 67 resources. Potential adverse effects are anticipated for 23 resources.

24 Additional resources may exist within inaccessible areas of the Site Boundary and indirect
25 analysis area. Additional aboveground resources that may be NRHP-eligible may exist within
26 inaccessible portions of the analysis area.

27 New construction of the proposed transmission line within view of NRHP-eligible or –listed
28 aboveground resources as well as three identified TCPs (one in the indirect analysis area and

1 two in the Site Boundary) will be considered indirect impacts to cultural resources if the
 2 surrounding view and setting contribute to the NRHP eligibility of those resources. These will be
 3 considered permanent impacts given the anticipated lifetime of the Project. Additional indirect
 4 impacts may also occur as a result of new construction within view of unidentified NRHP-eligible
 5 resources in inaccessible areas where aboveground resources may exist.

6 These indirect impacts will be mitigated through IPC's proposed measures to prevent
 7 destruction of historic, cultural, and archaeological resources (see Section 3.5.5) and site
 8 certificate conditions (see Section 5.0).

9 Table S-18 summarizes the type, timing, duration, and mitigation measures related to the
 10 Project's potential temporary indirect impacts to historic, cultural, and archaeological resources.

11 **Table S-18. Type, Timing, Duration, and Mitigation Measures Related to**
 12 **Permanent Direct Impacts to Historic, Cultural, and Archaeological Resources**

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Mitigation Measures
New construction within viewshed of NRHP-eligible and – listed resources whose surrounding setting contributes to their NRHP eligibility.	Permanent indirect.	Construction, Operation	Permanent	IPC will take prudent and feasible measures to avoid construction within the viewshed of identified NRHP-eligible and – listed cultural resources during the micrositing process (see Section 3.5.5.2). Where avoidance is infeasible, resource-specific treatment measures will be developed, per the PA and HPMP (see Table S-14, Sections 3.6 and 4.0).
New construction within viewshed of TCPs.	Permanent indirect.	Construction, Operation	Permanent	IPC, in coordination with BLM, will continue to consult with the Oregon SHPO regarding the TCPs within the Site Boundary and indirect analysis area to determine the nature of the resources and appropriate mitigation.

13 **3.5.5 Impacts on and Mitigation for Traditional Cultural Properties**

14 Impacts on the two TCPs identified by the Class I literature review may be direct and/or indirect.
 15 The nature and qualities of the resources are unclear at this time and can only be determined
 16 through consultation. While an ethnographic study of the resources has been provided by the
 17 CTUIR to the BLM as part of the federal Section 106 process, the study has not been released
 18 to the applicant or its contractor. Depending on what qualities of the sites are significant to the
 19 CTUIR, ground disturbance by the Project within the boundaries of the TCPs may result in direct
 20 impacts to the properties, similar to archaeological sites within the Site Boundary. Construction
 21 of aboveground features within the TCP boundaries and within the viewsheds of the properties
 22 may also result in indirect impacts.

23 The applicant anticipates that SHPO, on behalf of the EFSC, will consult with the CTUIR
 24 regarding the Project impacts on Sisupa and Sand Hollow Battleground. Such consultations
 25 would occur following submission of this application and prior to issuance of the site certificate.

1 Results of the consultations would be conveyed to the applicant, as appropriate, and impacts
2 will be addressed as described in the HPMP. If avoidance is not possible, the Applicant
3 anticipates that consultations would be continued with their involvement and appropriate
4 mitigation measures identified in coordination between the CTUIR, SHPO, BLM, and IPC.
5 Mitigation measures may include signage or informational publications for the purposes of
6 public education regarding the Sand Hollow Battleground and/or Sisupa from the Native
7 American perspective. Other measures may include visibility minimizing design of transmission
8 line towers or avoiding ground disturbance at specific locations within the overall TCP
9 boundaries.

10 **3.5.6 Measures Designed to Prevent Destruction of Historic, Cultural, and** 11 **Archaeological Resources**

12 OAR 345-021-0010(1)(s)(D)(iii): A list of measures to prevent destruction of the resources
13 identified during surveys, inventories and subsurface testing referred to in subparagraph (i)
14 or discovered during construction.

15 This section provides a list of measures to prevent destruction of the resources identified during
16 surveys, inventories, and subsurface testing referred to in subparagraph (i) or discovered during
17 construction. Measures for avoidance, minimization, and mitigation of impacts will be included in
18 the final application and have also been incorporated into IPC's proposed site certificate
19 conditions (see Section 5.0).

20 If construction will adversely affect any significant archaeological resources or objects on state
21 or private lands such as properties listed, or eligible for listing, on the NRHP, mitigation will be
22 required. Mitigation of sites on state or private lands is addressed in the draft HPMP
23 (Attachment S-9). A separate HPMP will address properties listed, or eligible for listing, on the
24 NRHP on federal land. Final versions of each HPMP will provide site-specific mitigation
25 measures for impacted resources based on the Project's final design. Mitigation may include,
26 but not be limited to, one or more of the following measures: a) avoidance through the use of
27 relocation of structures through the design process, realignment of the route, relocation of
28 temporary workspace, or changes in the construction and/or operational design; b) data
29 recovery, which may include the systematic professional excavation of an archaeological site or
30 the preparation of photographic and/or measured drawings documenting standing structures;
31 and, c) the use of landscaping or other techniques that will minimize or eliminate effects on the
32 historic setting or ambience if that aspect is important to a site's eligibility. To minimize
33 unauthorized collecting of archaeological material or vandalism to known archaeological sites,
34 all workers will attend mandatory training on the significance of cultural resources and the
35 relevant federal regulations intended to protect them (see Section 5.0).

36 **3.5.6.1 Inadvertent Discovery Plan**

37 Project construction activities, as well as natural and human-caused erosion, vandalism, and
38 looting, could expose and damage previously unidentified cultural resources within the Project
39 Route or expose characteristics in unevaluated sites that were previously unknown and
40 undocumented.

41 As part of the HPMP, IPC has established procedures to be followed by IPC personnel and their
42 contractors in the event that previously unreported and unanticipated cultural resources, human
43 remains, or funerary objects are found during Project construction in accordance with Oregon
44 State law. These procedures will serve as the primary guidance tool for IPC and its contractors
45 to comply with federal and state laws and regulations. The IDP is incorporated in the HPMP
46 (see Attachment S-9) and specifies what steps will be taken if a subsurface cultural resource is

1 discovered during construction, including stopping construction in the vicinity of the find,
2 notification of the appropriate land management agency, identification of a qualified
3 archaeologist to conduct an evaluation of the find, and the development of an approved data
4 recovery program or other mitigation measures. If human remains are discovered, construction
5 will be halted and the IDP followed, including notification of the appropriate County Coroner.

6 3.5.6.2 Avoidance Measures

7 Prudent and feasible measures will be taken to avoid or reduce adverse impacts on
8 archaeological sites or objects as well as NRHP-eligible and -listed resources. Such measures
9 will be developed in consultation with the appropriate agencies and tribes and may include
10 avoidance through the use of relocation of structures through the design process, realignment of
11 the route, relocation of temporary workspace, or changes in the construction and/or operational
12 design. Avoidance areas will be flagged prior to construction activities. Flagging will be removed
13 once construction is completed in an area.

14 3.6 Proposed Monitoring Program

15 OAR 345-021-0010(1)(s)(E): The applicant's proposed monitoring program, if any, for
16 impacts to historic, cultural and archaeological resources during construction and operation
17 of the proposed facility.

18 Discussion of an archaeological monitoring program and other mitigation measures is included
19 in a draft ODOE-specific HPMP (Attachment S-9) developed for the Project and this amended
20 preliminary application for site certificate. A final HPMP and resource-specific treatment plans
21 will be prepared after sites are fully inventoried and evaluated for eligibility. The final HPMP and
22 resource-specific treatment plans will address all resources determined NRHP-eligible or -listed
23 as well as all archaeological resources, regardless of landownership, to avoid significant impact.

24 3.7 Future Work

25 The information in Exhibit S is based on the results of comprehensive background research and
26 field surveys completed to date. Following issuance of the site certificate and prior to ground-
27 disturbing construction activity, IPC will perform cultural and historical pedestrian surveys on any
28 parcels not yet surveyed at the time of issuance of the site certificate or where a change in Project
29 location or design requires additional survey. In some cases, IPC may not obtain access rights
30 until after issuance of the site certificate. The enhanced archaeological survey will also be
31 completed following the issuance of the site certificate and prior to construction. The enhanced
32 archaeological survey will be conducted within the selected route only and include subsurface
33 probing in high potential areas, resource boundary subsurface probing, and subsurface testing for
34 NRHP evaluation of unevaluated resources. All such surveys, as well as any mitigation measures,
35 will be conducted in compliance with applicable conditions to the site certificate, and follow the PA,
36 EFSC standards, and Oregon SHPO's *Guidelines for Conducting Field Archaeology in Oregon*
37 (2013) and *State of Oregon Guidelines for Reporting on Archaeological Investigations* (2015). The
38 planned path forward to complete these activities is shown in Table S-19.

1 **Table S-19. Path Forward to Fulfill Requirements for Historic, Cultural, and**
 2 **Archaeological Resources Identification, Evaluation, and Impact Assessment**

Description of Task	Compliance Strategy for Surveyed Parcels (approximately 89% of lands within Project Site Boundary)	Compliance Strategy for Inaccessible Parcels (approximately 11% of lands within Project Site Boundary)	Documentation
Identification of Archaeological Resources	Survey of accessible parcels completed between 2011 and 2014. Additional surveys of inaccessible parcels and subsurface probing of high potential areas will occur prior to ground-disturbing construction activities.	IPC will complete archaeological survey of inaccessible parcels after receipt of site certificate, but prior to initiation of construction. Identification measures may include sub-surface probing in areas where surface visibility is poor and possibility of encountering resources is high.	Cultural resources technical report (confidential Attachment S-6)
Visual Assessment of Historic Properties	RLS completed in 2012; ILS completed in 2017.	RLS completed in 2012; ILS completed in 2017.	RLS (confidential Attachment S-7) and ILS (confidential Attachment S-10)
Evaluation of Historic, Cultural, and Archaeological Resources	IPC has provided preliminary NRHP-eligibility recommendations for resources identified in the Project Site Boundary. To avoid unnecessary ground disturbance of archaeological resources, subsurface testing and evaluation of potentially affected unevaluated resources will be conducted within the selected route only, after receipt of the site certificate and prior to ground-disturbing construction activities.	Evaluation of potentially affected resources on inaccessible parcels will be completed after receipt of site certificate, but prior to initiation of construction. Evaluation may include site testing and Native American consultations.	Cultural resources technical report (confidential Attachment S-6), RLS (confidential Attachment S-7), and ILS (confidential Attachment S-10).

Description of Task	Compliance Strategy for Surveyed Parcels (approximately 89% of lands within Project Site Boundary)	Compliance Strategy for Inaccessible Parcels (approximately 11% of lands within Project Site Boundary)	Documentation
Analysis of Potential Impacts to Historic, Cultural, and Archaeological Resources	For surveyed parcels, IPC has analyzed potential impacts to significant Historic, Cultural, and Archaeological Resources, provided in the 2017 Cultural Resources Technical Report, the RLS, and ILS submitted for SHPO review and concurrence. Final impact analyses for archaeological resources are pending the enhanced archaeological survey and NRHP-eligibility testing of identified unevaluated resources that will occur within the selected route only and after receipt of the site certificate, but prior to ground-disturbing construction activities.	Analysis of potential impacts to affected significant resources and high potential areas on inaccessible parcels will be completed after evaluation of such resources, following receipt of the site certificate, but prior to initiation of construction. The ILS has addressed unevaluated resources from the RLS. Final impact analyses for archaeological resources are pending the enhanced archaeological survey and NRHP-eligibility testing that will occur within the selected route only and after receipt of the site certificate, but prior to ground-disturbing construction activities.	Cultural resources technical report (confidential Attachment S-6), Amended Cultural Resources Technical Report (incorporating boundary and NRHP-eligibility testing; prior to ground-disturbing construction activities), Enhanced Archaeological Survey (prior to ground-disturbing construction activities), RLS (confidential Attachment S-7), and ILS (confidential Attachment S-10).
Mitigation of Impacts to Historic, Cultural, and Archaeological Resources	IPC has prepared a draft ODOE-specific HPMP, documenting proposed mitigation, monitoring, and IDP, which discusses both surveyed and inaccessible parcels. The final HPMP will be submitted to SHPO and agencies for review and concurrence.	IPC's final HPMP with IDP, documenting proposed site-specific and general mitigation, monitoring, and discovery procedures.	HPMP (with IDP) (Attachment S-9)

4.0 IDAHO POWER'S PROPOSED SITE CERTIFICATE CONDITIONS

IPC proposes the following site certificate conditions to ensure compliance with the relevant EFSC standards which are relevant to the analysis of cultural resources (see Section 2.1):

Prior to Construction

Historic, Cultural, and Archaeological Resources Condition 1: Prior to construction, the site certificate holder shall conduct cultural and historical pedestrian surveys on any parcels not surveyed at the time of issuance of the site certificate or where a change in Project location or design requires additional surveys.

Historic, Cultural, and Archaeological Resources Condition 2: Prior to construction, the site certificate holder shall finalize, and submit to the department for its approval, a final Historic Properties Management Plan (HPMP). The final HPMP shall include the following, unless otherwise approved by the department:

- a. The areas that were surveyed for historic, cultural, and archaeological resources;
- b. The location of all facility components and related and supporting facilities;
- c. The areas that will be permanently and temporarily disturbed during construction;
- d. The protective measures described in the draft HPMP in ASC Exhibit S, Attachment S-9;
- e. The State Historic Preservation Officer's National Register of Historic Places (NRHP)-eligibility determinations and archaeological resources findings; and
- f. The results of the cultural and historical pedestrian surveys referenced in Historic, Cultural, and Archaeological Resources Condition 1.

Prior to Construction at Any Particular Location

Historic, Cultural, and Archaeological Resources Condition 3: Prior to construction at a particular location, the site certificate holder shall, where applicable, conduct enhanced archaeological surveys comprised of subsurface probing in high potential areas, resource boundary subsurface probing, and subsurface testing for NRHP evaluation of unevaluated resources.

Historic, Cultural, and Archaeological Resources Condition 4: Prior to construction at a particular site, the site certificate holder shall submit to the department for its approval a supplement to the final HPMP referenced in Historic, Cultural, and Archaeological Resources Condition 2. The HPMP supplement shall include the following, unless otherwise approved by the department:

- a. The results of the enhanced archaeological surveys referenced in Historic, Cultural, and Archaeological Resources Condition 3; and
- b. Any actions the site certificate holder will take to avoid, minimize, or mitigate impacts to historic, cultural, or archaeological resources in the relevant area.

During Construction

Historic, Cultural, and Archaeological Resources Condition 5: During construction, the site certificate holder shall conduct all work in compliance with

1 *the final HPMP referenced in Historic, Cultural, and Archaeological Resources*
2 *Condition 2 and any HPMP supplements referenced in Historic, Cultural, and*
3 *Archaeological Resources Condition 4*

4 **Within One Year After Construction Is Completed**

5 ***Historic, Cultural, and Archaeological Resources Condition 6:*** *Within one*
6 *year after construction is completed, the site certificate holder shall finalize, and*
7 *submit to the department for its approval, a final Cultural Resources Technical*
8 *Report. The final Cultural Resources Technical Report shall include the following,*
9 *unless otherwise approved by the department:*

10 *a. Relevant information in the draft Cultural Resources Technical Report in ASC*
11 *Exhibit S, Attachment S-6;*

12 *b. The results of the cultural and historical pedestrian surveys referenced in*
13 *Historic, Cultural, and Archaeological Resources Condition 1; and*

14 *c. The results of the enhanced archaeological surveys referenced in Historic,*
15 *Cultural, and Archaeological Resources Condition 3;*

16 *d. The results of all cultural resource monitoring required by the HPMP*
17 *referenced in Historic, Cultural, and Archaeological Resources Condition 2 and*
18 *any HPMP supplements referenced in Historic, Cultural, and Archaeological*
19 *Resources Condition 4; and*

20 *e. The results of all cultural resources testing or data recovery conducted as a*
21 *result of unanticipated discoveries, as required by the HPMP referenced in*
22 *Historic, Cultural, and Archaeological Resources Condition 2 and any HPMP*
23 *supplements referenced in Historic, Cultural, and Archaeological Resources*
24 *Condition 4.*

25 ***Historic, Cultural, and Archaeological Resources Condition 7:*** *Within one*
26 *year after construction is completed, the site certificate holder shall finalize, and*
27 *submit to the department for its approval, a final Intensive-Level Survey. The*
28 *relevant information in the draft Intensive Level Survey in ASC Exhibit S,*
29 *Attachment PS-10, shall be included as part of the final Intensive Level Survey,*
30 *unless otherwise approved by the department.*

31 **5.0 CONCLUSIONS**

32 Exhibit S includes the application information provided for in OAR 345-021-0010(1)(s). Further,
33 the evidence set forth in Exhibit S establishes that the construction and operation of the Project,
34 taking into account mitigation, including the HPMP and future resource-specific treatment plans,
35 are not likely to result in significant adverse impacts to: historic, cultural, or archaeological
36 resources that have been listed on, or would likely be listed on the NRHP; archaeological
37 objects or sites on private land; or archaeological sites on public land, consistent with the
38 Historic, Cultural, and Archaeological Resources Standard.

39 **6.0 COMPLIANCE CROSS-REFERENCES**

40 Table S-20 identifies the location within the application for site certificate of the information
41 responsive to the application submittal requirements in OAR 345-021-0010(1)(s); the Historic,
42 Cultural, and Archaeological Resources Standard at OAR 345-022-0090; and the relevant
43 Amended Project Order provisions.

1 **Table S-20. Compliance Requirements and Relevant Cross-References**

Requirement	Location
OAR 345-021-0010(1)(s)	
Exhibit S. Information about historic, cultural and archaeological resources. Information concerning the location of archaeological sites or objects may be exempt from public disclosure under ORS 192.502(4) or ORS 192.501(11). The applicant shall submit such information separately, clearly marked as “confidential,” and shall request that the Department and the Council keep the information confidential to the extent permitted by law. The applicant shall include information in Exhibit S or in confidential submissions providing evidence to support a finding by the Council as required by OAR 345-022-0090, including:	
(A) Historic and cultural resources within the analysis area that have been listed, or would likely be eligible for listing, on the NRHP	Exhibit S, Section 3.3
(B) For private lands, archaeological objects, as defined in ORS 358.905(1)(a), and archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area	Exhibit S, Section 3.4.1
(C) For public lands, archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area	Exhibit S, Section 3.4.2
(D) The significant potential impacts, if any, of the construction, operation and retirement of the proposed facility on the resources described in paragraphs (A), (B) and (C) and a plan for protection of those resources that includes at least the following:	Exhibit S, Section 3.5
(i) A description of any discovery measures, such as surveys, inventories, and limited subsurface testing work, recommended by the State Historic Preservation Officer or the National Park Service of the U.S. Department of Interior for the purpose of locating, identifying and assessing the significance of resources listed in paragraphs (A), (B) and (C).	Exhibit S, Section 3.5.1
(ii) The results of the discovery measures described in subparagraph (i), together with an explanation by the applicant of any variations from the survey, inventory, or testing recommended.	Exhibit S, Section 3.5.2
(iii) A list of measures to prevent destruction of the significant resources identified during surveys, inventories and subsurface testing referred to in subparagraph (i) or discovered during construction	Exhibit S, Section 3.5.5
(E) The applicant’s proposed monitoring program, if any, for impacts to historic, cultural and archaeological resources during construction and operation of the proposed facility	Exhibit S, Section 3.6
OAR 345-022-0090	
(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to:	
(a) Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the NRHP;	Exhibit S, Section 3.3 and Section 3.5
(b) For a facility on private land, archaeological objects, as defined in ORS 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and	Exhibit S, Section 3.4.1 and Section 3.5

Requirement	Location
(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).	Exhibit S, Section 3.4.2 and Section 3.5
(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	Not applicable, see Section 2.1.2 footnote 4
(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	Not applicable, see Section 2.1.2 footnote 4
Amended Project Order Provisions	
The application shall include map(s) showing important historic trails located within the Cultural Resources analysis area, including the segments of the Oregon Trail that are listed or eligible for listing on the NRHP, and discuss measures to avoid or mitigate for impacts to historic trails. SHPO has advised that the proposed transmission line crosses many land forms that are generally perceived to have a high probability for possessing archaeological sites and buried human remains.	Exhibit S, Section 3.3, Figure S-1, Section 3.4, Attachment S-4 (High Potential Areas [confidential]), and Attachment S-8 (NHT Study)
As discussed previously, the applicant has proposed a “phased survey” approach for data collection during the site certificate review process. The Department understands that the entirety of the site boundary for the proposed facility may not have yet been surveyed for cultural resources. Nevertheless, Exhibit S shall include as much information as possible about the field surveys conducted to date for cultural resources on state, private, and federal lands, and the schedule for future surveys.	Section 3.2, Figure S-2 through Figure S-8, and Tables S-1 through S-14
The application shall include the survey methodology, qualifications of survey personnel, survey areas, and the results of all surveys. At the time of this writing, the applicant and state and federal agencies have been participating in a cultural resources workgroup. Include in Exhibit S (or as attachments to Exhibit S), the description of the workgroup, its membership, its purpose, and copies of any work plans that the workgroup has developed governing survey methodologies. Provide a copy of any programmatic agreements or memorandums of understanding related to cultural resources.	Section 2.4.2, Section 3.2.2, Section 3.2.3, Section 3.2.5, Attachment S-1 (ASP), Attachment S-2 (VAHP), Attachment S-5 (PA), Attachment S-6 (Cultural Resources Technical Report [confidential]), Attachment S-7 (RLS [confidential]), and Attachment S-10 (ILS [confidential])

Requirement	Location
<p>Exhibit S should include analysis of how the evidence provided supports a finding by the Council that the proposed facility meets the Council's cultural resources protection standard. Provide proposed site certificate conditions for the Council's consideration related to requirements for the applicant to complete all unfinished surveys within the project's site boundary prior to construction. The proposed site certificate conditions should also address submittal requirements for reporting future survey results, obtaining SHPO's approval of pre-construction cultural resource survey documents, and the applicant's proposed approach to document approval of final results by agencies or the Council prior to commencing construction activities.</p>	<p>Exhibit S, Section 3.3, Section 3.4, Section 3.5, and Section 4.0; Exhibit BB, Attachment BB-4 (List of IPC's Proposed Site Certificate Conditions)</p>
<p>The Notice of Intent to File an Application for Site Certificate (NOI) listed the following tribes as "being expected to have an interest in the Project's Proposed Corridor": Burns-Paiute Tribe, Shoshone-Paiute Tribes of Duck Valley Indian Reservation, CTUIR, Confederated Tribes of Warm Springs Reservation, Nez Perce Tribe, Confederated Tribes of the Colville Reservation, Fort McDermitt Shoshone-Paiute Tribes, Shoshone-Bannock Tribes of Fort Hall Indian Reservation, and the Klamath Tribes.</p>	<p>Exhibit S, Section 2.4.1 and Section 2.4.2</p>
<p>In June 2012, the applicant contacted the Legislative Commission on Indian Services (CIS) regarding tribes, tribal lands, and tribal resources potentially affected by the B2H facility. In its response, the CIS identified three federally recognized tribal governments in Oregon that should be consulted regarding the proposed facility: Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs, and Burns Paiute Tribe. In addition, the CIS recommended the applicant contact with out-of-state tribal governments, as the traditional territory of these tribes extends into Oregon near the proposed facility. These tribes are the Confederated Tribes of the Yakama Nation, the Nez Perce Tribe, and the Colville Confederated Tribes. The response from the CIS shall be included as an attachment to Exhibit S.</p>	<p>Exhibit S, Section 2.4.2 and Attachment S-3 (Native American Correspondence)</p>
<p>The affected tribes, as identified by the CIS, provide technical review and recommendations in reference to the Council's Historic, Cultural and Archaeological Resources Standard (OAR 345-022-0090). The application shall include evidence of consultation with affected tribes regarding archaeological and cultural sites and materials that may be found on the proposed facility site.</p>	<p>Exhibit S, Section 2.4.1 and Section 2.4.2</p>

Requirement	Location
<p>The Department understands that the project will require approval from federal agencies, and that federal agencies are engaging in formal government-to-government consultation with affected Indian tribes under the requirements of the National Historic Preservation Act (NHPA). To the extent it aids in establishing compliance with the applicant’s obligations under this siting process, the applicant may rely on the evidence resulting from the tribal consultations required by the NHPA. A Programmatic Agreement (PA) to govern compliance with the NHPA has been proposed and is currently under development between multiple federal agencies, the Oregon, Washington, and Idaho SHPOs, IPC, the CTUIR, and possibly other potentially affected tribes. As of the date of publication of this amended Project Order, the PA has not been finalized nor executed.</p>	<p>Exhibit S, Section 2.4.1, Section 2.4.2, Section 3.2.5, Section 4.0, and Attachment S-5 (PA)</p>
<p>The CTUIR provided detailed written comments to the NOI regarding impacts to First Food resources, habitat fragmentation, introduction of weed species, effects to historic properties, insufficient noise and visual analysis in the application, cumulative impacts, cultural resource impacts, and Umatilla Indian Reservation impacts. If a concern expressed by the CTUIR or other tribal government is under Council jurisdiction and not elsewhere addressed in the application for site certificate, the applicant may address the issue(s) in Exhibit BB. Any permits or easements required by the CTUIR or other tribal governments are outside of the Council jurisdiction and are the responsibility of the applicant.</p>	<p>Exhibit S, Section 3.3 through Section 3.6, Attachment S-4 (High Potential Areas [confidential]), Attachment S-6 (Cultural Resources Technical Report [confidential]), and Attachment S-9 (Draft HPMP with IDP)</p>

1 **7.0 RESPONSE TO COMMENTS FROM REVIEWING AGENCIES AND**
 2 **THE PUBLIC**

3 Table S-21 identifies the location within the application for site certificate of the information
 4 responsive to the comments set forth in the Amended Project Order.

5 **Table S-21. Reviewing Agency and Public Comments**

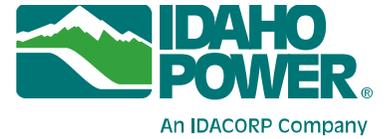
Comments Related to General Standard of Review (OAR 345-022-0000)	Location
<p>Numerous commenters expressed concern about visual and other impacts on national and Oregon historic trails in general, and to the National Oregon Historic Trail Interpretive Center in Baker County in particular. Exhibit S should discuss potential impacts and proposed mitigation measures for the project’s potential effects on historic trails.</p>	<p>Exhibit S, Section 3.2.3, Section 3.3, Figure S-1, Section 3.5.2, Table 5-8, Table 5-11, Attachment S-7 (RLS [confidential]), Attachment S-8 (NHT Study), and Attachment S-10 (ILS [confidential])</p>

Comments Related to General Standard of Review (OAR 345-022-0000)	Location
Exhibit S should include discussion of the results of cultural resource surveys, potential impacts during construction and operations, proposed mitigation measures, and cultural resource protection plans for cultural resources under Council jurisdiction (Note that the actual survey reports should be submitted as confidential material under separate cover).	Exhibit S, Section 3.5, Attachment S-4 (High Potential Areas [confidential]), Attachment S-6 (Cultural Resources Technical Report [confidential]), Attachment S-7 (RLS [confidential]), Attachment S-8 (NHT Study), Attachment S-9 (Draft HPMP with IDP), and Attachment S-10 (ILS [confidential])
The CTUIR commented that the project should avoid resources of cultural and religious significance to CTUIR, including tribal trails, CTUIR-named places, villages, camps, traditional hunting areas, gathering and digging areas, and archaeological sites. Exhibit S should include discussion of the potential impacts to resources of concern to the CTUIR and other tribes identified by the Commission on Indian Services. To the extent that protection of those resources is under Council jurisdiction, Exhibit S should also include proposed mitigation and protection measures.	Exhibit S, Section 3.3 through Section 3.6, Attachment S-4 (High Potential Areas [confidential]), Attachment S-6 (Cultural Resources Technical Report [confidential]), and Attachment S-9 (Draft HPMP with IDP)

1 **8.0 REFERENCES**

- 2 Hunn, Eugene S., E. Thomas Morning Owl, Phillip E. Cash Cash, and Jennifer Karson Engum
3 2015. *Ćáw Pawá Láakni, They Are Not Forgotten – Sahaptin Place Names Atlas of the*
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- 5 Minthorn, Antone. 2006. Wars, Treaties, and the Beginning of Reservation Life. In *Wiyáxayxt –*
6 *as days go by – wiyáakaa?awn – Our History, Our Land, and Our People, The Cayuse,*
7 *Umatilla, and Walla Walla*. Edited by Jennifer Karson. Tamastslikt Cultural Institute,
8 Pendleton, Oregon, and Oregon Historical Society Press, Portland, Oregon.
- 9 Mitchell, Bruce M. 2003. Cayuse War. In *American Indian History*, edited by Carole A. Barrett,
10 pp. 82-83, Volume 1. Salem Press, Inc., Pasadena, California.
- 11 Oregon SHPO (State Historic Preservation Office). 2007. *State Historic Preservation Office*
12 *Guidelines for Conducting Field Archaeology in Oregon*. Oregon State Historic
13 Preservation Office, Salem, Oregon.
- 14 Oregon SHPO. 2013. *Guidance for Recording and Evaluating Linear Cultural Resources*.
15 Oregon State Historic Preservation Office, Salem, Oregon.

**ATTACHMENT S-1
ARCHAEOLOGICAL SURVEY PLAN**



Archaeological Survey Plan

Prepared by
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Suite 201
Boise, ID 83706

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

December 2012

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1.0 PURPOSE AND GOAL

Idaho Power Company (IPC) is proposing to construct, operate, and maintain approximately 300 miles of 500-kilovolt (kV) transmission line, known as the Boardman to Hemingway Transmission Line Project (Project; IPC 2011). Figure 1 shows the proposed and alternative routes. The Project is complex, located in both Idaho and Oregon and involving multiple federal and state agencies, and the cultural resource work will occur in phases. For these reasons, a Programmatic Agreement (PA) regarding the Section 106 National Historic Preservation Act (NHPA) process will be developed pursuant to 36 Code of Federal Regulations (CFR) 800.4(b)(2) and 36 CFR 800.14(b). The PA for this project is an agreement between the Bureau of Land Management (BLM), United States Department of Agriculture Forest Service (USFS), Idaho and Oregon State Historic Preservation Officers (SHPOs), Confederated Tribes of the Umatilla Reservation Tribal Historic Preservation Officer (CTUIR THPO), Advisory Council on Historic Preservation (ACHP), and other parties, such as Oregon Department of Energy (ODOE), Tribes, and IPC, as appropriate. The PA outlines the general process for completion of all phases of the Section 106 process, i.e., how the lead government agency will define the Areas of Potential Effect (APE), how historic resources will be identified and evaluated, how effects will be assessed, and how effects to historic properties will be resolved. The PA will be in place prior to the BLM's Record of Decision (ROD), but was not completed prior to the start of archaeological field work. IPC acknowledges that additional fieldwork may be necessary if work completed prior to signing the PA is not consistent with the terms of the PA.

This Archaeological Survey Plan (Plan) describes the processes for the file search and literature review and Class II and Class III pedestrian archaeological inventories, which will complete the identification efforts required by Section 106 of the NHPA and provide information for the ODOE Energy Facility Siting Council (EFSC), subject to laws requiring confidentiality. Within the parameters of laws requiring confidentiality, information collected through application of this plan will be used in support of IPC's Application for Site Certificate to EFSC and will be provided to the BLM to assist with the preparation of a National Environmental Policy Act (NEPA) document for the Project. This Plan is not intended to address the entire cultural resources identification process; rather it is intended only to describe IPC's plan to conduct archaeological inventories and outlines the methods and protocols for file searches and literature reviews and the conduct of Class II and Class III archaeological inventories. Evaluations of visual impacts to historic structures, trails, and other aboveground resources will also occur for the Project. The methodology for those studies is presented in a separate Visual Assessment of Historic Properties Study Plan (VAHP; Tetra Tech 2012). Ethnographic studies are in progress; these studies will be conducted to identify both properties of religious and cultural significance and Traditional Cultural Properties.

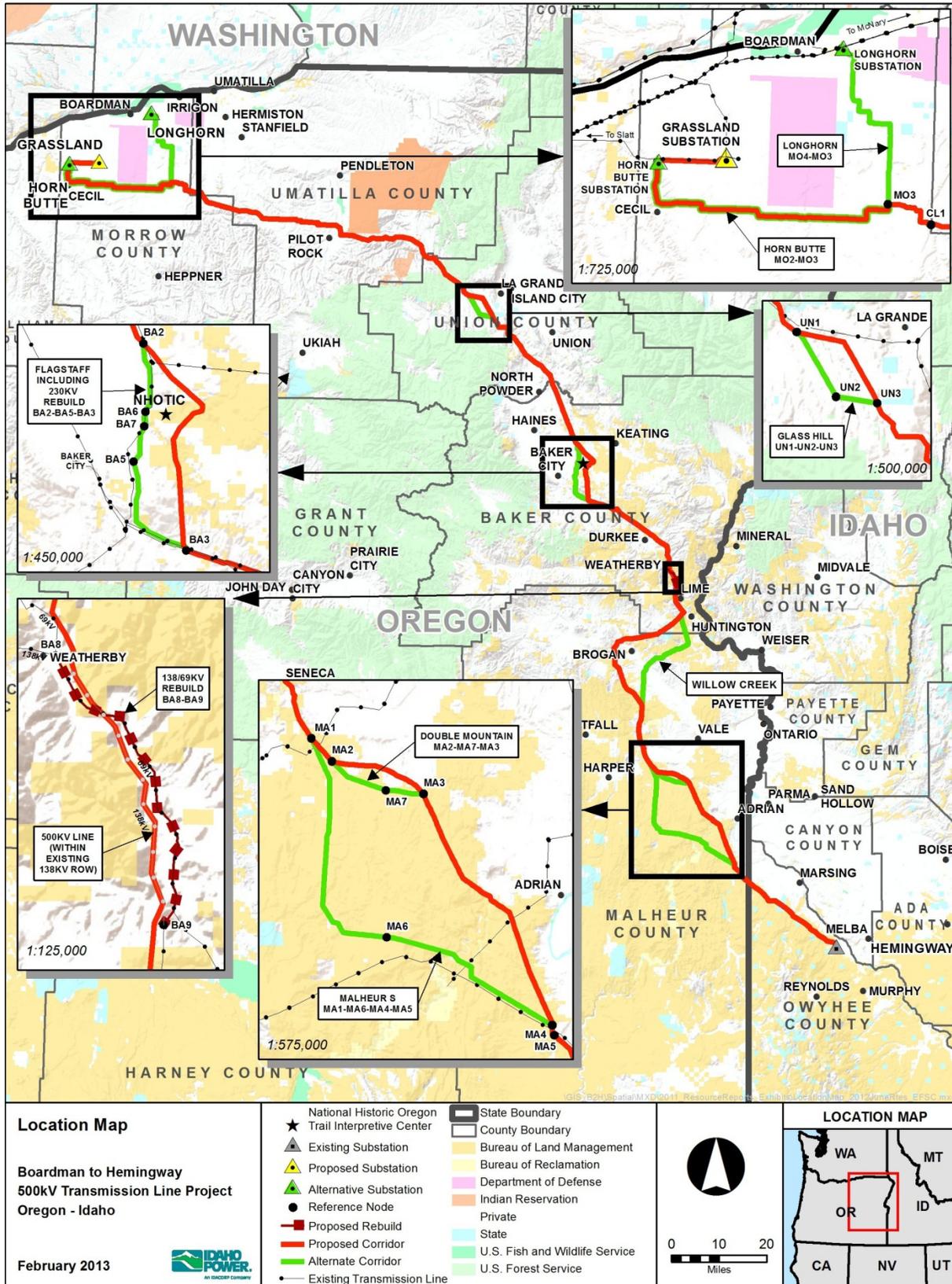


Figure 1. Proposed and Alternative Routes for NEPA Analysis

2.0 TECHNICAL STUDIES

This section outlines the scope of field investigations and the site National Register of Historic Places (NRHP) eligibility evaluation methodology for the Project archaeological inventory. Field investigations will focus on three inter-related tasks: surface survey, subsurface testing, and resource recordation. To meet Project needs, these tasks will be conducted in two stages. The initial survey will consist of a 100 percent (BLM Class III) inventory of the proposed route segments and all currently identified Project facilities, including access roads and ancillary facilities, as well as a 15 percent (BLM Class II) survey of alternative routes (see Figure 1). The findings of the inventory will be compiled into a formal report and submitted to consulting parties for review as well as presented in the Draft Environmental Impact Statement (EIS). Additional surveys will focus on completion of 100 percent inventory of any modifications to route access roads, laydown areas, or other Project surface modifications identified subsequent to the initial survey. Subsurface probing to assist in resource identification, boundary determination, or NRHP eligibility may be conducted as part of the survey effort, as determined by the agencies and consulting parties. In addition, in the event that an alternative corridor is selected as an element of the preferred route, all portions of this corridor segment not previously surveyed as part of the 15 percent sample will be subject to a complete 100 percent inventory. The inventory will be completed prior to initiation of construction activities, and findings will be presented in the Final EIS. All technical studies will comply with Section 106 of the NHPA, as well as follow applicable Idaho and Oregon SHPO standards.

2.1 File Search and Literature Review

Archaeological records searches and literature reviews were conducted for both the Oregon and Idaho portions of the Project. In Oregon, Tetra Tech initially conducted a file search and literature review at the Oregon SHPO for an area extending one mile on either side of the centerline of the proposed route and all alternatives; at the Idaho SHPO, a file search and literature review of an area 0.5 mile on either side of the centerline was conducted. This study area was later expanded through additional records searches to 2 miles on either side of the center line of the proposed route and alternatives in both Oregon and Idaho. Supplemental file searches at appropriate agency offices were also conducted to ensure that updated information from inventories and previously recorded cultural resources were considered prior to completion of field work. These offices included the Baker and Vale District Offices of the BLM, the Wallowa-Whitman National Forest, and the CTUIR THPO.

In addition to agency records, the file searches and literature reviews included examination of archaeological and historical literature of the region; General Land Office (GLO) plats and survey notes; a variety of modern and historic maps, including Oregon Trail maps provided by the National Historic Oregon Trail Interpretive Center in Baker City, Oregon; aerial photographs; and abandoned mine data from the BLM. Records were collected on all available resources, inclusive of archaeological sites and historic features and structures. Additional inventory and review of historic resources are addressed in the VAHP (Tetra Tech 2012). Examination of the data from the file searches and literature reviews indicates that 111 previously recorded sites are present within the study area. Previously recorded precontact sites are dominated by lithic scatters, but also include quarry sites, camps, cairns, and rock alignments. Historic sites include several segments of the Oregon Trail, other historic trails, stage stops, structures, and railroad grades.

An additional 143 potential historic sites were identified within the 2-mile study area from the examination of GLO plats, historic maps, etc. These locations are dominated by mining sites, but also include canals and ditches, cemeteries, trails, and wagon roads.

2.2 Archaeological Inventory Methods

As discussed above, the cultural resources inventory will be conducted in two phases. Phase 1 will consist of an intensive pedestrian inventory (BLM Class III) of the proposed corridor segments and all currently identified Project facilities, as well as a sample (BLM Class II) survey of alternative corridors. Any additional survey required to complete a 100 percent inventory of the selected route, as well as any necessary subsurface inventory or evaluation efforts, will be conducted during Phase 2. Methods to be employed during these phases are presented below. All inventory and recordation efforts, regardless of land ownership, will be conducted under the direct supervision of archaeologists who meet the Secretary of the Interior's Standards and Guidelines and appropriate state requirements.

2.2.1 Intensive Field Survey

The intensive Class III survey will focus on the Project's direct APE, identified as areas on the centerline of the right-of-way as well as proposed ancillary facilities such as substations, access roads, laydown areas, fly yards, and pulling and tensioning sites as identified in IPC's Plan of Development (POD; IPC 2011). The APE is applicable to the entire Project, regardless of land ownership. The APE is for direct project impacts to archaeological sites and other cultural resources, and may change with modifications to the Project or revisions to the APE by the consulting parties.

The APE identified for the initial Class III pedestrian inventory includes the following:

- 250 feet each side of the centerline of the Proposed Route. This area is twice the width of the final right-of-way grant that is being requested for the Project, and provides sufficient margin to allow realignment of the line as necessary.
- 50 feet on either side of the centerline of existing access and service roads. This width will allow for any minor alignment changes needed and provide adequate clearance for any new disturbance associated with road repair.
- 100 feet on either side of the centerline of new access and service roads. This width will allow margin for changes to the horizontal and vertical alignment of the road and for any cut and fill requirements.
- 200 feet beyond the boundary of the planned areas of disturbance of ancillary Project features such as staging areas, fly yards, and pulling and tensioning sites.
- 250 feet beyond the boundary of pulling/tensioning sites and borehole locations that fall outside the right-of-way.

The survey will be conducted using pedestrian transect intervals of 20 meters or less. Control will be maintained through the use of 1:24,000 scale maps and Global Positioning System units with sub-meter accuracy with the Project centerline or ancillary facility footprint programmed into the unit.

An intensive BLM Class III level inventory will be conducted of the entire survey area, as defined above. Areas with very steep slopes (in excess of 25 percent) may be excluded; however, if the file search and literature review indicate a potential for certain types of sites typically found on steep slopes (such as mines, talus pits, etc.) to occur in the area, these slopes will be examined. The examination of steep slopes will take into account the safety of the crew, and transect intervals may be increased. Areas not surveyed, or surveyed at a reduced level, will be clearly identified in the report, with the rationale behind their exclusion or reduced survey effort spelled out.

2.2.2 Sample Field Surveys

For purposes of providing a comparative analysis of the proposed and alternative routes, an archaeological inventory of a 15 percent random sample will be conducted of all route alternatives subject to study in the Draft EIS. Combined with the results of the records search, literature review, and ethnographic study, application of this approach is designed to aid in characterizing the probable density, diversity, and distribution of cultural resources along the alternative routes, particularly in areas where no previous inventories have been conducted. This information is being collected for use in the EIS analysis. Within the sample survey units, methods used are identical to those applied in a Class III intensive survey, and all pedestrian survey and site recording and reporting for a Class II survey will meet Class III standards. An intensive cultural resource inventory will be completed along the preferred route after selection and before initiation of construction. Data collected during the sample inventory will be provided to the BLM in the form of a technical report prepared in compliance with laws requiring confidentiality and will contribute to but will not replace complete inventory of the selected route.

The sampling plan developed for the Project employs random selection of sampling units. Inventory will be conducted using 1-mile-long by 500-foot-wide survey blocks. The 1-mile length is used as an arbitrary measure, while the 500-foot width corresponds to the width of the comprehensive inventory being conducted along the proposed Project corridor. Following this procedure, all completed sample units will directly contribute to completion of the comprehensive inventory, once a final route is selected.

Individual survey units will be selected based on the following sampling strategy. First, for each alternative route, 1-mile-long parcels will be designated with a unique survey unit number (e.g., sampling units along a 50-mile-long segment will be designated 1-50). A table of random numbers will then be used to select specific units for inventory within a route segment. Sufficient numbers of units will be selected to account for inventory of 15 percent of each route segment. To ensure adequate representation of each route segment, units will be selected regardless of land ownership and will likely include a mix of private, state, and federally managed lands. It is anticipated that access constraints will affect the ability to complete survey of units selected on private lands. To account for this and to ensure completion of a 15 percent sample, additional units will be selected at random and held in reserve for use in case of denied access or other access issues. Following these procedures, it is anticipated that sufficient information will be collected to allow for assessment and comparison of cultural resources by proposed and alternative route segment.

For alternatives that are being analyzed in the Draft EIS, revised maps showing sample locations will be prepared and submitted for agency review. A complete 100 percent survey of the preferred route will be completed in accordance with this inventory plan.

2.2.3 Subsurface Probing

Subsurface probing will be conducted for sites for which SHPO and THPO consultation has indicated that Phase 2 efforts are necessary to determine NRHP eligibility under Criterion D. Subsurface survey methods (e.g., shovel probes) will be employed to assist with the discovery of buried deposits, definition of archaeological site boundaries, and determinations of site eligibility, as stipulated in the PA. Site identification shovel probes may be particularly useful in forested areas containing dense undergrowth and accumulations of surface litter and duff/humus, especially within zones where there is probability for the presence of cultural materials or features. Shovel probes may also prove useful for locating sites in zones of active sediment accumulation, where recent sediment deposition (i.e., fluvial, alluvial, colluvial, or aeolian) has concealed earlier cultural deposits. Shovel probes will measure 50 by 50

centimeters square and will be used to assist in 1) the identification of cultural resources during surface survey (site discovery probes) and 2) site boundary definition (site boundary probes). Identifying site boundaries during a survey is important because a site's location relative to the proposed project is critical to assessing Project effects and developing appropriate mitigation measures. When site boundaries cannot be defined based on surface evidence alone, such as in densely wooded montane areas, subsurface probing has the potential to provide crucial data to guide Project design and resource management decisions. As specified in the PA, neither collection of artifacts nor disturbance of ground will occur during initial Class II and Class III intensive-level pedestrian cultural resources surveys. Upon issuance of the ROD, areas identified as possessing a high potential for buried cultural resources located within the direct APE will be subjected to subsurface probing to determine the presence or absence of cultural resources, where ground-disturbing activities will occur. All identification surveys will follow the methodology presented in this Archaeological Survey Plan. Indian tribes and consulting parties to this agreement will be consulted prior to commencement of any ground-disturbing or collection activity and appropriate federal and state permits will be obtained.

During initial survey efforts, Tetra Tech crews will track the location of areas of high site potential and low surface visibility where subsurface probing may be determined appropriate during a subsequent phase of archaeological investigations. These areas of high site potential will be clearly indicated on tables and maps in the resulting survey reports and will be subject to consultation with Native American tribes. High probability areas will be determined by taking into account relevant environmental variables such as slope, distance to water, locations near stream confluences, vegetation, and potential tool stone sources, as well as areas with tribal place names, which often have correlations with archaeological sites. Low surface visibility is defined as thick vegetative cover or other material preventing adequate examination of the ground surface. Maps indicating high site potential will be considered confidential and subject to laws regarding confidentiality of cultural resources.

Prior to excavation of any shovel probes, a probing plan detailing the approach to subsurface survey will be submitted to state and federal agencies for consultation and approval, and all appropriate federal and state permits will be obtained. Excavation or removal (collection) of archaeological resources from any federally managed land (e.g., BLM, USFS, or other federal agencies) necessitates an ARPA permit from the federal land manager. In Idaho, State excavation permits are required within a known site on state land in accordance with Idaho Code 67-4120; no permits are required on private lands. In Oregon, state law (Oregon Revised Statutes [ORS] 358.905-955, 390.235, Oregon Administrative Rules 051-360-080 to 090) requires that all field investigations conducted on non-federal public lands requiring ground disturbance, and all investigations of known sites on private lands, require a State of Oregon Archaeological Excavation Permit (Oregon SHPO 2007:34). Archaeological permits are required for any surface collections or subsurface field investigation that has the potential to disturb, destroy, or otherwise alter a site or sensitive area. Permits are not required for non-ground-disturbing research activities.

2.2.4 Discoveries of Human Remains

If human remains are discovered during any phase of the Project, work will cease within 200 feet of the location of the discovery and the remains will be protected. If the find is on federally administered lands in either state, the appropriate agency field official will be notified in accordance with the agency obligations under the Native American Graves Protection and Repatriation Act and other laws.

For discoveries on non-federal lands, the applicable law enforcement agency or other entity will be contacted in accordance with appropriate state statutes. In Idaho, Tetra Tech will comply

with Idaho Code §27 501–504 and notify the Idaho State Historical Society and the BLM cultural resources lead who will commence notification of the appropriate tribes, which consist of the Shoshone-Bannock Tribes of the Fort Hall Reservation, Shoshone Paiute Tribes of the Duck Valley Indian Reservation, the Confederated Tribes of the Umatilla Indian Reservation, and the Burns Paiute Tribe.

In Oregon, Tetra Tech will comply with ORS 97.745(4) and will notify the Oregon State Police, the Oregon SHPO, the Commission on Indian Services (CIS), and the BLM cultural resources lead. The BLM cultural resources lead will then commence notification of the appropriate tribes, which may consist of the Shoshone Paiute Tribes of the Duck Valley Indian Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Burns Paiute Tribe, and other tribes. In the event that human remains are encountered during work on the Project, these remains will be considered to be of Native American descent, until subsequent analysis suggests otherwise.

2.3 Site Documentation and Reporting

The results of the file search, literature review, and Class II and Class III inventories will be incorporated into technical reports that will be submitted to BLM to assist in NHPA and NEPA compliance. Separate stand-alone technical reports will be provided for each state; a separate report will be prepared for the USFS documenting inventory on USFS-managed lands. Reports will be prepared in accordance with BLM and USFS permit requirements and applicable SHPO guidelines for each state.

Reports will include full documentation of all archaeological and cultural sites and resources identified during inventory efforts, recorded per appropriate state requirements as described below, but within the parameters of and subject to laws requiring confidentiality:

- **Oregon.** All archaeological resources encountered will be recorded on Oregon Archaeological Site Forms or Oregon State Cultural Resource Isolate Forms (http://www.oregon.gov/OPRD/HCD/ARCH/docs/Online_Site_Form_Manual_Dec2009.pdf). Field surveys will be conducted and results reported in accordance with the *Guidelines for Conducting Field Archaeology in Oregon* (http://www.oregon.gov/OPRD/HCD/ARCH/docs/draft_field_guidelines.pdf) and State of Oregon Archaeological Reporting Guidelines (http://www.oregon.gov/OPRD/HCD/ARCH/docs/State_of_Oregon_Archaeological_Survey_and_Reporting_Standards.pdf) issued by the Oregon SHPO. Definitions of sites and isolates will be those provided in the *Guidelines for Conducting Field Archaeology in Oregon* unless permit stipulations require otherwise. For aboveground historic resources, data will be entered into the Oregon SHPO Historic database.
- **Idaho.** All archaeological resources encountered will be recorded on Archaeological Survey of Idaho Site Inventory Forms. Treatment of historic buildings, structures, and facilities, as discussed in a separate inventory plan addressing aboveground resources, will be recorded on Idaho Historic Sites Inventory Forms (both forms available at <http://history.idaho.gov/shpo.html>). Field inventories will be conducted and results will be reported in accordance with *Guidelines for Documenting Archaeological and Historical Inventories* (<http://www.history.idaho.gov/sites/default/files/uploads/SurveyGuidelines.4.5.2012.pdf>).

If survey is conducted on tribal lands of the Confederated Tribes of the Umatilla Indian Reservation, additional forms required by, and provided by, the THPO will also be completed.

3.0 DEFINITIONS

Area of Potential Effects (APE) means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (see 36 CFR 800.16[d]). The APE includes all lands regardless of ownership in the survey area, as well as any associated area of potential impact associated with ancillary facilities. The effects may be direct, indirect, or cumulative.

Class I Inventory (Record Search and Literature Review) is a compilation of all reasonably available cultural resources data and literature and a management-focused, interpretive narrative overview and synthesis of the data. Existing cultural resource data are obtained from published and unpublished documents, BLM cultural resource inventory records, institutional site files, state and national registers, and other information sources.

Class II Inventory (Probabilistic Field Survey) is a sample survey designed to aid in characterizing the probable density, diversity, and distribution of cultural resources in an area. Within sample units, methods used are the same as those applied in Class III intensive survey. While Class II surveys are generally not appropriate for determining specific effects of a proposed land use, they are useful when comparing alternative locations for proposed undertakings (per BLM Manual 8110).

Class III Inventory (Intensive Field Inventory), also referred to as survey, is a professionally conducted, thorough pedestrian inventory of an entire target area (except for any subareas exempted), intended to locate and record all cultural resources. It describes the distribution of properties in an area; determines the number, location, and condition of properties; determines the types of properties actually present within the area; permits classification of individual properties; and records the physical extent of specific properties. It is conducted in accordance with standards in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 *Federal Register* 44716, September 29, 1983) per BLM Manual 8110.

Consultation refers to the general process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process. The Secretary's "Standards and Guidelines for Federal Agency Preservation Programs pursuant to the National Historic Preservation Act" provides further guidance on consultation (36 CFR 800.16 [f]). See also the ACHP (2008) *Consultations with Indian Tribes in the Section 106 Review Process: A Handbook*.

Cultural Resources include archaeological, historical, or architectural sites, structures, or places that may exhibit human activity or occupation, or may be sites of religious or cultural significance to tribes. Cultural resources include, but are not limited to, archaeological sites, cultural landscapes, natural resources and landforms, grave sites, buildings, and structures. The term "cultural resources" encompasses properties of traditional religious significance that may or may not be eligible for listing in the NRHP but are of critical significance for tribes. The current plan is designed primarily to address the identification of archaeological resources.

Effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP (36 CFR 800.16[i]).

Historic property refers to a district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes

properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR 800.16[1][1]).

Programmatic Agreement (PA) refers to a legally binding document that memorializes the terms and conditions agreed upon to fulfill the lead federal agency's compliance with Section 106 of the National Historic Preservation Act, in accordance with 36 CFR 800.14(b) and 36 CFR 800.16(t). Programmatic Agreements are undertaken as alternatives to Section 106 procedures, and are often used when effects on historic properties are similar and repetitive; are multi-state or regional in scope; when effects cannot be fully determined prior to approval of an undertaking; or when non-federal parties are delegated major decision making responsibilities.

Proposed Route is the route proposed by IPC in the November 2011 POD. This route is subject to change with new data, but will not be inventoried until the POD is officially changed.

State Historic Preservation Officer (SHPO) means the official appointed or designated pursuant to Section 101(b)(1) of the NHPA to administer the State historic preservation program or a representative designated to act for the State historic preservation officer (36 CFR 800.16[v]).

Study Area is the area subject to a complete record search and literature review for the purpose of compiling information on previously recorded cultural resources and previous cultural resource surveys. The study area measures 2 miles on either side of the centerline, for a total study area corridor width of 4 miles.

Survey Area is the area that will be examined on foot by archaeologists to determine the presence or absence of archaeological resources. For purposes of the current document, this term is synonymous with the APE.

Traditional Cultural Properties (TCPs) are a class of National Register-eligible properties that possess association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. (See *National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties*).

Tribal Historic Preservation Officer refers to the tribal official appointed by the tribe's chief governing authority or designated by a tribal ordinance or preservation program who has assumed the responsibilities of the SHPO for the purposes of Section 106 compliance on tribal lands in accordance with section 101(d)(2) of the NHPA and 36 CFR 800.2.

Undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval (36 CFR 800.16[y]).

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ATTACHMENT S-2
VISUAL ASSESSMENT OF HISTORIC PROPERTIES STUDY PLAN



**Boardman to Hemingway
Transmission Line Project**

**Final Visual Assessment of
Historic Properties Study Plan**

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ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ASC	Application for Site Certificate
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
CFR	Code of Federal Regulations
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
EFSC	Energy Facility Siting Council
EIS	Environmental Impact Statement
GIS	geographic information system
GLO	General Land Office
GPS	global positioning system
IHSI	Idaho Historic Sites Inventory
ILS	Intensive Level Survey
IPC	Idaho Power Company
KOP	key observation point
kV	kilovolt
MET	Mapping Emigrant Trails
NEPA	<i>National Environmental Policy Act of 1969</i>
NHPA	<i>National Historic Preservation Act of 1966</i>
NHT	national historic trail
NPS	National Park Service
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rules
OCTA	Oregon–California Trails Association
ODOE	Oregon Department of Energy
OHSD	Oregon Historic Sites Database
PA	Programmatic Agreement
Project	Boardman to Hemingway Transmission Line Project
RLS	Reconnaissance Level Survey
ROW	right-of-way
SHPO	State Historic Preservation Office
THPO	Tribal Historic Preservation Office
USC	United States Code
USFS	United States Forest Service
VAHP	Visual Assessment of Historic Properties
VCR	visual contrast rating

1.0 INTRODUCTION

1.1 Project Summary

Idaho Power Company (IPC) proposes to construct, operate, and maintain the Boardman to Hemingway Transmission Line Project (Project), a 305 mile-long, single-circuit 500-kilovolt (kV) overhead electric transmission line and related facilities. The Project will begin at the proposed Grassland Substation near Boardman, Oregon, and terminate at the existing Hemingway Substation near Melba, Idaho (Figure 1-1). In addition, 5.3 miles of 138-kV and 69-kV transmission lines will be relocated and/or rebuilt. IPC's proposed Project provides additional capacity connecting the Pacific Northwest and Intermountain regions of southwestern Idaho to alleviate existing transmission constraints and ensure sufficient capacity to meet present and forecasted load requirements. The proposed Project route crosses federal, state, and private lands.

IPC has applied to the United States Bureau of Land Management (BLM) for a right-of-way (ROW) grant and to the United States Forest Service (USFS) for a special-use permit for the use of public lands along portions of the Project. These entities are or will be conducting an independent environmental review of the proposed Project as part of their respective evaluations of the IPC applications for Project permits. The BLM and USFS will be preparing a joint Environmental Impact Statement (EIS) under the National Environmental Policy Act of 1969 (NEPA) to document the environmental review of the Project. In addition, the Bonneville Power Administration (BPA) will be providing some of the funding for the Project. The Project is also subject to Section 106 of the National Historic Preservation Act (NHPA) (16 United States Code [USC] 470) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800).

IPC will submit an Application for Site Certificate (ASC) for the Project to the Oregon Department of Energy (ODOE) through the state's Energy Facility Siting Council (EFSC). To receive a Site Certificate, the Project must satisfy the regulatory requirements contained in the Oregon Administrative Rules (OAR) 345-021-0010(s) [Contents of An Application, Exhibit S] and OAR 345-022-0090 [General Standards for Siting Facilities: Historic, Cultural and Archaeological].

IPC and its environmental consultant, Tetra Tech, are assisting the BLM and USFS and the cooperating federal and state agencies and tribes in meeting NEPA, NHPA, and EFSC requirements. Tetra Tech, on behalf of IPC, retained URS Corporation to conduct a Visual Effects on Historic Properties study according to the methods and standards required by Section 106 of the NHPA, the BLM, the BPA, the USFS, the Oregon and Idaho State Historic Preservation Offices (SHPOs), as well as the Tribal Historic Preservation Officer (THPO) of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Tetra Tech may elect to engage other firms as necessary to complete this work.

The federal government, the State of Oregon, and other affected government agencies all require the proposed Project be adequately analyzed to determine environmental effects associated with the Project's implementation, including effects to historic properties and their visual settings.

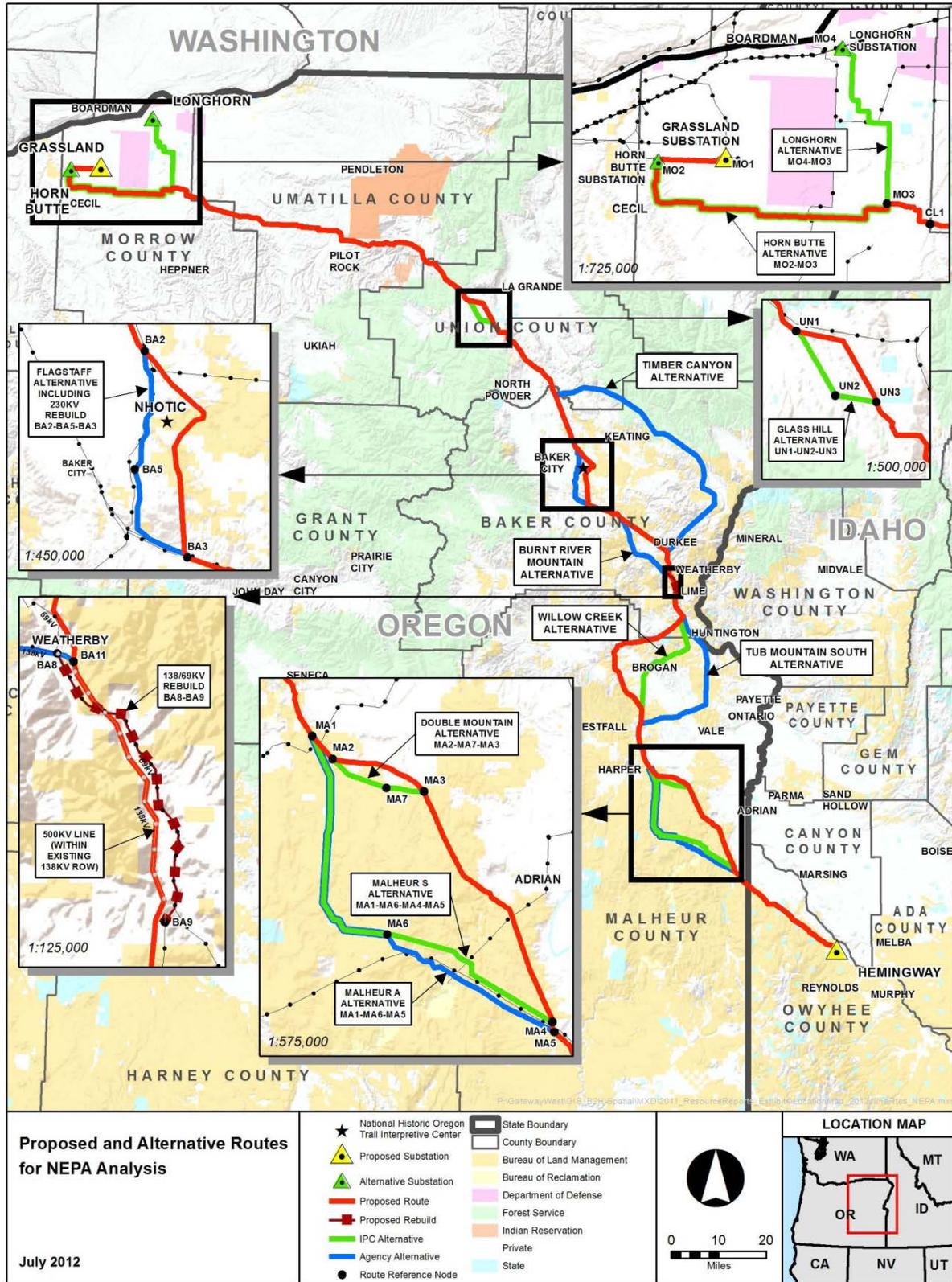


Figure 1-1. Proposed and Alternative Routes

The Project, including road construction (i.e., new roads in addition to widening and improving existing roads), staging areas, substations, and the installation of large overhead transmission towers and conductors, may directly or indirectly affect built environment historic properties (e.g., ranches, homesteads, or mines). The Project may also directly or indirectly affect National Historic Trails (NHT), NHT variants from the original trail, other historic trails, and associated resources (e.g., stage stations and/or grave sites). Many of the routes manifest the westward emigration that dominated the mid-nineteenth century, while other historic routes document the evolution of trails and variants to other forms of transportation, including wagon and automobile roads, from the late nineteenth through mid-twentieth centuries. While some historic trails have been recognized as a part of the National Historic Trail program by the National Park Service (NPS), other historic trails affected by the Project may also be classified as historic properties under the NRHP criteria. Trail segments that lack integrity will be considered non-contributing elements to the trail, and will not be subject to further study.

The Project may also directly or indirectly affect prehistoric sites eligible under criteria other than D only, as well as Traditional Cultural Properties (TCP) and properties of religious and cultural significance to tribes. Eligibility, effect, and treatment of these types of properties will be addressed through consultation between the BLM and the appropriate tribe or interested party.

1.2 Study Purpose

The purpose of this Visual Assessment of Historic Properties (VAHP) Study Plan is to outline the methods proposed to:

- 1) conduct a reconnaissance and intensive level inventory of the Area of Potential Effects (APE) of above ground resources inclusive of the proposed route and alternatives being evaluated for NEPA and EFSC;
- 2) identify NHTs, NHT variants from the original trail, other historic trails¹ and associated resources (e.g., stage stations and/or graves sites), other historic transportation related sites and features, TCPs, properties of religious and cultural significance to tribes, historic structures, canals and ditches, home- and ranchsteads, and historic structures;
- 3) evaluate the historic resources by applying the National Register of Historic Places Criteria for Evaluation;
- 4) conduct a visual assessment of historic properties, in addition to historic trails, identified during the historic resources inventory, and analyze potential Project effects.

The preliminary results of the study will be distributed to the BLM, BPA, USFS, tribes, and other consulting parties for consultation on eligibility and effect. The final results of this study will be documented as a report submitted to the BLM and USFS to assist in the preparation of the NEPA EIS and Section 106 of the NHPA compliance documents. The report will also be filed as a part of Exhibit S of the ASC to satisfy the regulatory requirements of the ODOE.

Recommendations from this study will contribute to the development of the Historic Properties Management Plan (HPMP). This Plan is being developed pursuant to the Section 106 Programmatic Agreement (PA) for the Project which will include measures to avoid, minimize, or resolve adverse effects to historic properties identified and evaluated in the VAHP study.

¹ "Other historic trails" may include trails that are designated at the state level and that are administered by the Oregon Historic Trails Advisory Council (OHTAC).

The VAHP study is part of a series of studies to consider the Project's impacts to various types of historic properties and/or visual resources that may also have cultural values, recreational values, and archaeological and historical significance. The study, therefore, is designed to be coordinated with, and complementary to these other studies including:

- Literature Review
- Visual Resources Assessment Study
- Archaeological Survey Plan
- Ethnographic Studies

It should be noted that this study does not identify or evaluate archaeological sites, but will identify those previously recorded sites (either by this project or during previous investigations) that have the potential to be visually affected by the Project and that are eligible under National Register criteria other than or in addition to Criterion D. These resources include, but are not limited to rock cairns, petroglyphs, stone circles, and other historic properties of religious and cultural significance. Due to the sensitive nature of these sites, it is anticipated that the BLM and USFS will undertake tribal consultation to identify and evaluate these resources, and assess potential impacts to these resources.

2.0 REGULATORY BACKGROUND

2.1 State Requirements

It is anticipated that IPC will submit an ASC for the Project to the Oregon Department of Energy (ODOE) through the state's EFSC. To receive a Site Certificate, the Project must satisfy the regulatory requirements contained in OAR 345-021-0010(s) [Contents of An Application, Exhibit S] and OAR 345-022-0090 [General Standards for Siting Facilities: Historic, Cultural and Archaeological]. EFSC relies on the Oregon SHPO as the state reviewing agency to assist EFSC with determining whether standards under OAR 345-022-0090 are met. The Project could affect historic, cultural and archaeological resources within the Project area; therefore, the Project's EIS and the EFSC ASC must include an assessment of the potential impacts.

It is also anticipated that the state and federal regulatory processes will be coordinated between the applicable federal and state agencies. The BLM and USFS are developing a PA with the Oregon and Idaho SHPOs, CTUIR THPO, BPA, the Advisory Council on Historic Preservation (ACHP) in addition to other consulting parties to allow the Project to move forward under the NEPA and NHPA processes. ODOE-EFSC is also an invited signatory to this agreement.

2.2 Federal Requirements

The BLM is the designated lead federal agency for the Project under NEPA and for compliance with Section 106 of the NHPA and will coordinate the preparation of an EIS for the Project. Tetra Tech will prepare a VAHP report for the BLM that will analyze the potential for the project to impact historic properties and NHTs and to provide supporting documentation to comply with NEPA, Section 106 of the NHPA, and Oregon EFSC.

The Section 106 process stipulates that the responsible lead federal agency, in this case the BLM, establishes the undertaking (permitting of the Project), identifies consulting parties, identifies historic properties, and assesses Project effects on those historic properties. Section 106 requires the BLM to consider the effect the Project might have on historic properties before approving the Project and granting a ROW or special-use permit. Historic properties are defined at 36 CFR 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object

included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior.” The BLM develops appropriate measures to resolve adverse effects to those historic properties in consultation with the Oregon and Idaho SHPOs, CTUIR THPO, the ACHP, the BPA, the USFS, American Indian tribes, IPC, and other consulting parties. When completed, the NHPA process will provide mitigation measures applicable to the route and associated facilities, such as access roads and staging areas. A PA is currently in preparation. Once the PA is signed by the applicable signatory parties, the Section 106 process, with the stipulated consultation requirements, resource identification efforts, and any mitigation measures contained or anticipated in the agreement, would be implemented.

In accordance with the National Trails System Act of 1968 (Public Law 90-543, as amended 2009), the BLM and NPS have developed management plans to identify and protect the NHTs and associated sites and resources (BLM 1986a; NPS 1998). It is the responsibility of the BLM to protect and interpret trail resources under its jurisdiction (BLM 1986a). Implementing these responsibilities includes, but is not limited to, regular monitoring of the resource, keeping the NPS informed, defining boundaries, erecting and maintaining trail markers, providing and maintaining facilities, issuing and enforcing regulations, maintaining the scenic/historic integrity, avoiding the destruction of segments, and mitigating unavoidable effects (BLM 1986a).

2.2.1 Criteria for Evaluating Historic Properties

In order to be eligible for or listed in the NRHP, a resource must maintain integrity and be judged significant under one or more of the four National Register Criteria. More specifically, and as noted in 36 CFR 60.4, the resource must

- 1) possess integrity of location, design, setting, materials, workmanship, feeling, and association: and
- 2) possess at least one of the following National Register Criteria which includes:
 - A) an association with events that have made a significant contribution to the broad patterns of our history; or
 - B) an association with the lives of persons significant in our past; or
 - C) embodying the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
 - D) that have yielded or may be likely to yield, information important in history or prehistory.

Additional criteria considerations may also apply in special instances to properties that have been moved, religious properties, cemeteries, individual graves or birthplaces, reconstructed or commemorative properties, and properties that have achieved significance within the past 50 years. Due to the Project’s extended construction timeframes all previously recorded resources that are 50 years old, or will have achieved 50 years of age at the time of the completion of the construction, will be assessed for their eligibility to the NRHP.

All resources may be eligible under any one or more of these criteria. For example, a historic building that has sufficient integrity to convey its historic associations may be eligible under Criterion B for its association with a significant person and Criterion C as an excellent example of a particular style of architecture. Guidelines for applying the criteria are provided in *How to Apply the National Register Criteria for Evaluation, Bulletin 15* (NPS 1997a) and *Guidelines for Evaluating and Registering Archeological Properties, National Register Bulletin 36* (NPS 2000).

During implementation of the VAHP study, archaeological resources, commonly determined eligible solely under Criterion D for their data potential, will not be evaluated.

2.2.2 Assessing Project Effects

For those properties that are determined as eligible, federal agencies are required to apply the “criteria of adverse effect” to determine whether the project will affect historic properties (36 CFR 800.5). Adverse effects are found when an undertaking alters, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include reasonably foreseeable effects that are caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5(1)).

This Project differs from some other types of projects as it introduces conspicuous features (e.g. transmission line towers) on the landscape that can indirectly affect certain elements of a historic property’s integrity such as setting, feeling, and association. This study plan provides the methodology by which these indirect effects to historic properties will be analyzed.

3.0 HISTORIC CONTEXT

This chapter provides a brief overview to an approach for developing the applicable historic contexts for the Project APEs. A historic context typically consists of prevailing historic themes and chronological periods of development within a given geographic area to assist in understanding cultural resources within the APEs (see section 4.1) of the Proposed Project and Alternatives. When the VAHP Study is prepared, the historic context will use the identified historic resources in addition to published ethnographic data, historic documents, previously recorded oral histories, and secondary sources to develop a more complete history of the resources within the Project APEs.

In order to assess the significance of a historic property and formally evaluate it for listing in the NRHP, a historic context must first be established to demonstrate how a particular resource relates to a local or regional history. The historic context will focus on American Indian and European American land use within the vicinity of the Project APEs. Although the majority of built environment resources are likely to date to the twentieth century, a few mid to late-nineteenth century resources, such as farms and ranches, the Oregon Trail, and the route of the forced march of the Shoshone-Paiute Tribes to Fort Simcoe, do exist within the APEs. The historic context reaches farther back than the dates of anticipated resources to provide information on trends and themes that influenced development patterns found today. It should be noted that this research, for the purposes of the study plan, will be organized by geographic area and then topically subdivided into chronological period and then historical theme consistent with the NPS approach to historic contexts (NPS 1997a; NPS 1997b).

3.1 Anticipated Historic Properties

3.1.1 Historic Period Themes, Ethnohistoric Occupation, and Associated Resource Types

From the period of early historic contact through the 1960s, the landscape in the vicinity of the Project has been shaped by a number of broad historic themes. These themes include, but are not limited to; American Indian land use, early historic contact between American Indian tribes and Euro-American settlers, the fur trade, tribal and Euro-American relations, trails and

transportation, community growth and town building, rural electrification, railroads and highways, mining, agriculture and timber, homesteading, ranching, and irrigation.

In addition to these broad historic themes, the Project crosses an area that is layered with a number of cultural and ethnic patterns of occupation. The Project, for instance, crosses the aboriginal and ethnohistoric ranges of the Northern Paiute, Bannock, Nez Perce, Cayuse, Umatilla, Shoshone, and Walla Walla people. Also, the Project occurs in an area that retains important cultural associations with Basque, Chinese, and Latino settlers and workers. All of these groups, in addition to Euro-American settlers, have shaped the historic landscape and will be discussed in the historic context.

Resources constructed during the nineteenth and twentieth centuries and associated with the aforementioned themes are listed in Table 3-1. This table is *not inclusive* of all resources that may be encountered during the survey but provide preliminary indication of resource types in the Project APEs.

Table 3-1. Historic Themes and Anticipated Resource Types

Theme	Resource Category	Resource Type
Agriculture: Ranching, Farming, and Forest Management	Homesteads and Ranches, (Agricultural Uses)	Barns, granaries, poultry houses, root cellars, cool houses, stock sheds, water towers, smokehouses, chicken coops, irrigation networks and canals, historic rock alignments/sheep fences, cisterns, wells, corrals, dendroglyphs, cairns, stock driveways, and line shacks.
	Homesteads and Ranches (Domestic Uses)	Residences (Rural Gothic, Queen Anne, Colonial Revival, Bungalow, English Cottage, Craftsman, vernacular), migrant houses and camps, shepherd cabins
	Forest Management	Ranger's Station/Cabins, Warehouses, Recreational Cabins, bunkhouses, Civilian Conservation Corps (CCC) era resources, fire lookouts, and communication sites
Trails and Transportation	Road Networks	culverts, bridges, viaducts, retaining walls, road cuts, right-of-ways, CCC-era buildings and features, road projects, and diversion canals,.
	Trail Networks	Trails, stagecoach stations
	Railroads	Culverts, bridges, viaducts, embankments, railbeds, stations, and construction camps
	Aviation	Airports--runways, taxiways, hangars, control towers, warm up pads. Airways—beacons, radio ranges
Industry and Commerce	Mining	Adits, ditches, open pits, headframes, tailings, assay, generator house, power plant, rock cairns, tailings, mills, and camps
	Manufacturing	Concrete plant, hydroelectric plant, electrical transmission/distribution lines
	Commercial hubs	Stores, warehouses, hotels, stables, gas stations
	Timber	Sawmills, water impoundments, log flumes, camps, and springboard stumps

Theme	Resource Category	Resource Type
Ethnohistoric Resources	Assorted	TCPs, cambium peeled trees, Basque/Greek shepherder cabins and camps, dendroglyphs, tribal allotment homesteads, Chinese sites, work camps
Theme	Resource Category	Resource Type
Settlement and Community	Cities, towns and crossroads communities	Houses, residential subdivision, grid plan town, schools, courthouse, jail, churches, office buildings
Prehistoric Resources	Assorted	Petroglyphs, rock circles, cairns, prehistoric trails

3.1.2 Multi-Component Resources with Important Visual Contexts

It is anticipated that some historic properties that have been previously recorded as archaeological resources may maintain characteristics that also make them eligible under National Register Criteria A, B, and/or C. With many of these properties containing multiple occupations or uses through time, historic contexts will play a critical role in identifying and assessing the importance of each component.

It is also anticipated that these resources may have visual settings that contribute to their overall significance. Resources such as rock cairns, rock circles, and petroglyphs, for instance, often occur in areas where their physical context or setting is an important character-defining feature. The historic (or prehistoric) context surrounding these resources, however, is often known only to Tribes with associations to the area. Tribal consultation by the BLM and other federal agencies for this project will play a role in developing a better understanding of the contexts (physical, cultural, and historical) behind these resources. Ethnographic and traditional use studies conducted by/for the applicable tribes would also assist in developing the context for these resources.

4.0 METHODS

4.1 Area of Potential Effects and Project Setting

In consultation with the other agencies and consulting parties and through the PA, the BLM has established an APE for indirect visual effects as five miles or to the visual horizon, whichever is closer, on either side of the centerline of the proposed alignment and alternative routes. In rare instances, the indirect visual effects APE may extend beyond the file-mile convention to encompass properties that have visually sensitive resources. For the purposes of this Project, indirect effects include, but are not limited to, effects that change the characteristics that make the property eligible for inclusion in the National Register, as well as the introduction of visual, atmospheric, or audible elements that alter any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the property's integrity. This study is, however, specifically directed towards visual effects. Other indirect effects outside of visual will be analyzed through the Project's Draft Environmental Impact Statement or evaluated through Section 106 consultation. Those aspects of integrity that are most likely to be indirectly affected by visual effects include setting, feeling, and association. The Project's potential to contribute to cumulative effects will also be analyzed consistent with 36 CFR 800.5(1). In several areas, for instance, the Project will be placed immediately beside existing transmission lines and may affect historic properties in a cumulative manner. The instances in which this occurs are listed in Table 4-1.

Table 4-1. Existing Transmission Line Corridors Within the APEs

Route/Alternative Name	Approximate MP Range	County	Existing Transmission Line Voltage
Proposed Route	0-6.5	Morrow County	500kV
Proposed Route	96.4-98.9	Union County	230kV
Proposed Route	103.0-111.6	Union County	230kV
Proposed Route	124.0-125.8	Union County	230kV
Proposed Route	128.0-150.0	Union County/Baker County	230kV
Flagstaff Alternative (and 230kV Rebuild)	0-5.0	Baker County	230kV
Flagstaff Alternative	7.5-11.0	Baker County	230kV
Flagstaff Alternative	11.0-14.4	Baker County	138kV
Proposed Route	162.2-164.9	Baker County	69kV/138kV Corridor
Proposed Route	164.9-167.5	Baker County	138kV
Proposed Route	170.0-173.7	Baker County	138kV
Proposed Route and DC Rebuild	187.0-191.1	Baker County	69kV/138kV Corridor
Proposed Route	191.1-197.0	Baker County	138kV
Malheur A Alternative	20.0-33.2	Malheur County	500kV
Malheur S Alternative	25.9-33.6	Malheur County	500kV
Proposed Route	271.6-280.0	Malheur County/Owyhee County	500kV
Proposed Route	283.0-299.7	Owyhee County	500kV

The APE for indirect effects includes approximately 3,400 square miles located in Umatilla, Union, Baker, Morrow, and Malheur Counties of Oregon and Owyhee County in Idaho. The APE consists of terrain with varying degrees of visibility, vegetation density, and accessibility and contains large parcels of private, state, tribal, and federal land. Some of the Proposed Corridor is collocated with existing transmission lines and near the major transportation corridor of Interstate 84. It will also cross near the National Historic Oregon Trail Interpretive Center. The APE is relatively undeveloped and there are few population centers. Communities within or near the indirect APE include Adrian, Boardman, Pilot Rock, La Grande, North Powder, Baker City, Vale, Willowcreek, Brogan, and Ontario, Oregon as well as Marsing, Idaho. While none of the Project's proposed or alternative routes go through the Umatilla Indian Reservation (UIR), the Project's indirect APE will include portions of the UIR. In addition to being consulted on resources of importance to the tribe off the reservation, the CTUIR THPO will be consulted on any resources identified on the Reservation that have the potential to be indirectly affected by the Project. A permit will be secured from the tribe to access to the Reservation.

Geographic Information System (GIS) "bare earth" modeling will be used to assess areas that will not be visually affected by Project elements. This modeling consists of establishing Project heights and using ground elevation data to determine whether an area would have views of the Project or whether intervening landforms would block views. This analysis will be completed as part of the visual resources analysis prepared for the overall Project. These areas will be mapped and used during the field survey to verify that resources situated within these zones would not be visually affected by the Project.

Other mapping overlays will be used from the Visual Resources Assessment to identify areas that have been previously inventoried for visual/aesthetic qualities. Particular attention will be

paid to places that included visible cultural resources (historic barns, hay derricks, fence lines, canals, etc.) that complement the scenic quality of that particular area. These mapping overlays will assist field crews to better anticipate and assess the integrity of a resource's setting and ensure consistency between the visual and historic property studies.

4.2 Pre-Field Research Methods

A literature review was conducted for this Project to identify potential historic properties within the Project direct APE. Consistent with BLM Manual 8110 (BLM 2004) and 36 CFR 800.4(2), a literature review consists of a reasonable compilation of existing information assembled from a review of previously recorded historic resources and any associated studies. For this Project, information was retrieved from the Oregon Historic Sites Database (OHSD), Oregon SHPO archaeological records, Idaho Historic Sites Inventory (IHSI), Archaeological Survey of Idaho (ASI), BLM and USFS site files (including the Oregon Heritage Information Management System), CTUIR site database, and available historical and ethnographic literature. The study area for the literature review was two miles wide on either side of the centerline of the proposed and alternative routes. This APE was established to aid route-siting efforts, to accommodate shifts in the proposed route, and to cover areas where access roads, substations, and other construction or operation facilities may occur outside the 500-foot-wide intensive survey corridor (direct effect APE).

Due to the scale of the Project and the relatively rural setting for much of the corridor, the identification efforts for the indirect visual APE, which is out to five miles on either side of the Project centerline, will consist of a reconnaissance level survey (RLS) (known in Oregon as a selective RLS) and an intensive level survey (ILS) of resources that:

- have been previously identified through historic resource investigations and that appear in the OHSD, IHSI, or ASI;
- are listed on the NRHP;
- are participants in the Oregon and Idaho Century Farms and Ranches Program;
- appear in State and local registers and landmarks lists;
- are considered by the county as a Statewide Planning Goal 5 Resource (Oregon only);
- have been identified by federal or state agencies;
- have been identified by consulting parties, tribes, local historical societies or private individuals as potentially important historical resources that warrant identification and evaluation;
- are on General Land Office (GLO) plat maps or Ogle and Metsker maps dating to before 1965; and
- Current published and unpublished literature, emigrant diaries, journals, letters, newspaper accounts, Army topographical engineer maps describing trails, older USGS topographic maps and folios, published trail descriptions, chronologies, cultural and historical contexts, ethnographic reports, and information provided by the BLM, USFS, local counties, and National Park Service (NPS) National Trails Office (e.g., historic survey records, maps, etc.).

Research on NHTs and associated resources, such as camps sites, glyphs, and graves, will begin with a review of GLO maps to identify additional trails and establish a record of the historic route of each trail (BLM 2011a). The site records for each resource will also be reviewed to determine the extent of the resource, recording history, and current NRHP status. A summary

of this information, spatially organized west to east, will be included in the overview sections for each trail resource in the Project APEs.

A variety of digital data sources will be used to spatially assemble the network of trails within the Project APEs. These data sources include NPS and BLM shapefiles, as well as digitized trail information from the Idaho Chapter of the Oregon-California Trails Association (OCTA) (Eichhorst 2010) and the Northwest Chapter of OCTA, in addition to trail resources identified in *Emigrant Trails of Southern Idaho* (Hutchison and Jones 1993), and from *Powerful Rocky: The Blue Mountains and the Oregon Trail* (Evans 1991). The Oregon Historic Trails Advisory Council (OHTAC) would also be consulted to identify potential historic trail locations in Oregon. Collectively, these data sources will be used to produce a list of legal locations (township, range, and quarter-quarter section) for each trail resource, inclusive of primary routes, alternates, and cut-offs. The pre-field research combined with the digital data effort will assist with cross referencing historic accounts, mapping, and documentary evidence of historic trail(s) locations.

4.3 Standards for Conducting Fieldwork

The field methods to be employed for the VAHP will be consistent with the Secretary of the Interior's *Standards for Archaeology and Historic Preservation* (NPS 1983, as amended) in addition to the *Oregon SHPO Guidelines for Historic Resource Surveys in Oregon* (OPRD2011), *How to Apply the National Register Criteria for Evaluation* (NPS 1997a), *How to Complete the National Register Registration Form* (NPS 1997b), *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (NPS 1999), *Guidelines for Local Surveys: A Basis for Preservation Planning* (NPS 1985), and other applicable state and federal standards, guidelines, and white papers that may be consulted as field efforts proceed. These documents may include, but not be limited to *Guidelines for Historic Resources Surveys in Oregon* (OPRD 2011) and Idaho's *Architectural and Historic Sites Survey and Inventory or Guidelines for Documenting Archaeological and Historical Inventories*, as appropriate (ISHPO 2011). The level of effort for fieldwork to identify historic properties will be consistent with 36 CFR 800.4(b)(1) as well as "Meeting the "Reasonable and Good Faith" Identification Standard in Section 106 Review" (ACHP 2011). In addition to taking into account the previously discussed background research and consultation, the field survey methodology also considers the magnitude and nature of the Project and the nature and extent of potential Project effects on historic properties. An architectural historian and/or an archaeologist (as appropriate) that meets the Secretary of Interior's Standards and Guidelines (36 CFR 61) will supervise each crew (each crew will have two staff members) that conducts the field survey. Field staff will have an established familiarity with the OHSD as well as the IHSI, methodologies explained in the most recent survey guidance published by the Oregon and Idaho SHPOs, as well as the methods explained in this Study Plan. Field crew members will have experience in history, architectural history, archaeology, and/or the role of landscape in the significance of historic resources. Having multi-disciplinary field teams will be particularly beneficial when assessing the integrity of a multi-component resource's setting and how setting contributes to the significance of that resource.

4.4 Field Survey Methods

4.4.1 Reconnaissance Level Survey (RLS)

A RLS is designed to be a "first look" at a broad group of historic resources and records basic information. Fieldwork for the RLS will be conducted by teams of two field crew members, who will drive publicly accessible rights-of-way and record resources in a systematic manner. For those resources inventoried in the APEs, specific information will be collected, at least two or

more photographs taken, and each resource noted on a field map with latitude, longitude, and UTM coordinates recorded. The information collected in the field will include the address, historic name, original use (when readily evident), preliminary eligibility recommendations, construction date, materials, style, plan type, and number of contributing and non-contributing resources, and any additional location information, as well as comments that make note of any loss of historic integrity. Data collected in the field will be entered into the appropriate OHSD, IHSI, or ASI forms. While there are some differences in the types of data needed to complete respective data entry into the OHSD, IHSI, or ASI forms, field crews will ensure that the appropriate information is collected in the field and entered into the appropriate database. The data collected and entered into the database will be consistent with the respective state's requirements for conducting built environment and archaeological surveys.

For a resource identified during the RLS that retains integrity (including integrity of the setting), is 45 years old or older², may be eligible under any of the NRHP criteria for evaluation, and that has the potential to be indirectly affected by the Project, the resource³ will be subject to additional analysis so that NRHP eligibility can be ascertained during the ILS. Prior to the finalization of the RLS, the preliminary results of the survey will be shared with the BLM, BPA, USFS, appropriate SHPOs/THPO, and consulting parties as an interim summary report so that the relative effectiveness of the methodologies can be gauged and adjusted.

4.4.2 Intensive Level Survey (ILS)

The ILS is a detailed look at each individual resource, and records in-depth information collected from a physical examination of the resource and includes research about the resource's property and ownership history. It identifies the resource's potential eligibility for the NRHP, either individually or as a contributing resource to a historic or archaeological district. Field crews conducting the ILS will record information about each resource that is consistent with the survey guidelines of Oregon and Idaho. This will include sufficient photographs to record the characteristics that potentially make the resource eligible for the NRHP. A site plan that records the physical layout of the property and its relationship to the Project also will be prepared.

To complement this more intensive field recordation, additional research will be undertaken to better understand the resource's history. This will include SHPO/USFS/BLM files, historic maps (such as GLO, Metsker's, and Sanborn Fire Insurance maps), newspapers, and other applicable resources such as census records, genealogical records, biographical encyclopedias, city directories, oral histories, family histories, or tribal consultation. The ILS also will contain a list of literature cited that will include any primary and secondary sources consulted for the specific history of the resource as well as the resource's historic context. After taking into account the overall integrity and historical significance of the resource, a final recommendation concerning a resource's eligibility for the NRHP will be made. This information will be entered into the OHSD or onto IHSI.

Once the ILS is completed, an interim summary report with recommendations concerning the eligibility of resources for the NRHP will be forwarded to the BLM, SHPOs/THPO, and consulting parties for review. The SHPOs/THPO would then review the findings and either

² The 45 year criterion was chosen to take into account the effects that could be present during the full Project construction period.

³ It should be noted that the RLS and ILS will be coordinated with the archaeological investigations to ensure that multi-component resources (see Section 3.1.2) are correctly identified and evaluated.

concur or not concur with the BLM's determinations of eligibility. Resources determined to be eligible for the NRHP would then be subject to an assessment of Project effects. If an adverse effect to a specific property is found, then mitigation or other treatment will be completed under the terms of the Project Programmatic Agreement and associated Historic Properties Management Plan.

4.4.3 National Historic Trails and Associated Resources Survey

Historic trail segments within the APEs of the proposed route and alternatives will be identified and recorded during the RLS and ILS for the Project. A table will be created for each resource that includes the crossing location, a photo of the trail, the trail condition including the integrity of the setting, and the NRHP status. Each field crew will be equipped with a Trimble® GeoXH global positioning system (GPS) unit. These GPS units will be loaded with digital maps, allowing field crews to navigate to the proposed route and alternative centerlines and record the trail segment.

When potential trail locations and/or actual trails have been identified, the crew will define the class of trail consistent with the standards and examine the condition of the trail consistent with the OCTA classification and examine the setting and condition of the trail (see Table 4-3 Trail Classification Categories), and document the trail and any associated features or artifacts. These classification strategies will be dovetailed with an assessment of the trail's physical integrity, as well as the integrity of its setting, that will utilize the applicable National Register guidance as well as guidance published in recent BLM and NPS historic trails management plans (Management and Use Plan Update/Final Environmental Impact Statement Oregon National Historic Trail/Mormon Pioneer National Historic Trail, NPS 1999; BLM 2011b). Digital photographs will be taken of each trail, and photos facing each cardinal direction will be taken to document the current setting condition. Photos looking at and from along the path of the trail will be taken so that a proper assessment of the trail's setting can be conducted. Existing Oregon survey forms and Idaho ASI forms will be used to record historic trails. Addendum sheets may be used to include additional mapping and other trail data as needed.

The 5-part MET classification of trail categories for overland emigrant trails and roads is designed to assess the condition of trails at the time of mapping. These five categories are OCTA's standard classification for all emigrant trail mapping (OCTA 2002) and will be used to guide judgments concerning the historical integrity of historic trails. Trail condition and integrity will be classified and assessed using the terminology and classification system as defined in the OCTA publication Mapping Emigrant Trails (MET) (OCTA 2002). The system will be used for the NHTs and other historic trails. The terms and classifications are provided in Table 4-2 (Trail Terminology) and Table 4-3 (Trail Classification Categories). These classifications are one aspect of evaluation for NRHP eligibility and can aid in determining the level of integrity of trail segments, but do not replace NRHP significance assessments.

Table 4-2. Trail Terminology

Term	Description
Trace	A general term for any original trail segment.
Swale	A depression, but of deeper dimensions and with sloping sides.
Depression	A shallow dip in the surface, often very faint and difficult to see.
Rut	A deep depression without a center mound and with steep sides.
Erosion feature	A trace of any sort that has been deepened and altered by subsequent wind and/or water action; sides are often irregular.
Track	A visible trace caused by the compacting of surface or discoloration due to salt evaporation on alkali flats; little or no depression. Often seen as streaks across an alkali flat.

Term	Description
Two-track	Parallel wheel tracks separated by a center mound. Typically an unimproved ranch road currently used by motorized vehicles. Usually a Class 2 trail.
Scarring	An irregularly wide flat surface devoid of vegetation that no longer shows any wagon depressions or swales. Often seen trailing through sagebrush flats in an uneven pattern.
Improved road or secondary road	Bladed, graded, crowned, graveled, oiled, or blacktop roads usually having side berms, curbs, or gutters.

Source: OCTA 2002.

Table 4-3. Trail Classification Categories

Term	Type	Description
Class 1	Unaltered Original Trail	The trail route remains representative of its original condition, not having been used by motor vehicles or altered by road improvements. There is clear physical evidence of the original trail in the form of depressions, ruts, swales, or tracks, some of which may be eroded and/or visible only intermittently.
Class 2	Used Original Trail	The trail route retains its original character although it has been used by motor vehicles. The road has not been bladed, graded, crowned, or otherwise improved and typically remains as a two-track road traversing the original wagon trail. In some forested areas, the trail may have been used for logging but still retains its original character.
Class 3	Verified Original Trail	The trail route is accurately located and verified from written, cartographic, artifact, wagon ruts, evidence of wheel impact such as grooves, polish or rust on rocks, and/or topographic evidence, but due to subsequent weathering, erosion, or development (e.g., paved roads, agricultural use, logging, etc.), physical remains of the trail will be non-existent or insignificant. Typically, this would include trails that once traversed through forests or meadows, across excessively hard surfaces or bedrock, over alkali flats, through soft or sandy soils, alongside streams or rivers, on ridge, or through ravines.
Class 4	Impacted Original Trail	The trail route is located and verified accurately, but the trail has permanently lost its original physical and environmental integrity due to the impact of development. Most often, this impact takes the form of light-duty or secondary roads overlaying the trail (bladed, graded, crowned, graveled, oiled, or blacktop roads). In other cases, residential, industrial, pipeline, agricultural, or recreational development have altered or destroyed the trail remains and its natural environment, though the trail location is still known.
Class 5	Approximate Original Trail	The trail route is no longer verifiable or accurately located. In some cases, there is not enough historical or topographic evidence by which to accurately locate the trail. In many cases, it has been destroyed entirely by highway, urban, agricultural, industrial, or utility corridor development. In other cases, it has been submerged under reservoirs or raised lakes. Thus only the approximate route is known.

Source: OCTA 2002.

4.5 Analysis of Indirect Visual Effects to Historic Properties and Trails

The ultimate goal of this analysis will be to identify those indirect visual Project effects, in particular the indirect visual effects, that diminish the integrity and thus the characteristics that make the historic property eligible for the NRHP. While the Project may have indirect visual effects upon historic properties within the APEs, this analysis will help determine whether these effects are adverse. The Visual Assessment of Historic Properties (VAHP) analysis will be

conducted in the field after resources have been determined eligible for the National Register. To provide recommendations on Project visual effects to the BLM, the visual effects analysis will utilize the VAHP Form (Appendix A) which consists of four different parts. This includes:

- 1) types of indirect visual effects on historic property;
- 2) integrity of historic property;
- 3) viewshed and setting; and
- 4) distance, contrast, obstruction, and fragmentation.

These four components of the analysis will include information observed during fieldwork in addition to GIS viewshed modeling. The modeling will help understand the geographic extent of Project visibility from the historic property. Project visual simulations will also be used to estimate the placement of Project elements and its impact upon the setting.

4.5.1 Viewshed and Setting

For the purposes of this study, a *viewshed* is defined as the geographic area visible from a historic property that includes the spatial extent of potential views of the Project within the APEs. Individualized viewshed analyses will be conducted for those historic properties with views of the Project. The viewshed will estimate the extent of the Project's visibility through fieldwork and/or GIS modeling

The viewshed will be determined first by reviewing a GIS viewshed model that illustrates the geographic extent of Project visibility. For the purposes of this analysis, input parameters will include:

- Maximum tower heights are estimated for 500-kV towers to be 195 feet tall, 138/69-kV rebuild towers to be 100 feet tall, and 138-kV relocation towers to be 100 feet tall.
- Digital Elevation Modeling that illustrates the role topography plays in Project visibility.

If, after a review of the model, it is determined that the historic property would not be visually affected by the Project (i.e., would have no views of the Project), then a "no effect" (36 CFR 800.4(d)(1)) recommendation will be made for the specific historic property, and no additional information will be collected. Field visits to each historic property will confirm the veracity of the GIS model. For those historic properties with views of the Project, the VAHP form will be used to document the estimated extent of Project visibility from key contributing elements of the historic property.

The bare earth model viewshed will define the geographic area considered in the analysis of setting. This analysis will identify and map significant features of the landscape tied to the historic setting of the historic property, such as historic circulation patterns, land divisions, land uses, presence or absence of buildings and structures, current vegetation composition and patterns, and topography. This analysis will provide descriptive data on the settings of historic properties.

4.5.2 Integrity of Historic Properties and Trails

Due to the nature of the Project's indirect visual effects, only three of the seven aspects of integrity will be evaluated for each historic property during the visual assessment. These aspects include:

- setting – the physical environment of a historic property;

- feeling – a property’s expression of the aesthetic or historic sense of a particular period of time; and
- association – the direct link between an important historic event or person and a historic property (NPS 1997a).

The constituent parts of the *setting* include aspects such as surrounding vegetation, topography, the presence of other forms of land use and manmade buildings, structures, or features. Field crews will record and attempt to ascertain whether these features within the larger setting were present during the property’s period of significance and thus evaluate whether they collectively contribute to a Property’s integrity of *feeling*. Field crews will record whether the historic property retains its integrity of *association* by assessing whether it is sufficiently intact to convey its links to important historic events or people (NPS 1997a).

For those properties whose integrity of setting, feeling, and association have already been significantly compromised or where those aspects of integrity do not contribute to the resource’s significance, no additional information will be collected beyond the RLS stage and a “no effect” recommendation will be made consistent with 36 CFR 800.4(d)(1). It should also be noted that the integrity of historic trails will also be assessed using the MET classification categories noted in Table 4-3.

Additional consultation between the BLM and tribes or other interested parties will occur for the assessment of integrity of properties of religious and cultural significance or Traditional Cultural Properties.

4.5.3 Indirect Effect Criteria: Distance, Contrast, Obstruction, and Fragmentation

For the purposes of this visual assessment, there will be four indicators used to inform the effects assessment for historic properties. They include distance, contrast, obstruction, and fragmentation (BLM 1984, 1986b), and will be addressed on the VAHP form. *Distance* plays an important role in analyzing indirect visual effects upon the landscape that surround historic properties. Typically, as distance between the Project and the property increases, the perception of visual contrast of the Project with the surrounding landscape decreases. At greater distances, for example, atmospheric haze often makes colors become paler and reduces the strength of lines (BLM 1986b) (See also Figure 4-1). For the purpose of this analysis distance will be measured from visible Project elements to the historic property, and classified into the following distance zones: foreground (less than 2 miles), middleground (between 2 and 5 miles) and background (more than 5 miles) (See Table 4-4).

Table 4-4. VRM Distance Zones

Distance Zone	Distance Parameter
Foreground	Less than 2 miles
Middleground	Between 2 and 5 miles
Background	More than 5 miles

Distance plays an important role in determining Project visibility and thus the extent of Project contrast. *Contrast* is linked to the degree to which the Project “stands out” amidst the landscape in which it exists either through line, form, color, reflectivity, texture, scale, or space. For transmission lines, for instance, a strong contrast can often occur when a transmission structure is “skylined”; where the transmission structure is easily recognized as rising above the surrounding topography and observable against the sky. Likewise, a strong contrast can also

result from clearing a linear swath through forested areas. A weak contrast would occur for Project features that are in the middle to background zones and set against a landscape of low hills that inhibit skylining and that obscure Project components. Observations made in the field will be guided by the following matrix in order to best characterize the Project's potential to contrast in a landscape that is visible from a historic property (See Table 4-5).

Table 4-5. Degree of Contrast

Degree of Contrast	Criteria
None	The Project element contrast is not visible or perceived.
Weak	The Project element contrast can be seen but does not attract attention.
Moderate	The Project element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The Project element contrast demands attention, will not be overlooked, and is dominant in the landscape.

While distance and contrast play a role in understanding the degree to which a Project affects a particular historic property, they do not entirely describe how the Project may affect the physical inter-relationships of the historic property with other historic properties in the surrounding landscape. For instance, the Project may obstruct the sightlines between the historic property and prominent natural or manmade features that are integral to the property's significance. *Obstruction*, therefore, is another important component of effect and will assist in identifying specific instances where the Project has the potential to interfere with landscape inter-relationships. Levels of obstruction will be estimated in the field by noting "obstruction", "partial obstruction", or "no obstruction" (See Table 4-6). In some instances simulations will be used to estimate the level of obstruction in addition to contrast, in order to give the Project engineers the opportunity to develop more sensitive Project siting options.

Table 4-6. Level of Obstruction

Level of Obstruction	Criteria
None	A visible Project element does not visually obstruct a landscape component and thus does not diminish the integrity of a historic property's setting, association, and/or feeling.
Partial Obstruction	The Project element partially obscures a landscape component that contributes to the property's overall significance and thus may diminish the integrity of a historic property's setting, association, and/or feeling.
Obstruction	The Project element noticeably obscures a landscape component that contributes to the property's overall significance and clearly diminishes the integrity of a historic property's setting, association, and/or feeling.

Field observations and simulations may also provide indications of how the Project interacts with open spaces present within a particular viewshed. Project components, for instance, may result in the *fragmentation* of open spaces that are character-defining features within a particular historic landscape by introducing new vertical or horizontal elements or by clearing linear strips of vegetation through forested areas. Fragmentation of open space will be gauged as "fragmentation of open space," "moderate fragmentation," and "little to no fragmentation" depending upon the Project's routing and interaction with open spaces.

Table 4-7. Level of Fragmentation

Degree of Contrast	Criteria
Little to no fragmentation	The Project element contrast is at most minimally visible from the historic property and does not subdivide open spaces that contribute to the integrity of a historic property.
Moderate fragmentation	The Project element is visible from the historic property and contributes to the fragmentation of open space, but the division is not complete due to intervening land forms and a moderate Project contrast with the surrounding landscape.
Fragmentation of Open Space	The Project element is plainly visible from the historic property and clearly fragments open space that is a character defining feature of the historic landscape that surrounds the historic property.

4.6 Level of Effects to Historic Properties and Trails

Although it is anticipated that the overall Project effect will have an adverse effect on historic properties, the purpose of this plan is to assess the visual effects to individual properties. This will be done to aid in the development of mitigation strategies and the HPMP. When taken together, the visual assessment of a historic property's setting, association, and feeling, the property's role in the larger landscape, and the propensity for the Project to diminish the characteristics that make that property eligible for the NRHP provides a rough basis for effect recommendations. So assuming that the resource retains its historic integrity, when Project features are in the background distance zone, exhibit little contrast to their surroundings, do not obstruct landscape inter-relationships and/or fragment open spaces, then a "no adverse effect" (36 CFR 800.5(b)) finding would be appropriate for the individual property. Whereas, a potential "adverse effect" (36 CFR 800.5(d)(2)) would occur for a property when the Project is in the foreground distance zone, presents a high contrast, obstructs views to important landscape elements, or fragments open space that contribute to a property's historic integrity.

Due to the complex interplay of a particular property's integrity and significance in addition to the range in effects that a property may be exposed to, the Project team will make every effort to identify similar situations to ensure consistency in the effect recommendations. To facilitate a qualitative approach and consistency, recommendations of no adverse effect and adverse effect will be based upon the information (including photographs) collected in the VAHP field form (Appendix A) in addition to the selective use of viewshed modeling and simulations particularly when a property may be adversely affected by a Project element.

Table 4-8. Level of Fragmentation

	Distance	Degree of Project Contrast	Level of Obstruction	Level of Fragmentation
Level of Integrity (Setting)				
High	Background	None or Weak	None	Little to None
	Middleground	Moderate or Strong	Partial or Full Obstruction	Moderate or Full Fragmentation

	Foreground	Moderate or Strong	Partial or Full Obstruction	Moderate or Full Fragmentation
Medium	Background	None, Weak, or Moderate	None, Partial Obstruction	Little to None, Moderate
	Middleground	Weak	Partial Obstruction	Moderate
	Foreground	Strong, Moderate	Obstruction	Fragmentation
Low	Background	None	None	Little to None
	Middleground	Weak, Moderate	Partial Obstruction	Moderate
	Foreground	Strong	Obstruction	Fragmentation

Shaded cells: Indicates that the level of Project impacts, when combined with other factors in the table, would diminish the integrity of the historic property's setting and thus adversely affect the characteristics that make the property eligible for the NRHP.

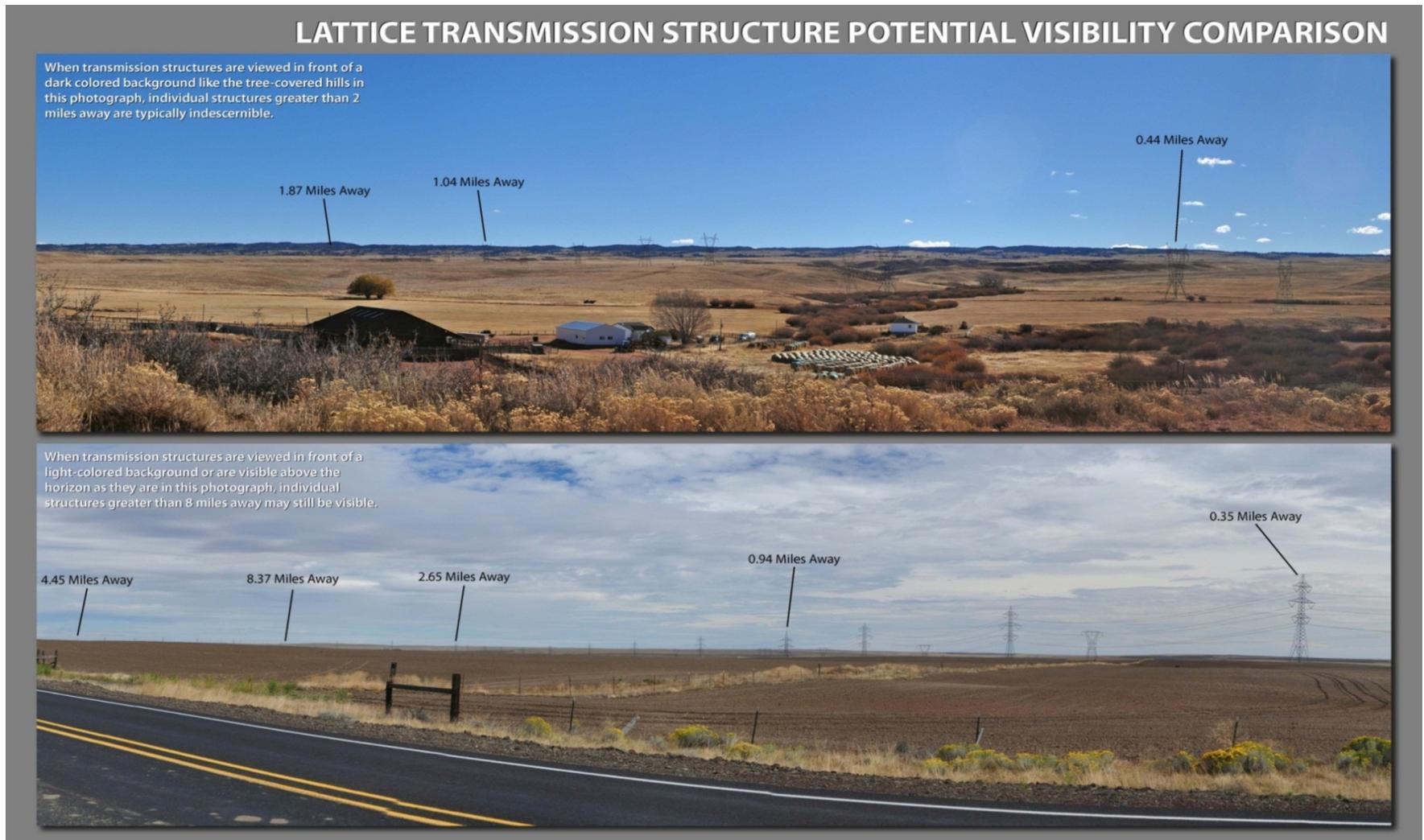


Figure 4-1. Lattice Transmission-Structure Potential-Visibility Comparison

5.0 DOCUMENTATION

5.1 Schedule

Over the course of this study, the components of this study will be reported through interim summaries (one each for the RLS and ILS) and a draft and final report. Table 5-1 provides the reporting and consultation phases.

Table 5-1. Project Reports and Consultation Phases

Phase	Report
1	Completion of RLS Interim Summary
1a	BLM/USFS review of RLS Interim Summary
1b	IPC/TT address comments
2	BLM/USFS Request for Review and Comment from BPA, Tribes, SHPOs/THPO, and consulting parties on RLS Interim Summary
3	Completion of ILS Interim Summary and Effect Assessment
3a	BLM/USFS review of RLS Interim Summary
3b	IPC/TT address comments
4	BLM/USFS Request for Review and Comment from BPA, Tribes, SHPOs/THPO, and consulting parties on ILS Interim Summary and Effect Assessment
5	Draft VAHP Report
5a	Completion of ILS Interim Summary and Effect Assessment
5b	BLM/USFS review of RLS Interim Summary
6	BLM/USFS Request for Review and Comment from BPA, Tribes, SHPOs/THPO, and consulting parties on Draft VAHP Report
7	Final VAHP Report

5.2 Description of Study Deliverables

As noted in Table 5-1, each Interim Summary and the Draft VAHP Report will be made available by the BLM and USFS for an initial review and comment. After the initial comments are addressed, the revised draft will be distributed to the BPA, Tribes, SHPOs/THPO, and the consulting parties. At the conclusion of each review and comment period, the BLM and USFS will take into account the views of these parties and provide direction on subsequent study to be conducted.

The RLS Interim Summary will include summary data on the number of resources that were identified through the literature review and background research, the number of resources that were re-located and/or identified during the field investigation, and which resources will be carried forward for study into the ILS and effect analysis. The RLS Interim Summary will include location information, whether the resource potentially meets the NRHP Criteria for Evaluation, level of integrity, age, and a photograph. The intent of the summary is to provide the BLM, BPA, USFS, Tribes, SHPOs/THPO, and the consulting parties with information, including NRHP eligibility recommendations, about the resources encountered in the field and to obtain direction on moving forward with the next phase of study.

The ILS Interim Summary and Initial Effect Assessment will include brief paragraphs on the history of each resource that was studied at the intensive level in addition to the resource's level of integrity, and a recommendation of potential Project effects. Photographs and a map of each resource and its relationship to the Project will be provided. Representative viewshed mapping and Project simulations may also be included to illustrate the extent and nature of effects to historic properties during fieldwork. The intent of the summary is to provide the BLM, BPA,

USFS, Tribes, SHPOs/THPO, and the consulting parties with preliminary information about the integrity of resources and the potential extent of Project effects. The BLM and USFS will review the documents and distribute to other agencies, tribes, and consulting parties in accordance with the PA to determine the eligibility of resources for the NRHP and the effects upon historic properties.

Once the BLM and USFS have taken into account the views of the BPA, Tribes, SHPOs/THPO and consulting parties, a Draft VAHP Report will be prepared. The Report will include the full results of the RLS and ILS Interim Summaries and the Effect Assessment for compliance with Section 106 of the NHPA and to also satisfy the requirements of Oregon's EFSC. The Draft Report will at a minimum include the following:

- Literature review, Background Research, and Historic Context
- Regulatory Background
- Methods of Identification and Evaluation of Historic Properties and Effect Analysis
- RLS Results
- ILS Results and NRHP Eligibility Recommendations
- Visual Effect Assessment and Effect Recommendations
- Recommendations for Avoidance, Effect Minimization, and/or Resolution of Adverse Effects
- An appendix that includes VAHP field forms for all applicable properties

The completed Draft VAHP Report will be reviewed by the BLM and USFS prior to submission to the BPA, respective Tribes, SHPOs/THPO and consulting parties. Once the BLM and USFS has reviewed and approved the report, it will be submitted to the respective SHPOs/THPO for concurrence and to the Tribes and consulting parties for comment in accordance with the PA.

6.0 REFERENCES

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**APPENDIX A
VISUAL ASSESSMENT OF HISTORIC PROPERTIES FORM**

VISUAL ASSESSMENT OF HISTORIC PROPERTIES FORM

Boardman to Hemingway Project

Property Name and #: _____

Property Eligibility (NR Criteria A, B, C, or D): _____ Period(s) of Significance: _____

Date of Form: _____ Recorder: _____ Distance to Project: _____

TYPES OF EFFECT

View of Project? **Y / N** (if no, then no additional information is necessary: “No Historic Properties Affected”)

Trans. Tower (# & type): _____ Access road: Veg. clearing: Substation: Laydown/Staging:

VIEWSHED & LANDSCAPE CONTEXT

Breadth of Viewshed from Historic Property Affected: **90° 180° 270° 360°**

Is property part of larger cultural landscape? **Y/N**

If “yes”, then does the property contribute to the significance of that landscape or is the landscape part of the property’s overall setting?

In box to right sketch breadth of viewshed from historic property towards Project (note background and intervening topography, historic circulation patterns, land divisions, land uses, buildings and structures, and prevailing vegetation type and patterns, & prominent open spaces; include North arrow).

EXISTING INTEGRITY OF HISTORIC PROPERTY / TRAIL

Aspect of Historic Integrity	Existing Retention or Loss of Integrity
<i>Setting – physical environment of a historic property</i>	
<i>Feeling – a property’s expression of the aesthetic or historic sense of a particular period of time</i>	
<i>Association – the direct link between an important historic event or person and a historic property</i>	

INDIRECT EFFECT CRITERIA: DISTANCE, CONTRAST, OBSTRUCTION, AND FRAGMENTATION

Distance to Project: **Foreground (< 2 mi.)** _____ **Middleground (2-5 mi.)** _____ **Background (> 5 mi.)** _____

Expected Degree of Project Contrast: **None** **Weak** **Moderate** **Strong**

Describe Project features and how they will contrast with landscape (line, form, color, texture, scale, or space):

Level of Obstruction: (Obstruction of views of important landscape components): **None** **Partial Obstruction** **Obstruction**

Describe Project features and how they obstruct landscape components that contribute to the property's integrity/significance:

Level of Fragmentation (Open Space): **Little to No Fragmentation** **Moderate Fragmentation** **Fragmentation of Open Space**

Describe how open space is/is not fragmented by Project elements:

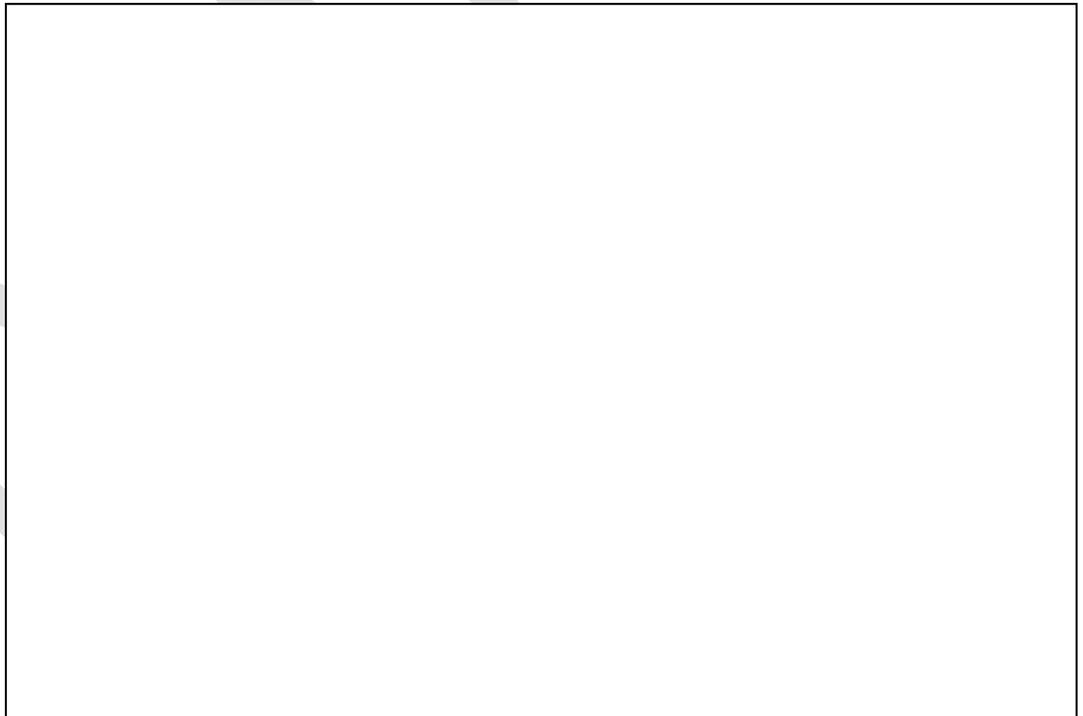
Photograph

Include representative view of Project as seen from historic property. Include direction of view. If necessary, provide additional photos and/or simulations on addenda sheets.

Direction of view:

Date of photo:

Description:



LEVEL OF EFFECT

Effect Recommendation	Y/N
Adverse Effect 36 CFR 800.5(d)(2)	
No Adverse Effect 36 CFR 800.5(b)	

Adverse Effect An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

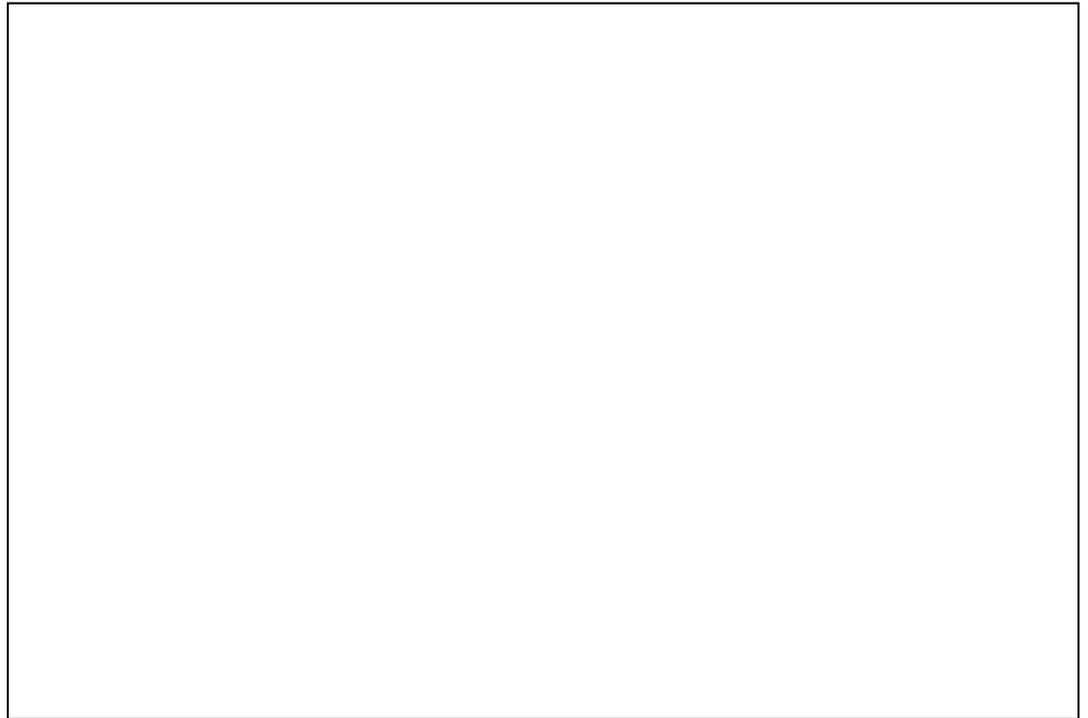
No Adverse Effect: The undertaking's effects do not meet the criteria of adverse effect (as found in 36 CFR 800.5(a)(1) or the undertaking is modified or conditions are imposed so that adverse effects are avoided.

Addenda Photograph Sheet

Direction of view:

Date of photo:

Description:

A large, empty rectangular box with a thin black border, intended for a photograph. A large, faint, light-gray watermark reading "DRAFT" is oriented diagonally across the center of the page, partially overlapping this box.

Direction of view:

Date of photo:

Description:

A second large, empty rectangular box with a thin black border, identical to the first one, intended for a photograph. The same large, faint, light-gray "DRAFT" watermark is visible across the page.

VISUAL ASSESSMENT OF HISTORIC PROPERTIES FORM

Boardman to Hemingway Project

Property Name and #: Oregon Commercial Company Building, 40-50 Washington Street, Huntington, OR

Property Eligibility (NR Criteria A, B, C, or D): NR Listed (Criteria A&C) Period(s) of Significance: 1891-1928

Date of Form: 9-20-2012 Recorder: Kirk Ranzetta Distance to Project: 1.4 miles

TYPES OF EFFECT

View of Project? **Y / N** (if no, then no additional information is necessary: “No Historic Properties Affected”)

Trans. Tower (# & type): **Y** 7 lattice towers Access road: Veg. clearing: Substation: Laydown/Staging:

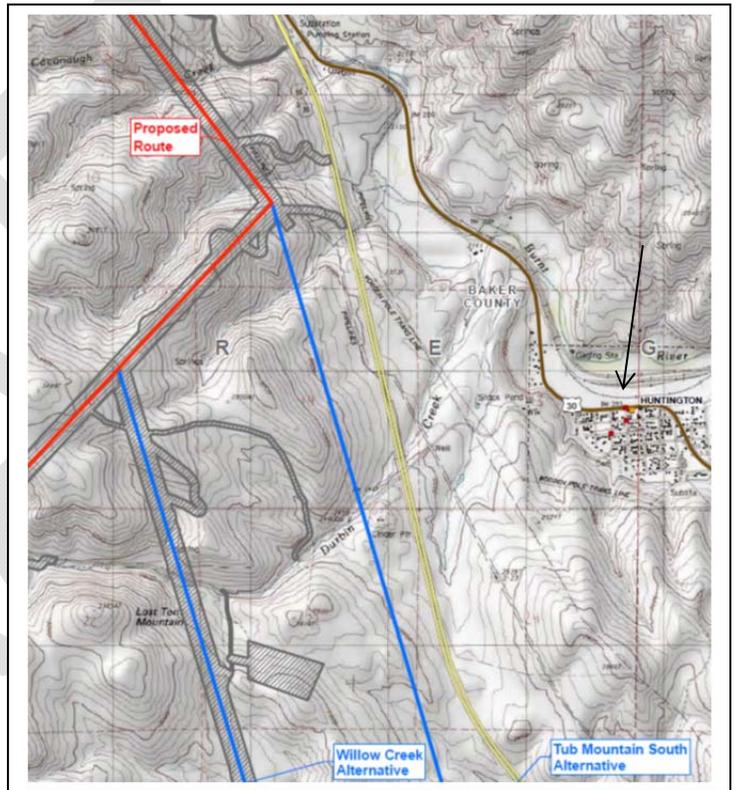
VIEWSHED & LANDSCAPE CONTEXT

Breadth of Viewshed from Historic Property Affected: **45°**

Is property part of larger cultural landscape? **N**

If “yes”, then does the property contribute to the significance of that landscape or is the landscape part of the property’s overall setting?

In box to right sketch breadth of viewshed from historic property towards Project (note background and intervening topography, historic circulation patterns, land divisions, land uses, buildings and structures, and prevailing vegetation type and patterns, & prominent open spaces; include North arrow).



EXISTING INTEGRITY OF HISTORIC PROPERTY/TRAIL

Aspect of Historic Integrity	Existing Retention or Loss of Integrity
<i>Setting – physical environment of a historic property</i>	<i>The setting surrounding the Oregon Commercial Co. Building in Huntington consists of empty lots to the east and west, an alley way to the south, and a large railyard and series of foothills to the north (facing the primary elevation). Much of the commercial corridor in Huntington has been significantly modified over time with many neighboring buildings demolished. No fewer than two existing transmission lines, I-84, and three communication towers are situated on the slopes of the ridge to the east of the building and would appear in front of Project & Alternatives.</i>
<i>Feeling – a property’s expression of the aesthetic or historic sense of a particular period of time</i>	<i>While the feeling of the property evokes the period in which it was built, the integrity of the commercial core of Huntington has been severely diminished by demolitions of neighboring buildings that effectively isolates the building.</i>
<i>Association – the direct link between an important historic event or person and a historic property</i>	<i>The building retains its integrity of association as it continues to be associated with the commercial development of Huntington.</i>

INDIRECT EFFECT CRITERIA: DISTANCE, CONTRAST, OBSTRUCTION, AND FRAGMENTATION

Distance to Project: **Foreground (< 2 mi.)** X **Middleground (2-5 mi.)** _____ **Background (> 5 mi.)** _____

Expected Degree of Project Contrast: None **Weak** Moderate Strong

Describe Project features and how they will contrast with landscape (line, form, color, texture, scale, or space):

Transmission towers may be partially skylighted (approx. up to 20% of overall tower height) on the ridge to the northwest of the building and will introduce vertical manmade elements into the landscape. Two sets of transmission structures are currently present along or near the same ridgeline and include strong vertical components (3 cellular towers and two existing transmission lines). These structures would appear in front of the Proposed Route, Tub Mountain South Alternative, and Willow Creek Alternative. The project would present a contrast to the surrounding landscape but at a low level due to its partial and intermittent visibility. Existing street trees and buildings would reduce the prominence and visibility of the Project from the building.

Level of Obstruction: (Obstruction of views of important landscape components): **None** Partial Obstruction Obstruction

Describe Project features and how they obstruct landscape components that contribute to the property’s integrity/significance:

The project would not obstruct landscape components that contribute to the property’s integrity/significance.

Level of Fragmentation (Open Space): **Little to No Fragmentation** Moderate Fragmentation Fragmentation of Open Space

Describe how open space is/is not fragmented by Project elements:

No Fragmentation of open space would occur in the area between the building and the ridgeline where the project would occur.

Photograph

Include representative view of Project as seen from historic property. Include direction of view. If necessary, provide additional photos and/or simulations on addenda sheets.

Direction of view:
Looking West

Date of photo:
9-20-2012

Description:

View of Project area from Washington Street. Note Orientation of building towards railyard and limited visibility of ridge.



LEVEL OF EFFECT

Effect Recommendation	Y/N
Adverse Effect 36 CFR 800.5(d)(2)	N
No Adverse Effect 36 CFR 800.5(b)	Y

Adverse Effect An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

No Adverse Effect: The undertaking's effects do not meet the criteria of adverse effect (as found in 36 CFR 800.5(a)(1) or the undertaking is modified or conditions are imposed so that adverse effects are avoided.

Addenda Photograph Sheet

Direction of view: *Looking south*

Date of photo: *9-20-2012*

Description: *View of building building looking south. Project is situated behind hills that appear in the background. Note vacant lot to the east (left).*



Direction of view:

Date of photo:

Description:



ATTACHMENT S-3
CORRESPONDENCE WITH COMMISSION ON INDIAN SERVICES

From: Quigley Karen M [karen.m.quigley@state.or.us]
Sent: Monday, June 11, 2012 11:51 AM
To: Funkhouser, Zach
Cc: OLIVER Sue
Subject: RE: Boardman to Hemingway Transmission Line Project

Hello Zach,

Sorry for the delay--I hope you got my message that I was out of state last week on vacation. Via this e-mail, please accept the following list of federally recognized tribal governments in Oregon that should be consulted for the B-2-H project for inclusion with your NOI:

Confederated Tribes of Umatilla
Confederated Tribes Of Warm Springs
Burns Paiute Tribe

As I did for the previous project you attached to this e-mail that I wrote in 2009, I suggest there may be some out-of-state tribal governments that may have information about a particular aspect of the project in addition to the federally recognized tribal governments in Oregon I have listed above: For example, The Yakama Indian Nation around the Boardman area as well as the Nez Perce of Lapwai and the Nez Perce and the Colville for the area that covers their traditional area in NE Oregon.

I know that you and your colleagues are working with at least one federal agency as part of this project. They may have additional suggestions.

Thank you,
Karen

From: Funkhouser, Zach [<mailto:ZFunkhouser@idahopower.com>]
Sent: Tuesday, June 05, 2012 1:04 PM
To: Quigley Karen M; OLIVER Sue
Subject: Boardman to Hemingway Transmission Line Project

Greetings Karen,

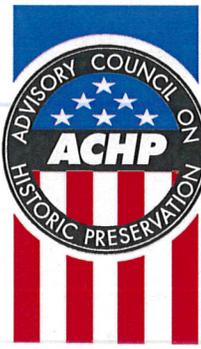
OAR 345-020-0011(1)(p) states that our NOI must include evidence of consultation with the State Commission on Indian services to identify each appropriate tribe to consult with regarding the proposed facilities possible effects on Indian historic and cultural resources. Attached is a current map of the B2H transmission line proposed route and alternatives. Please provide a list of Oregon tribes that are expected to have an interest in the B2H project's proposed or alternatives corridors, similar to the attached list provided for the Summit Ridge project. An e-mail notification or hard copy letter would be acceptable for our files.

Thank you and please feel free to contact me regarding this request.

Zach Funkhouser
Environmental Affairs
Idaho Power Company
(208) 388-5375
zfunkhouser@idahopower.com

CONFIDENTIAL ATTACHMENT S-4
HIGH PROBABILITY AREAS

**ATTACHMENT S-5
PROGRAMMATIC AGREEMENT**



Preserving America's Heritage

February 7, 2017

Donald N. Gonzalez
Bureau of Land Management
District Manager
Vale District Office
100 Oregon Street
Vale, OR 97918

Ref: *Boardman to Hemingway Transmission Line Project*
Various Counties: Oregon, Idaho, and Washington

Dear Mr. Gonzalez:

Enclosed is the executed Programmatic Agreement for the referenced project. By carrying out the terms of this Agreement, the Bureau of Land Management will have fulfilled its responsibilities under Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's regulations, 36 CFR Part 800, implementing Section 106 of the National Historic Preservation Act.

Should you have any questions, please contact Nancy J. Brown, who can be reached at 202-517-0209 or nbrown@achp.gov.

Sincerely,

Tom McCulloch, Ph.D., R.P.A.
Assistant Director
Federal Property Management Section
Office of Federal Agency Programs

Enclosure

Boardman to Hemingway Programmatic Agreement

1 **WHEREAS**, the BLM is considering the issuance of a ROW grant for the construction, operation and
2 maintenance, and eventual decommissioning of the Undertaking, and the ROW grant will incorporate
3 this PA by reference; and

4 **WHEREAS**, this PA, and the Historic Properties Management Plan (HPMP) that will be developed
5 pursuant to this PA, will be incorporated into the approved project POD; and

6 **WHEREAS**, the BLM is a multiple use agency responsible for permitting and issuing a ROW grant and the
7 protection of cultural resources on federal public lands as authorized under the Federal Lands Policy and
8 Management Act (FLPMA) of 1976 (43 USC §1701) and the Proponent has requested a 30-year,
9 renewable ROW grant from the BLM for the Undertaking; and

10 **WHEREAS**, portions of this Undertaking will occur on lands managed by the United States Department
11 of Agriculture Forest Service (USFS), and USFS has designated that the BLM will serve as lead federal
12 agency for Section 106 of the NHPA compliance pursuant to 36 CFR 800, the regulations implementing
13 Section 106 of the NHPA of 1966, as amended (54 USC §306108) and is a Signatory to this PA; and

14 **WHEREAS**, portions of this Undertaking will occur on lands managed by the Bureau of Reclamation
15 (Reclamation) and the Reclamation has designated that the BLM will serve as lead federal agency for
16 Section 106 of the NHPA compliance pursuant to 36 CFR 800, the regulations implementing Section 106
17 of the NHPA and is a Signatory to this PA; and

18 **WHEREAS**, the Bonneville Power Administration (BPA), owner of the Boardman to Lone transmission
19 line and proposed Longhorn substation, may market and distribute power transmitted by the
20 Undertaking, has agreed to fund a portion of the environmental and cultural compliance and permitting
21 of the line, may participate in the construction of the line, has designated the BLM to serve as lead
22 federal agency to serve as the agency official who shall act on its behalf, fulfilling any BPA
23 responsibilities under Section 106 of the NHPA regarding the Undertaking, and is a Signatory to this PA;
24 and

25 **WHEREAS**, the Portland and Walla Walla Districts, U.S. Army Corps of Engineers (USACE), with the
26 Portland District serving as the lead district per a Memorandum of Agreement with the Walla Walla
27 District, will evaluate a permit application for the Undertaking to place structures in, under, or over
28 navigable waters of the U.S. pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC §403)
29 and for the placement of dredged or filled material in the Waters of the U.S. pursuant to Section 404 of
30 the Clean Water Act (33 USC §1344; 33 CFR 323) and the issuance of a permit under either statute will
31 be a federal action associated with the Undertaking that requires compliance with Section 106 of the
32 NHPA, and USACE has designated that the BLM will serve as lead federal agency for Section 106 of the
33 NHPA compliance pursuant to 36 CFR 800, and is a Signatory to this PA; and

34 **WHEREAS**, the BLM has determined the Undertaking may have direct, indirect and cumulative effects
35 on properties listed in, or eligible for the National Register of Historic Places (NRHP); and

Boardman to Hemingway Programmatic Agreement

- 1 **WHEREAS**, the BLM has notified the Advisory Council on Historic Preservation (ACHP) pursuant to
2 Section 106 of the NHPA and the implementing regulations (36 CFR 800.6(a)(1)) and the ACHP has
3 elected to participate in consultations and is a Signatory to this PA; and
- 4 **WHEREAS**, the Undertaking crosses both Oregon and Idaho, and the SHPOs for each state are
5 participating in this consultation and are Signatories to this PA; and
- 6 **WHEREAS**, the Undertaking does not physically cross into Washington but the Area of Potential Effect
7 (APE) for indirect effects on one of the alternatives extends into Washington and the Department of
8 Archaeology and Historic Preservation (DAHP) is a Signatory to this PA; and;
- 9 **WHEREAS**, the APE for indirect effects extends onto the Umatilla Indian Reservation (UIR), and the
10 Confederated Tribes of the Umatilla Indian Reservation (CTUIR) THPO is a Signatory to this PA;
- 11 **WHEREAS**, the National Park Service (NPS) has been invited to participate in this consultation in its
12 capacity as administrator of the Oregon National Historic Trail and the Lewis and Clark National Historic
13 Trail, as this Undertaking may affect segments of the Oregon National Historic Trail and the Lewis and
14 Clark National Historic Trail, and is an Invited Signatory to this PA; and
- 15 **WHEREAS**, the Proponent has participated in consultation per 36 CFR 800.2(c)(4), agrees to carry out
16 the terms of this agreement under BLM oversight, and is an Invited Signatory to this PA; and
- 17 **WHEREAS**, the Undertaking may have an adverse effect under NHPA Section 106 on the Oregon
18 National Historic Trail, the Oregon-California Trails Association (OCTA) is committed to protect emigrant
19 trails by working with government agencies and private interests, OCTA has been invited to participate
20 in consultation and is a Concurring Party to this PA; and
- 21 **WHEREAS**, the Undertaking may have an adverse effect under NHPA Section 106 on some of Oregon's
22 16 legislatively designated historic trails, as well as some National Historic Trails (NHT) in Oregon; and
23 the Governor's Oregon Historic Trails Advisory Council (OHTAC) is committed to evaluating and
24 recording trail conditions and making recommendations for marking, interpretation, education, and
25 protection for Oregon's Historic Trails; and OHTAC has been invited to participate in consultation and is
26 a Concurring Party to this PA; and
- 27 **WHEREAS**, the Undertaking does not physically cross into Washington but the APE for indirect effects on
28 one of the alternatives extends into Washington and the Umatilla National Wildlife Refuge and the US
29 Fish and Wildlife Service has been invited to participate in consultation and may be a Concurring Party
30 to this PA; and
- 31 **WHEREAS**, the BLM has initiated government-to-government consultation with the following Indian
32 tribes that may be affected by the proposed Undertaking and invited them to be concurring parties to
33 this PA: The CTUIR; Shoshone-Paiute Tribes of the Duck Valley Indian Reservation; Nez Perce Tribe;
34 Yakama Nation; Confederated Tribes of the Colville Reservation; Burns Paiute Tribe; Fort McDermitt

Boardman to Hemingway Programmatic Agreement

1 Paiute and Shoshone Tribe; Shoshone-Bannock Tribes of the Fort Hall Indian Reservation; and the
2 Confederated Tribes of Warm Springs Reservation of Oregon. These Tribes understand that,
3 notwithstanding any decision by these tribes, the BLM will continue to consult with them throughout
4 the implementation of this PA pursuant to 36 CFR 800.2(c); and

5 **WHEREAS**, the BLM recognizes that historic properties may also include Traditional Cultural Properties
6 (TCPs). Per NPS Bulletin 38, a TCP is defined as a type of historic property that is eligible for inclusion in
7 the National Register because of its association with cultural practices or beliefs of a living community
8 that are rooted in that community's history and are important in maintaining the continuing cultural
9 identity of the community. A community may include a Native American tribe, a local ethnic group, or
10 the people of the nation as a whole. TCPs may include historic properties that Native American
11 communities consider to be traditional ecological knowledge properties or of traditional religious and
12 cultural importance; and

13 **WHEREAS**, the CTUIR, Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, the Burns Paiute,
14 the Fort McDermitt Paiute and Shoshone-Bannock Tribes of the Fort Hall Indian Reservation have
15 expressed interest in the Undertaking and desire to review studies conducted on their ancestral lands;
16 and

17 **WHEREAS**, it is the position of Oregon Department of Energy (ODOE) that the execution of this PA can
18 assist the Energy Facility Siting Council (EFSC), to which ODOE serves as technical staff, in determining
19 whether the Undertaking complies with EFSC's Historic, Cultural and Archaeological Standard at OAR
20 345-022-0090 during its review of the site certificate application for the Undertaking; and ODOE is a
21 Concurring Party to this PA; and

22 **WHEREAS**, the project does not physically cross into Washington but the APE for indirect effects on one
23 of the alternatives extends into Washington and the Undertaking may be visible from Lewis and Clark
24 Historic Trail in both Oregon and Washington and the Lewis and Clark Heritage Trail Foundation
25 Washington and Oregon state chapters have been invited to consult on this PA and are Concurring
26 Parties to this PA; and

27 **WHEREAS**, the Navy was invited to be a Concurring Party to this PA and has opted not to sign this
28 PA, and should any portion of the undertaking be proposed to occur on Naval Weapons Systems
29 Training Facility (NWSTF) Boardman in Morrow County, Oregon, the U.S. Navy will serve as the lead
30 federal agency for that portion of the Undertaking for Section 106 of the NHPA compliance pursuant to
31 36 CFR 800, the regulations implementing Section 106 of the NHPA; and

32 **WHEREAS**, reference to "parties to this agreement" shall be taken to include the Signatories to this PA,
33 Invited Signatories, and Concurring Parties. Tribes and other parties consulting under Section 106 of the
34 NHPA may decline to sign this document; however, the decision not to sign shall not preclude their
35 continued or future participation as consulting parties to this Undertaking; and

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1 **WHEREAS**, all parties agree that the PA will serve as the definitive document delineating Section 106
2 procedures to be followed for the undertaking, if actual or construed discrepancies arise between the
3 PA's requirements and direction found in other documents, or appendices to the PA, the requirements
4 set forth in the main body of the PA will be followed; plans/documents completed prior to execution of
5 the PA will not necessarily require revision due to these circumstances; and

6 **NOW, THEREFORE**, the Signatories to this PA agree that the proposed Undertaking will be implemented
7 in accordance with the following stipulations in order to take into account the effect of the Undertaking
8 on historic properties and to satisfy all NHPA Section 106 responsibilities for all aspects of the
9 Undertaking.

10 **STIPULATIONS**

11 The BLM will ensure that the following stipulations are carried out:

12 I. **Area of Potential Effects (APE)**

13 A. **Defining the APE**

14 The BLM, in consultation with the parties to this agreement, has defined and documented the
15 APE based on potential direct, indirect and cumulative effects. The APE will apply to all lands
16 regardless of management status that may be affected by the transmission line corridor,
17 staging areas, access roads, borrow areas, transmission substations, or other related
18 transmission infrastructures for this Undertaking. The APE, as defined and documented, is a
19 baseline for survey and inventory.

20 1. **Direct Effects**—The following definition of direct effects APE takes into account ground-
21 disturbing activities associated with the Undertaking:

22 a. The direct effects APE for the above ground transmission line will be 250 feet on either
23 side of centerline (500 feet total) for the ROW and extend the length of the
24 Undertaking, approximately 300 miles.

25 b. The direct effects APE for new or improved access roads will be 100 feet on either side
26 of centerline (200 feet total). Existing crowned and ditched or paved roads will be
27 excluded from inventory.

28 c. The direct effects APE for existing unimproved service roads will be 50 feet on either
29 side of centerline (100 feet total).

30 d. The direct effects APE for the staging areas, borrow areas, substations and other
31 ancillary areas of effects will include the footprint of the facility and a buffer of 200 feet
32 around the footprint of the proposed activity.

33 e. The direct effects APE for pulling/tensioning sites that fall outside the ROW will be a 250
34 foot radius around these points.

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1 f. The direct effects APE for borehole locations needed for geotechnical studies conducted
2 as part of detailed engineering will include a 250 foot radius area centered on the
3 borehole location if outside the transmission line direct effects APE.

4 g. The direct effects APE for operation and maintenance activities will be the same as the
5 APEs described in a.-f. above and within the area of the ROW grant.

6 2. Indirect Effects

7 a. The APE for indirect effects on historic properties will include, but not be limited to, the
8 visual, audible and atmospheric elements that could adversely affect NRHP listed or
9 eligible properties. Consideration will be given to all qualifying characteristics of a
10 historic property, including those that may have been identified subsequent to the
11 original evaluation of the property's eligibility for the NRHP.

12 b. The indirect effects APE for the Undertaking will extend generally for five miles or to the
13 visual horizon, whichever is closer, on either side of the centerline of the proposed
14 alignment and alternative routes.

15 c. Studies for previous 500 kV lines have identified noise created by corona and
16 electromagnetic fields as possible indirect effects for transmission lines. These same
17 studies indicate that these effects are greatest immediately under the line and within
18 the APE for direct effects. Although they may on occasion be measured as far as 300
19 feet from the centerline of a 500 kV line, data gathered for this Undertaking indicate
20 that the noise created by corona and electromagnetic fields will be limited to within the
21 inventoried indirect effects APE.

22 d. Where the indirect APE includes TCPs, NHTs, and other classes of visually-sensitive
23 historic properties, additional analyses may be required and the indirect APE may need
24 to be modified accordingly. These areas will require analysis on a case by case basis.

25 3. Cumulative Effects

26 a. The identification of the APEs will consider cumulative effects to historic properties as
27 referenced in 36 CFR 800.5. Cumulative effects may be direct and/or indirect, or
28 reasonably foreseeable effects caused by the Undertaking that may occur over time, be
29 farther removed in distance or be cumulative.

30 B. Modifications to the APE

31 1. An APE may be modified where tribal consideration, additional field research or literature
32 review, consultation with parties to this agreement, or other factors indicate that the
33 qualities and values of historic properties that lie outside the boundaries of the APEs may
34 be affected directly, indirectly and/or cumulatively.

35 2. Any party to this agreement may propose that the APEs be modified by submitting a
36 written request to the BLM providing a description of the area to be included, justification
37 for modifying the APE(s), and map of the area to be included. The BLM will notify the

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1 parties to this agreement of the proposal with a written description of the modification
2 requested within 15 days of receipt of such a request. From the date of notification, the
3 BLM will consult with the parties to this agreement for no more than 30 days to reach
4 consensus on the proposal.

5 3. If the parties to this agreement cannot agree to a proposal for the modification of the APEs,
6 then the BLM will consider their concerns and will render a final decision within 30 days
7 after the consultation period closes.

8 4. For all modifications to the APE(s) the BLM will provide a written record of the decision to
9 the parties to this agreement.

10 5. Amending the APEs will not require an amendment to the PA.

11 6. Minor changes to the APE during construction of the Undertaking that may require
12 additional fieldwork, regardless of land ownership, may be handled through the BLM ROW
13 grant variance process in accordance with stipulation VII.C.4.c.

14 II. Identification of Cultural Resources

15 A. For the purposes of this document cultural resources are defined as archaeological, historical
16 or architectural sites, structures or places that may exhibit human activity or occupation
17 and/or may be sites of religious and cultural significance to tribes (excerpted from BLM
18 Manual 8100).

19 B. All cultural resources within the APEs that will have achieved 50 years of age or more at the
20 time of the completion of construction, defined as "the cessation of all construction activities
21 associated with the Undertaking", or shall have achieved "exceptional significance" (National
22 Register Bulletin 15, Criteria Consideration G) shall be identified and evaluated.

23 C. The BLM will ensure that work undertaken to satisfy the terms of this PA and to adequately
24 identify and document cultural resources that may be affected by this Undertaking and as
25 described herein, will be consistent with ACHP and NPS guidance. The BLM will also ensure
26 that all identification, evaluation, assessment and treatment of cultural resources will be
27 conducted by, or under the direct supervision of, persons with applicable professional
28 qualifications standards set forth in the Secretary of the Interior's Standards for Archaeology
29 and Historic Preservation (48 FR 44716 Federal Register, September 29, 1983) and the federal
30 agency or SHPOs/THPO guidance or permitting requirements.

31 D. The Proponent will directly fund all fieldwork, analysis, reporting, treatment and curation.
32 Fieldwork will be conducted only after the Proponent has obtained the appropriate federal,
33 tribal and state permits for such fieldwork. Depending on land ownership, the appropriate
34 federal or state agency will require fieldwork authorizations to conduct inventories on public
35 lands upon receipt of an application from the Proponent and within the timeframes stipulated
36 in the land-managing agency's procedures. The CTUIR THPO will require fieldwork
37 authorizations to conduct inventories on tribal lands.

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1 E. The Proponent will conduct the identification effort and inventory of cultural resources in
2 order to identify historic properties for this Undertaking through the following series of steps
3 including a literature review and phased field surveys. Details on these surveys are found in
4 the Archaeological Survey Plan (Appendix A) and the Visual Assessment of Historic Properties
5 (VAHP) Study Plan (Appendix B).

6 Class I Literature Review—The Proponent will conduct a literature review/record search
7 and include a review of cultural resource investigations and all cultural resources previously
8 identified within a corridor two miles wide on either side of the transmission centerline
9 (four miles total) and will include the proposed and alternative routes to be considered for
10 detailed analysis in the Draft Environmental Impact Statement (DEIS).

11 The Proponent will also conduct a literature review and record search for the indirect APE,
12 which will comprise a corridor five miles wide on either side of the transmission centerline
13 (10 miles total) and will include the proposed and alternative routes to be considered for
14 detailed analysis in the DEIS. The literature review for the indirect APE will at minimum
15 consist of review of ethnographic literature, General Land Office (GLO) and other available
16 historic maps, an electronic search of the National Register Information System (NRIS), the
17 Oregon Historic Sites Database, Archaeological Survey of Idaho Database, the Idaho Historic
18 Sites Inventory forms, the Washington Information System for Architectural and
19 Archaeological Records Data (WISAARD), the CTUIR THPO site database, local landmarks
20 and registers, and an investigation of historic and contemporary aerial photography.
21 Information on cultural resources existing in the indirect APE that may require further
22 analysis will also be sought from parties to this agreement.

23 1. Class II Sample Inventory—The Proponent will undertake a Class II pedestrian inventory to
24 document cultural resources within the 15 percent sample area of the direct effects APE for
25 the Proponent's proposed alignment and analyzed DEIS alternatives. The 15 percent
26 sample survey will consist of a series of one-mile long by 500-foot-wide units, centered on
27 the centerline of the Proponent's proposed alignment and DEIS alternatives. The Class II
28 survey will also record the location of areas judged to have high potential for buried
29 cultural resources which may require further subsurface probing, as discussed under
30 stipulation II.E.7.

31 2. Indirect Effects APE Inventory—The Proponent will identify cultural resources, within the
32 indirect APE that may be affected by the visual, atmospheric and audible elements of the
33 Undertaking.

34 The visual elements of the Indirect APE will be identified using Geographic Information
35 Systems (GIS) viewshed analysis and field verification. Details regarding the process for
36 indirect visual effects are provided in the VAHP Study Plan (Appendix B). The BLM will
37 consult with tribes to identify TCPs and properties of religious and cultural significance
38 within the APE as described in stipulation VI.

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1 A reconnaissance level survey will be conducted to identify potential historic properties,
2 including cultural landscapes. The preliminary results report will be distributed to the
3 federal agencies that are parties to this agreement, SHPOs, THPO and tribes for
4 consultation on eligibility as per stipulations V. and VIII. At their discretion, any federal
5 agency may decline receipt and review of the report by notifying the BLM in writing prior
6 to report distribution. Intensive level surveys (VAHP) will be conducted on select properties
7 upon consultation with the appropriate parties to this agreement (the BLM to determine
8 based on location, state and/or jurisdiction, property ownership, etc.). The reconnaissance
9 and intensive level surveys (VAHP) will be documented in reports.

10 Once historic properties are identified, the BLM will seek additional information from
11 relevant technical studies (such as the noise and electromagnetic field studies) as well as
12 consult with parties to this agreement to assess indirect effects from atmospheric or
13 audible elements that may diminish the integrity of the property's significant historic
14 features (36 CFR 800.5(a)(2)(v)).

- 15 3. Initial Class III Intensive Level Inventory—The Proponent will complete a 100 percent Class
16 III inventory to document cultural resources within the direct effects APE of the BLM-final
17 selected alternative(s) and all roads and facilities related to the Undertaking on lands
18 where access has been granted, including all federal, state, and private lands. Previously
19 surveyed areas from the Class II inventory will count toward the 100 percent inventory. This
20 survey will also record the location of areas judged to have high potential for buried
21 cultural resources which may require further subsurface probing, as discussed under
22 stipulation II.E.7.
- 23 4. Class III Intensive Level Inventory of Geotechnical Testing APE—The Proponent will
24 complete Class III surveys around each proposed borehole location for areas outside the
25 direct effects APE. See stipulation I.A.1.f.
- 26 5. Preconstruction Class III Intensive Level Inventory—The BLM shall ensure that Class III
27 inventory is completed by the Proponent for areas within the direct effects APE that have
28 not been subject to previous Class III inventories. See stipulation XII. These will include any
29 areas where access was previously denied or where there are modifications to the
30 Undertaking, such as modified access roads or lay-down yards that are identified after the
31 ROD has been issued. Prior to conducting this Class III inventory, a record search will be
32 conducted to obtain currently available data.
- 33 6. Subsurface Investigations for Purposes of Identifying Cultural Resources—The BLM will
34 employ reasonable and good faith efforts to identify historic properties, in accordance with
35 ACHP guidance titled *Meeting the "Reasonable and Good Faith" Identification Standard in*
36 *Section 106 Review*. There will be neither collection of artifacts nor disturbance of ground
37 during initial Class II and Class III intensive level pedestrian cultural resources surveys.
38 Wherever possible, existing information and professional judgment will prevail in an effort
39 to be efficient, pragmatic and protect the resources during the identification of historic
40 properties. A sampling strategy model, including a provision for reporting the results and

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1 validity of the methods, may be employed. The sampling strategy will be tailored to
2 account for results of previous strategies employed in the region.

3 Areas identified as possessing a high potential for buried cultural resources located within
4 the direct APE may be subjected to subsurface probing to determine the presence or
5 absence of cultural resources, where ground disturbing activities will occur. Selection of
6 areas with a high potential for buried deposits, which include factors such as proximity to
7 water, deep soils, geological features, etc. which may be coupled with low surface visibility,
8 will be based on professional judgment, in consultation with the consulting parties, and
9 comparison with existing site context in the area.

10 The BLM will develop a research design and sampling strategy for the subsurface
11 investigation, in consultation with the Proponent, and parties to this agreement, prior to
12 undertaking any such investigation. The details of the research design and sampling
13 strategy for the subsurface investigation will be encompassed within the HPMP. The BLM
14 will consult with Indian tribes and parties to this agreement regarding the potential areas
15 proposed for this testing.

- 16 7. Subsurface Investigations Alternatives—For certain classes of resources, less invasive
17 technologies, such as remote sensing, may be appropriate. Such methods may be
18 considered as an alternative to subsurface testing.

- 19 F. The BLM will make a reasonable and good faith effort to identify properties of religious and
20 cultural significance to Indian tribes, through tribal participation. Identification of historic
21 properties of religious and cultural significance to Indian tribes will occur through
22 government-to-government consultation and ethnographic studies.

23 The BLM will make a reasonable and good faith effort to identify TCPs as discussed in *National*
24 *Register Bulletin #38, Guidelines for Evaluating and Documenting Traditional Cultural*
25 *Properties*, of the NPS guidance, through the consultation and/or through ethnographic
26 studies. Reports identifying such historic properties will be prepared with the participation of
27 the associated group.

- 28 G. The BLM will ensure that the Proponent completes draft and final reports for the steps of
29 stipulation II. The BLM will send the reports out to the parties to this agreement for review as
30 described in stipulation V. Review times will be 30 days unless otherwise agreed to.

31 III. Evaluation and Determination of Eligibility

- 32 A. The BLM, in consultation with the appropriate parties to this agreement in each state, will
33 determine the NRHP eligibility of cultural resources within the APEs, pursuant to 36 CFR
34 800.4(c)(1), and 36 CFR 60.4 NRHP evaluations may be conducted in phases as project plans
35 are refined. Initial evaluations may be followed by more thorough evaluations using NRHP
36 Criteria A-D and NPS Bulletin 15 as the APEs become better defined. Cultural resources may
37 remain unevaluated if there is no potential for effect from the Undertaking. Cultural resources
38 that possess some or all of the characteristics of both archaeological and built environment

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1 resources, such as cultural landscapes and trails, shall be evaluated according to the provisions
2 of stipulations C. through G. of this section.

- 3 B. Determinations of eligibility will be consistent with applicable SHPO/THPO guidelines in each
4 respective jurisdiction, in effect at the time of the signing of this PA. Determinations of
5 eligibility require concurrence by the SHPO/THPO as detailed in stipulation III.H.

6 C. Archaeological Resources

- 7 1. Initial evaluations for archaeological resources may rely on surface observations,
8 additional research or remote sensing. If a site is recommended as "eligible" during the
9 initial evaluation and will be affected by the Undertaking, subsurface investigations (i.e.
10 archaeological testing) may be required to make a final determination of NRHP eligibility,
11 but shall be undertaken only after consultation with affected tribes.
- 12 2. Determinations of eligibility will be based on reasonable and good faith efforts using
13 available knowledge and data such as existing surface manifestations of the site and
14 cultural context from other site investigations, as well as the environmental and
15 paleoenvironmental setting. Subsurface investigation may be considered as a tool to
16 determine eligibility on an as needed basis but must be prudent and minimize disturbance
17 of cultural deposits. The research design and sampling strategy outlined under stipulation
18 II.E.7 will include provisions for the determinations of eligibility. Such testing will only
19 occur in areas that cannot be avoided and will be directly impacted by the Undertaking.
- 20 3. In cases where surface observations, additional research or remote sensing are not
21 sufficient to provide an initial recommendation of NRHP eligibility, the recorder will
22 recommend the resource as requiring further investigation to assess eligibility. Further
23 subsurface investigations will be undertaken in the event that final design will directly
24 impact the resource, per stipulation II.E.7.

25 Subsurface investigation strategy shall include an assessment of the depositional
26 environment and objectives for subsurface testing; methods to be employed for
27 subsurface testing and probing; proposed disposition of materials associated with
28 subsurface testing and probing; provisions for reporting and consultation on results of
29 testing. If the site is found ineligible, the evaluation will be reported per the procedures
30 established in stipulation III.G. If the site is found to be eligible, then effects will be
31 assessed as outlined in stipulation IV, and a mitigation plan will be prepared, as applicable
32 per stipulation VII.C.2.

33 Subsurface investigation strategy shall be subject to review and consultation per the
34 terms of stipulations V. and VI. of this agreement.

- 35 4. In cases where surface observations are adequate to support a recommendation that the
36 resource is "not eligible" for listing in the NRHP, this evaluation will be reported per the
37 procedures established in stipulation III.G.

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1 D. Built Environment

2 The BLM, in consultation with the parties to this agreement, will determine NRHP eligibility of
3 built environment resources (e.g., buildings, structures, objects, districts, and sites with above
4 ground components), pursuant to 36 CFR 800.4(c)(1).

5 1. Initial assessment of eligibility for built environment resources will take into account the
6 resources' age and integrity (location, setting, design, materials, workmanship, feeling and
7 association) per the guidance provided in NRHP Bulletin 16A, and per other applicable NPS
8 and state guidance.

9 2. Resources determined NRHP eligible per initial assessment and assessed as affected by the
10 Undertaking per the procedures established in stipulation IV. of this PA will be reassessed
11 to verify their eligibility in terms of the resources' association with the NRHP criteria of
12 significance. This secondary assessment may involve additional research into the history,
13 events and people associated with the resource, as well as more detailed recordation of the
14 resources' physical attributes and character-defining features.

15 E. Historic Trails

16 The BLM, in consultation with the parties to this agreement, will determine the National
17 Register eligibility of historic trails, trail segments and associated sites pursuant to 36 CFR
18 800.4(c)(1). Historic trails will be evaluated for eligibility as historic properties including linear
19 resources along with associated trail sites such as camps, associated markers, glyphs or other
20 trail elements. For designated National Historic Trails, such as the Oregon Trail, the trail
21 elements, as well as trail segments, will be evaluated as contributing or non-contributing in
22 terms of National Register eligibility based on their integrity (primarily for feeling, association,
23 location and setting).

24 BLM may seek input and utilize existing information and strategies from other agencies and
25 groups, such as the NPS and trail associations, as well as consulting parties in determining the
26 National Register eligibility of sites and trail segments.

27 F. Traditional Cultural Properties

28 Like all historic properties, to be considered eligible a Traditional Cultural Property (TCP) must
29 be a district, site, building, structure, or object that meets at least one of the four criteria
30 established by the NRHP. It must also be associated with cultural practices or beliefs of a living
31 community that (a) are rooted in that community's history, and (b) are important in
32 maintaining the continuing cultural identity of the community. TCPs apply to groups of every
33 ethnic origin that have properties to which they ascribe traditional cultural value (NRHP
34 Bulletin 38).

35 To identify TCPs, the BLM will rely on NRHP Bulletin 38 and other NPS guidance, and
36 consultation with Indian tribes, ethnic groups or communities ascribing traditional significance
37 to an area. The BLM will make its determinations of eligibility based on consultation and

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1 information from literature reviews, ethnographies, traditional use studies, field inventories,
2 oral histories, interviews, and other forms of research.

3 G. Properties of Religious and Cultural Significance to Indian Tribes

4 Federal agencies are required to consult with Indian tribes to identify properties of religious
5 and cultural significance and to determine if they are eligible for the NRHP (NHPA Section
6 101(d)(6)(B) and 38 CFR 800.2(c)(2)). The BLM acknowledges that Indian tribes possess special
7 expertise in assessing the eligibility of properties that may possess religious and cultural
8 significance to them (NHPA Section 101(d)(6)(A) and 36 CFR 800.4(c)(1)). Unlike TCPs, the
9 determinations of NRHP eligibility of such properties are not tied to continual or physical use
10 of the property (ACHP Handbook on Consultation with Indian Tribes, 2012).

11 To identify properties of religious and cultural significance, the BLM will rely on consultation
12 with Indian tribes. The BLM will make its determinations of eligibility based on consultation
13 and information from literature reviews, ethnographies, traditional use studies, field
14 inventories, oral histories, interviews, and/or other forms of research.

15 H. Reporting on Initial and Final Recommendations of NRHP Eligibility

16 1. The BLM will distribute recommendations of initial NRHP eligibility to the appropriate
17 parties to this agreement in each state for review and comment following 36 CFR 800.4(c).
18 After a 30 day review period, the BLM will consider all comments and consult with parties
19 to this agreement before submitting its determinations of eligibility, with all comments and
20 responses, to the applicable SHPOs/THPO for concurrence. The BLM will then seek
21 consensus on its determinations of eligibility with the appropriate SHPOs/THPO for all
22 properties regardless of ownership.

23 a. If the applicable SHPOs/THPO, tribes, and BLM agree that the cultural resource is
24 eligible, an assessment of effects will be completed in accordance with stipulation IV.

25 b. If the applicable SHPOs/THPO, tribes, and BLM agree that the cultural resource is
26 ineligible, then the resource will receive no further consideration under this PA.

27 c. If the applicable SHPOs/THPO, tribes, and BLM do not agree on eligibility, the BLM will
28 discuss issues of eligibility with the parties to this agreement and continue to consult to
29 reach consensus. If agreement cannot be reached within 30 days, then the BLM will
30 obtain a determination of eligibility from the Keeper of the NRHP pursuant to 36 CFR
31 800.4(c)(2) and 36 CFR 63. The Keeper's determination will be final. The BLM will
32 distribute the Keeper's comments to the appropriate parties to this agreement in each
33 state.

34 2. The BLM will distribute the results of the final evaluations to parties to this agreement for
35 review and comment following 36 CFR 800.4(c). After a 30 day review period, the BLM will
36 submit the final determinations of eligibility, with all comments to the applicable
37 SHPOs/THPO for concurrence. The BLM will then seek consensus on the final determination
38 of eligibility with the appropriate SHPOs/THPO for all properties regardless of ownership.

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1 IV. Assessment of Effects

- 2 A. The BLM, in consultation with the parties to this agreement, will assess the direct, indirect and
3 cumulative effects of this Undertaking on historic properties consistent with 36 CFR 800.4(d)
4 and identify effects on each historic property within the APEs in accordance with the criteria
5 established in 36 CFR 800.5(a)(1)-(2), and provide the parties to this agreement with the
6 results of the finding following 36 CFR 800.11(e)(4)-(6), as outlined under stipulation V. The
7 assessment of effects will serve as the basis for the development of the Historic Properties
8 Management Plan (HPMP) for those properties determined to have the potential to be
9 adversely affected by the Undertaking.
- 10 B. The BLM will consult with the parties to this agreement to seek ways to avoid or minimize
11 adverse effects to historic properties. If historic properties cannot be avoided, subsurface
12 investigation may be necessary for archaeological sites within the direct effects APE which
13 may be adversely affected. Determination of the site boundaries in relation to the direct effect
14 APE, and actual area of ground disturbance, may be undertaken through subsurface
15 investigation to aid in developing alternative design and/or mitigation strategies. If adverse
16 effects cannot be avoided, the BLM will consult with the parties to this agreement to
17 determine appropriate mitigation measures to be detailed in the HPMP.
- 18 C. The Proponent has developed a VAHP Study Plan, (Appendix B) in consultation with federal
19 agencies party to this agreement, SHPOs, THPO and tribes, to assess whether the Undertaking
20 will introduce visual effects that may alter the characteristics that qualify the historic property
21 for the NRHP or that may diminish the integrity of the property's setting, feeling and/or
22 association. The guidelines for conducting the assessment of visual effects of the Undertaking
23 are located in the VAHP. The inventory will focus on indirect visual effects. Other potential
24 indirect effects, including but not limited to atmospheric and audible elements, will be
25 addressed as per stipulation IV.A. above.
- 26 D. The Proponent will prepare maps indicating the extent of electromagnetic fields, corona and
27 noise generated by the proposed Undertaking as well as the distribution of identified historic
28 properties in the APE. The BLM will employ these maps in the agency's assessment of effects
29 and will consult with parties to this agreement per the procedures outlined in stipulation V.
- 30 E. The BLM, in consultation with the parties to this agreement, will broadly assess cumulative
31 effects under Section 106 in order to identify all reasonably foreseeable, potentially adverse
32 effects, such as effects due to increased access, as a result of the Undertaking (36 CFR 800.5
33 (a)(1)). Potential cumulative or reasonably foreseeable effects will be based on the APEs for
34 direct and indirect effect and be addressed in the HPMP.
- 35 F. The BLM will provide all assessments of effect to historic properties in writing to the parties to
36 this agreement. Review will proceed according to the procedures and timeframes established
37 in stipulation V.
- 38 G. Disagreement regarding assessments of effect will be handled according to the procedures
39 established in stipulation XIV.

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1 **V. Reporting and Review of Documentation**

- 2 A. Consistent with the terms and conditions of this PA, the Proponent will prepare reports of
3 cultural resource activities (inventory, evaluation, mitigation/treatment, monitoring and
4 related cultural resource actions) including associated site records and organize them for
5 distribution and review following these general guidelines:
- 6 1. Organization of reports by geographic/administrative boundaries: The Proponent will
7 prepare separate reports, as applicable, for those cultural resource inventories and
8 evaluations involving cultural resources and/or historic properties and the built
9 environment (a) within the state of Oregon (excluding lands within the Umatilla Indian
10 Reservation); (b) within the state of Idaho; and (c) on lands within the Umatilla Indian
11 Reservation, utilizing the guidelines in the respective jurisdictions in effect at the time of
12 the signing of this PA.
- 13 a. The Proponent will prepare reports (including report revisions) of activities within the
14 state of Oregon (excluding the Umatilla Indian Reservation) for the BLM's distribution to
15 the Oregon SHPO, federal agencies, applicable parties to this agreement and tribes.
- 16 b. The Proponent will prepare reports (including report revisions) of activities within the
17 state of Idaho for the BLM's distribution to the Idaho SHPO, federal agencies party to
18 this agreement and tribes.
- 19 c. The Proponent will prepare reports (including report revisions) of activities, cultural
20 resources and/or historic properties on CTUIR tribal lands for the BLM's distribution to
21 both the THPO and Chairman of the CTUIR.
- 22 2. Reports shall clearly identify land ownership and administrative jurisdiction for both (a)
23 lands covered by the report and (b) cultural resources/historic properties discussed in the
24 report(s).
- 25 B. At the conclusion of the phases of fieldwork described under stipulation II.E, as well as any
26 variances undertaken, as described in stipulation VII.C.4.c, the Proponent will submit the draft
27 report for the phases to the lead BLM office for distribution to the appropriate parties to this
28 agreement in each state.
- 29 C. Each report will follow appropriate state guidelines and formats including recommendations
30 of eligibility and effect that are in effect at the time of the signing of this PA. Reports will
31 include appropriate site inventory forms and recommendations on the NRHP eligibility of
32 cultural resources (36 CFR 800.4(c)).
- 33 D. The BLM will consolidate comments received from parties to this agreement on the reports
34 and submit comments to the Proponent within 60 days of receipt of all comments. The
35 Proponent will produce a revised report addressing these comments within 30 days of receipt.
36 Additional time may be necessary depending on the extent of the revisions.
- 37 E. Comments received by the BLM within 30 calendar days of receipt of the report will be
38 considered. Comments may address issues such as the adequacy of inventory, methods of

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1 assessment and reporting, the eligibility of historic properties identified during each phase (36
2 CFR 800.4(c)), and the effects of the Undertaking on any historic properties (36 CFR 800.4(d)
3 and 36 CFR 800.5). Reviewers will notify the lead BLM office if the 30 day review time frame
4 cannot be met and request an extension from the BLM. Within 10 days of receipt of a request
5 for an extension, the BLM will determine if the request will be granted and send written
6 notification to the requesting party. After 30 days, provided there is no request for extension,
7 the BLM will submit all comments to the Proponent for the Proponent to address per the
8 process outlined in stipulation V.D.

9 F. For reports that are not time sensitive or are in excess of 200 pages, the BLM may expand
10 review times beyond 30 calendar days.

11 G. The BLM will submit revised reports to the appropriate agencies, SHPOs/THPO, tribes and
12 parties to this agreement for their records.

13 H. Versions of reports redacted (see stipulation VIII.) by the BLM for sensitive information, such
14 as site-specific locations and names, may also be distributed to other parties to this
15 agreement, who do not fall under the applicable professional qualifications standards set
16 forth in the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48
17 FR 44716 Federal Register, September 29, 1983) for review and comment.

18 I. The BLM will prepare a HPMP per the terms specified in stipulation VII.

19 J. Prior to any eventual decommissioning of the Undertaking, the Proponent will prepare a plan
20 for protecting historic properties per the terms in stipulation VII.C.5.

21 K. The Proponent will provide a state specific, final summary report for each respective
22 SHPO/THPO documenting all changes to previous report findings and additional cultural
23 resources-related work not included in the pre-construction reports. The report format will be
24 identified in the HPMP. A summary report may also be provided to parties to this agreement
25 in accordance with stipulation VIII. The summary report will be produced no later than three
26 years after the final surveys and will be considered the final Class III inventory report(s).

27 VI. Consultation

28 A. Through government-to-government consultation with Indian tribes, based on the U.S.
29 Constitution and Federal treaties, statutes, executive orders and policies, the BLM, in
30 consultation with appropriate federal agencies, will make a good faith effort to identify
31 properties that have traditional religious and cultural importance to Indian tribes and to
32 determine whether they are historic properties. Discussion of these properties may be
33 submitted as a separate report, such as an ethnographic study. Ethnographic studies are not
34 required, but may be requested by tribes. Confidentiality concerns expressed by tribes for
35 properties that have traditional religious and cultural importance will be respected and will be
36 protected to the extent allowed by law. See stipulation VIII.

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1 B. BLM will ensure that tribes and parties to this agreement will be kept informed as to the
2 development of the Undertaking and engaged in review and comment on all pertinent
3 documents associated. The BLM will seek, discuss and consider the views of the consulting
4 parties throughout the Section 106 process. Such consultation may take a variety of forms in
5 order to accommodate the consultation process with different tribes and parties to this
6 agreement. The consultation will occur through previously established protocols, Memoranda
7 of Understanding and/or forums established for the Undertaking. BLM will consult with tribes
8 and parties to this agreement during the identification of cultural resources, the
9 determination of NRHP eligibility, determination of effect and avoidance and mitigation steps
10 of the process. While the nature of consultation is fluid and the input may vary from tribes
11 and parties to this agreement, in general, the procedures and schedule for review of
12 documents outlined in stipulation V. will be followed.

13 VII. Historic Properties Management Plan (HPMP)

14 A. The BLM will begin to draft an outline of the HPMP in consultation with the parties to this
15 agreement following execution of the PA that includes mitigation options for anticipated
16 general classes of historic properties that may be affected by the Undertaking. This outline
17 may include options for treatment of specific properties, as discussed under stipulation
18 VII.C.2, if the details of the historic property are available and the exact effects have been
19 determined. The final HPMP, including protection measures, property-specific mitigation
20 plans, and monitoring plans will be finalized prior to the NTP.

21 B. The draft HPMP will characterize historic properties identified within the APE and will be used
22 as a guide to address pre-construction and post-construction treatment measures to avoid,
23 minimize and mitigate adverse effects to historic properties identified through subsequent
24 phases of the Undertaking. The draft HPMP will also broadly identify classes of historic
25 properties, relevant research, and potential data gaps in research for classes of properties
26 present in the APE. A range of resource-specific (e.g. historic trails) strategies, will include but
27 not be limited to, mitigation and monitoring, to address reasonably foreseeable direct,
28 indirect and/or cumulative adverse effects that may be caused by the Undertaking. The
29 mitigation measures will be commensurate with the nature of the effect and the significance
30 of the resource, and shall take into account the views of the parties to this agreement and the
31 public. The BLM will consult with the parties to this agreement to obtain written comments
32 and recommendations for proposed treatment measures to be included in the HPMP per the
33 procedures established in stipulations V. and VI. BLM, in consultation with the parties to this
34 agreement, will develop a process for review and acceptance of mitigation to be outlined in
35 the HPMP.

36 C. Wherever feasible, avoidance and preservation in place shall be the preferred treatment for
37 historic properties located within the APE. Avoidance may include design changes or
38 relocation of specific components of the Undertaking and/or use of fencing or barricades to
39 limit access to identified historic properties. For historic properties that cannot be avoided the

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1 HPMP will include the following plans and provisions to minimize or mitigate direct, indirect
2 and/or cumulative adverse effects to historic properties that may result at any time during the
3 Undertaking.

4 1. Protection Measures

5 The HPMP shall include measures to protect identified historic properties from adverse effects
6 that may result from the Undertaking. These measures may include but not be limited to
7 placement of barricades and fencing, notices to law enforcement, seasonal restrictions, and
8 other appropriate measures.

9 2. Mitigation Plans

10 a. All historic properties adversely affected by the Undertaking will be subject to property-
11 specific mitigation plans to be drafted after issuance of the ROD to resolve adverse
12 effects as determinations of effect for these properties are made pursuant to stipulation
13 IV. The mitigation plans will be included in the final HPMP.

14 b. Mitigation plans shall include appropriate measures to resolve adverse effects to the
15 qualities of the historic property that make it eligible for listing in the NRHP. All
16 mitigation plans will be consistent with Secretary of Interior Standards for
17 archaeological, historical and architectural documentation; the ACHP Section 106
18 archaeology guidance and other guidance from the appropriate SHPOs/THPO.

19 c. For effects to archaeological sites that will be mitigated through data recovery,
20 mitigation plans shall include but not be limited to a research design that articulates
21 research questions; data needed to address research questions; methods to be
22 employed to collect data; laboratory methods employed to examine collected materials;
23 and proposed disposition and curation of collected materials and records.

24 d. Mitigation plans for direct effects to historic properties eligible for listing in the NRHP
25 under criteria other than or in addition to criterion D shall articulate the context for
26 assessing the properties' significance, an assessment of the character-defining features
27 that make the property eligible for listing in the NRHP, and an assessment of how the
28 proposed mitigation measures will resolve the effects to the property.

29 e. Mitigation plans for indirect effects to historic properties eligible under any NRHP
30 criteria shall include an assessment of the character-defining features that make the
31 property eligible for listing in the NRHP; the nature of the indirect effect; an evaluation
32 of the need for long-term monitoring; and an assessment of how the proposed
33 mitigation measure(s) will resolve the effects to the property.

34 f. Mitigation plans for direct, indirect, and cumulative effects to historic properties may
35 include, but will not be limited to:

36 1) Completion of NRHP nomination forms

37 2) Conservation easements

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1 3) Purchase of land for long-term protection of historic properties

2 4) Partnerships and funding for public archaeology projects

3 5) Partnerships and funding for Historic Properties interpretation

4 6) Print or media publication

5 3. Monitoring Plan

6 A Monitoring Plan will be developed as a subsection of the HPMP for implementation
7 during construction, operation, and maintenance.

8 a. This plan will address monitoring for compliance with stipulations of the HPMP, as well
9 as a potential strategy to avoid, minimize, or mitigate direct, indirect and/or cumulative
10 adverse effects to historic properties at any time during the Undertaking.

11 b. All monitoring plans shall identify monitoring objectives and the methods necessary to
12 attain these objectives, and in particular address those areas determined under the
13 Inventory to show a high probability for buried cultural deposits.

14 Monitoring shall, as appropriate, include archaeological inspection of construction
15 activities by personnel either meeting the Secretary of Interior Professional Qualification
16 standards or working under the direct supervision of a person meeting the standards.
17 Provisions for tribal monitors will meet the above qualifications as well, per the
18 discretion of consulting tribes.

19 c. Any cultural resources, human remains or funerary objects discovered at any time
20 during construction, construction monitoring, or operation and maintenance activities
21 will be treated in accordance with the Inadvertent Discovery Plan (IDP) contained within
22 the HPMP.

23 4. Operations and Maintenance

24 The HPMP shall include operations and maintenance to address all activities related to the
25 functioning of the Undertaking after construction and reclamation are completed and prior
26 to decommissioning. During operations and maintenance, the ROW grant holder will be
27 required to follow all the terms, conditions, and stipulations concerning historic properties
28 which are included in the POD as part of the ROW grant.

29 a. The HPMP will identify those stipulations necessary to ensure the consideration of
30 historic properties throughout the life of the ROW grant.

31 b. The BLM will be responsible for ensuring that the stipulations in the BLM ROW grant are
32 enforced for the life of the ROW grant. Federal or state agencies issuing a permit for the
33 Undertaking will take responsibility for permit enforcement under their jurisdiction.

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1 c. The HPMP will identify a variance review process for construction, operations and
2 maintenance, to address any changes in procedures that could have an adverse effect
3 on historic properties in the ROW. The Proponent will submit a request for variance
4 review to the BLM through BLM's third party Compliance Inspection Contractor for any
5 proposed changes in use of equipment, additional work areas, access roads, ancillary
6 features, reroutes or other changes that may result in ground disturbing activities
7 outside of the previously surveyed APE. At a minimum the variance area will be checked
8 to ensure that it falls within an area where the following have been completed:

- 9 • Class I literature review in accordance with stipulation II.E.1.
- 10 • Class III inventory in accordance with stipulation II.E.4
- 11 • Determinations of Eligibility in accordance with stipulation III.G.
- 12 • Assessment of Effects in accordance with stipulation IV.
- 13 • Protection, Mitigation and Monitoring plans in accordance with stipulation
14 VII.C.1-3.

15 Where BLM determines that additional inventory is needed through the variance
16 request process, no ground disturbance will be authorized in the variance area until the
17 above items and any mitigation measures are completed, in consultation with parties to
18 this agreement, and BLM approves the variance.

19 Additional inventory and evaluation undertaken for these variances will be reported as
20 soon as feasible and sent to the BLM for review in accordance with stipulation V.B, as
21 part of the Class III inventory. Any variance reports will also be included in the
22 comprehensive report outlined in stipulation V.L. Such documentation will tier to the
23 previous background context in the existing reports so that only new information such
24 as site forms, eligibility determinations, etc. will be included.

25 The BLM will develop a list of operation and maintenance activities in consultation with
26 parties to this agreement that will NOT be subject to additional Section 106 review, and
27 will identify the types of activities that will require additional Section 106 review.

28 BLM administration of the ROW grant shall include appropriate BLM cultural resource
29 specialists to participate in ROW grant review and to review compliance with
30 stipulations or changes in procedures that may affect historic properties in the ROW.

31 5. Decommissioning

32 The POD will contain a stipulation to develop a decommissioning plan to address the
33 potential effects of decommissioning on historic properties. Prior to decommissioning, the
34 BLM, in consultation with the parties to this agreement, will assess the direct, indirect and
35 cumulative effects of decommissioning this transmission line and associated facilities on
36 historic properties and to seek ways to avoid, minimize or mitigate adverse effects under
37 the plan.

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1 B. Reporting

2 The HPMP shall provide for the preparation of reports as called for during the implementation
3 of plan activities, including but not limited to monitoring reports, Historic American Buildings
4 Survey / Historic American Engineering Record / Historic American Landscapes documentation,
5 and archaeological data recovery documentation, if applicable.

6 The BLM will ensure that the Proponent completes draft and final reports as called for under
7 the implementation of the HPMP. The BLM will send the reports out to the parties to this
8 agreement for review as described in stipulation V. Review times will be 30 days unless
9 otherwise noted.

10 C. HPMP and Mitigation Plans Review

- 11 1. The BLM shall submit the draft HPMP to the consulting parties for review. Distribution and
12 review of the HPMP and associated documents shall proceed according to the terms
13 outlined in stipulation V. of this agreement.
- 14 2. After consultation with the parties to this agreement to address comments and/or
15 objections, and acceptance by the SHPOs/THPO, the BLM will finalize the HPMP.
- 16 3. Any party to this PA may object at any time to any actions proposed or the manner in which
17 the terms of the HPMP are implemented. The objecting party must submit in writing to the
18 BLM the reasons for, and a justification of, its objections. The BLM will consult with the
19 party and the parties to this agreement to resolve the objection within 30 days. If the BLM
20 determines that such objection cannot be resolved, the BLM will follow the procedures
21 defined in this PA under stipulation XIV.

22 D. The HPMP will be finalized prior to the NTP to resolve adverse direct, indirect and/or
23 cumulative effects to historic properties that may result from this Undertaking.

24 E. The Proponent, in consultation with the Signatories, will conduct a formal review of the HPMP
25 and associated mitigation plans annually during the period of construction and every five (5)
26 years thereafter throughout the life of this agreement.

27 F. Any party to this agreement may suggest an amendment to the HPMP and should submit the
28 contents of the amendment in writing to the BLM. The BLM will consider the amendment
29 within 30 days of receipt and consult with the parties on the amendment. An amendment to
30 the HPMP will not require an amendment to the PA. After consultation with the parties to the
31 agreement, the BLM will determine if an amendment will be incorporated into the HPMP by
32 the Proponent.

33 **VIII. Confidentiality of Cultural Resources Information**

34 A. The parties to this agreement acknowledge that certain information about cultural resources
35 may be protected from public disclosure under NHPA (54 USC §307103), ARPA (43 CFR 7.18),
36 Idaho state law (Idaho Code § 9-340E(1),(2) and Oregon state law (ORS 192.501(11)). Parties
37 to this agreement will ensure that all actions and documentation prescribed by this PA are

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1 consistent with the non-disclosure requirements of these laws. BLM will ensure that reports
2 sent to parties to this agreement who do not have staff meeting the Secretary of Interior
3 Professional Qualifications have certain confidential information such as place names,
4 location, etc. redacted, unless the party receiving the documents has an executed data sharing
5 agreement with BLM. Due to the potential for inadvertent discoveries, incomplete prior
6 evaluations or the passage of time resulting in changing perceptions of significance (36 CFR
7 800.4(c)(1)), cultural resources that have not been evaluated for eligibility or that have been
8 determined Not Eligible will be afforded the same level of confidentiality under this
9 agreement. The BLM may require data sharing agreements with parties interested in
10 obtaining confidential information. The data sharing agreements will be written in
11 consultation with the tribes and other parties which so request.

- 12 B. The Proponent will not retain sensitive information that tribes and interested parties
13 authorize them to collect, including but not limited to ethnographic data and similar
14 information beyond the time that it is needed to inform the decision-makers and complete
15 compliance with the terms of the PA. The Proponent will return sensitive information to the
16 BLM, or destroy it and provide written documentation of such action to the BLM.

17 **IX. Inadvertent Discovery of Cultural Resources and Human Remains on Non-Federal Lands**

18 The BLM in consultation with federal agencies that are a party to this agreement, SHPOs, THPO
19 and tribes has prepared an IDP for the HPMP to include cultural resources and human remains,
20 that establishes procedures for immediate work stoppage and site protection to be followed in
21 the event that previously unreported and unanticipated cultural resources or human remains are
22 found on state or private lands during the Undertaking in accordance with 36 CFR 800.13(a)(2)(b)
23 and appropriate state laws.

24 **X. Inadvertent Discovery of Human Remains, Funerary Objects, Sacred Objects or Objects of 25 Cultural Patrimony (NAGPRA) on Federal Lands**

26 A. The BLM in consultation with federal agencies party to this agreement, SHPOs, THPO and
27 tribes has prepared an IDP for the HPMP, to include cultural resources and human remains,
28 that establishes procedures for immediate work stoppage and site protection to be followed
29 in the event that previously unreported and unanticipated cultural resources or human
30 remains are found on federal lands during the Undertaking.

31 B. Discovery of Native American human remains, funerary objects, sacred objects, or objects of
32 cultural patrimony on federal lands shall be subject to 25 USC §3001 et seq., the Native
33 American Graves Protection and Repatriation Act (NAGPRA), and its implementing
34 regulations, 43 CFR 10 et. seq. The BLM will prepare a NAGPRA Plan of Action (POA) in
35 consultation with federal agencies party to this agreement and in consultation with Native
36 American tribes party to this agreement. The POA will describe the procedures for the
37 treatment and disposition of Native American human remains, funerary objects, sacred
38 objects or objects of cultural patrimony for intentionally excavated and inadvertent

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1 discoveries during construction and planned, if any, excavation of sites located within the
2 Project APE on federal lands. The POA will be completed prior to any ground disturbing
3 activities associated with the Undertaking.

4 XI. Curation

- 5 A. The BLM will ensure curation and other disposition of cultural materials and associated
6 records not subject to the provisions of NAGPRA resulting from implementation of this PA on
7 federal land is completed in accordance with 36 CFR 79. Documentation of the curation of
8 these materials will be provided to the BLM and the appropriate SHPOs/THPO within 30 days
9 of acceptance of the final cultural resource report for the Undertaking. Cultural materials not
10 subject to the provisions of NAGPRA found on BLM and USFS lands will remain federal
11 property when curated. Curation will be undertaken in a manner consistent with and
12 respectful of cultural sensitivities. Materials found on federal land in Oregon will be curated at
13 the federally approved Oregon Museum of Natural and Cultural History (OMNCH). Materials
14 found on federal land in Idaho will be curated at the Archaeological Survey of Idaho-Western
15 Repository in Boise at the Archaeological Survey of Idaho-Western Repository federally
16 approved curation facility.
- 17 B. Native American human remains, funerary objects, sacred objects, or objects of cultural
18 patrimony recovered from federal lands shall be subject to the provisions of NAGPRA, and
19 shall be treated in accordance with protocol developed between the BLM, USFS, and
20 consulting tribes and memorialized in the approved NAGPRA Plan of Action for the
21 Undertaking. This protocol shall be consistent with 43 CFR 10.3-10.7, the regulations
22 implementing NAGPRA.
- 23 C. Collections made on state land in the State of Oregon, will comply with ORS 390.235 and ORS
24 97.745. Collections on state land in Idaho will be curated at the Archaeological Survey of
25 Idaho-Western Repository in accordance with Idaho Statute Title 33, Chapter 39, Idaho
26 Archaeological Survey, Sections 3901-3905.
- 27 D. For collections recovered from private lands in Oregon, the Proponent will work with
28 landowners and parties to this agreement, through applicable state permits, to arrange for the
29 disposition of cultural resources collections. In Oregon, private landowners will be encouraged
30 to rebury or donate cultural resources collections to the OMNCH and will be informed that
31 Oregon state law (ORS 97.745) excludes retention of Native American human remains,
32 funerary objects, or objects of cultural patrimony and requires the return of such objects to
33 the appropriate tribe. Collections from private lands to be returned to the landowner will be
34 maintained in accordance with 36 CFR 79 until any specified analysis is complete. The
35 Proponent will provide documentation of the transfer of the collection to the landowner as
36 well as to the BLM and the appropriate parties to this agreement within 30 days of acceptance
37 of the final cultural resource reports for the Undertaking. In the event a landowner chooses to
38 retain a collection they will be notified by the BLM or Proponent that tribes may prefer

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1 collected items be reburied. Any arrangements for reburial will be negotiated with the tribe(s)
2 outside of the Section 106 process.

3 E. Collections recovered from private lands in Idaho remain the property of the landowner. The
4 landowner will be encouraged to donate the collections to the Archaeological Survey of Idaho-
5 Western Repository. Collections from private lands to be returned to the landowner will be
6 maintained in accordance with 36 CFR 79 until any specified analysis is complete.

7 F. The Proponent will assume the cost of curation including the preparation of materials for
8 curation in perpetuity.

9 XII. Initiation of Construction Activities

10 A. Construction will only occur after issuance of a federal ROW grant, Special Use Authorization
11 and specific NTP or any other federal or state authorization to the Proponent which will occur
12 after the ROD.

13 B. The BLM will ensure that mitigation for adversely affected historic properties is implemented
14 to the degree required in the mitigation plans prior to issuance of NTPs. The BLM will
15 authorize construction to begin once the parties to this agreement have been provided with
16 documentation of mitigation activities and consultation has occurred pursuant to stipulation
17 V. Disagreements regarding the adequacy of the implementation of mitigation plans are
18 subject to resolution as described in stipulation XIV. NTPs may be issued to the Proponent for
19 individual construction segments under the following conditions:

- 20 1. Construction of the segment will not restrict subsequent rerouting of the ROW corridor or
21 affiliated ancillary feature locations to avoid, minimize, or mitigate the Undertaking's
22 adverse effects on historic properties; and
- 23 2. The permitting agencies, in consultation with parties to this agreement, determine that all
24 surveys have been completed and no cultural resources have been identified through Class
25 III inventories and there are no historic properties within the APEs for the construction
26 segment; or
- 27 3. The permitting agencies, in consultation with the SHPOs/THPO, have implemented the
28 procedures described in the HPMP within the construction segment; and
 - 29 a. The fieldwork phase of the treatment option has been completed;
 - 30 b. The federal agencies that are a party to this agreement have accepted a summary
31 description from the Proponent of the fieldwork performed and a reporting schedule for
32 that work;
 - 33 c. The permitting agencies have provided the parties to this agreement with a summary
34 description of the fieldwork performed and a reporting schedule for that work; and
 - 35 d. The permitting agencies, in consultation with the parties to this agreement, have
36 determined that all preconstruction fieldwork is complete and adequate.

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1 C. Changes in Ancillary Areas/Construction ROW

- 2 1. The BLM will notify the parties to this agreement of proposed changes in ancillary areas or
3 the ROW. The BLM will ensure that the APE of the new ancillary area or reroute is
4 inventoried and evaluated in accordance with stipulation II, and will consult with the
5 parties to this agreement on the proposed APE and the determination of eligibility and
6 effect in accordance with stipulations III. and IV. The reports addressing these areas will be
7 reviewed in accordance with stipulation V. of this PA.
- 8 2. The BLM will provide the tribes, and parties to this agreement with the revised addendum
9 reports and findings on eligibility and effects for a 30 day review and comment period. The
10 BLM will seek consensus determinations of eligibility for all properties identified in the
11 APEs. If consensus cannot be reached, the process articulated in stipulation III. for seeking a
12 determination of eligibility from the Keeper of the NRHP will be followed.

13 XIII. PA Evaluation

- 14 A. The BLM will evaluate the implementation and operation of this PA annually until all
15 construction and reclamation activities and mitigation reports are complete. The annual
16 evaluation will include a written report submitted by the BLM to the parties to this agreement
17 and may include in-person meetings among the BLM and parties to this agreement to discuss
18 any potential PA modifications or amendments.
- 19 B. The BLM's written report will describe all activities pertaining to the Undertaking for that year
20 and will be sent to all parties to this agreement by December 31st of each year. Parties to this
21 agreement may provide comments on reports to the BLM within 30 days of receipt. The BLM
22 will collate and distribute comments to the parties to this agreement, revise the report, as
23 necessary, and explain why particular revisions were or were not made. If there are significant
24 revisions needed, and if the parties to this agreement agree, the BLM may hold a meeting or
25 conference call to discuss any needed revisions.

26 XIV. Dispute Resolution

- 27 A. Any party to this agreement may object at any time to any actions proposed or the manner in
28 which the terms of this PA are implemented. The objecting party must submit in writing to the
29 BLM the reasons for, and a justification of, its objections. The BLM will consult with the
30 objecting party and all parties to this agreement to resolve the objection within 30 days. If the
31 BLM determines that such objection cannot be resolved, the BLM will:
 - 32 1. Forward all documentation relevant to the dispute, including the BLM's proposed
33 resolution, to the ACHP within 30 days after the BLM's initial determination that the
34 objection cannot be resolved. The ACHP will provide the BLM with its advice on the
35 resolution of the objection within 30 days of receiving adequate documentation. Prior to
36 reaching a final determination on the dispute, the BLM will prepare a written response that
37 takes into account any timely advice or comments regarding the dispute from the ACHP

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1 and parties to this agreement, and provide them with a copy of this written response
2 within 30 days of receiving advice from the ACHP. The BLM will then proceed according to
3 its final determination.

4 2. If the ACHP does not provide its advice regarding the dispute within the 30 day time period,
5 the BLM may make a final determination on the dispute and proceed accordingly. Prior to
6 reaching such a final determination, the BLM will prepare a written response that takes
7 into account any timely comments regarding the dispute from the parties to this
8 agreement to the PA, and provide to all parties to this agreement with a copy of such
9 written response within 30 days.

10 3. The BLM's responsibilities to carry out all other actions subject to the terms of this PA that
11 are not the subject of the dispute remain unchanged.

12 **XV. Review of Public Objection**

13 At any time during implementation of the measures stipulated in this PA, should an objection to
14 any such measure or its manner of implementation be raised by a member of the public, the BLM
15 will take the objection into account, consult as needed with the objecting party and the parties to
16 this agreement to resolve the objection. The BLM will determine the final resolution.

17 **XVI. Amendment**

18 Signatories and Invited Signatories of this PA may request an amendment to the PA by providing
19 proposed changes in writing. The BLM will notify all parties to this agreement of the proposed
20 amendment and consult with them for no more than 30 days to reach agreement. The
21 amendment will be effective on the date the amendment is signed by all Signatories. If the
22 amendment is not signed within 60 days of receipt the BLM will reinstate consultation for another
23 30 days. If all the signatories do not agree to the amendment, BLM will determine that the PA will
24 stand as is.

25 **XVII. Termination**

26 A. If any Signatory or Invited Signatory to this PA determines that its terms will not or cannot be
27 carried out, that party will immediately provide written notice to the BLM and the other
28 Signatories and Invited Signatories stating the reasons for the determination. BLM will
29 then consult with all parties to this agreement to attempt to develop an amendment per
30 stipulation XVI, above. If within 60 days (or another time period agreed to by all Signatories)
31 an amendment cannot be reached, any Signatory or Invited Signatory may terminate the PA
32 upon written notification to the other parties to the agreement.

33 B. If an individual SHPO/THPO terminates their participation in this PA, that termination will
34 apply only within the jurisdiction of the SHPO/THPO electing to terminate

35 C. An individual SHPO/THPO may withdraw from the PA upon written notice to all Signatories
36 and Invited Signatories after having consulted with them for at least 30 days to attempt to find

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1 a way to avoid the withdrawal. Upon withdrawal, the BLM and the withdrawing SHPO/THPO
2 will comply with Section 106 in accordance with 36 CFR 800.3 through 800.7 or the execution
3 of an agreement in accordance with 36 CFR 800.14(b). Such Section 106 compliance will be
4 limited to consideration of effects of the Undertaking solely within the jurisdiction of the
5 withdrawing SHPO/THPO. This PA will still remain in effect with regard to the portions of the
6 Undertaking located in the jurisdiction of the SHPO that have not withdrawn from the PA. If
7 both SHPOs/THPO withdraw from the PA, the PA will be considered to be terminated. In the
8 event this PA is terminated, and prior to work continuing on the Undertaking, the BLM will
9 comply with 36 CFR 800.6(c)(8) and will take reasonable steps to avoid adverse effects to
10 historic properties until another PA has been executed or will request, take into account, and
11 respond to ACHP comments, in accordance with 800.7 BLM must either (a) execute a PA
12 pursuant to 36 CFR 800.6 or (b) request, take into account, and respond to the comments of
13 the ACHP under 36 CFR 800.7. If a withdrawal occurs, the BLM will notify all parties to this
14 agreement as to the course of action it will pursue for Section 106 compliance for the
15 Undertaking.

16 XVIII. Duration of This PA

- 17 A. Until the Undertaking has been initiated, the BLM shall convene a meeting of the Signatories
18 and Invited Signatories five years after execution of the PA, and every five years following, to
19 review the status of the Undertaking and the ROW, and to determine whether any
20 amendments to the agreement are needed. This PA will expire if the Undertaking has not
21 been initiated within 15 years of the execution of this PA, or the BLM ROW grant is terminated
22 or is withdrawn. At that time, the BLM will notify, in writing, the parties to this agreement of
23 this determination, whereupon this PA will be null and void.
- 24 B. Unless this PA is terminated pursuant to stipulation XVII. above, another agreement executed
25 for the Undertaking supersedes it, or the Undertaking itself has been terminated, this PA will
26 remain in effect until the BLM, in consultation with the parties to this agreement, determines
27 that construction of all aspects of the Undertaking has been completed and that all terms of
28 this PA and any subsequent agreements have been fulfilled in a satisfactory manner, not to
29 exceed 15 years. Upon a determination by BLM that implementation of all aspects of the
30 Undertaking have been completed and that all terms of this Agreement and any subsequent
31 tiered agreements have been fulfilled in a satisfactory manner, BLM will notify the parties to
32 this agreement in writing of the agency's determination. The duration of the PA may be
33 extended through an amendment as per stipulation XVI, through consultation with the parties
34 to this agreement.
- 35 C. Parties to this agreement shall meet at least one year prior to the expiration of the PA to
36 determine if the conditions of this PA have been met. At that time, the parties to this
37 agreement may agree to amend or terminate the PA or to meet again within an agreed-upon
38 period of time to consider the status of the PA.

Boardman to Hemingway Programmatic Agreement

1 D. Upon termination of the PA, the instrument for addressing cultural resource concerns will be
2 the POD within the ROW grant. The POD will contain the HPMP which outlines the
3 management of historic properties through construction as well as operations and
4 maintenance and decommissioning. The BLM will retain responsibility for administering the
5 terms and conditions of the ROW grant pertaining to historic properties for the life of the
6 grant.

7 **XIX. Financial Security**

8 The proponent will post a financial instrument approved under the ROW regulations (43 CFR
9 2800) with the BLM in an amount sufficient to cover all post-fieldwork costs associated with
10 implementing the HPMP, or other mitigative activities such as data recovery, curation, and report
11 completion, as negotiated by the Proponent where they contract for services in support of this
12 PA. Details regarding the instrument will be developed in the HPMP and posted prior to issuance
13 of any NTP.

14 **XX. Failure to Carry Out the Terms of this PA**

15 In the event that the Proponent fails to follow the terms of this PA, the BLM will comply with 36
16 CFR 800.4 through 800.6 with regard to individual actions pertaining to this Undertaking.

17 **EXECUTION** of this PA by the BLM, USFS, BPA, USACE, Reclamation, OR SHPO, ID SHPO, WA SHPO, and
18 CTUIR THPO, as Signatories to this PA, and implementation of its terms evidence that the BLM has taken
19 into account the effects of this Undertaking on historic properties and afforded the ACHP an opportunity
20 to comment.

21 This PA may be executed in two or more counterparts, each of which shall be deemed an original but all
22 of which together shall constitute one and the same instrument. The BLM may consolidate the original
23 signature pages to produce the final copies. The BLM will distribute copies of all pages to all Consulting
24 Parties once the PA is signed.

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

BUREAU OF LAND MANAGEMENT

Signature:

Donald Gonzalez, Authorized Officer

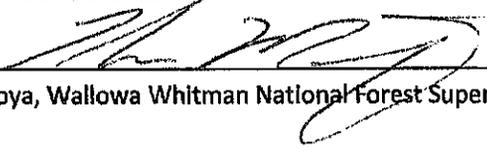
Date:

11/21/16

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

U.S.D.A. FOREST SERVICE

Signature: 

Date: 10/24/16

Tom Montoya, Wallowa Whitman National Forest Supervisor

SEPT. 30, 2016

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

BONNEVILLE POWER ADMINISTRATION

Signature: G. St. Denis-Linger, ACTING FOR Date: 10/27/2016
F. Lorraine Bodi, Vice President, Environment, Fish and Wildlife

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

U.S. ARMY CORPS OF ENGINEERS

Signature: _____

Date: 24.6.16

Jose L. Aguilar, Colonel, District Commander

Boardman to Hemingway Programmatic Agreement

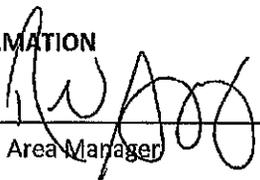
SIGNATURE PAGES – REQUIRED SIGNATORIES

BUREAU OF RECLAMATION

Signature: _____

Date: _____

Roland K. Springer, Area Manager



11/21/16

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

1 **BUREAU OF LAND MANAGEMENT**

2 Signature: _____ [See page S-1] _____ Date: _____

3 Donald Gonzalez, Authorized Officer

4 **U.S.D.A. FOREST SERVICE**

5 Signature: _____ [See page S-2] _____ Date: _____

6 Tom Montoya, Wallowa Whitman National Forest Supervisor

7 **BONNEVILLE POWER ADMINISTRATION**

8 Signature: _____ [See page S-3] _____ Date: _____

9 F. Lorraine Bodi, Vice President, Environment, Fish and Wildlife

10 **U.S. ARMY CORPS OF ENGINEERS**

11 Signature: _____ [See page S-4] _____ Date: _____

12 Jose L. Aguilar, Colonel, District Commander

13 **BUREAU OF RECLAMATION**

14 Signature: _____ [See page S-5] _____ Date: _____

15 Jerrold D. Gregg, Area Manager

16 **OREGON STATE HISTORIC PRESERVATION OFFICER**

17 Signature: Christine Curran _____ Date: 11.21.16

18 Christine Curran, Deputy SHPO

19 **IDAHO STATE HISTORIC PRESERVATION OFFICER**

20 Signature: _____ [See page S-7] _____ Date: _____

21 Janet Gallimore, SHPO

22 **WASHINGTON DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION (SHPO)**

23 Signature: _____ [See page S-8] _____ Date: _____

24 Allyson Brooks, SHPO

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

IDAHO STATE HISTORIC PRESERVATION OFFICER

Signature: _____

Date: *November 30, 2016*

Janet Gallimore, SHPO

SEPT. 30, 2016

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES -- REQUIRED SIGNATORIES

1 BUREAU OF LAND MANAGEMENT

2 Signature: _____ [See page S-1] _____ Date: _____

3 Donald Gonzalez, Authorized Officer

4 U.S.D.A. FOREST SERVICE

5 Signature: _____ [See page S-2] _____ Date: _____

6 Tom Montoya, Wallowa Whitman National Forest Supervisor

7 BONNEVILLE POWER ADMINISTRATION

8 Signature: _____ [See page S-3] _____ Date: _____

9 F. Lorraine Bodi, Vice President, Environment, Fish and Wildlife

10 U.S. ARMY CORPS OF ENGINEERS

11 Signature: _____ [See page S-4] _____ Date: _____

12 Jose L. Aguilar, Colonel, District Commander

13 BUREAU OF RECLAMATION

14 Signature: _____ [See page S-5] _____ Date: _____

15 Jerrold D. Gregg, Area Manager

16 OREGON STATE HISTORIC PRESERVATION OFFICER

17 Signature: _____ [See page S-6] _____ Date: _____

18 Christine Curran, Deputy SHPO

19 IDAHO STATE HISTORIC PRESERVATION OFFICER

20 Signature: _____ [See page S-7] _____ Date: _____

21 Janet Gallimore, SHPO

22 WASHINGTON DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION (SHPO)

23 Signature:  _____ Date: 12/19/16

24 Allyson Brooks, SHPO

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

**CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION TRIBAL HISTORIC PRESERVATION
OFFICER**

Signature: Carey Miller Date: Jan 22, 2017
Carey Miller, Tribal Historic Preservation Officer

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – REQUIRED SIGNATORIES

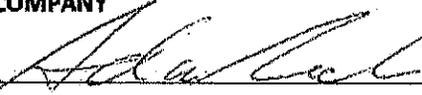
ADVISORY COUNCIL ON HISTORIC PRESERVATION

Signature: John M. Fowler Date: 2/3/17
John M. Fowler, Executive Director

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – INVITED SIGNATORIES

IDAHO POWER COMPANY

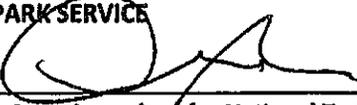
Signature:  Date: 11-7-16
Adam Richins, General Manager of Customer Operations, Engineering and Construction

SEPT. 30, 2016

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – INVITED SIGNATORIES

NATIONAL PARK SERVICE

Signature: 

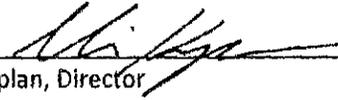
Date: 10/28/16

Aaron Mahr, Superintendent for National Trails, Intermountain Region

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – CONCURRING PARTIES

OREGON DEPARTMENT OF ENERGY

Signature: 
Michael Kaplan, Director

Date: 12.16.16

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – CONCURRING PARTIES

1 **OREGON DEPARTMENT OF ENERGY**

2 Signature: _____ [See page S-13] Date: _____

3 Michael Kaplan, Director

4 **SHOSHONE-PAIUTE TRIBES OF THE DUCK VALLEY INDIAN RESERVATION**

5 Signature: _____ Date: _____

6 Lindsey Manning, Chairman

7 **CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION**

8 Signature: _____ Date: _____

9 Gary Burke, Chair, Board of Trustees

10 **SHOSHONE-BANNOCK TRIBES OF THE FORT HALL INDIAN RESERVATION**

11 Signature: _____ Date: _____

12 Blaine Edmo, Chairman

13 **NEZ PERCE TRIBE**

14 Signature: _____ Date: _____

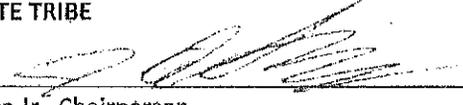
15 Mary Jane Mills, Chairman

16 **CONFEDERATED TRIBES OF THE COLVILLE RESERVATION**

17 Signature: _____ Date: _____

18 Dr. Michael E. Marchand, Chairman

19 **BURNS PAIUTE TRIBE**

20 Signature:  Date: 1-12-17

21 Jose DeLaRosa Jr., Chairperson

22 **FORT MCDERMITT PAIUTE AND SHOSHONE TRIBE**

23 Signature: _____ [See page S-15] Date: _____

24 Brad Crutcher, Chairperson

25 **CONFEDERATED TRIBES OF THE WARM SPRINGS INDIAN RESERVATION**

26 Signature: _____ Date: _____

27 Eugene Austin Greene Jr., Chair

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES -- CONCURRING PARTIES

FORT MCDERMITT PAIUTE AND SHOSHONE TRIBE

Signature: Brad Crutcher
Brad Crutcher, Chairperson

Date: 11-7-2016

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – CONCURRING PARTIES

OREGON-CALIFORNIA TRAILS ASSOCIATION

Signature: William Symms
William Symms, NW Chapter Preservation Officer

Date: 10/21/2016

SEPT. 30, 2016

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – CONCURRING PARTIES

- 1 CONFEDERATED TRIBES OF THE YAKAMA NATION
- 2 Signature: _____ Date: _____
- 3 JoDe L. Goudy, Chairman
- 4 OREGON AND CALIFORNIA TRAILS ASSOCIATION
- 5 Signature: _____ [See page S-16] Date: _____
- 6 William Symms, NW Chapter Preservation Officer
- 7 OREGON HISTORIC TRAILS ADVISORY COUNCIL
- 8 Signature: Glenn Harrison Date: 10/22/16
- 9 Glenn Harrison, Oregon Historic Trails Advisory Council representative
- 10 U.S. FISH AND WILDLIFE SERVICE
- 11 Signature: _____ [See page S-18] Date: _____
- 12 Lamont Glass, Manager, USFWS Umatilla National Wildlife Refuge
- 13 LEWIS AND CLARK HERITAGE TRAIL FOUNDATION
- 14 Signature: _____ [See page S-19] Date: _____
- 15 Robert Heacock, Director Washington State Chapter

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – CONCURRING PARTIES

U.S. FISH AND WILDLIFE SERVICE

Signature: _____

Date: _____

Lamont Glass, Manager, USFWS Umatilla National Wildlife Refuge

SEPT. 30, 2016

Boardman to Hemingway Programmatic Agreement

SIGNATURE PAGES – CONCURRING PARTIES

LEWIS AND CLARK HERITAGE TRAIL FOUNDATION

Signature: Robert Heacock
Robert Heacock, Director Washington State Chapter

Date: 12/28/16

Boardman to Hemingway Programmatic Agreement

APPENDICES

- 1 Appendix A: Archaeological Survey Plan
- 2 Appendix B: Visual Assessment of Historic Properties Study Plan



Boardman to Hemingway Transmission Line Project

Archaeological Survey Plan

Prepared by

Tetra Tech
3380 Americana Terrace
Suite 201
Boise, ID 83706

Prepared for

Idaho Power Company
1221 W Idaho Street
Boise, ID 83702

January 2013

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1.0 PURPOSE AND GOAL

Idaho Power Company (IPC) is proposing to construct, operate, and maintain approximately 300 miles of 500-kilovolt (kV) transmission line, known as the Boardman to Hemingway Transmission Line Project (Project; IPC 2011). Figure 1 shows the proposed and alternative routes. The Project is complex, located in both Idaho and Oregon and involving multiple federal and state agencies, and the cultural resource work will occur in phases. For these reasons, a Programmatic Agreement (PA) regarding the Section 106 National Historic Preservation Act (NHPA) process will be developed pursuant to 36 Code of Federal Regulations (CFR) 800.4(b)(2) and 36 CFR 800.14(b). The PA for this project is an agreement between the Bureau of Land Management (BLM), United States Department of Agriculture Forest Service (USFS), Idaho and Oregon State Historic Preservation Officers (SHPOs), Confederated Tribes of the Umatilla Reservation Tribal Historic Preservation Officer (CTUIR THPO), Advisory Council on Historic Preservation (ACHP), and other parties, such as Oregon Department of Energy (ODOE), Tribes, and IPC, as appropriate. The PA outlines the general process for completion of all phases of the Section 106 process, i.e., how the lead government agency will define the Areas of Potential Effect (APE), how historic resources will be identified and evaluated, how effects will be assessed, and how effects to historic properties will be resolved. The PA will be in place prior to the BLM's Record of Decision (ROD), but was not completed prior to the start of archaeological field work. IPC acknowledges that additional fieldwork may be necessary if work completed prior to signing the PA is not consistent with the terms of the PA.

This Archaeological Survey Plan (Plan) describes the processes for the file search and literature review and Class II and Class III pedestrian archaeological inventories, which will complete the identification efforts required by Section 106 of the NHPA and provide information for the ODOE Energy Facility Siting Council (EFSC), subject to laws requiring confidentiality. Within the parameters of laws requiring confidentiality, information collected through application of this plan will be used in support of IPC's Application for Site Certificate to EFSC and will be provided to the BLM to assist with the preparation of a National Environmental Policy Act (NEPA) document for the Project. This Plan is not intended to address the entire cultural resources identification process; rather it is intended only to describe IPC's plan to conduct archaeological inventories and outlines the methods and protocols for file searches and literature reviews and the conduct of Class II and Class III archaeological inventories. Evaluations of visual impacts to historic structures, trails, and other aboveground resources will also occur for the Project. The methodology for those studies is presented in a separate Visual Assessment of Historic Properties Study Plan (VAHP; Tetra Tech 2012). Ethnographic studies are in progress; these studies will be conducted to identify both properties of religious and cultural significance and Traditional Cultural Properties. As defined in NRHP Bulletin 38 (NPS 1998), a traditional cultural property can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Religious and cultural significance have been added to this definition to reflect that BLM will also identify and assess impacts to properties of significance to tribes that may not meet the NRHP criteria as a TCP.

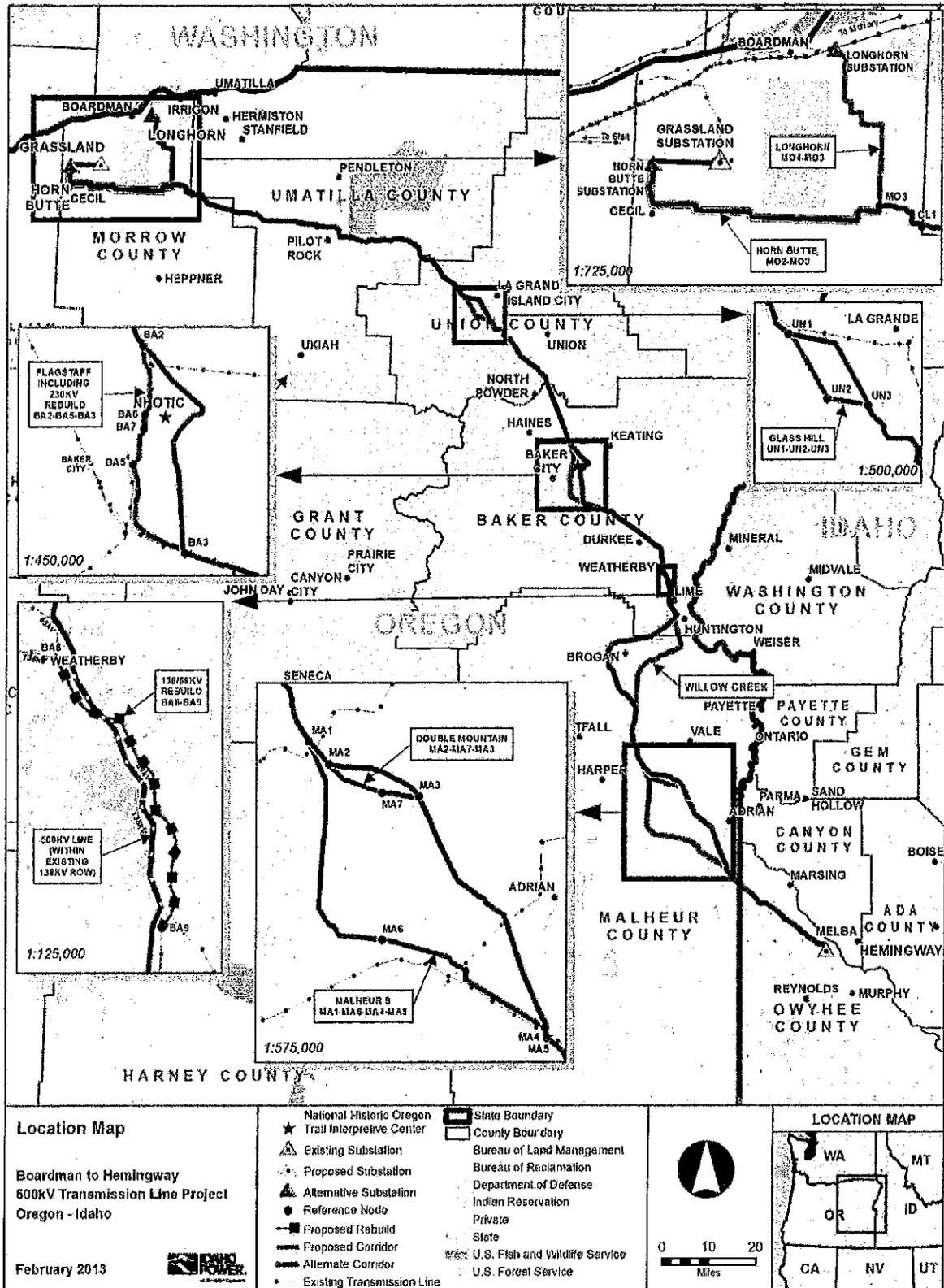


Figure 1. Proposed and Alternative Routes for NEPA Analysis

2.0 TECHNICAL STUDIES

This section outlines the scope of field investigations and the site National Register of Historic Places (NRHP) eligibility evaluation methodology for the Project archaeological inventory. Field investigations will focus on three inter-related tasks: surface survey, subsurface testing, and resource recordation. To meet Project needs, these tasks will be conducted in two stages. The initial survey will consist of a 100 percent (BLM Class III) inventory of the proposed route segments and all currently identified Project facilities, including access roads and ancillary facilities, as well as a 15 percent (BLM Class II) survey of alternative routes (see Figure 1). The findings of the inventory will be compiled into a formal report and submitted to consulting parties for review as well as presented in the Draft Environmental Impact Statement (EIS). Additional surveys will focus on completion of 100 percent inventory of any modifications to route access roads, laydown areas, or other Project surface modifications identified subsequent to the initial survey. Subsurface probing to assist in resource identification, boundary determination, or NRHP eligibility may be conducted as part of the survey effort, as determined by the agencies and consulting parties. In addition, in the event that an alternative corridor is selected as an element of the preferred route, all portions of this corridor segment not previously surveyed as part of the 15 percent sample will be subject to a complete 100 percent inventory. The inventory will be completed prior to initiation of construction activities, and findings will be presented in the Final EIS. All technical studies will comply with Section 106 of the NHPA, as well as follow applicable Idaho and Oregon SHPO standards.

2.1 File Search and Literature Review

Archaeological records searches and literature reviews were conducted for both the Oregon and Idaho portions of the Project. In Oregon, Tetra Tech initially conducted a file search and literature review at the Oregon SHPO for an area extending one mile on either side of the centerline of the proposed route and all alternatives; at the Idaho SHPO, a file search and literature review of an area 0.5 mile on either side of the centerline was conducted. This study area was later expanded through additional records searches to 2 miles on either side of the center line of the proposed route and alternatives in both Oregon and Idaho. Supplemental file searches at appropriate agency offices were also conducted to ensure that updated information from inventories and previously recorded cultural resources were considered prior to completion of field work. These offices included the Baker and Vale District Offices of the BLM, the Wallowa-Whitman National Forest, and the CTUIR THPO.

In addition to agency records, the file searches and literature reviews included examination of archaeological and historical literature of the region; General Land Office (GLO) plats and survey notes; a variety of modern and historic maps, including Oregon Trail maps provided by the National Historic Oregon Trail Interpretive Center in Baker City, Oregon; aerial photographs; and abandoned mine data from the BLM. Records were collected on all available resources, inclusive of archaeological sites and historic features and structures. Additional inventory and review of historic resources are addressed in the VAHP (Tetra Tech 2012). Examination of the data from the file searches and literature reviews indicates that 111 previously recorded sites are present within the study area. Previously recorded precontact sites are dominated by lithic scatters, but also include quarry sites, camps, cairns, and rock alignments. Historic sites include several segments of the Oregon Trail, other historic trails, stage stops, structures, and railroad grades.

An additional 143 potential historic sites were identified within the 2-mile study area from the examination of GLO plats, historic maps, etc. These locations are dominated by mining sites, but also include canals and ditches, cemeteries, trails, and wagon roads.

2.2 Archaeological Inventory Methods

As discussed above, the cultural resources inventory will be conducted in two phases. Phase 1 will consist of an intensive pedestrian inventory (BLM Class III) of the proposed corridor segments and all currently identified Project facilities, as well as a sample (BLM Class II) survey of alternative corridors. Any additional survey required to complete a 100 percent inventory of the selected route, as well as any necessary subsurface inventory or evaluation efforts, will be conducted during Phase 2. Methods to be employed during these phases are presented below. All inventory and recordation efforts, regardless of land ownership, will be conducted under the direct supervision of archaeologists who meet the Secretary of the Interior's Standards and Guidelines and appropriate state requirements.

2.2.1 Intensive Field Survey

The intensive Class III survey will focus on the Project's direct APE, identified as areas on the centerline of the right-of-way as well as proposed ancillary facilities such as substations, access roads, laydown areas, fly yards, and pulling and tensioning sites as identified in IPC's Plan of Development (POD; IPC 2011). The APE is applicable to the entire Project, regardless of land ownership. The APE is for direct project impacts to archaeological sites and other cultural resources, and may change with modifications to the Project or revisions to the APE by the consulting parties.

The APE identified for the initial Class III pedestrian inventory includes the following:

- 250 feet each side of the centerline of the Proposed Route. This area is twice the width of the final right-of-way grant that is being requested for the Project, and provides sufficient margin to allow realignment of the line as necessary.
- 50 feet on either side of the centerline of existing access and service roads. This width will allow for any minor alignment changes needed and provide adequate clearance for any new disturbance associated with road repair.
- 100 feet on either side of the centerline of new access and service roads. This width will allow margin for changes to the horizontal and vertical alignment of the road and for any cut and fill requirements.
- 200 feet beyond the boundary of the planned areas of disturbance of ancillary Project features such as staging areas, fly yards, and pulling and tensioning sites.
- 250 feet beyond the boundary of pulling/tensioning sites and borehole locations that fall outside the right-of-way.

The survey will be conducted using pedestrian transect intervals of 20 meters or less. Control will be maintained through the use of 1:24,000 scale maps and Global Positioning System units with sub-meter accuracy with the Project centerline or ancillary facility footprint programmed into the unit.

An intensive BLM Class III level inventory will be conducted of the entire survey area, as defined above. Areas with very steep slopes (in excess of 25 percent) may be excluded; however, if the file search and literature review indicate a potential for certain types of sites typically found on steep slopes (such as mines, talus pits, etc.) to occur in the area, these slopes will be examined. The examination of steep slopes will take into account the safety of the crew, and transect intervals may be increased. Areas not surveyed, or surveyed at a reduced level, will be clearly identified in the report, with the rationale behind their exclusion or reduced survey effort spelled out.

2.2.2 Sample Field Surveys

For purposes of providing a comparative analysis of the proposed and alternative routes, an archaeological inventory of a 15 percent random sample will be conducted of all route alternatives subject to study in the Draft EIS. Combined with the results of the records search, literature review, and ethnographic study, application of this approach is designed to aid in characterizing the probable density, diversity, and distribution of cultural resources along the alternative routes, particularly in areas where no previous inventories have been conducted. This information is being collected for use in the EIS analysis. Within the sample survey units, methods used are identical to those applied in a Class III intensive survey, and all pedestrian survey and site recording and reporting for a Class II survey will meet Class III standards. An intensive cultural resource inventory will be completed along the preferred route after selection and before initiation of construction. Data collected during the sample inventory will be provided to the BLM in the form of a technical report prepared in compliance with laws requiring confidentiality and will contribute to but will not replace complete inventory of the selected route.

The sampling plan developed for the Project employs random selection of sampling units. Inventory will be conducted using 1-mile-long by 500-foot-wide survey blocks. The 1-mile length is used as an arbitrary measure, while the 500-foot width corresponds to the width of the comprehensive inventory being conducted along the proposed Project corridor. Following this procedure, all completed sample units will directly contribute to completion of the comprehensive inventory, once a final route is selected.

Individual survey units will be selected based on the following sampling strategy. First, for each alternative route, 1-mile-long parcels will be designated with a unique survey unit number (e.g., sampling units along a 50-mile-long segment will be designated 1-50). A table of random numbers will then be used to select specific units for inventory within a route segment. Sufficient numbers of units will be selected to account for inventory of 15 percent of each route segment. To ensure adequate representation of each route segment, units will be selected regardless of land ownership and will likely include a mix of private, state, and federally managed lands. It is anticipated that access constraints will affect the ability to complete survey of units selected on private lands. To account for this and to ensure completion of a 15 percent sample, additional units will be selected at random and held in reserve for use in case of denied access or other access issues. Following these procedures, it is anticipated that sufficient information will be collected to allow for assessment and comparison of cultural resources by proposed and alternative route segment.

For alternatives that are being analyzed in the Draft EIS, revised maps showing sample locations will be prepared and submitted for agency review. A complete 100 percent survey of the preferred route will be completed in accordance with this inventory plan.

2.2.3 Subsurface Probing

Subsurface probing will be conducted for sites for which SHPO and THPO consultation has indicated that Phase 2 efforts are necessary to determine NRHP eligibility under Criterion D. Subsurface survey methods (e.g., shovel probes) will be employed to assist with the discovery of buried deposits, definition of archaeological site boundaries, and determinations of site eligibility, as stipulated in the PA. Site identification shovel probes may be particularly useful in forested areas containing dense undergrowth and accumulations of surface litter and duff/humus, especially within zones where there is probability for the presence of cultural materials or features. Shovel probes may also prove useful for locating sites in zones of active sediment accumulation, where recent sediment deposition (i.e., fluvial, alluvial, colluvial, or aeolian) has concealed earlier cultural deposits. Shovel probes will measure 50 by 50

centimeters square and will be used to assist in 1) the identification of cultural resources during surface survey (site discovery probes) and 2) site boundary definition (site boundary probes). Identifying site boundaries during a survey is important because a site's location relative to the proposed project is critical to assessing Project effects and developing appropriate mitigation measures. When site boundaries cannot be defined based on surface evidence alone, such as in densely wooded montane areas, subsurface probing has the potential to provide crucial data to guide Project design and resource management decisions. As specified in the PA, neither collection of artifacts nor disturbance of ground will occur during initial Class II and Class III intensive-level pedestrian cultural resources surveys. Upon issuance of the ROD, areas identified as possessing a high potential for buried cultural resources located within the direct APE will be subjected to subsurface probing to determine the presence or absence of cultural resources, where ground-disturbing activities will occur. All identification surveys will follow the methodology presented in this Archaeological Survey Plan. Indian tribes and consulting parties to this agreement will be consulted prior to commencement of any ground-disturbing or collection activity and appropriate federal and state permits will be obtained.

During initial survey efforts, Tetra Tech crews will track the location of areas of high site potential and low surface visibility where subsurface probing may be determined appropriate during a subsequent phase of archaeological investigations. These areas of high site potential will be clearly indicated on tables and maps in the resulting survey reports and will be subject to consultation with Native American tribes. High probability areas will be determined by taking into account relevant environmental variables such as slope, distance to water, locations near stream confluences, vegetation, and potential tool stone sources, as well as areas with tribal place names, which often have correlations with archaeological sites. Low surface visibility is defined as thick vegetative cover or other material preventing adequate examination of the ground surface. Maps indicating high site potential will be considered confidential and subject to laws regarding confidentiality of cultural resources.

Prior to excavation of any shovel probes, a probing plan detailing the approach to subsurface survey will be submitted to state and federal agencies for consultation and approval, and all appropriate federal and state permits will be obtained. Excavation or removal (collection) of archaeological resources from any federally managed land (e.g., BLM, USFS, or other federal agencies) necessitates an ARPA permit from the federal land manager. In Idaho, State excavation permits are required within a known site on state land in accordance with Idaho Code 67-4120; no permits are required on private lands. In Oregon, state law (Oregon Revised Statutes [ORS] 358.905-955, 390.235, Oregon Administrative Rules 051-360-080 to 090) requires that all field investigations conducted on non-federal public lands requiring ground disturbance, and all investigations of known sites on private lands, require a State of Oregon Archaeological Excavation Permit (Oregon SHPO 2007:34). Archaeological permits are required for any surface collections or subsurface field investigation that has the potential to disturb, destroy, or otherwise alter a site or sensitive area. Permits are not required for non-ground-disturbing research activities.

2.2.4 Discoveries of Human Remains

If human remains are discovered during any phase of the Project, work will cease within 200 feet of the location of the discovery and the remains will be protected. If the find is on federally administered lands in either state, the appropriate agency field official will be notified in accordance with the agency obligations under the Native American Graves Protection and Repatriation Act and other laws.

For discoveries on non-federal lands, the applicable law enforcement agency or other entity will be contacted in accordance with appropriate state statutes. In Idaho, Tetra Tech will comply

with Idaho Code §27 501–504 and notify the Idaho State Historical Society and the BLM cultural resources lead who will commence notification of the appropriate tribes, which consist of the Shoshone-Bannock Tribes of the Fort Hall Reservation, Shoshone Paiute Tribes of the Duck Valley Indian Reservation, the Confederated Tribes of the Umatilla Indian Reservation, and the Burns Paiute Tribe.

In Oregon, Tetra Tech will comply with ORS 97.745(4) and will notify the Oregon State Police, the Oregon SHPO, the Commission on Indian Services (CIS), and the BLM cultural resources lead. The BLM cultural resources lead will then commence notification of the appropriate tribes, which may consist of the Shoshone Paiute Tribes of the Duck Valley Indian Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Burns Paiute Tribe, and other tribes.

2.3 Site Documentation and Reporting

The results of the file search, literature review, and Class II and Class III inventories will be incorporated into technical reports that will be submitted to BLM to assist in NHPA and NEPA compliance. Separate stand-alone technical reports will be provided for each state; a separate report will be prepared for the USFS documenting inventory on USFS-managed lands. Reports will be prepared in accordance with BLM and USFS permit requirements and applicable SHPO guidelines for each state.

Reports will include full documentation of all archaeological and cultural sites and resources identified during inventory efforts, recorded per appropriate state requirements as described below, but within the parameters of and subject to laws requiring confidentiality:

- **Oregon.** All archaeological resources encountered will be recorded on Oregon Archaeological Site Forms or Oregon State Cultural Resource Isolate Forms (http://www.oregon.gov/OPRD/HCD/ARCH/docs/Online_Site_Form_Manual_Dec2009.pdf). Field surveys will be conducted and results reported in accordance with the *Guidelines for Conducting Field Archaeology in Oregon* (http://www.oregon.gov/OPRD/HCD/ARCH/docs/draft_field_guidelines.pdf) and State of Oregon Archaeological Reporting Guidelines (http://www.oregon.gov/OPRD/HCD/ARCH/docs/State_of_Oregon_Archaeological_Survey_and_Reporting_Standards.pdf) issued by the Oregon SHPO. Definitions of sites and isolates will be those provided in the *Guidelines for Conducting Field Archaeology in Oregon* unless permit stipulations require otherwise. For aboveground historic resources, data will be entered into the Oregon SHPO Historic database.
- **Idaho.** All archaeological resources encountered will be recorded on Archaeological Survey of Idaho Site Inventory Forms. Treatment of historic buildings, structures, and facilities, as discussed in a separate inventory plan addressing aboveground resources, will be recorded on Idaho Historic Sites Inventory Forms (both forms available at <http://history.idaho.gov/shpo.html>). Field inventories will be conducted and results will be reported in accordance with *Guidelines for Documenting Archaeological and Historical Inventories* (<http://www.history.idaho.gov/sites/default/files/uploads/SurveyGuidelines.4.5.2012.pdf>).

If survey is conducted on tribal lands of the Confederated Tribes of the Umatilla Indian Reservation, additional forms required by, and provided by, the THPO will also be completed.

3.0 DEFINITIONS

Area of Potential Effects (APE) means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (see 36 CFR 800.16[d]). The APE includes all lands regardless of ownership in the survey area, as well as any associated area of potential impact associated with ancillary facilities. The effects may be direct, indirect, or cumulative.

Class I Inventory (Record Search and Literature Review) is a compilation of all reasonably available cultural resources data and literature and a management-focused, interpretive narrative overview and synthesis of the data. Existing cultural resource data are obtained from published and unpublished documents, BLM cultural resource inventory records, institutional site files, state and national registers, and other information sources.

Class II Inventory (Probabilistic Field Survey) is a sample survey designed to aid in characterizing the probable density, diversity, and distribution of cultural resources in an area. Within sample units, methods used are the same as those applied in Class III intensive survey. While Class II surveys are generally not appropriate for determining specific effects of a proposed land use, they are useful when comparing alternative locations for proposed undertakings (per BLM Manual 8110).

Class III Inventory (Intensive Field Inventory), also referred to as survey, is a professionally conducted, thorough pedestrian inventory of an entire target area (except for any subareas exempted), intended to locate and record all cultural resources. It describes the distribution of properties in an area; determines the number, location, and condition of properties; determines the types of properties actually present within the area; permits classification of individual properties; and records the physical extent of specific properties. It is conducted in accordance with standards in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 *Federal Register* 44716, September 29, 1983) per BLM Manual 8110.

Consultation refers to the general process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process. The Secretary's "Standards and Guidelines for Federal Agency Preservation Programs pursuant to the National Historic Preservation Act" provides further guidance on consultation (36 CFR 800.16 [f]). See also the ACHP (2008) *Consultations with Indian Tribes in the Section 106 Review Process: A Handbook*.

Cultural Resources include archaeological, historical, or architectural sites, structures, or places that may exhibit human activity or occupation, or may be sites of religious or cultural significance to tribes. Cultural resources include, but are not limited to, archaeological sites, cultural landscapes, natural resources and landforms, grave sites, buildings, and structures. The term "cultural resources" encompasses properties of traditional religious significance that may or may not be eligible for listing in the NRHP but are of critical significance for tribes. The current plan is designed primarily to address the identification of archaeological resources.

Effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP (36 CFR 800.16[i]).

Historic property refers to a district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes

properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR 800.16[1][1]).

Programmatic Agreement (PA) refers to a legally binding document that memorializes the terms and conditions agreed upon to fulfill the lead federal agency's compliance with Section 106 of the National Historic Preservation Act, in accordance with 36 CFR 800.14(b) and 36 CFR 800.16(t). Programmatic Agreements are undertaken as alternatives to Section 106 procedures, and are often used when effects on historic properties are similar and repetitive; are multi-state or regional in scope; when effects cannot be fully determined prior to approval of an undertaking; or when non-federal parties are delegated major decision making responsibilities.

Proposed Route is the route proposed by IPC in the November 2011 POD. This route is subject to change with new data, but will not be inventoried until the POD is officially changed.

State Historic Preservation Officer (SHPO) means the official appointed or designated pursuant to Section 101(b)(1) of the NHPA to administer the State historic preservation program or a representative designated to act for the State historic preservation officer (36 CFR 800.16[v]).

Study Area is the area subject to a complete record search and literature review for the purpose of compiling information on previously recorded cultural resources and previous cultural resource surveys. The study area measures 2 miles on either side of the centerline, for a total study area corridor width of 4 miles.

Survey Area is the area that will be examined on foot by archaeologists to determine the presence or absence of archaeological resources. For purposes of the current document, this term is synonymous with the APE.

Traditional Cultural Properties (TCPs) are a class of National Register-eligible properties that possess association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. (See *National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties*).

Tribal Historic Preservation Officer refers to the tribal official appointed by the tribe's chief governing authority or designated by a tribal ordinance or preservation program who has assumed the responsibilities of the SHPO for the purposes of Section 106 compliance on tribal lands in accordance with section 101(d)(2) of the NHPA and 36 CFR 800.2.

Undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval (36 CFR 800.16[y]).

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Boardman to Hemingway Transmission Line Project

Visual Assessment of Historic Properties Study Plan

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Appendix A Visual Assessment of Historic Properties Form

ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ASC	Application for Site Certificate
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
CFR	Code of Federal Regulations
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
EFSC	Energy Facility Siting Council
EIS	Environmental Impact Statement
GIS	geographic information system
GLO	General Land Office
GPS	global positioning system
IHSI	Idaho Historic Sites Inventory
ILS	Intensive Level Survey
IPC	Idaho Power Company
KOP	key observation point
kV	kilovolt
MET	Mapping Emigrant Trails
NEPA	<i>National Environmental Policy Act of 1969</i>
NHPA	<i>National Historic Preservation Act of 1966</i>
NHT	national historic trail
NPS	National Park Service
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rules
OCTA	Oregon–California Trails Association
ODOE	Oregon Department of Energy
OHSD	Oregon Historic Sites Database
PA	Programmatic Agreement
Project	Boardman to Hemingway Transmission Line Project
RLS	Reconnaissance Level Survey
ROW	right-of-way
SHPO	State Historic Preservation Office
THPO	Tribal Historic Preservation Office
USC	United States Code
USFS	United States Forest Service
VAHP	Visual Assessment of Historic Properties
VCR	visual contrast rating

1.0 INTRODUCTION

1.1 Project Summary

Idaho Power Company (IPC) proposes to construct, operate, and maintain the Boardman to Hemingway Transmission Line Project (Project), a 305 mile-long, single-circuit 500-kilovolt (kV) overhead electric transmission line and related facilities. The Project will begin at the proposed Grassland Substation near Boardman, Oregon, and terminate at the existing Hemingway Substation near Melba, Idaho (Figure 1-1). In addition, 5.3 miles of 138-kV and 69-kV transmission lines will be relocated and/or rebuilt. IPC's proposed Project provides additional capacity connecting the Pacific Northwest and Intermountain regions of southwestern Idaho to alleviate existing transmission constraints and ensure sufficient capacity to meet present and forecasted load requirements. The proposed Project route crosses federal, state, and private lands.

IPC has applied to the United States Bureau of Land Management (BLM) for a right-of-way (ROW) grant and to the United States Forest Service (USFS) for a special-use permit for the use of public lands along portions of the Project. These entities are or will be conducting an independent environmental review of the proposed Project as part of their respective evaluations of the IPC applications for Project permits. The BLM and USFS will be preparing a joint Environmental Impact Statement (EIS) under the National Environmental Policy Act of 1969 (NEPA) to document the environmental review of the Project. In addition, the Bonneville Power Administration (BPA) will be providing some of the funding for the Project. The Project is also subject to Section 106 of the National Historic Preservation Act (NHPA) (16 United States Code [USC] 470) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800).

IPC will submit an Application for Site Certificate (ASC) for the Project to the Oregon Department of Energy (ODOE) through the state's Energy Facility Siting Council (EFSC). To receive a Site Certificate, the Project must satisfy the regulatory requirements contained in the Oregon Administrative Rules (OAR) 345-021-0010(s) [Contents of An Application, Exhibit S] and OAR 345-022-0090 [General Standards for Siting Facilities: Historic, Cultural and Archaeological].

IPC and its environmental consultant, Tetra Tech, are assisting the BLM and USFS and the cooperating federal and state agencies and tribes in meeting NEPA, NHPA, and EFSC requirements. Tetra Tech, on behalf of IPC, retained URS Corporation to conduct a Visual Effects on Historic Properties study according to the methods and standards required by Section 106 of the NHPA, the BLM, the BPA, the USFS, the Oregon and Idaho State Historic Preservation Offices (SHPOs), as well the Tribal Historic Preservation Officer (THPO) of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Tetra Tech may elect to engage other firms as necessary to complete this work.

The federal government, the State of Oregon, and other affected government agencies all require the proposed Project be adequately analyzed to determine environmental effects associated with the Project's implementation, including effects to historic properties and their visual settings.

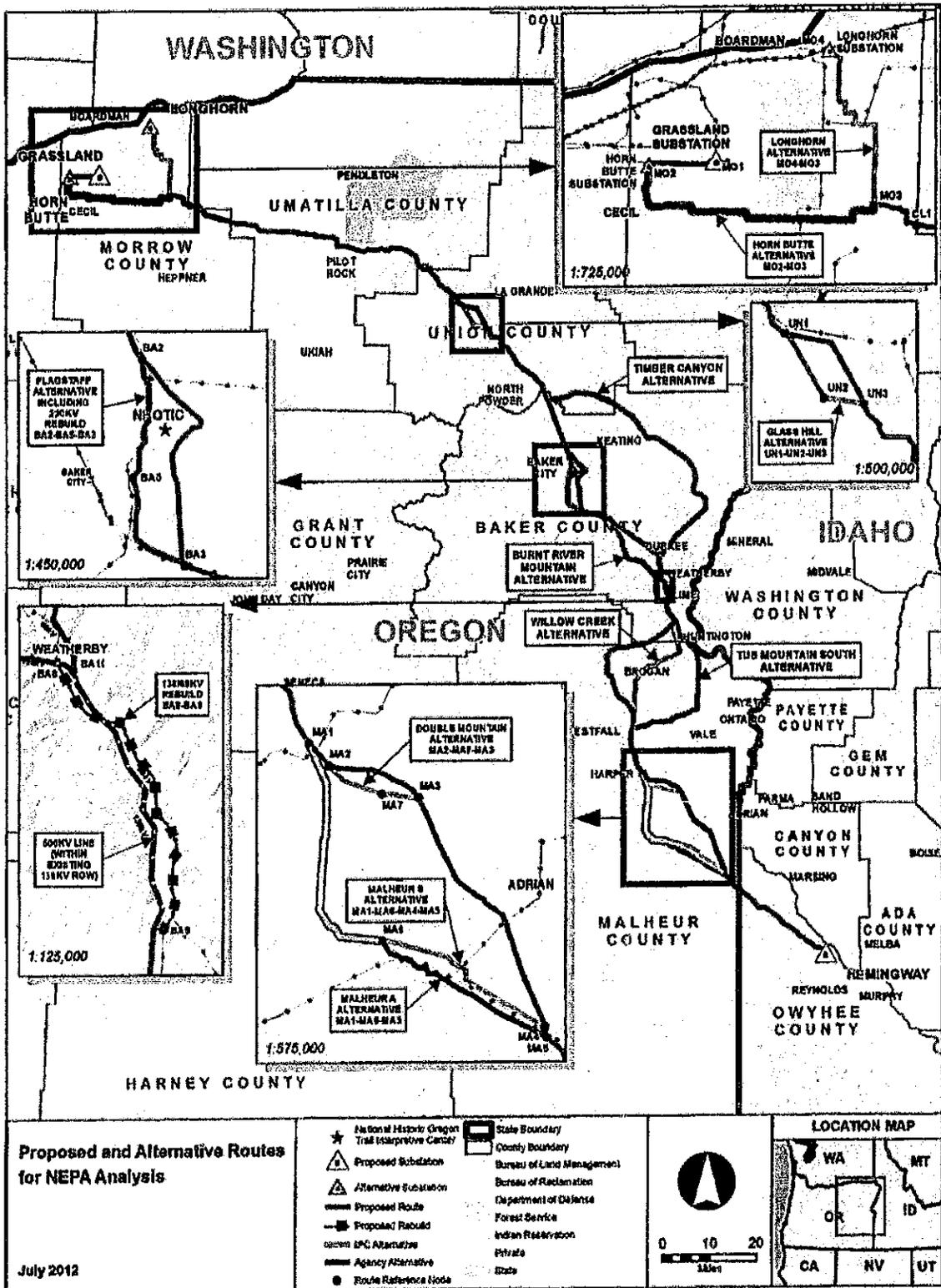


Figure 1-1. Proposed and Alternative Routes

The Project, including road construction (i.e., new roads in addition to widening and improving existing roads), staging areas, substations, and the installation of large overhead transmission towers and conductors, may directly or indirectly affect built environment historic properties (e.g., ranches, homesteads, or mines). The Project may also directly or indirectly affect National Historic Trails (NHT), NHT variants from the original trail, other historic trails, and associated resources (e.g., stage stations and/or grave sites). Many of the routes manifest the westward emigration that dominated the mid-nineteenth century, while other historic routes document the evolution of trails and variants to other forms of transportation, including wagon and automobile roads, from the late nineteenth through mid-twentieth centuries. While some historic trails have been recognized as a part of the National Historic Trail program by the National Park Service (NPS), other historic trails affected by the Project may also be classified as historic properties under the NRHP criteria. Trail segments that lack integrity will be considered non-contributing elements to the trail, and will not be subject to further study.

The Project may also directly or indirectly affect prehistoric sites eligible under criteria other than D only, as well as Traditional Cultural Properties (TCP) and properties of religious and cultural significance to tribes. Eligibility, effect, and treatment of these types of properties will be addressed through consultation between the BLM and the appropriate tribe or interested party.

1.2 Study Purpose

The purpose of this Visual Assessment of Historic Properties (VAHP) Study Plan is to outline the methods proposed to:

- 1) conduct a reconnaissance and intensive level inventory of the Area of Potential Effects (APE) of above ground resources inclusive of the proposed route and alternatives being evaluated for NEPA and EFSC;
- 2) identify NHTs, NHT variants from the original trail, other historic trails¹ and associated resources (e.g., stage stations and/or graves sites), other historic transportation related sites and features, TCPs, properties of religious and cultural significance to tribes, historic structures, canals and ditches, home- and ranchsteads, and historic structures;
- 3) evaluate the historic resources by applying the National Register of Historic Places Criteria for Evaluation;
- 4) conduct a visual assessment of historic properties, in addition to historic trails, identified during the resource inventory, and analyze potential Project effects.

The preliminary results of the study will be distributed to the BLM, BPA, USFS, tribes, and other consulting parties for consultation on eligibility and effect. The final results of this study will be documented as a report submitted to the BLM and USFS to assist in the preparation of the NEPA EIS and Section 106 of the NHPA compliance documents. The report will also be filed as a part of Exhibit S of the ASC to satisfy the regulatory requirements of the ODOE.

Recommendations from this study will contribute to the development of the Historic Properties Management Plan (HPMP). This Plan is being developed pursuant to the Section 106 Programmatic Agreement (PA) for the Project which will include measures to avoid, minimize, or resolve adverse effects to historic properties identified and evaluated in the VAHP study.

¹ "Other historic trails" may include trails that are designated at the state level and that are administered by the Oregon Historic Trails Advisory Council (OHTAC).

The VAHP study is part of a series of studies to consider the Project's impacts to various types of historic properties and/or visual resources that may also have cultural values, recreational values, and archaeological and historical significance. The study, therefore, is designed to be coordinated with, and complementary to these other studies including:

- Literature Review
- Visual Resources Assessment Study
- Archaeological Survey Plan
- Ethnographic Studies

It should be noted that this study does not identify or evaluate archaeological sites, but will identify those previously recorded sites (either by this project or during previous investigations) that have the potential to be visually affected by the Project and that are eligible under National Register criteria other than or in addition to Criterion D. These resources include, but are not limited to rock cairns, petroglyphs, stone circles, and other historic properties of religious and cultural significance. Due to the sensitive nature of these sites, it is anticipated that the BLM and USFS will undertake tribal consultation to identify and evaluate these resources, and assess potential impacts to these resources.

2.0 REGULATORY BACKGROUND

2.1 State Requirements

It is anticipated that IPC will submit an ASC for the Project to the Oregon Department of Energy (ODOE) through the state's EFSC. To receive a Site Certificate, the Project must satisfy the regulatory requirements contained in OAR 345-021-0010(s) [Contents of An Application, Exhibit S] and OAR 345-022-0090 [General Standards for Siting Facilities: Historic, Cultural and Archaeological]. EFSC relies on the Oregon SHPO as the state reviewing agency to assist EFSC with determining whether standards under OAR 345-022-0090 are met. The Project could affect historic, cultural and archaeological resources within the Project area; therefore, the Project's EIS and the EFSC ASC must include an assessment of the potential impacts.

It is also anticipated that the state and federal regulatory processes will be coordinated between the applicable federal and state agencies. The BLM and USFS are developing a PA with the Oregon and Idaho SHPOs, CTUIR THPO, BPA, the Advisory Council on Historic Preservation (ACHP) in addition to other consulting parties to allow the Project to move forward under the NEPA and NHPA processes. ODOE-EFSC is also an invited signatory to this agreement.

2.2 Federal Requirements

The BLM is the designated lead federal agency for the Project under NEPA and for compliance with Section 106 of the NHPA and will coordinate the preparation of an EIS for the Project. Tetra Tech will prepare a VAHP report for the BLM that will analyze the potential for the project to impact historic properties and NHTs and to provide supporting documentation to comply with NEPA, Section 106 of the NHPA, and Oregon EFSC.

The Section 106 process stipulates that the responsible lead federal agency, in this case the BLM, establishes the undertaking (permitting of the Project), identifies consulting parties, identifies historic properties, and assesses Project effects on those historic properties. Section 106 requires the BLM to consider the effect the Project might have on historic properties before approving the Project and granting a ROW or special-use permit. Historic properties are defined at 36 CFR 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object

included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior." The BLM develops appropriate measures to resolve adverse effects to those historic properties in consultation with the Oregon and Idaho SHPOs, CTUIR THPO, the ACHP, the BPA, the USFS, American Indian tribes, IPC, and other consulting parties. When completed, the NHPA process will provide mitigation measures applicable to the route and associated facilities, such as access roads and staging areas. A PA is currently in preparation. Once the PA is signed by the applicable signatory parties, the Section 106 process, with the stipulated consultation requirements, resource identification efforts, and any mitigation measures contained or anticipated in the agreement, would be implemented.

In accordance with the National Trails System Act of 1968 (Public Law 90-543, as amended 2009), the BLM and NPS have developed management plans to identify and protect the NHTs and associated sites and resources (BLM 1986a; NPS 1998). It is the responsibility of the BLM to protect and interpret trail resources under its jurisdiction (BLM 1986a). Implementing these responsibilities includes, but is not limited to, regular monitoring of the resource, keeping the NPS informed, defining boundaries, erecting and maintaining trail markers, providing and maintaining facilities, issuing and enforcing regulations, maintaining the scenic/historic integrity, avoiding the destruction of segments, and mitigating unavoidable effects (BLM 1986a).

2.2.1 Criteria for Evaluating Historic Properties

In order to be eligible for or listed in the NRHP, a resource must maintain integrity and be judged significant under one or more of the four National Register Criteria. More specifically, and as noted in 36 CFR 60.4, the resource must

- 1) possess integrity of location, design, setting, materials, workmanship, feeling, and association; and
- 2) possess at least one of the following National Register Criteria which includes:
 - A) an association with events that have made a significant contribution to the broad patterns of our history; or
 - B) an association with the lives of persons significant in our past; or
 - C) embodying the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
 - D) that have yielded or may be likely to yield, information important in history or prehistory.

Additional criteria considerations may also apply in special instances to properties that have been moved, religious properties, cemeteries, individual graves or birthplaces, reconstructed or commemorative properties, and properties that have achieved significance within the past 50 years. Due to the Project's extended construction timeframes all previously recorded resources that are 50 years old, or will have achieved 50 years of age at the time of the completion of the construction, will be assessed for their eligibility to the NRHP.

All resources may be eligible under any one or more of these criteria. For example, a historic building that has sufficient integrity to convey its historic associations may be eligible under Criterion B for its association with a significant person and Criterion C as an excellent example of a particular style of architecture. Guidelines for applying the criteria are provided in *How to Apply the National Register Criteria for Evaluation, Bulletin 15* (NPS 1997a) and *Guidelines for Evaluating and Registering Archeological Properties, National Register Bulletin 36* (NPS 2000).

During implementation of the VAHP study, archaeological resources, commonly determined eligible solely under Criterion D for their data potential, will not be evaluated.

2.2.2 Assessing Project Effects

For those properties that are determined as eligible, federal agencies are required to apply the "criteria of adverse effect" to determine whether the project will affect historic properties (36 CFR 800.5). Adverse effects are found when an undertaking alters, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects that are caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5(1)).

This Project differs from some other types of projects as it introduces conspicuous features (e.g. transmission line towers) on the landscape that can indirectly affect certain elements of a historic property's integrity such as setting, feeling, and association. This study plan provides the methodology by which these indirect effects to historic properties will be analyzed.

3.0 HISTORIC CONTEXT

This chapter provides a brief overview to an approach for developing the applicable historic contexts for the Project APEs. A historic context typically consists of prevailing historic themes and chronological periods of development within a given geographic area to assist in understanding cultural resources within the APEs (see section 4.1) of the Proposed Project and Alternatives. When the VAHP Study is prepared, the historic context will use the identified historic resources in addition to published ethnographic data, historic documents, previously recorded oral histories, and secondary sources to develop a more complete history of the resources within the Project APEs.

In order to assess the significance of a historic property and formally evaluate it for listing in the NRHP, a historic context must first be established to demonstrate how a particular resource relates to a local or regional history. The historic context will focus on American Indian and European American land use within the vicinity of the Project APEs. Although the majority of built environment resources are likely to date to the twentieth century, a few mid to late-nineteenth century resources, such as farms and ranches, the Oregon Trail, and the route of the forced march of the Shoshone-Paiute Tribes to Fort Simcoe, do exist within the APEs. The historic context reaches farther back than the dates of anticipated resources to provide information on trends and themes that influenced development patterns found today. It should be noted that this research, for the purposes of the study plan, will be organized by geographic area and then topically subdivided into chronological period and then historical theme consistent with the NPS approach to historic contexts (NPS 1997a; NPS 1997b).

3.1 Anticipated Historic Properties

3.1.1 Historic Period Themes, Ethnohistoric Occupation, and Associated Resource Types

From the period of early historic contact through the 1960s, the landscape in the vicinity of the Project has been shaped by a number of broad historic themes. These themes include, but are not limited to; American Indian land use, early historic contact between American Indian tribes and Euro-American settlers, the fur trade, tribal and Euro-American relations, trails and

transportation, community growth and town building, rural electrification, railroads and highways, mining, agriculture and timber, homesteading, ranching, and irrigation.

In addition to these broad historic themes, the Project crosses an area that is layered with a number of cultural and ethnic patterns of occupation. The Project, for instance, crosses the aboriginal and ethnohistoric ranges of the Northern Palute, Bannock, Nez Perce, Cayuse, Umatilla, Shoshone, and Walla Walla people. Also, the Project occurs in an area that retains important cultural associations with Basque, Chinese, and Latino settlers and workers. All of these groups, in addition to Euro-American settlers, have shaped the historic landscape and will be discussed in the historic context.

Resources constructed during the nineteenth and twentieth centuries and associated with the aforementioned themes are listed in Table 3-1. This table is *not inclusive* of all resources that may be encountered during the survey but provide preliminary indication of resource types in the Project APEs.

Table 3-1. Historic Themes and Anticipated Resource Types

Theme	Resource Category	Resource Type
Agriculture: Ranching, Farming, and Forest Management	Homesteads and Ranches, (Agricultural Uses)	Barns, granaries, poultry houses, root cellars, cool houses, stock sheds, water towers, smokehouses, chicken coops, irrigation networks and canals, historic rock alignments/sheep fences, cisterns, wells, corrals, dendroglyphs, cairns, stock driveways, and line shacks.
	Homesteads and Ranches (Domestic Uses)	Residences (Rural Gothic, Queen Anne, Colonial Revival, Bungalow, English Cottage, Craftsman, vernacular), migrant houses and camps, sheepherder cabins
	Forest Management	Ranger's Station/Cabins, Warehouses, Recreational Cabins, bunkhouses, Civilian Conservation Corps (CCC) era resources, fire lookouts, and communication sites
Trails and Transportation	Road Networks	culverts, bridges, viaducts, retaining walls, road cuts, right-of-ways, CCC-era buildings and features, road projects, and diversion canals.
	Trail Networks	Trails, stagecoach stations
	Railroads	Culverts, bridges, viaducts, embankments, railbeds, stations, and construction camps
	Aviation	Airports--runways, taxiways, hangars, control towers, warm up pads. Airways--beacons, radio ranges
Industry and Commerce	Mining	Adits, ditches, open pits, headframes, tailings, assay, generator house, power plant, rock cairns, tailings, mills, and camps
	Manufacturing	Concrete plant, hydroelectric plant, electrical transmission/distribution lines
	Commercial hubs	Stores, warehouses, hotels, stables, gas stations
	Timber	Sawmills, water impoundments, log flumes, camps, and springboard stumps

Theme	Resource Category	Resource Type
Ethnohistoric Resources	Assorted	TCPs, cambium peeled trees, Basque/Greek sheepherder cabins and camps, dendroglyphs, tribal allotment homesteads, Chinese sites, work camps
Theme	Resource Category	Resource Type
Settlement and Community	Cities, towns and crossroads communities	Houses, residential subdivision, grid plan town, schools, courthouse, jail, churches, office buildings
Prehistoric Resources	Assorted	Petroglyphs, rock circles, cairns, prehistoric trails

3.1.2 Multi-Component Resources with Important Visual Contexts

It is anticipated that some historic properties that have been previously recorded as archaeological resources may maintain characteristics that also make them eligible under National Register Criteria A, B, and/or C. With many of these properties containing multiple occupations or uses through time, historic contexts will play a critical role in identifying and assessing the importance of each component.

It is also anticipated that these resources may have visual settings that contribute to their overall significance. Resources such as rock cairns, rock circles, and petroglyphs, for instance, often occur in areas where their physical context or setting is an important character-defining feature. The historic (or prehistoric) context surrounding these resources, however, is often known only to Tribes with associations to the area. Tribal consultation by the BLM and other federal agencies for this project will play a role in developing a better understanding of the contexts (physical, cultural, and historical) behind these resources. Ethnographic and traditional use studies conducted by/for the applicable tribes would also assist in developing the context for these resources.

4.0 METHODS

4.1 Area of Potential Effects and Project Setting

In consultation with the other agencies and consulting parties and through the PA, the BLM has established an APE for indirect visual effects as five miles or to the visual horizon, whichever is closer, on either side of the centerline of the proposed alignment and alternative routes. In rare instances, the indirect visual effects APE may extend beyond the five-mile convention to encompass properties that have visually sensitive resources. For the purposes of this Project, indirect effects include, but are not limited to, effects that change the characteristics that make the property eligible for inclusion in the National Register, as well as the introduction of visual, atmospheric, or audible elements that alter any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the property's integrity. This study is, however, specifically directed towards visual effects. Other indirect effects outside of visual will be analyzed through the Project's Draft Environmental Impact Statement or evaluated through Section 106 consultation. Those aspects of integrity that are most likely to be indirectly affected by visual effects include setting, feeling, and association. The Project's potential to contribute to cumulative effects will also be analyzed consistent with 36 CFR 800.5(1). In several areas, for instance, the Project will be placed immediately beside existing transmission lines and may affect historic properties in a cumulative manner. The instances in which this occurs are listed in Table 4-1.

Table 4-1. Existing Transmission Line Corridors Within the APEs

Route/Alternative Name	Approximate MP Range	County	Existing Transmission Line Voltage
Proposed Route	0-6.5	Morrow County	500kV
Proposed Route	96.4-98.9	Union County	230kV
Proposed Route	103.0-111.6	Union County	230kV
Proposed Route	124.0-125.8	Union County	230kV
Proposed Route	128.0-150.0	Union County/Baker County	230kV
Flagstaff Alternative (and 230kV Rebuild)	0-5.0	Baker County	230kV
Flagstaff Alternative	7.5-11.0	Baker County	230kV
Flagstaff Alternative	11.0-14.4	Baker County	138kV
Proposed Route	162.2-164.9	Baker County	69kV/138kV Corridor
Proposed Route	164.9-167.5	Baker County	138kV
Proposed Route	170.0-173.7	Baker County	138kV
Proposed Route and DC Rebuild	187.0-191.1	Baker County	69kV/138kV Corridor
Proposed Route	191.1-197.0	Baker County	138kV
Malheur A Alternative	20.0-33.2	Malheur County	500kV
Malheur S Alternative	25.9-33.6	Malheur County	500kV
Proposed Route	271.6-280.0	Malheur County/Owyhee County	500kV
Proposed Route	283.0-299.7	Owyhee County	500kV

The APE for indirect effects includes approximately 3,400 square miles located in Umatilla, Union, Baker, Morrow, and Malheur Counties of Oregon and Owyhee County in Idaho. The APE consists of terrain with varying degrees of visibility, vegetation density, and accessibility and contains large parcels of private, state, tribal, and federal land. Some of the Proposed Corridor is collocated with existing transmission lines and near the major transportation corridor of Interstate 84. It will also cross near the National Historic Oregon Trail Interpretive Center. The APE is relatively undeveloped and there are few population centers. Communities within or near the indirect APE include Adrian, Boardman, Pilot Rock, La Grande, North Powder, Baker City, Vale, Willowcreek, Brogan, and Ontario, Oregon as well as Marsing, Idaho. While none of the Project's proposed or alternative routes go through the Umatilla Indian Reservation (UIR), the Project's indirect APE will include portions of the UIR. In addition to being consulted on resources of importance to the tribe off the reservation, the CTUIR THPO will be consulted on any resources identified on the Reservation that have the potential to be indirectly affected by the Project. A permit will be secured from the tribe to access to the Reservation.

Geographic Information System (GIS) "bare earth" modeling will be used to assess areas that will not be visually affected by Project elements. This modeling consists of establishing Project heights and using ground elevation data to determine whether an area would have views of the Project or whether intervening landforms would block views. This analysis will be completed as part of the visual resources analysis prepared for the overall Project. These areas will be mapped and used during the field survey to verify that resources situated within these zones would not be visually affected by the Project.

Other mapping overlays will be used from the Visual Resources Assessment to identify areas that have been previously inventoried for visual/aesthetic qualities. Particular attention will be

paid to places that included visible cultural resources (historic barns, hay derricks, fence lines, canals, etc.) that complement the scenic quality of that particular area. These mapping overlays will assist field crews to better anticipate and assess the integrity of a resource's setting and ensure consistency between the visual and historic property studies.

4.2 Pre-Field Research Methods

A literature review was conducted for this Project to identify potential historic properties within the Project direct APE. Consistent with BLM Manual 8110 (BLM 2004) and 36 CFR 800.4(2), a literature review consists of a reasonable compilation of existing information assembled from a review of previously recorded historic resources and any associated studies. For this Project, information was retrieved from the Oregon Historic Sites Database (OHSD), Oregon SHPO archaeological records, Idaho Historic Sites Inventory (IHSI), Archaeological Survey of Idaho (ASI), BLM and USFS site files (including the Oregon Heritage Information Management System), CTUIR site database, and available historical and ethnographic literature. The study area for the literature review was two miles wide on either side of the centerline of the proposed and alternative routes. This APE was established to aid route-siting efforts, to accommodate shifts in the proposed route, and to cover areas where access roads, substations, and other construction or operation facilities may occur outside the 500-foot-wide intensive survey corridor (direct effect APE).

Due to the scale of the Project and the relatively rural setting for much of the corridor, the identification efforts for the indirect visual APE, which is out to five miles on either side of the Project centerline, will consist of a reconnaissance level survey (RLS) (known in Oregon as a selective RLS) and an intensive level survey (ILS) of resources that:

- have been previously identified through historic resource investigations and that appear in the OHSD, IHSI, or ASI;
- are listed on the NRHP;
- are participants in the Oregon and Idaho Century Farms and Ranches Program;
- appear in State and local registers and landmarks lists;
- are considered by the county as a Statewide Planning Goal 5 Resource (Oregon only);
- have been identified by federal or state agencies;
- have been identified by consulting parties, tribes, local historical societies or private individuals as potentially important historical resources that warrant identification and evaluation;
- are on General Land Office (GLO) plat maps or Ogle and Metsker maps dating to before 1965; and
- Current published and unpublished literature, emigrant diaries, journals, letters, newspaper accounts, Army topographical engineer maps describing trails, older USGS topographic maps and folios, published trail descriptions, chronologies, cultural and historical contexts, ethnographic reports, and information provided by the BLM, USFS, local counties, and National Park Service (NPS) National Trails Office (e.g., historic survey records, maps, etc.).

Research on NHTs and associated resources, such as camps sites, glyphs, and graves, will begin with a review of GLO maps to identify additional trails and establish a record of the historic route of each trail (BLM 2011a). The site records for each resource will also be reviewed to determine the extent of the resource, recording history, and current NRHP status. A summary

of this information, spatially organized west to east, will be included in the overview sections for each trail resource in the Project APEs.

A variety of digital data sources will be used to spatially assemble the network of trails within the Project APEs. These data sources include NPS and BLM shapefiles, as well as digitized trail information from the Idaho Chapter of the Oregon-California Trails Association (OCTA) (Eichhorst 2010) and the Northwest Chapter of OCTA, in addition to trail resources identified in *Emigrant Trails of Southern Idaho* (Hutchison and Jones 1993), and from *Powerful Rocky: The Blue Mountains and the Oregon Trail* (Evans 1991). The Oregon Historic Trails Advisory Council (OHTAC) would also be consulted to identify potential historic trail locations in Oregon. Collectively, these data sources will be used to produce a list of legal locations (township, range, and quarter-quarter section) for each trail resource, inclusive of primary routes, alternates, and cut-offs. The pre-field research combined with the digital data effort will assist with cross referencing historic accounts, mapping, and documentary evidence of historic trail(s) locations.

4.3 Standards for Conducting Fieldwork

The field methods to be employed for the VAHP will be consistent with the Secretary of the Interior's *Standards for Archaeology and Historic Preservation* (NPS 1983, as amended) in addition to the *Oregon SHPO Guidelines for Historic Resource Surveys in Oregon* (OPRD2011), *How to Apply the National Register Criteria for Evaluation* (NPS 1997a), *How to Complete the National Register Registration Form* (NPS 1997b), *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (NPS 1999), *Guidelines for Local Surveys: A Basis for Preservation Planning* (NPS 1985), and other applicable state and federal standards, guidelines, and white papers that may be consulted as field efforts proceed. These documents may include, but not be limited to *Guidelines for Historic Resources Surveys in Oregon* (OPRD 2011) and Idaho's *Architectural and Historic Sites Survey and Inventory or Guidelines for Documenting Archaeological and Historical Inventories*, as appropriate (ISHPO 2011). The level of effort for fieldwork to identify historic properties will be consistent with 36 CFR 800.4(b)(1) as well as "Meeting the "Reasonable and Good Faith" Identification Standard in Section 106 Review" (ACHP 2011). In addition to taking into account the previously discussed background research and consultation, the field survey methodology also considers the magnitude and nature of the Project and the nature and extent of potential Project effects on historic properties. An architectural historian and/or an archaeologist (as appropriate) that meets the Secretary of Interior's Standards and Guidelines (36 CFR 61) will supervise each crew (each crew will have two staff members) that conducts the field survey. Field staff will have an established familiarity with the OHSD as well as the IHSI, methodologies explained in the most recent survey guidance published by the Oregon and Idaho SHPOs, as well as the methods explained in this Study Plan. Field crew members will have experience in history, architectural history, archaeology, and/or the role of landscape in the significance of historic resources. Having multi-disciplinary field teams will be particularly beneficial when assessing the integrity of a multi-component resource's setting and how setting contributes to the significance of that resource.

4.4 Field Survey Methods

4.4.1 Reconnaissance Level Survey (RLS)

A RLS is designed to be a "first look" at a broad group of historic resources and records basic information. Fieldwork for the RLS will be conducted by teams of two field crew members, who will drive publicly accessible rights-of-way and record resources in a systematic manner. For those resources inventoried in the APEs, specific information will be collected, at least two or

more photographs taken, and each resource noted on a field map with latitude, longitude, and UTM coordinates recorded. The information collected in the field will include the address, historic name, original use (when readily evident), preliminary eligibility recommendations, construction date, materials, style, plan type, and number of contributing and non-contributing resources, and any additional location information, as well as comments that make note of any loss of historic integrity. Data collected in the field will be entered into the appropriate OHSD, IHSI, or ASI forms. While there are some differences in the types of data needed to complete respective data entry into the OHSD, IHSI, or ASI forms, field crews will ensure that the appropriate information is collected in the field and entered into the appropriate database. The data collected and entered into the database will be consistent with the respective state's requirements for conducting built environment and archaeological surveys.

For a resource identified during the RLS that retains integrity (including integrity of the setting), is 45 years old or older², may be eligible under any of the NRHP criteria for evaluation, and that has the potential to be indirectly affected by the Project, the resource³ will be subject to additional analysis so that NRHP eligibility can be ascertained during the ILS. Prior to the finalization of the RLS, the preliminary results of the survey will be shared with the BLM, BPA, USFS, appropriate SHPOs/THPO, and consulting parties as an interim summary report so that the relative effectiveness of the methodologies can be gauged and adjusted.

4.4.2 Intensive Level Survey (ILS)

The ILS is a detailed look at each individual resource, and records in-depth information collected from a physical examination of the resource and includes research about the resource's property and ownership history. It identifies the resource's potential eligibility for the NRHP, either individually or as a contributing resource to a historic or archaeological district. Field crews conducting the ILS will record information about each resource that is consistent with the survey guidelines of Oregon and Idaho. This will include sufficient photographs to record the characteristics that potentially make the resource eligible for the NRHP. A site plan that records the physical layout of the property and its relationship to the Project also will be prepared.

To complement this more intensive field recordation, additional research will be undertaken to better understand the resource's history. This will include SHPO/USFS/BLM files, historic maps (such as GLO, Metsker's, and Sanborn Fire Insurance maps), newspapers, and other applicable resources such as census records, genealogical records, biographical encyclopedias, city directories, oral histories, family histories, or tribal consultation. The ILS also will contain a list of literature cited that will include any primary and secondary sources consulted for the specific history of the resource as well as the resource's historic context. After taking into account the overall integrity and historical significance of the resource, a final recommendation concerning a resource's eligibility for the NRHP will be made. This information will be entered into the OHSD or onto IHSI.

Once the ILS is completed, an interim summary report with recommendations concerning the eligibility of resources for the NRHP will be forwarded to the BLM, SHPOs/THPO, and consulting parties for review. The SHPOs/THPO would then review the findings and either

² The 45 year criterion was chosen to take into account the effects that could be present during the full Project construction period.

³ It should be noted that the RLS and ILS will be coordinated with the archaeological investigations to ensure that multi-component resources (see Section 3.1.2) are correctly identified and evaluated.

concur or not concur with the BLM's determinations of eligibility. Resources determined to be eligible for the NRHP would then be subject to an assessment of Project effects. If an adverse effect to a specific property is found, then mitigation or other treatment will be completed under the terms of the Project Programmatic Agreement and associated Historic Properties Management Plan.

4.4.3 National Historic Trails and Associated Resources Survey

Historic trail segments within the APEs of the proposed route and alternatives will be identified and recorded during the RLS and ILS for the Project. A table will be created for each resource that includes the crossing location, a photo of the trail, the trail condition including the integrity of the setting, and the NRHP status. Each field crew will be equipped with a Trimble® GeoXH global positioning system (GPS) unit. These GPS units will be loaded with digital maps, allowing field crews to navigate to the proposed route and alternative centerlines and record the trail segment.

When potential trail locations and/or actual trails have been identified, the crew will define the class of trail consistent with the standards and examine the condition of the trail consistent with the OCTA classification and examine the setting and condition of the trail (see Table 4-3 Trail Classification Categories), and document the trail and any associated features or artifacts. These classification strategies will be dovetailed with an assessment of the trail's physical integrity, as well as the integrity of its setting, that will utilize the applicable National Register guidance as well as guidance published in recent BLM and NPS historic trails management plans (Management and Use Plan Update/Final Environmental Impact Statement Oregon National Historic Trail/Mormon Pioneer National Historic Trail, NPS 1999; BLM 2011b). Digital photographs will be taken of each trail, and photos facing each cardinal direction will be taken to document the current setting condition. Photos looking at and from along the path of the trail will be taken so that a proper assessment of the trail's setting can be conducted. Existing Oregon survey forms and Idaho ASI forms will be used to record historic trails. Addendum sheets may be used to include additional mapping and other trail data as needed.

The 5-part MET classification of trail categories for overland emigrant trails and roads is designed to assess the condition of trails at the time of mapping. These five categories are OCTA's standard classification for all emigrant trail mapping (OCTA 2002) and will be used to guide judgments concerning the historical integrity of historic trails. Trail condition and integrity will be classified and assessed using the terminology and classification system as defined in the OCTA publication Mapping Emigrant Trails (MET) (OCTA 2002). The system will be used for the NHTs and other historic trails. The terms and classifications are provided in Table 4-2 (Trail Terminology) and Table 4-3 (Trail Classification Categories). These classifications are one aspect of evaluation for NRHP eligibility and can aid in determining the level of integrity of trail segments, but do not replace NRHP significance assessments.

Table 4-2. Trail Terminology

Term	Description
Trace	A general term for any original trail segment.
Swale	A depression, but of deeper dimensions and with sloping sides.
Depression	A shallow dip in the surface, often very faint and difficult to see.
Rut	A deep depression without a center mound and with steep sides.
Erosion feature	A trace of any sort that has been deepened and altered by subsequent wind and/or water action; sides are often irregular.
Track	A visible trace caused by the compacting of surface or discoloration due to salt evaporation on alkali flats; little or no depression. Often seen as streaks across an alkali flat.

Term	Description
Two-track	Parallel wheel tracks separated by a center mound. Typically an unimproved ranch road currently used by motorized vehicles. Usually a Class 2 trail.
Scarring	An irregularly wide flat surface devoid of vegetation that no longer shows any wagon depressions or swales. Often seen trailing through sagebrush flats in an uneven pattern.
Improved road or secondary road	Bladed, graded, crowned, graveled, oiled, or blacktop roads usually having side berms, curbs, or gutters.

Source: OCTA 2002.

Table 4-3. Trail Classification Categories

Term	Type	Description
Class 1	Unaltered Original Trail	The trail route remains representative of its original condition, not having been used by motor vehicles or altered by road improvements. There is clear physical evidence of the original trail in the form of depressions, ruts, swales, or tracks, some of which may be eroded and/or visible only intermittently.
Class 2	Used Original Trail	The trail route retains its original character although it has been used by motor vehicles. The road has not been bladed, graded, crowned, or otherwise improved and typically remains as a two-track road traversing the original wagon trail. In some forested areas, the trail may have been used for logging but still retains its original character.
Class 3	Verified Original Trail	The trail route is accurately located and verified from written, cartographic, artifact, wagon ruts, evidence of wheel impact such as grooves, polish or rust on rocks, and/or topographic evidence, but due to subsequent weathering, erosion, or development (e.g., paved roads, agricultural use, logging, etc.), physical remains of the trail will be non-existent or insignificant. Typically, this would include trails that once traversed through forests or meadows, across excessively hard surfaces or bedrock, over alkali flats, through soft or sandy soils, alongside streams or rivers, on ridge, or through ravines.
Class 4	Impacted Original Trail	The trail route is located and verified accurately, but the trail has permanently lost its original physical and environmental integrity due to the impact of development. Most often, this impact takes the form of light-duty or secondary roads overlaying the trail (bladed, graded, crowned, graveled, oiled, or blacktop roads). In other cases, residential, industrial, pipeline, agricultural, or recreational development have altered or destroyed the trail remains and its natural environment, though the trail location is still known.
Class 5	Approximate Original Trail	The trail route is no longer verifiable or accurately located. In some cases, there is not enough historical or topographic evidence by which to accurately locate the trail. In many cases, it has been destroyed entirely by highway, urban, agricultural, industrial, or utility corridor development. In other cases, it has been submerged under reservoirs or raised lakes. Thus only the approximate route is known.

Source: OCTA 2002.

4.5 Analysis of Indirect Visual Effects to Historic Properties and Trails

The ultimate goal of this analysis will be to identify those indirect visual Project effects, in particular the indirect visual effects, that diminish the integrity and thus the characteristics that make the historic property eligible for the NRHP. While the Project may have indirect visual effects upon historic properties within the APEs, this analysis will help determine whether these effects are adverse. The Visual Assessment of Historic Properties (VAHP) analysis will be

conducted in the field after resources have been determined eligible for the National Register. To provide recommendations on Project visual effects to the BLM, the visual effects analysis will utilize the VAHP Form (Appendix A) which consists of four different parts. This includes:

- 1) types of indirect visual effects on historic property;
- 2) integrity of historic property;
- 3) viewshed and setting; and
- 4) distance, contrast, obstruction, and fragmentation.

These four components of the analysis will include information observed during fieldwork in addition to GIS viewshed modeling. The modeling will help in understanding the geographic extent of Project visibility from the historic property. Project visual simulations will also be used to estimate the placement of Project elements and its impact upon the setting.

4.5.1 Viewshed and Setting

For the purposes of this study, a *viewshed* is defined as the geographic area visible from a historic property that includes the spatial extent of potential views of the Project within the APEs. Individualized viewshed analyses will be conducted for those historic properties with views of the Project. The viewshed will estimate the extent of the Project's visibility through fieldwork and/or GIS modeling

The viewshed will be determined first by reviewing a GIS viewshed model that illustrates the geographic extent of Project visibility. For the purposes of this analysis, input parameters will include:

- Maximum tower heights are estimated for 500-kV towers to be 195 feet tall, 138/69-kV rebuild towers to be 100 feet tall, and 138-kV relocation towers to be 100 feet tall.
- Digital Elevation Modeling that illustrates the role topography plays in Project visibility.

If, after a review of the model, it is determined that the historic property would not be visually affected by the Project (i.e., would have no views of the Project), then a "no effect" (36 CFR 800.4(d)(1)) recommendation will be made for the specific historic property, and no additional information will be collected. Field visits to each historic property will confirm the veracity of the GIS model. For those historic properties with views of the Project, the VAHP form will be used to document the estimated extent of Project visibility from key contributing elements of the historic property.

The bare earth model viewshed will define the geographic area considered in the analysis of setting. This analysis will identify and map significant features of the landscape tied to the historic setting of the historic property, such as historic circulation patterns, land divisions, land uses, presence or absence of buildings and structures, current vegetation composition and patterns, and topography. This analysis will provide descriptive data on the settings of historic properties.

4.5.2 Integrity of Historic Properties and Trails

Due to the nature of the Project's indirect visual effects, only three of the seven aspects of integrity will be evaluated for each historic property during the visual assessment. These aspects include:

- setting – the physical environment of a historic property;

- feeling – a property's expression of the aesthetic or historic sense of a particular period of time; and
- association – the direct link between an important historic event or person and a historic property (NPS 1997a).

The constituent parts of the *setting* include aspects such as surrounding vegetation, topography, the presence of other forms of land use and manmade buildings, structures, or features. Field crews will record and attempt to ascertain whether these features within the larger setting were present during the property's period of significance and thus evaluate whether they collectively contribute to a Property's integrity of *feeling*. Field crews will record whether the historic property retains its integrity of *association* by assessing whether it is sufficiently intact to convey its links to important historic events or people (NPS 1997a).

For those properties whose integrity of setting, feeling, and association have already been significantly compromised or where those aspects of integrity do not contribute to the resource's significance, no additional information will be collected beyond the RLS stage and a "no effect" recommendation will be made consistent with 36 CFR 800.4(d)(1). It should also be noted that the integrity of historic trails will also be assessed using the MET classification categories noted in Table 4-3.

Additional consultation between the BLM and tribes or other interested parties will occur for the assessment of integrity of properties of religious and cultural significance or Traditional Cultural Properties.

4.5.3 Indirect Effect Criteria: Distance, Contrast, Obstruction, and Fragmentation

For the purposes of this visual assessment, there will be four indicators used to inform the effects assessment for historic properties. They include distance, contrast, obstruction, and fragmentation (BLM 1984, 1986b), and will be addressed on the VAHP form. *Distance* plays an important role in analyzing indirect visual effects upon the landscape that surround historic properties. Typically, as distance between the Project and the property increases, the perception of visual contrast of the Project with the surrounding landscape decreases. At greater distances, for example, atmospheric haze often makes colors become paler and reduces the strength of lines (BLM 1986b) (See also Figure 4-1). For the purpose of this analysis distance will be measured from visible Project elements to the historic property, and classified into the following distance zones: foreground (less than 2 miles), middleground (between 2 and 5 miles) and background (more than 5 miles) (See Table 4-4).

Table 4-4. VRM Distance Zones

Distance Zone	Distance Parameter
Foreground	Less than 2 miles
Middleground	Between 2 and 5 miles
Background	More than 5 miles

Distance plays an important role in determining Project visibility and thus the extent of Project contrast. *Contrast* is linked to the degree to which the Project "stands out" amidst the landscape in which it exists either through line, form, color, reflectivity, texture, scale, or space. For transmission lines, for instance, a strong contrast can often occur when a transmission structure is "skylined"; where the transmission structure is easily recognized as rising above the surrounding topography and observable against the sky. Likewise, a strong contrast can also

result from clearing a linear swath through forested areas. A weak contrast would occur for Project features that are in the middle to background zones and set against a landscape of low hills that inhibit skylining and that obscure Project components. Observations made in the field will be guided by the following matrix in order to best characterize the Project's potential to contrast in a landscape that is visible from a historic property (See Table 4-5).

Table 4-5. Degree of Contrast

Degree of Contrast	Criteria
None	The Project element contrast is not visible or perceived.
Weak	The Project element contrast can be seen but does not attract attention.
Moderate	The Project element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The Project element contrast demands attention, will not be overlooked, and is dominant in the landscape.

While distance and contrast play a role in understanding the degree to which a Project affects a particular historic property, they do not entirely describe how the Project may affect the physical inter-relationships of the historic property with other historic properties in the surrounding landscape. For instance, the Project may obstruct the sightlines between the historic property and prominent natural or manmade features that are integral to the property's significance. *Obstruction*, therefore, is another important component of effect and will assist in identifying specific instances where the Project has the potential to interfere with landscape inter-relationships. Levels of obstruction will be estimated in the field by noting "obstruction", "partial obstruction", or "no obstruction" (See Table 4-6). In some instances simulations will be used to estimate the level of obstruction in addition to contrast, in order to give the Project engineers the opportunity to develop more sensitive Project siting options.

Table 4-6. Level of Obstruction

Level of Obstruction	Criteria
None	A visible Project element does not visually obstruct a landscape component and thus does not diminish the integrity of a historic property's setting, association, and/or feeling.
Partial Obstruction	The Project element partially obscures a landscape component that contributes to the property's overall significance and thus may diminish the integrity of a historic property's setting, association, and/or feeling.
Obstruction	The Project element noticeably obscures a landscape component that contributes to the property's overall significance and clearly diminishes the integrity of a historic property's setting, association, and/or feeling.

Field observations and simulations may also provide indications of how the Project interacts with open spaces present within a particular viewshed. Project components, for instance, may result in the *fragmentation* of open spaces that are character-defining features within a particular historic landscape by introducing new vertical or horizontal elements or by clearing linear strips of vegetation through forested areas. Fragmentation of open space will be gauged as "fragmentation of open space," "moderate fragmentation," and "little to no fragmentation" depending upon the Project's routing and interaction with open spaces.

Table 4-7. Level of Fragmentation

Degree of Contrast	Criteria
Little to no fragmentation	The Project element contrast is at most minimally visible from the historic property and does not subdivide open spaces that contribute to the integrity of a historic property.
Moderate fragmentation	The Project element is visible from the historic property and contributes to the fragmentation of open space, but the division is not complete due to intervening land forms and a moderate Project contrast with the surrounding landscape.
Fragmentation of Open Space	The Project element is plainly visible from the historic property and clearly fragments open space that is a character defining feature of the historic landscape that surrounds the historic property.

4.6 Level of Effects to Historic Properties and Trails

Although it is anticipated that the overall Project effect will have an adverse effect on historic properties, the purpose of this plan is to assess the visual effects to individual properties. This will be done to aid in the development of mitigation strategies and the HPMP. When taken together, the visual assessment of a historic property's setting, association, and feeling, the property's role in the larger landscape, and the propensity for the Project to diminish the characteristics that make that property eligible for the NRHP provides a rough basis for effect recommendations. So assuming that the resource retains its historic integrity, when Project features are in the background distance zone, exhibit little contrast to their surroundings, do not obstruct landscape inter-relationships and/or fragment open spaces, then a "no adverse effect" (36 CFR 800.5(b)) finding would be appropriate for the individual property. Whereas, a potential "adverse effect" (36 CFR 800.5(d)(2)) would occur for a property when the Project is in the foreground distance zone, presents a high contrast, obstructs views to important landscape elements, or fragments open space that contribute to a property's historic integrity.

Due to the complex interplay of a particular property's integrity and significance in addition to the range in effects that a property may be exposed to, the Project team will make every effort to identify similar situations to ensure consistency in the effect recommendations. To facilitate a qualitative approach and consistency, recommendations of no adverse effect and adverse effect will be based upon the information (including photographs) collected in the VAHP field form (Appendix A) in addition to the selective use of viewshed modeling and simulations particularly when a property may be adversely affected by a Project element.

Table 4-8. Level of Fragmentation

	Distance	Degree of Project Contrast	Level of Obstruction	Level of Fragmentation
Level of Integrity (Setting)				
High	Background	None or Weak	None	Little to None
	Middleground	Moderate or Strong	Partial or Full Obstruction	Moderate or Full Fragmentation

	Foreground	Moderate or Strong	Partial or Full Obstruction	Moderate or Full Fragmentation
Medium	Background	None, Weak, or Moderate	None, Partial Obstruction	Little to None, Moderate
	Middleground	Weak	Partial Obstruction	Moderate
	Foreground	Strong, Moderate	Obstruction	Fragmentation
Low	Background	None	None	Little to None
	Middleground	Weak, Moderate	Partial Obstruction	Moderate
	Foreground	Strong	Obstruction	Fragmentation

Shaded cells: Indicates that the level of Project impacts, when combined with other factors in the table, would diminish the integrity of the historic property's setting and thus adversely affect the characteristics that make the property eligible for the NRHP.

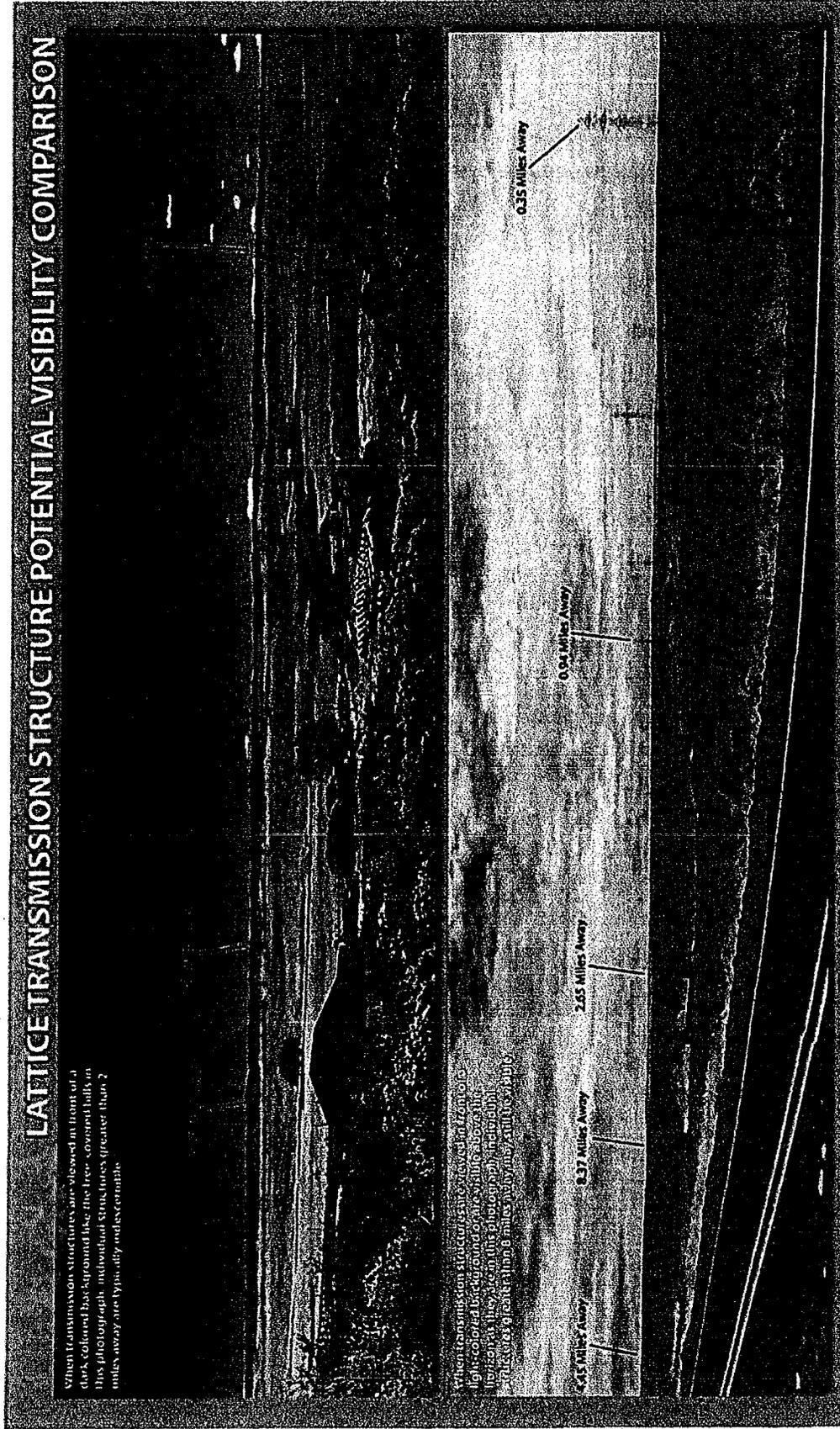


Figure 4-1. Lattice Transmission-Structure Potential-Visibility Comparison

5.0 DOCUMENTATION

5.1 Schedule

Over the course of this study, the components of this study will be reported through interim summaries (one each for the RLS and ILS) and a draft and final report. Table 5-1 provides the reporting and consultation phases.

Table 5-1. Project Reports and Consultation Phases

Phase	Report
1	Completion of RLS Interim Summary
1a	BLM/USFS review of RLS Interim Summary
1b	IPC/TT address comments
2	BLM/USFS Request for Review and Comment from BPA, Tribes, SHPOs/THPO, and consulting parties on RLS Interim Summary
3	Completion of ILS Interim Summary and Effect Assessment
3a	BLM/USFS review of RLS Interim Summary
3b	IPC/TT address comments
4	BLM/USFS Request for Review and Comment from BPA, Tribes, SHPOs/THPO, and consulting parties on ILS Interim Summary and Effect Assessment
5	Draft VAHP Report
5a	Completion of ILS Interim Summary and Effect Assessment
5b	BLM/USFS review of RLS Interim Summary
6	BLM/USFS Request for Review and Comment from BPA, Tribes, SHPOs/THPO, and consulting parties on Draft VAHP Report
7	Final VAHP Report

5.2 Description of Study Deliverables

As noted in Table 5-1, each Interim Summary and the Draft VAHP Report will be made available by the BLM and USFS for an initial review and comment. After the initial comments are addressed, the revised draft will be distributed to the BPA, Tribes, SHPOs/THPO, and the consulting parties. At the conclusion of each review and comment period, the BLM and USFS will take into account the views of these parties and provide direction on subsequent study to be conducted.

The RLS Interim Summary will include summary data on the number of resources that were identified through the literature review and background research, the number of resources that were re-located and/or identified during the field investigation, and which resources will be carried forward for study into the ILS and effect analysis. The RLS Interim Summary will include location information, whether the resource potentially meets the NRHP Criteria for Evaluation, level of integrity, age, and a photograph. The intent of the summary is to provide the BLM, BPA, USFS, Tribes, SHPOs/THPO, and the consulting parties with information, including NRHP eligibility recommendations, about the resources encountered in the field and to obtain direction on moving forward with the next phase of study.

The ILS Interim Summary and Initial Effect Assessment will include brief paragraphs on the history of each resource that was studied at the intensive level in addition to the resource's level of integrity, and a recommendation of potential Project effects. Photographs and a map of each resource and its relationship to the Project will be provided. Representative viewshed mapping and Project simulations may also be included to illustrate the extent and nature of effects to historic properties during fieldwork. The intent of the summary is to provide the BLM, BPA,

USFS, Tribes, SHPOs/THPO, and the consulting parties with preliminary information about the integrity of resources and the potential extent of Project effects. The BLM and USFS will review the documents and distribute to other agencies, tribes, and consulting parties in accordance with the PA to determine the eligibility of resources for the NRHP and the effects upon historic properties.

Once the BLM and USFS have taken into account the views of the BPA, Tribes, SHPOs/THPO and consulting parties, a Draft VAHP Report will be prepared. The Report will include the full results of the RLS and ILS Interim Summaries and the Effect Assessment for compliance with Section 106 of the NHPA and to also satisfy the requirements of Oregon's EFSC. The Draft Report will at a minimum include the following:

- Literature review, Background Research, and Historic Context
- Regulatory Background
- Methods of Identification and Evaluation of Historic Properties and Effect Analysis
- RLS Results
- ILS Results and NRHP Eligibility Recommendations
- Visual Effect Assessment and Effect Recommendations
- Recommendations for Avoidance, Effect Minimization, and/or Resolution of Adverse Effects
- An appendix that includes VAHP field forms for all applicable properties

The completed Draft VAHP Report will be reviewed by the BLM and USFS prior to submission to the BPA, respective Tribes, SHPOs/THPO and consulting parties. Once the BLM and USFS has reviewed and approved the report, it will be submitted to the respective SHPOs/THPO for concurrence and to the Tribes and consulting parties for comment in accordance with the PA.

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**APPENDIX A
VISUAL ASSESSMENT OF HISTORIC PROPERTIES FORM**

VISUAL ASSESSMENT OF HISTORIC PROPERTIES FORM Boardman to Hemingway Project

Property Name and #: _____

Property Eligibility (NRHP Criteria A, B, C, or D): _____ Period(s) of Significance: _____

Date of Form: _____ Recorder: _____

TYPES OF EFFECT

View of Project? Y / N (if no, then no additional information is necessary: "No Historic Properties Affected")

Trans. Tower (# & type): _____ Access road: Veg. clearing: Substation: Laydown/Staging:

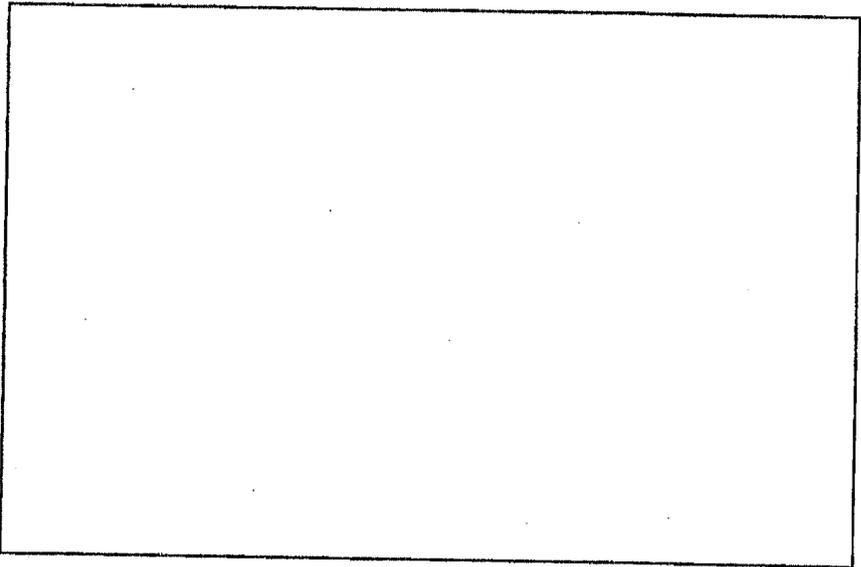
VIEWSHED & LANDSCAPE CONTEXT

Breadth of Viewshed from Historic Property Affected: 90° 180° 270° 360°

Is Property part of larger cultural landscape? Y/N

If "yes", then does the property contribute to the significance of that landscape or is the landscape part of the property's overall setting?

In box to right sketch breadth of viewshed from historic property towards Project (note background and intervening topography, historic circulation patterns, land divisions, land uses, buildings and structures, and prevailing vegetation type and patterns, & prominent open spaces; include North arrow).



EXISTING INTEGRITY OF HISTORIC PROPERTY/ TRAIL

Aspect of Historic Integrity	Existing Retention or Loss of Integrity
<i>Setting – physical environment of a historic property</i>	
<i>Feeling – a property's expression of the aesthetic or historic sense of a particular period of time</i>	
<i>Association – the direct link between an important historic event or person and a historic property</i>	

INDIRECT VISUAL EFFECT CRITERIA: DISTANCE, CONTRAST, OBSTRUCTION, AND FRAGMENTATION

Distance to Project: Foreground (< 2 mi.) _____ Middleground (2-5 mi.) _____ Background (> 5 mi.) _____

Expected Degree of Project Contrast: None Weak Moderate Strong

Describe Project features and how they will contrast with landscape (line, form, color, texture, scale, or space):

Level of Obstruction: (Obstruction of views of important landscape components): None Partial Obstruction Obstruction

Describe Project features and how they obstruct landscape components that contribute to the property's integrity/significance:

Level of Fragmentation (Open Space): Little to No Fragmentation Moderate Fragmentation Fragmentation of Open Space

Describe how open space is/is not fragmented by Project elements:

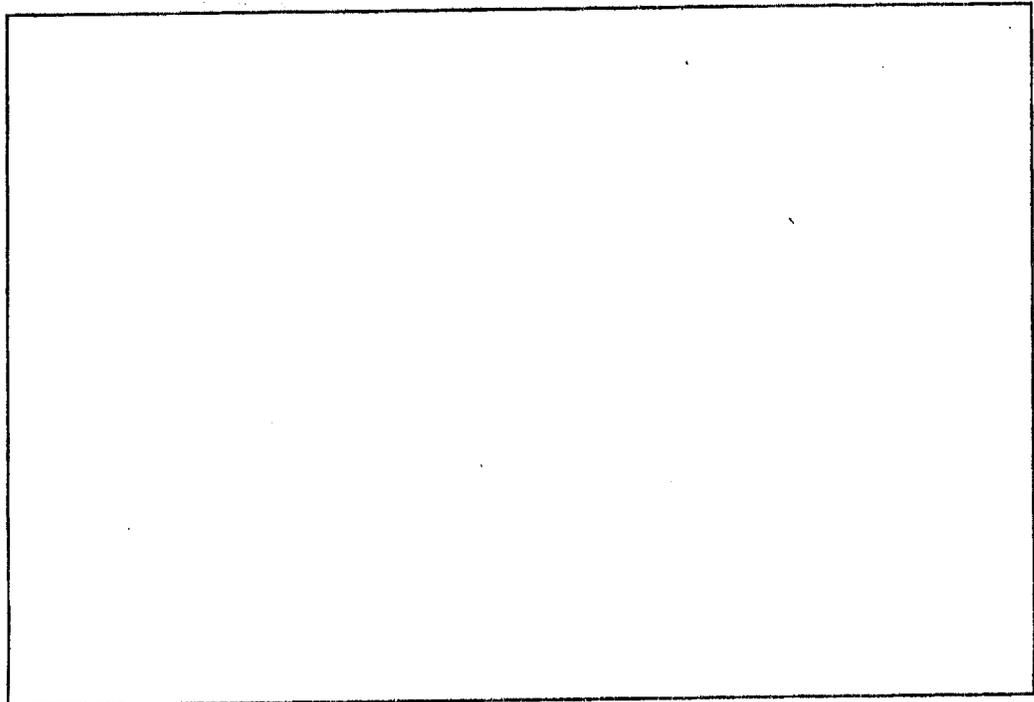
Photograph

Include representative view of Project as seen from historic property. Include direction of view. If necessary, provide additional photos and/or simulations on addenda sheets.

Direction of view:

Date of photo:

Description:



LEVEL OF EFFECT

Effect Recommendation	Y/N
Adverse Effect 36 CFR 800.5(d)(2)	
No Adverse Effect 36 CFR 800.5(b)	

Adverse Effect An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

No Adverse Effect: The undertaking's effects do not meet the criteria of adverse effect (as found in 36 CFR 800.5(a)(1) or the undertaking is modified or conditions are imposed so that adverse effects are avoided.

CONFIDENTIAL ATTACHMENT S-6
CULTURAL RESOURCES TECHNICAL REPORT

CONFIDENTIAL ATTACHMENT S-7
RECONNAISSANCE LEVEL SURVEY – VISUAL ASSESSMENT OF
HISTORIC PROPERTIES REPORT

**ATTACHMENT S-8
NATIONAL HISTORIC TRAILS STUDY**

BLM Manual 6280 Inventory and Impacts Analysis for National Historic Trails and Study Trails

for the Boardman to Hemingway
500-kV Transmission Line Project

November 2014



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BLM MANUAL 6280
INVENTORY AND IMPACTS ANALYSIS FOR
NATIONAL HISTORIC TRAILS AND STUDY TRAILS

FOR THE BOARDMAN TO HEMINGWAY
500-KV TRANSMISSION LINE PROJECT

November 2014

Prepared For
Bureau of Land Management
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Vale, Oregon 97918

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1.0 INTRODUCTION

An Application for Transportation and Utility Systems and Facilities on federal lands has been submitted by Idaho Power Company (IPC) to the Bureau of Land Management (BLM) and the U.S. Forest Service. The BLM determined that approval of the request would be a major federal action, requiring the preparation of an environmental impact statement (EIS). IPC proposes to construct, operate, maintain, and decommission a single-circuit alternating-current 500-kilovolt (kV) overhead electric transmission line, including a number of ancillary facilities. The proposed transmission line would be constructed to connect the planned Grassland Substation in Morrow County, Oregon, to the existing Hemingway Substation, near the city of Melba in Owyhee County, Idaho. The proposed Boardman to Hemingway Transmission Line Project (B2H Project) route is approximately 305 miles long and would cross federal, state, and private lands in six counties in Oregon and Idaho.

The B2H Project analysis area includes private and public lands near the designated Oregon National Historic Trail and the Goodale's Cutoff and Meek Cutoff Study Trails. In compliance with the National Trails System Act (NTSA) of 1968 and with the guidelines in BLM Manual 6280, *Management of National Scenic and Historic Trails Under Study or Recommended as Suitable for Congressional Designation* (2012), it is necessary to inventory cultural, historic, visual, and recreation resources and characteristics for sites and trail segments associated with the portions of these trails on BLM lands that occur within the B2H Project analysis area. The NTSA of 1968, as amended, established a network of visual, historic, and recreational trails to provide for outdoor recreation needs; promote the enjoyment, appreciation, and preservation of open-air, outdoor areas, and historic resources; and encourage public access and citizen involvement. BLM Manual 6280 establishes the agency's policies for managing these National Trails and trails under study for National Trail designation, and it provides direction for identifying and evaluating impacts on "the nature and purposes of the trail, trail resources, qualities, values, uses (including public access and enjoyment) and associated settings" (2012:1–18). This Inventory and Impacts Analysis report follows Manual 6280's directive to identify those resources, qualities, values, associated setting, and primary uses that support the nature and purposes of National Historic Trails (NHTs) and trails undergoing a National Trail Feasibility Study (Study Trails) in the B2H analysis area. The B2H Project EIS identifies the consequences that the Proposed Action and alternatives would have on those resources. There are no National Scenic Trails, Recreation (including Water) Trails, or Connecting and Side Trails in the inventory area, and as such, this inventory focuses solely on segments of NHT and Study Trails for NHT status in the B2H analysis area on BLM lands.

2.0 REGULATORY FRAMEWORK

2.1 NATIONAL TRAILS SYSTEM ACT

According to the NTSA of 1968, federal agencies must consider the effects of proposed actions on NHTs. The NTSA states that the Secretary charged with administration of the NHT may permit other uses along the trail provided that they do not "substantially interfere with the nature and purpose of the trail" (16 U.S.C. 1246). In this regard, "reasonable efforts shall be made to provide sufficient access opportunities to such trails and, to the extent practicable, efforts shall be made to avoid activities incompatible with the purposes for which such trails were established" (16 U.S.C. 1246). Easements or

rights-of-way granted by the Secretary of the Interior or Secretary of Agriculture must comply with laws applicable to the national park system and national forest system and conditions established in the easements or rights-of-way must reflect the policy and purposes of the NTSA (16 U.S.C. 1248).

The proposed B2H Project, the alternatives, and their associated features may directly or indirectly impact segments of the Oregon NHT, NHT-related resources, and the Meek Cutoff and Goodale's Cutoff Study Trails present within the inventory area. NHTs, which are authorized and designated only by an act of Congress, commemorate historically significant routes (i.e., historic routes of exploration, migration, trade, communication, and military action) whose location is known sufficiently to permit public recreation and historical interest (NPS 2013). To be designated by Congress, NHTs must follow as closely as possible the actual route of historic use, be of national significance, and have significant potential for public recreation and/or interpretation opportunities (16 U.S.C. 1242).

2.2 NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act (16 U.S.C. 470) requires that the federal agency permitting the undertaking "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register" and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. *Effect* is defined in the implementing regulations for Section 106 (36 Code of Federal Regulations 800.16(i)) as "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." Section 106 requires the lead federal agency to consult with the State Historic Preservation Office (SHPO), members of the public, affected Native American tribes, and the ACHP throughout the process of identification, evaluation, and resolution of effects. Section 106 compliance is considered satisfied with the execution of a programmatic agreement (PA), a legal document that describes the lead federal agency's (in this case, the BLM's) process of identifying and evaluating impacts on historic properties and its plans for resolving adverse effects.

As historic properties listed on the National Register of Historic Places (NRHP), the Oregon NHT, the Meek Cutoff and Goodale's Cutoff Study Trails are all properties that require evaluation of effect under Section 106. Segments and sites associated with the trail located in the direct and indirect area of potential effects established for the project will be assessed through cultural resources inventory associated with the Section 106 process and effects will be determined in consultation with tribes and parties to the project PA. This Inventory and Impacts Analysis draws upon the NRHP eligibility assessments of segments through previous documentation; fieldwork performed in conjunction with the inventory and analysis did not reevaluate the NRHP eligibility of previously documented trail segments and sites.

2.3 FEDERAL LAND POLICY AND MANAGEMENT ACT

The Federal Land Policy and Management Act (FLPMA) governs the manner in which public lands shall be managed. This act, also known as the BLM Organic Act, establishes the agency's "multiple-use mandate to serve and protect future generations" (BLM and Office of the Solicitor 2001). The concept of "multiple-use" management is defined within the act (43 U.S.C. 1702) as "management of the public

lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people.” The uses and values associated with the Oregon NHT and Study Trails that fall within the B2H analysis area are documented in this inventory.

2.4 NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] 4321) requires the federal government to take a “hard look” and to evaluate and disclose the anticipated environmental consequences that would occur if major federal actions are implemented. This analysis includes an articulation of what action is to be considered (the proposed action), where it will occur (the affected environment), a reasonable range of alternatives for accomplishing the project, and a description of the environmental consequences associated with the project. The purpose of NEPA is to allow the decision maker and the public to have information sufficient to understand the environmental consequences of major federal actions. This information is disclosed in the context of an environmental assessment or environmental impact statement.

This NHT Inventory and Impacts Analysis report responds to these regulatory requirements. This report focuses on the resources within the designated Oregon NHT, in accordance with the NTSA, as well as on resources within trails under study for inclusion as NHTs, in accordance with BLM Manual 6280. As guided by National Historic Preservation Act, this report allows BLM to “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.” FLPMA guides BLM to manage public lands for multiple use, including protection of resources of historic significance, as well as allowed uses, including establishment of rights of way for utilities. NEPA requires identification of resources and evaluation of the environmental consequences associated with the action to approve the right of way requested for construction of the proposed B2H Project.

2.5 BLM MANUAL 6280 (MANAGEMENT OF NATIONAL SCENIC AND HISTORIC TRAILS AND TRAILS UNDER STUDY OR RECOMMENDED AS SUITABLE FOR CONGRESSIONAL DESIGNATION)

BLM Manual 6280 states that NEPA analysis for a proposed action must (1) be able to identify reasonable alternative project locations with potentially less or no adverse impact, (2) document the resources, qualities, values, associated setting, and primary uses that support the nature and purposes for which the trail was designated, and (3) assess potential impacts to the landscape elements of potentially affected designated NHTs (e.g., Oregon NHT). The policy also requires consideration of impacts to Study Trails and trails recommended as suitable for National Trail designation through the National Trail Feasibility Study. The National Park Service (NPS) is currently conducting a Feasibility Study/Environmental Assessment (EA) for additional alternate routes of the Oregon NHT under the NTSA, Public Law 90-543, as amended through Public Law 111-11, March 30, 2009. The Study Trails that may be potentially affected by construction of the proposed B2H Project include the Meek Cutoff and the Goodale’s Cutoff.

Per BLM Manual 6280, this inventory and analysis is limited to the potentially affected segments of the Oregon NHT and Study Trails that are located on BLM-managed lands. Potentially affected segments of the Oregon NHT and Study Trails on U.S. Forest Service, private, or other lands in the inventory area are described in the cultural resources inventory reports prepared for the B2H Project and in the Cultural Resources section of the Draft EIS for the B2H Project.

3.0 INVENTORY AREA

The inventory area for Manual 6280 compliance has been defined to consist of all BLM-managed lands visible within a 10-mile-wide corridor based on the Proposed Action and alternative route centerlines for the proposed B2H Project. A GIS “bare-earth” viewshed analysis was used to determine whether BLM-managed trail segments or associated sites could have a view of the proposed B2H Project and therefore be located within the inventory area for Manual 6280 compliance. Some portions of the Oregon NHT and Study Trails were located within the 10-mile-wide corridor but were determined to be “not visible” based on the GIS bare-earth visibility analysis—for example, the Boardman/Four Mile Canyon High Potential Route Segment of the Oregon NHT. Because the B2H Project would not be visible from these locations, they were considered to be outside of the Manual 6280 compliance inventory area and thus not carried forward for inventory and analysis. Although visible from the B2H analysis area, the portions of the Lewis and Clark NHT, the Ice Age National Scenic Trail, and the Upper Columbia River Route Study Trail that fall within the 10-mile corridor are not included in this inventory and analysis, as these trails are not located on BLM lands. However, the Lewis and Clark and Oregon Trail Columbia River Route trails are located in the inventory area established for cultural resources and are described in the Cultural Resources section of the Draft EIS.

Table 1 identifies Oregon NHT and Study Trails located within the inventory area by county, state, and BLM Field Office (FO). Trail length data for the much more comprehensive inventory area established for cultural resources data collection is included to provide the reader with a sense of the limited scope of the Manual 6280 compliance inventory area. As depicted in Table 1, the Manual 6280 compliance inventory area includes 55.4 of the 311.8 miles of trail located within the cultural resources inventory area; the remaining 256.4 miles of trail are located on non-BLM lands and are thus not considered in the Manual 6280 compliance inventory.

Per the inventory guidelines in BLM Manual 6280 (3.4, A), the inventory area was divided into analysis units (AUs) by trail segment. According to Manual 6280, AUs should consist of areas that encompass discrete segments of the NHT or Study Trails based on one or more of the following considerations:

- High Potential Historic Sites (HPHS) and High Potential Route Segments (HPRSEG) or groupings of sites and segments
- Jurisdictional boundaries
- Distinct trail segments
- Breaks in landform
- Human-made features

**Table 1. Length of Oregon National Historic Trail and Study Trails
within the Manual 6280 Compliance Inventory Area by County, State, and BLM Field Office**

Trail Name and Designation	County, State	BLM Field Office	Length of Trails within Cultural Resources Inventory Area (in miles)	Length of Trails within Manual 6280 Inventory Area (in miles)
Oregon Trail NHT Designated Route	Gilliam, Oregon	Central Oregon	6.1	1.6
Oregon Trail NHT Designated Route	Morrow, Oregon	Baker	30.9	0.0
Oregon Trail NHT Designated Route	Umatilla, Oregon	Baker	14.0	0.0
Oregon Trail NHT Designated Route	Union, Oregon	Baker	41.5	0.3
Oregon Trail NHT Designated Route	Baker, Oregon	Baker	70.0	7.0
Oregon Trail NHT Designated Route	Malheur, Oregon	Malheur	37.2	10.3
Oregon Trail NHT Designated Route	Owyhee, Idaho	Owyhee	18.7	0.3
Length of Oregon NHT			218.4	19.5
Upper Columbia River Route Study Trail	Morrow, Oregon	Baker	8.5	0.0
Meek Cutoff Study Trail	Malheur, Oregon	Malheur	13.1	1.0
Goodale's Cutoff Study Trail	Baker, Oregon	Baker	65.3	32.7
Goodale's Cutoff Study Trail	Washington, Idaho	Four Rivers	6.5	2.2
Length of Study Trails			93.4	35.9
Total Length of NHT and Study Trails			311.8	55.4

Table Abbreviations: NHT = National Historic Trail.

The AUs that were developed for this inventory were based on breaks in landform that serve to define historic and contemporary user experience. As Table 2 indicates, five AUs have been delineated for the Oregon NHT in the Manual 6280 compliance inventory area (Blue Mountains, Flagstaff Hill/Virtue Flats, Burnt River, Alkali Springs/Tub Mountain, and South Alternate); one AU is delineated for the Meek Cutoff Study Trail; and two AUs are defined for the Goodale's Cutoff Study Trail. An overview of the Oregon NHT and Study Trails AUs is presented in Figure 1, Figure 2, and Figure 3. The AUs are also illustrated in Figure 4 through Figure 14 at a more refined map scale. Although viewsheds were identified for segments of trail occurring on BLM-managed lands, these viewsheds also include lands not managed by the BLM.

To develop the AUs, a GIS-based "bare-earth" viewshed analysis was conducted from the centerlines of the Proposed Action and alternatives. This type of viewshed analysis is based on a digital elevation model (DEM) and therefore reflects visible areas of the landscape based on existing landforms, without consideration of vegetation or built environment. Because availability of data regarding existing vegetation and built environment is limited, the bare-earth analysis makes the best use of available GIS DEM data and also provides a "worst case" scenario for visibility. This analysis identified segments of the Oregon NHT and Study Trails on BLM lands that would potentially have views of the project within 5 miles of the transmission line alignments. These trail segments were considered to be potentially affected by the B2H Project and were carried forward for a trail-centric visibility analysis.

The trail-centric visibility analysis was then performed from all of the potentially affected trail segments on lands managed by the BLM. This analysis identified all areas of the landscape from which the project could potentially be seen from affected trail segments and formed the basis for delineation of the AUs. The outer extents of the AUs were delineated by creating polygons that encompassed the general edges of this visibility analysis, with a maximum distance of 5 miles (Figures 4 through 14).

Table 2 presents the miles of the Congressionally Designated Oregon NHT (NHT¹), Oregon NHT Segments (NHT²), and Oregon Trail Auto Tour Route (NHT³) that fall within the NHT AUs and are located on BLM land. The Federal Trail Data Standards divides NHTs into three distinct data types, all of which are examined in this inventory and analysis:

NHT¹ Designated Route

- Includes the route congressionally designated as the Oregon NHT, as well as associated Oregon NHT heritage sites.

NHT² Heritage Resources

- Includes Oregon NHT associated heritage resources (routes and/or sites) where historical events are known to have occurred. Although physical evidence and/or remnants may no longer be present, and the location of these resources may exist outside of the congressionally designated route.

NHT³ Recreation and/or Interpretive Trail/Road/Sites

- Includes Oregon NHT-associated recreation or interpretive routes and/or sites, such as auto tour routes which may vary from the NHT¹ congressionally designated route and/or NHT² original, historically used routes. These properties, such as the Oregon Trail Auto Tour Route, may be commemorative in nature and not linked with documented historical events. NHT³ resources play a significant role in characterizing use of the trail under Manual 6280 guidance.

Table 2. Miles of Oregon Trail Resources on BLM Land within Analysis Units

Analysis Unit	Length of Oregon Trail Resources on BLM Land (in miles)		
	Congressionally Designated Trail (NHT ¹)	Oregon Trail Segments (NHT ²)	Oregon Trail Auto Tour Route/ Interstate 84 (NHT ³)
Blue Mountains	0.3	1.9	0.2
Flagstaff Hill/Virtue Flats	13.7	13.3	0
Burnt River	4.6	14.8	12.0
Alkali Springs/Tub Mountain	27.8	21.6	3.2
South Alternate	0.3	0.9	0
Total	18.0	52.4	15.4

Table Abbreviations: NHT = National Historic Trail.

Table Note: See text above for detailed descriptions of the NHT¹, NHT², and NHT³ trail data types.

Table 3 presents the miles of the Meek Cutoff and Goodale’s Cutoff Study Trails that are located on BLM lands within the respective AUs.

Table 3. Miles of Study Trail Resources on BLM Land within Analysis Units

Analysis Unit	Total Length of Study Trails within the Analysis Unit (in miles)	Length of Study Trails on BLM Land (in miles)
Meek Cutoff	2.9	1.0
Goodale’s Cutoff North	102.6	48.2
Goodale’s Cutoff South	7.8	2.0
Total	113.3	51.2

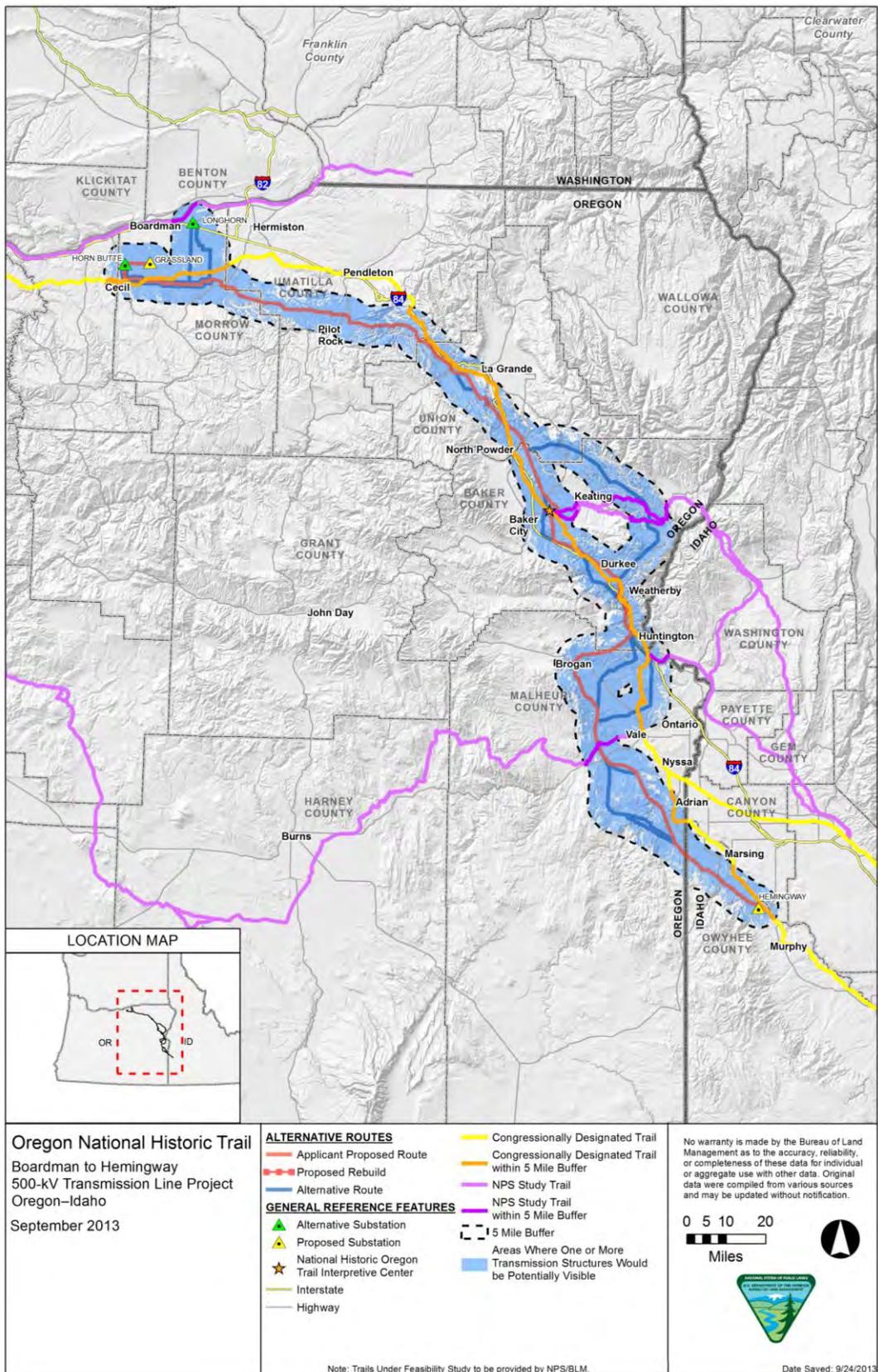


Figure 1. Oregon National Historic Trail and Study Trails within the 5-Mile Buffer and Viewshed Area

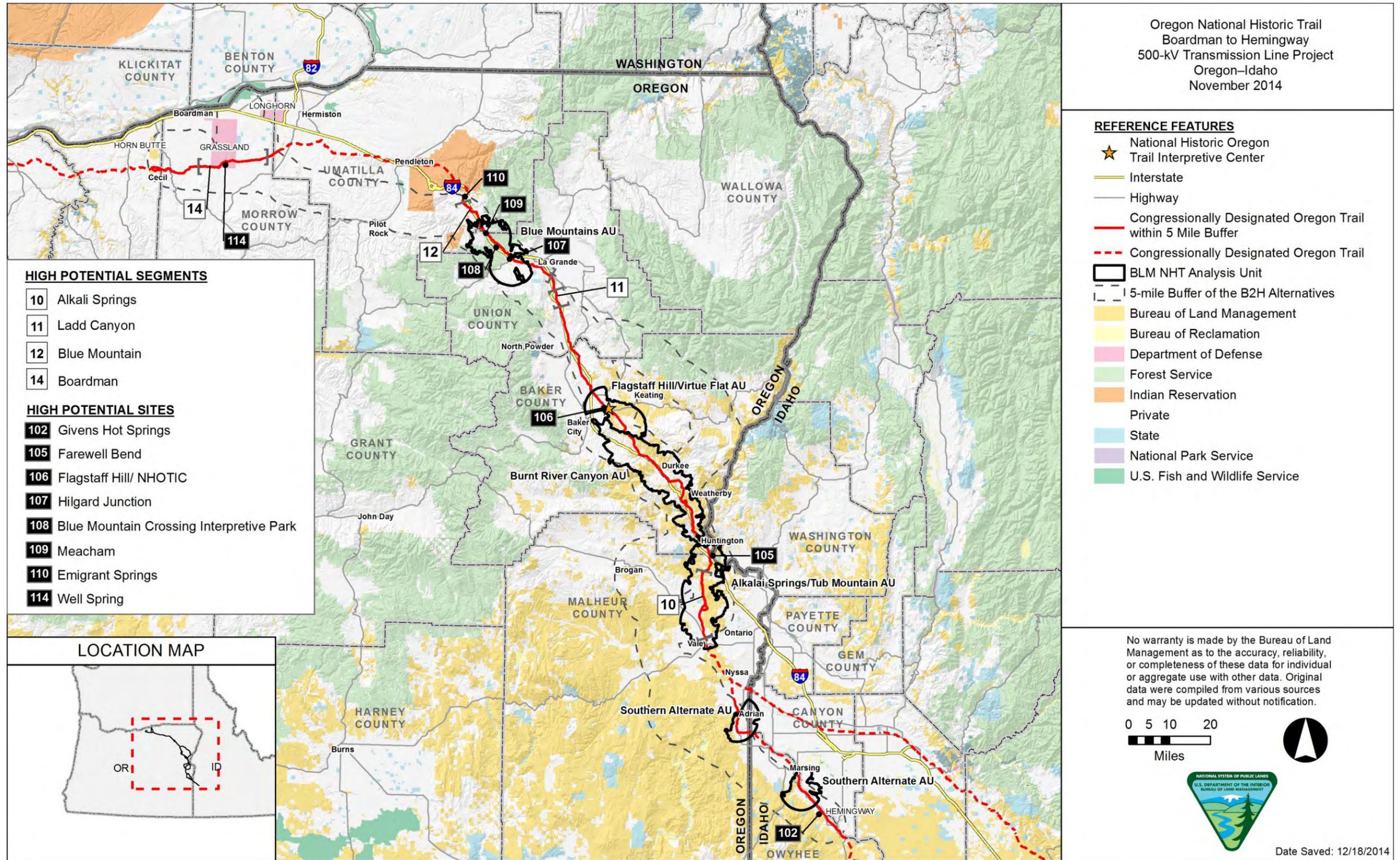
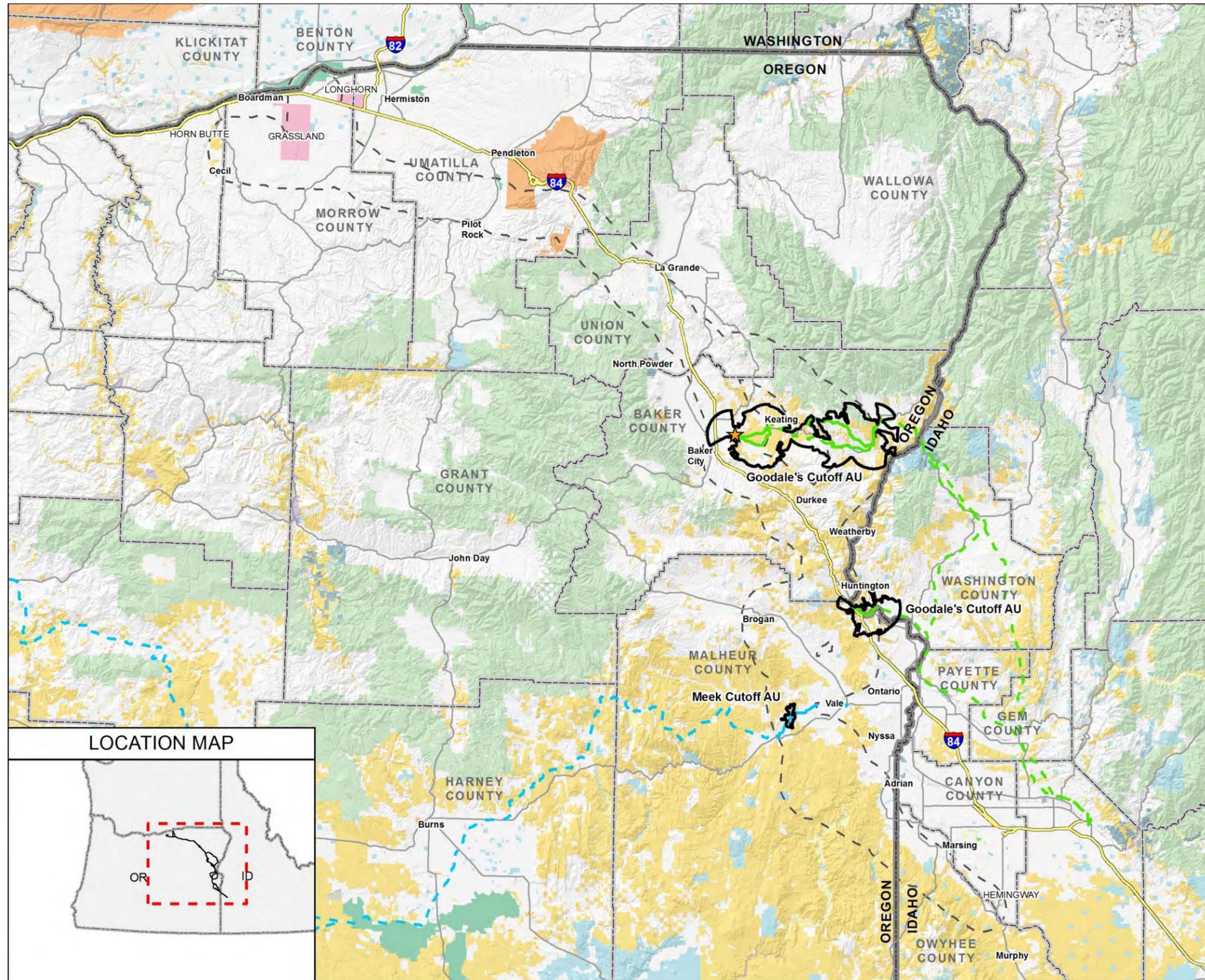


Figure 2. Oregon National Historic Trail Analysis Units

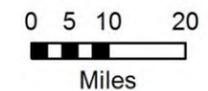
Study Trails
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014



REFERENCE FEATURES

- National Historic Oregon Trail Interpretive Center
- Interstate
- Highway
- Gooddale's Cutoff within 5 Mile Buffer
- Gooddale's Cutoff
- Meek Cutoff within 5 Mile Buffer
- Meek Cutoff
- Study Trail AU
- 5 Mile Buffer
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Forest Service
- Indian Reservation
- Private
- State
- National Park Service
- U.S. Fish and Wildlife Service

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Date Saved: 12/18/2014

Figure 3. Study Trails Analysis Units

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
 - Highway
 - Congessionally Designated Oregon Trail (NHT¹)
 - Oregon Trail Segments (NHT²)
 - NHT Auto Tour Route (NHT³)
 - ▭ State Boundary
 - ▭ BLM Resource Area/Field Office Boundary
 - ▭ BLM NHT Analysis Unit
 - ▭ No Potential View from BLM Portions of the Oregon Trail
 - ▭ 5-mile Buffer of the B2H Alternatives
 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
 - ▭ Bureau of Land Management
 - ▭ Bureau of Reclamation
 - ▭ Department of Defense
 - ▭ Forest Service
 - ▭ Indian Reservation
 - ▭ Private
 - ▭ State
 - ▭ National Park Service
 - ▭ U.S. Fish and Wildlife Service

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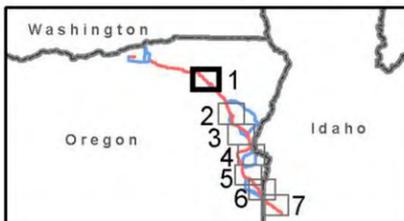
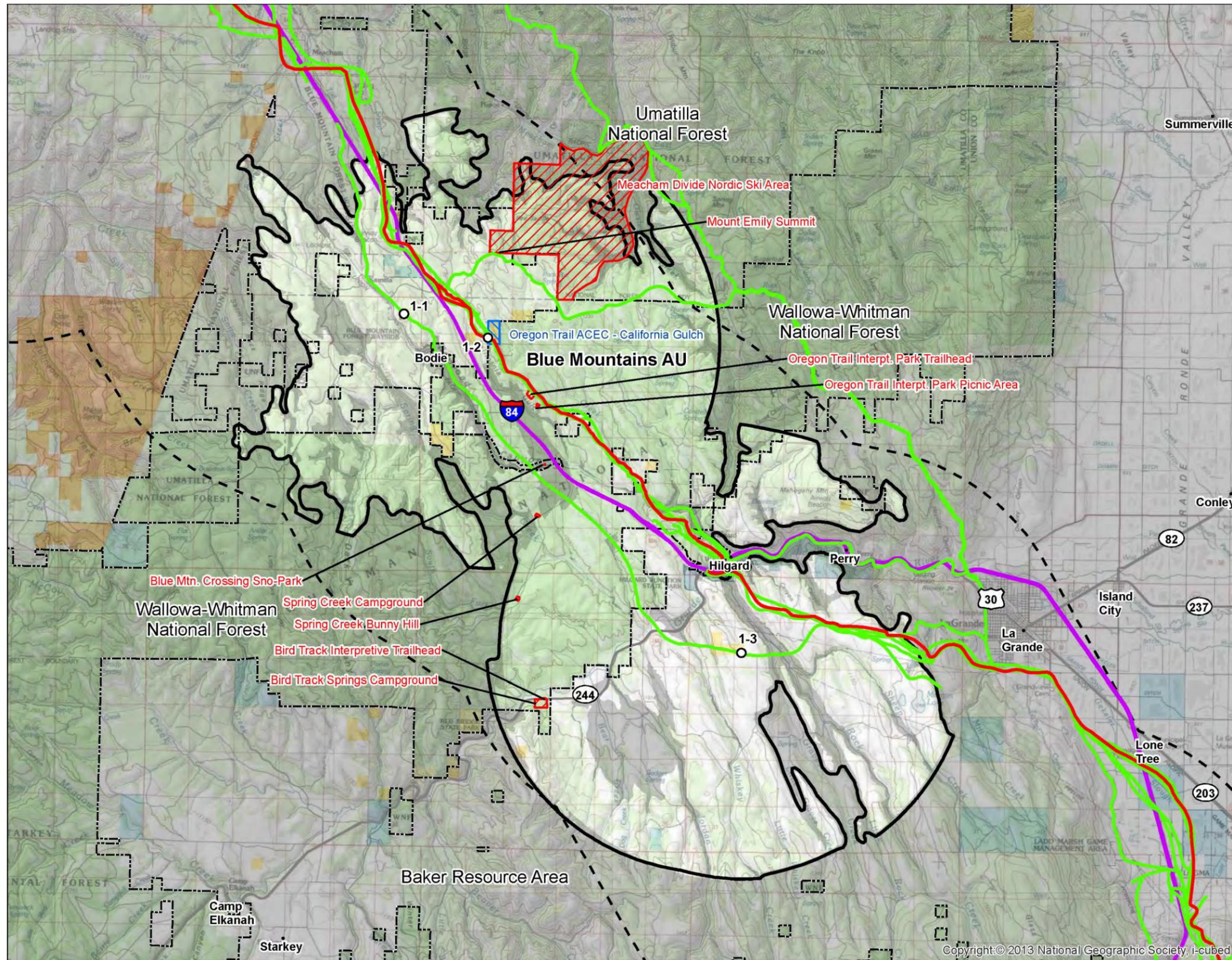




Figure 4. Blue Mountains Analysis Unit

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
 - Highway
 - Congessionally Designated Oregon Trail (NHT¹)
 - Oregon Trail Segments (NHT²)
 - NHT Auto Tour Route (NHT³)
 - ▭ State Boundary
 - ▭ BLM Resource Area/Field Office Boundary
 - ▭ BLM NHT Analysis Unit
 - ▭ No Potential View from BLM Portions of the Oregon Trail
 - ▭ 5-mile Buffer of the B2H Alternatives
 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
 - ▭ Bureau of Land Management
 - ▭ Bureau of Reclamation
 - ▭ Department of Defense
 - ▭ Forest Service
 - ▭ Indian Reservation
 - ▭ Private
 - ▭ State
 - ▭ National Park Service
 - ▭ U.S. Fish and Wildlife Service

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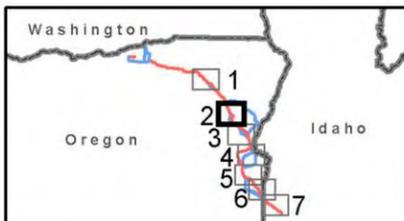
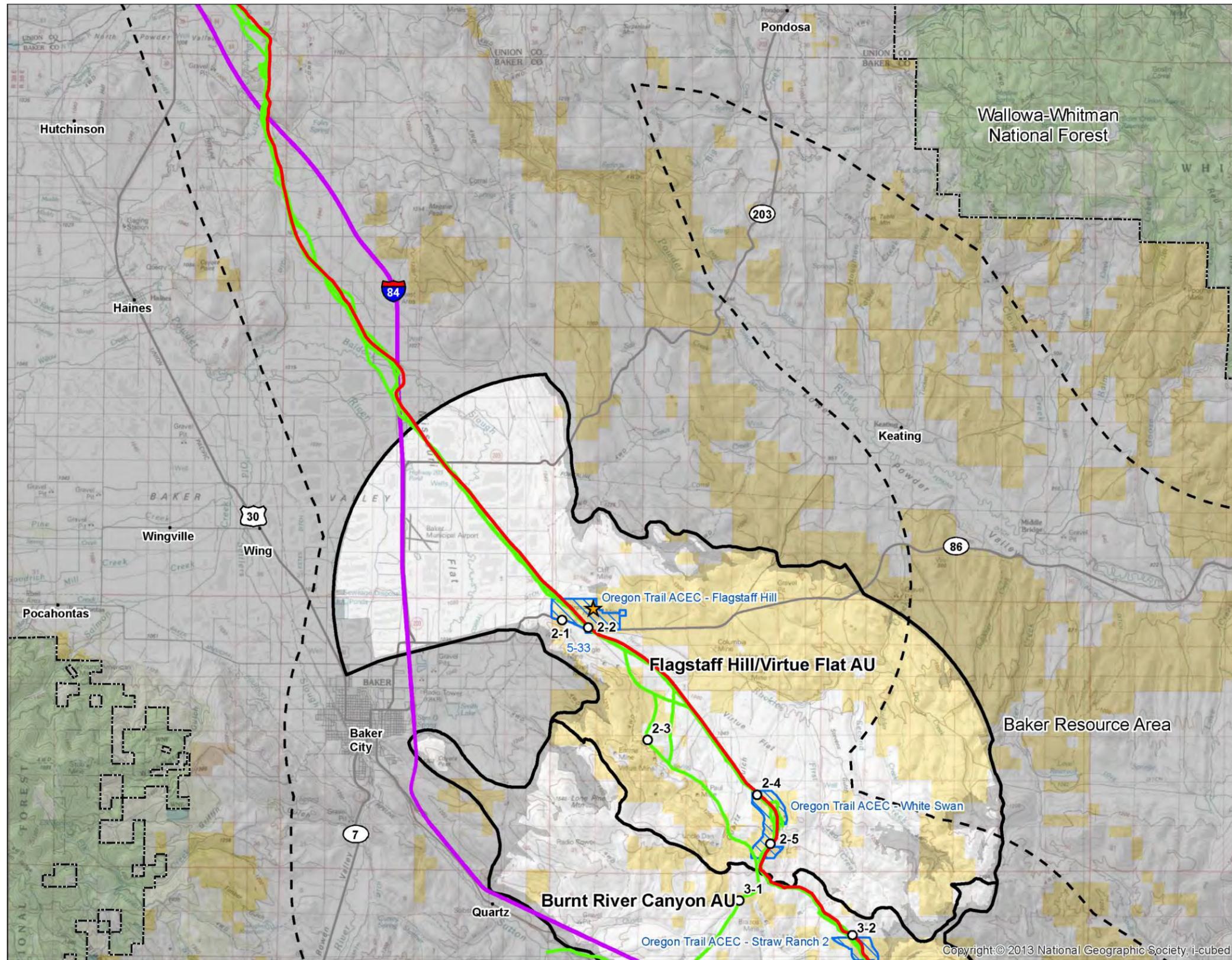




Figure 5. Flagstaff Hill/Virtue Flat Analysis Unit

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
 - Highway
 - Congessionally Designated Oregon Trail (NHT¹)
 - Oregon Trail Segments (NHT²)
 - NHT Auto Tour Route (NHT³)
 - ▭ State Boundary
 - ▭ BLM Resource Area/Field Office Boundary
 - ▭ BLM NHT Analysis Unit
 - ▭ No Potential View from BLM Portions of the Oregon Trail
 - ▭ 5-mile Buffer of the B2H Alternatives
 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
 - ▭ Bureau of Land Management
 - ▭ Bureau of Reclamation
 - ▭ Department of Defense
 - ▭ Forest Service
 - ▭ Indian Reservation
 - ▭ Private
 - ▭ State
 - ▭ National Park Service
 - ▭ U.S. Fish and Wildlife Service

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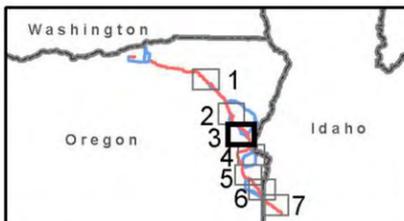
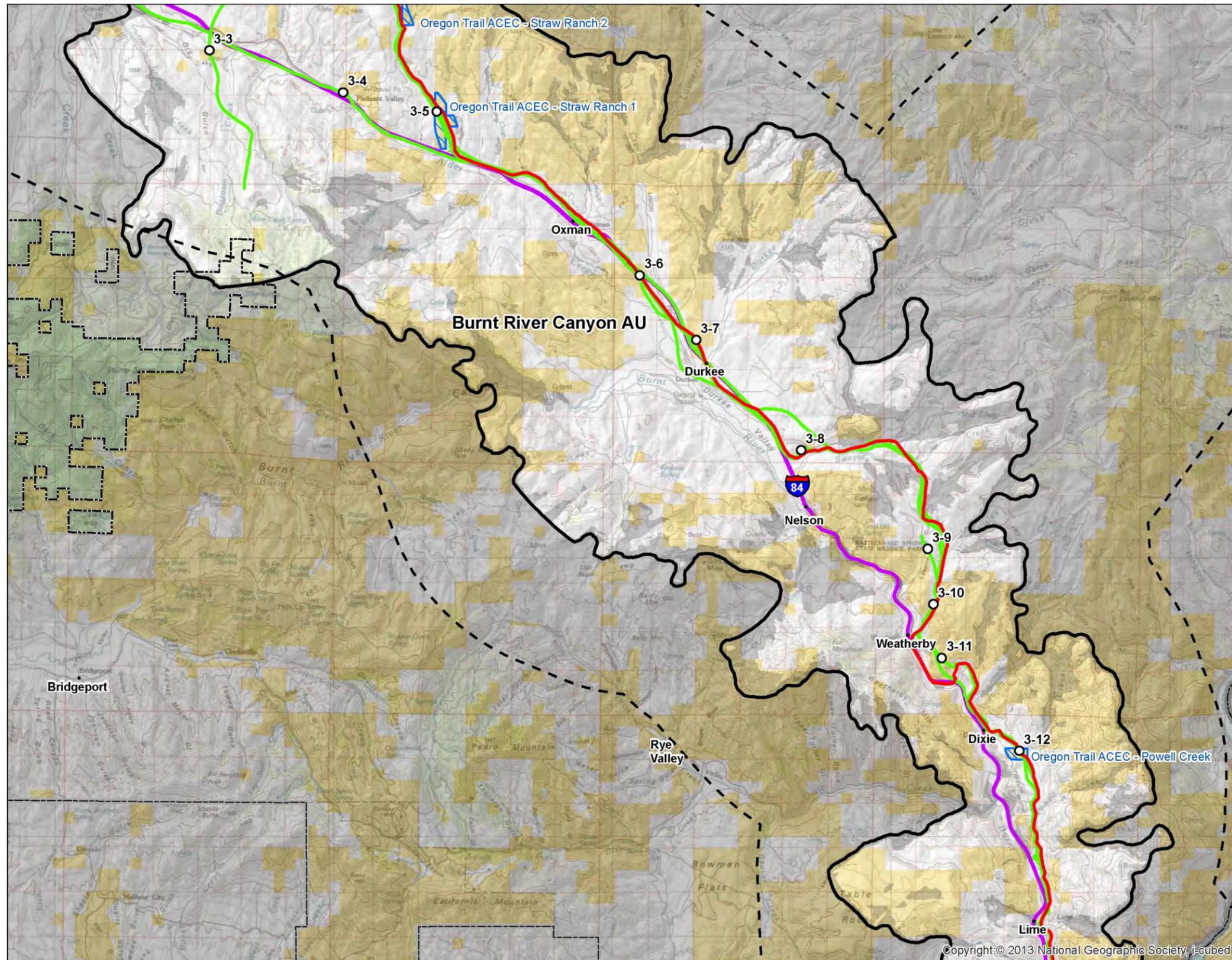




Figure 6. Burnt River Canyon Analysis Unit

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
 - Highway
 - Congessionally Designated Oregon Trail (NHT¹)
 - Oregon Trail Segments (NHT²)
 - NHT Auto Tour Route (NHT³)
 - ▭ State Boundary
 - ▭ BLM Resource Area/Field Office Boundary
 - ▭ BLM NHT Analysis Unit
 - ▭ No Potential View from BLM Portions of the Oregon Trail
 - ▭ 5-mile Buffer of the B2H Alternatives
 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
 - ▭ Bureau of Land Management
 - ▭ Bureau of Reclamation
 - ▭ Department of Defense
 - ▭ Forest Service
 - ▭ Indian Reservation
 - ▭ Private
 - ▭ State
 - ▭ National Park Service
 - ▭ U.S. Fish and Wildlife Service

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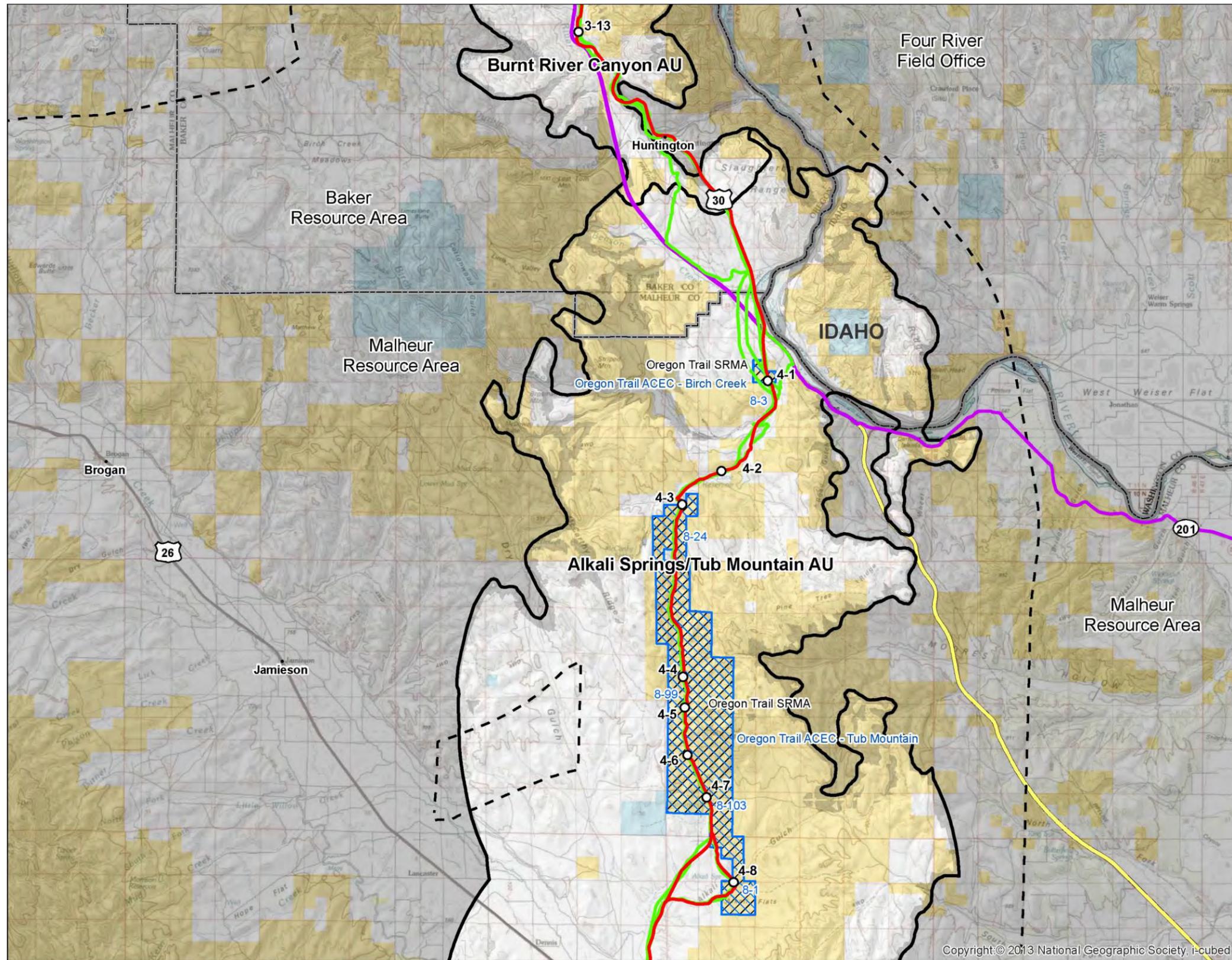
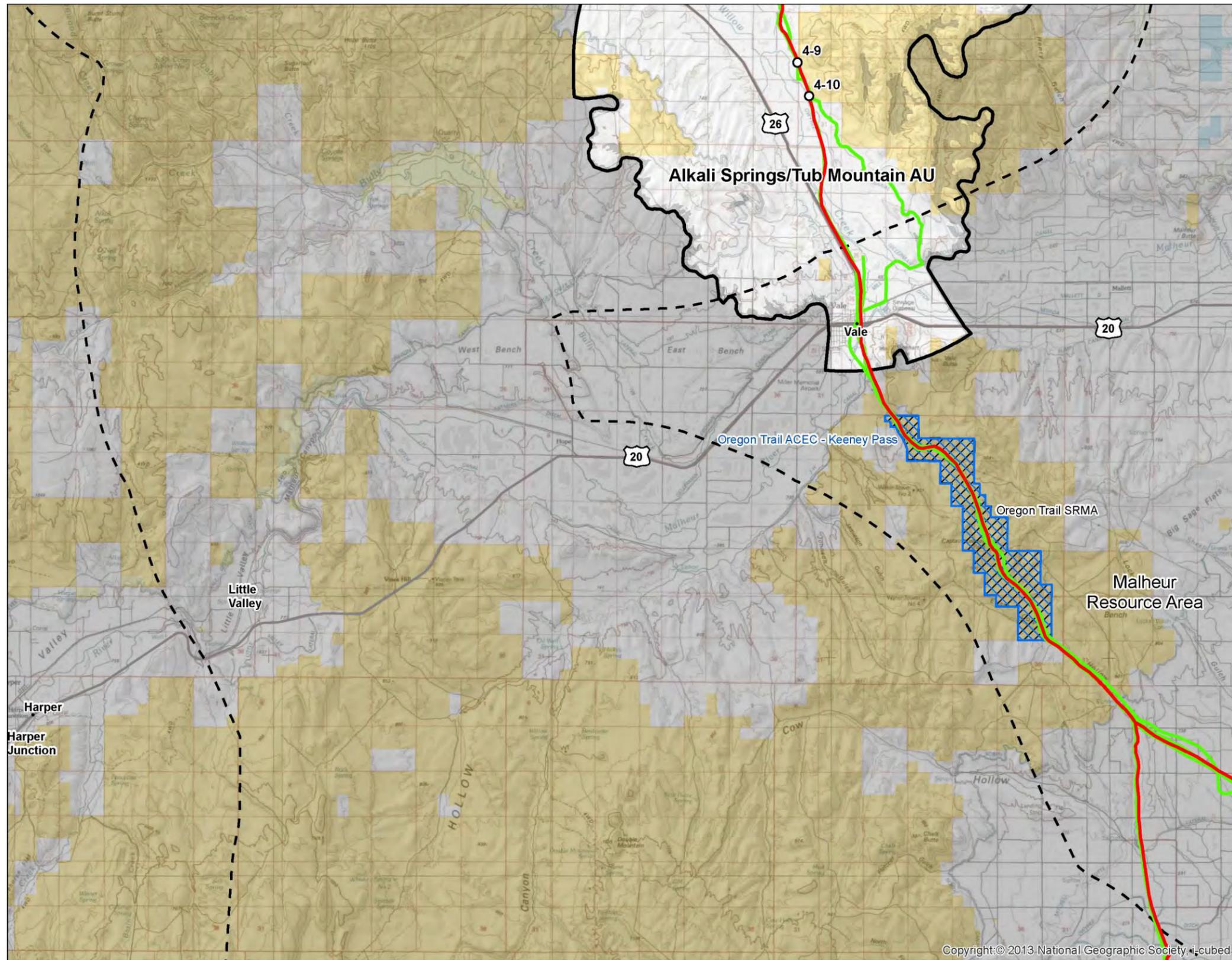


Figure 7. Alkali Springs/Tub Mountain Analysis Unit, Northern Portion

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
 - Highway
 - Congessionally Designated Oregon Trail (NHT¹)
 - Oregon Trail Segments (NHT²)
 - NHT Auto Tour Route (NHT³)
 - ▭ State Boundary
 - ▭ BLM Resource Area/Field Office Boundary
 - ▭ BLM NHT Analysis Unit
 - ▭ No Potential View from BLM Portions of the Oregon Trail
 - ▭ 5-mile Buffer of the B2H Alternatives
 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
 - ▭ Bureau of Land Management
 - ▭ Bureau of Reclamation
 - ▭ Department of Defense
 - ▭ Forest Service
 - ▭ Indian Reservation
 - ▭ Private
 - ▭ State
 - ▭ National Park Service
 - ▭ U.S. Fish and Wildlife Service

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Figure 8. Alkali Springs/Tub Mountain Analysis Unit, Southern Portion

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

REFERENCE FEATURES

- NHT IOP
- National Historic Oregon Trail Interpretive Center
- Interstate
- Highway
- Congressionally Designated Oregon Trail (NHT¹)
- Oregon Trail Segments (NHT²)
- NHT Auto Tour Route (NHT³)
- State Boundary
- BLM Resource Area/Field Office Boundary
- BLM NHT Analysis Unit
- No Potential View from BLM Portions of the Oregon Trail
- 5-mile Buffer of the B2H Alternatives
- Area of Critical Environmental Concern
- Special Recreation Management Area
- Recreation Area
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Forest Service
- Indian Reservation
- Private
- State
- National Park Service
- U.S. Fish and Wildlife Service

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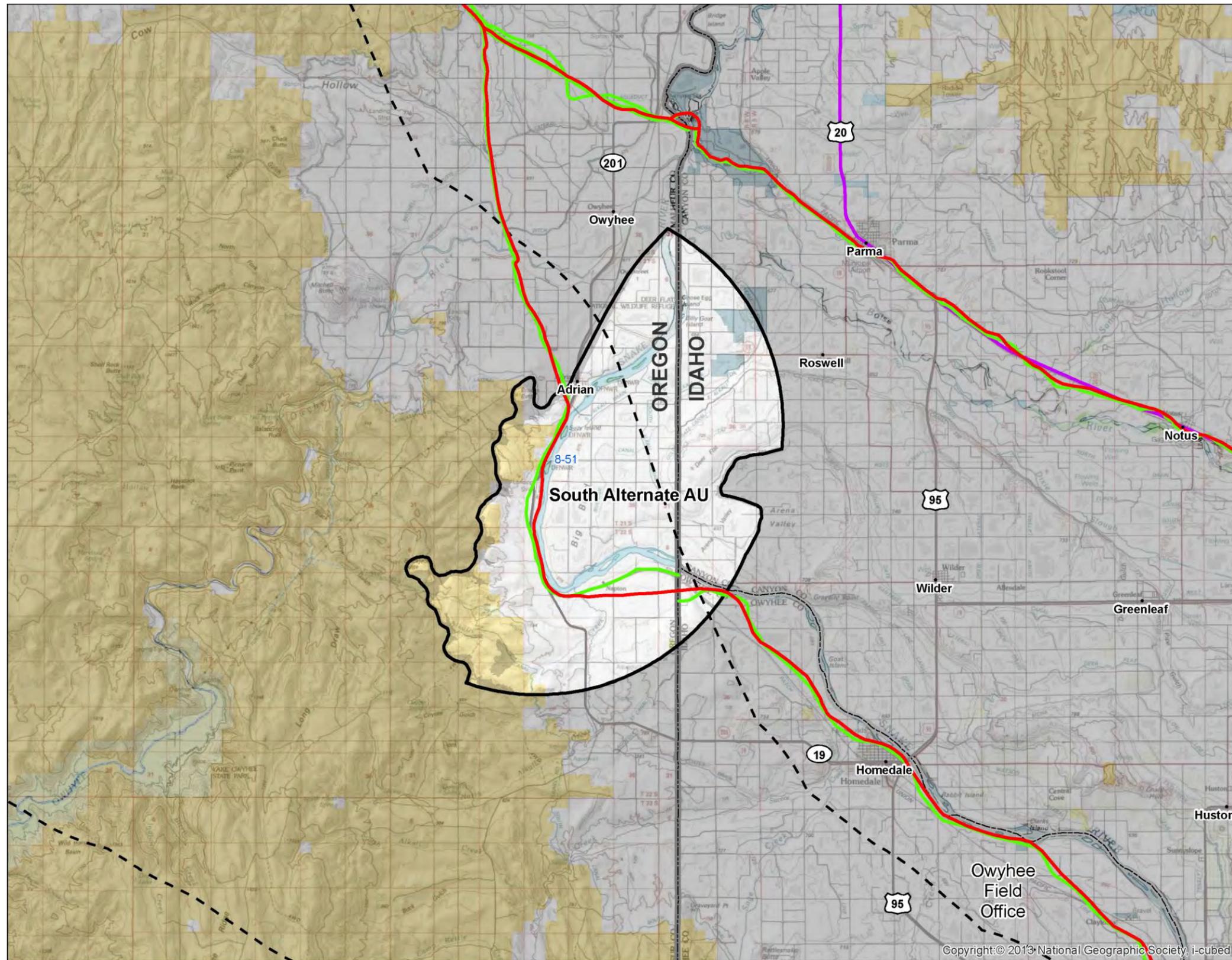


Figure 9. South Alternate Analysis Unit, Northern Portion

BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
 - Highway
 - Congessionally Designated Oregon Trail (NHT¹)
 - Oregon Trail Segments (NHT²)
 - NHT Auto Tour Route (NHT³)
 - ▭ State Boundary
 - ▭ BLM Resource Area/Field Office Boundary
 - ▭ BLM NHT Analysis Unit
 - ▭ No Potential View from BLM Portions of the Oregon Trail
 - ▭ 5-mile Buffer of the B2H Alternatives
 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
 - ▭ Bureau of Land Management
 - ▭ Bureau of Reclamation
 - ▭ Department of Defense
 - ▭ Forest Service
 - ▭ Indian Reservation
 - ▭ Private
 - ▭ State
 - ▭ National Park Service
 - ▭ U.S. Fish and Wildlife Service

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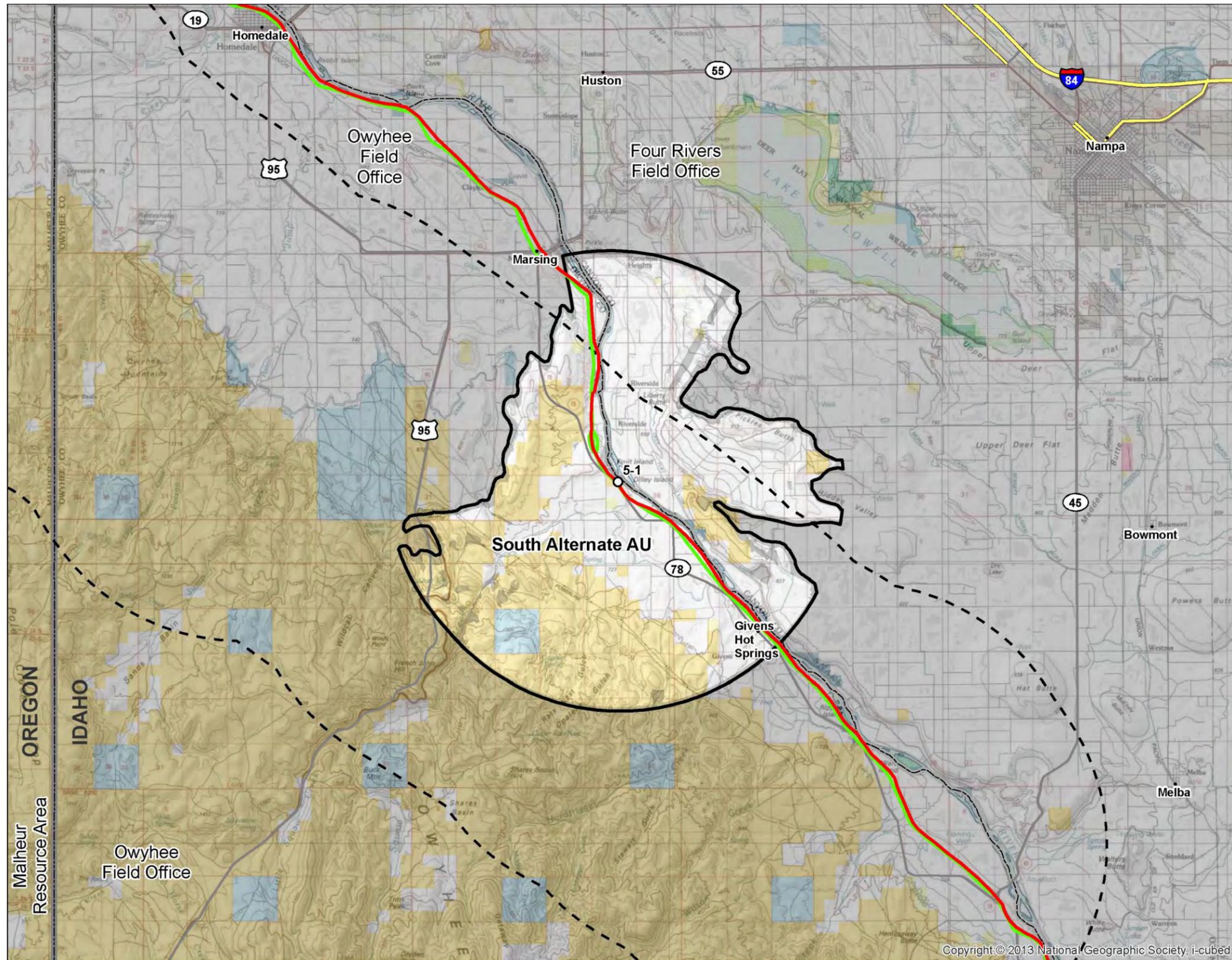
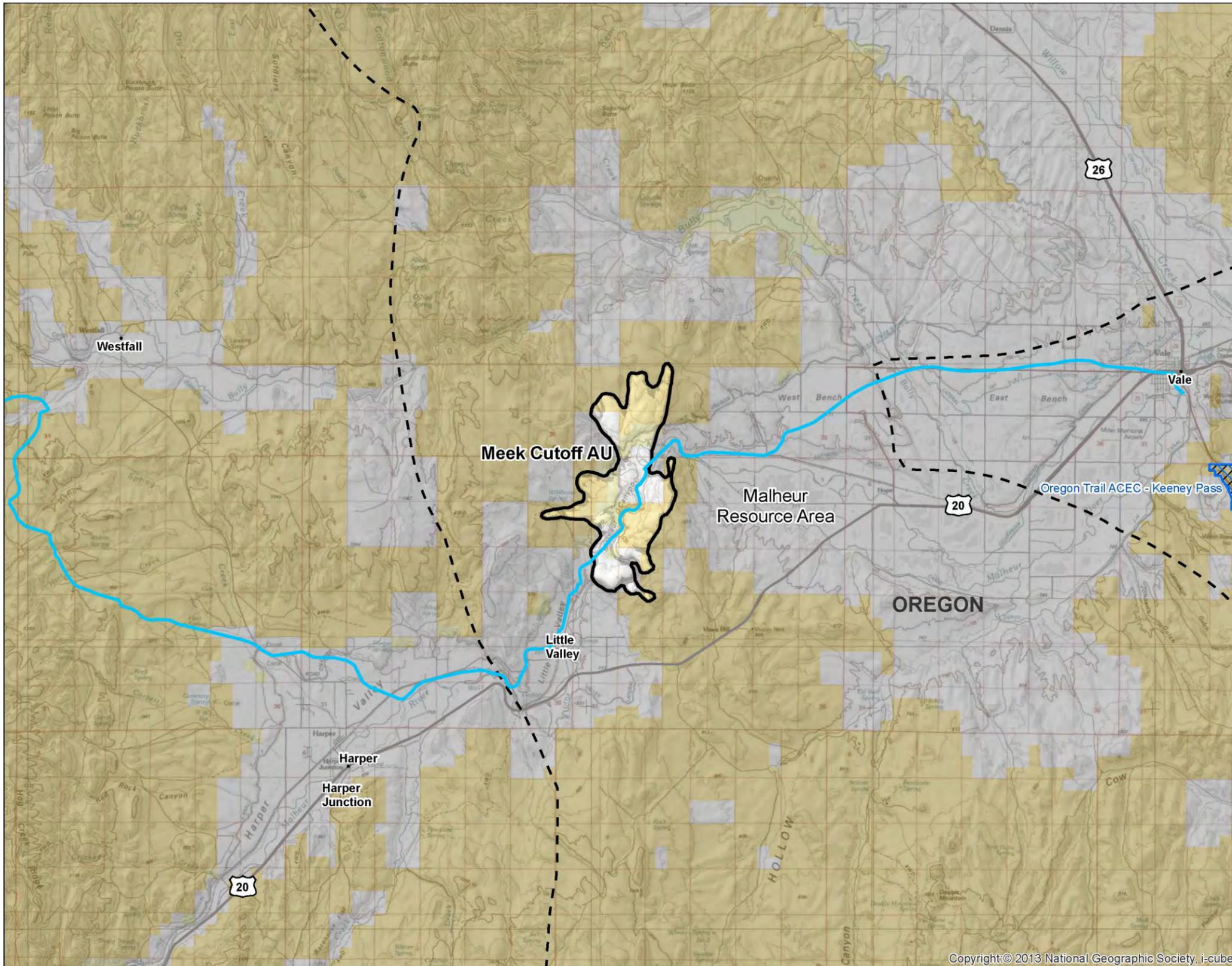


Figure 10. South Alternate Analysis Unit, Southern Portion

BLM Study Trails Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

REFERENCE FEATURES

-  Oregon National
-  Interstate
-  Highway
-  Goodale's Cutoff
-  Meek Cutoff
-  State Boundary
-  BLM Resource Area/Field Office Boundary
-  Study Trail Analysis Unit
-  No Potential View from BLM Portions of the Study Trails
-  5-mile Buffer from B2H Alternatives
-  Area of Critical Environmental Concern
-  Special Recreation Management Area
-  Recreation Area
-  Bureau of Land Management
-  Bureau of Reclamation
-  Department of Defense
-  Forest Service
-  Private
-  State
-  U.S. Fish and Wildlife Service



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Figure 11. Meek Cutoff Study Trail Analysis Unit

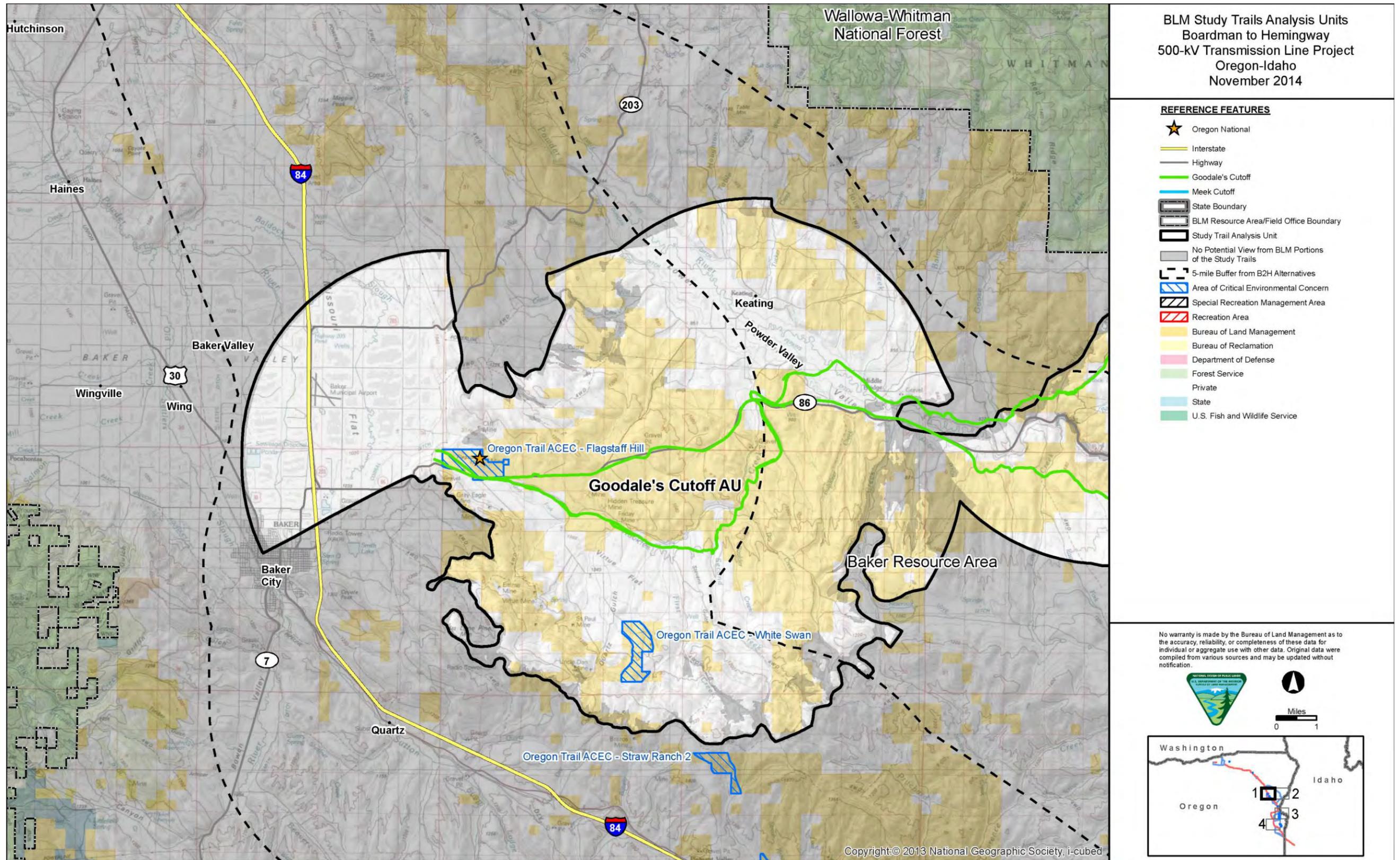


Figure 12. Goodale's Cutoff Study Trail Analysis Unit, Western Portion

BLM Study Trails Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

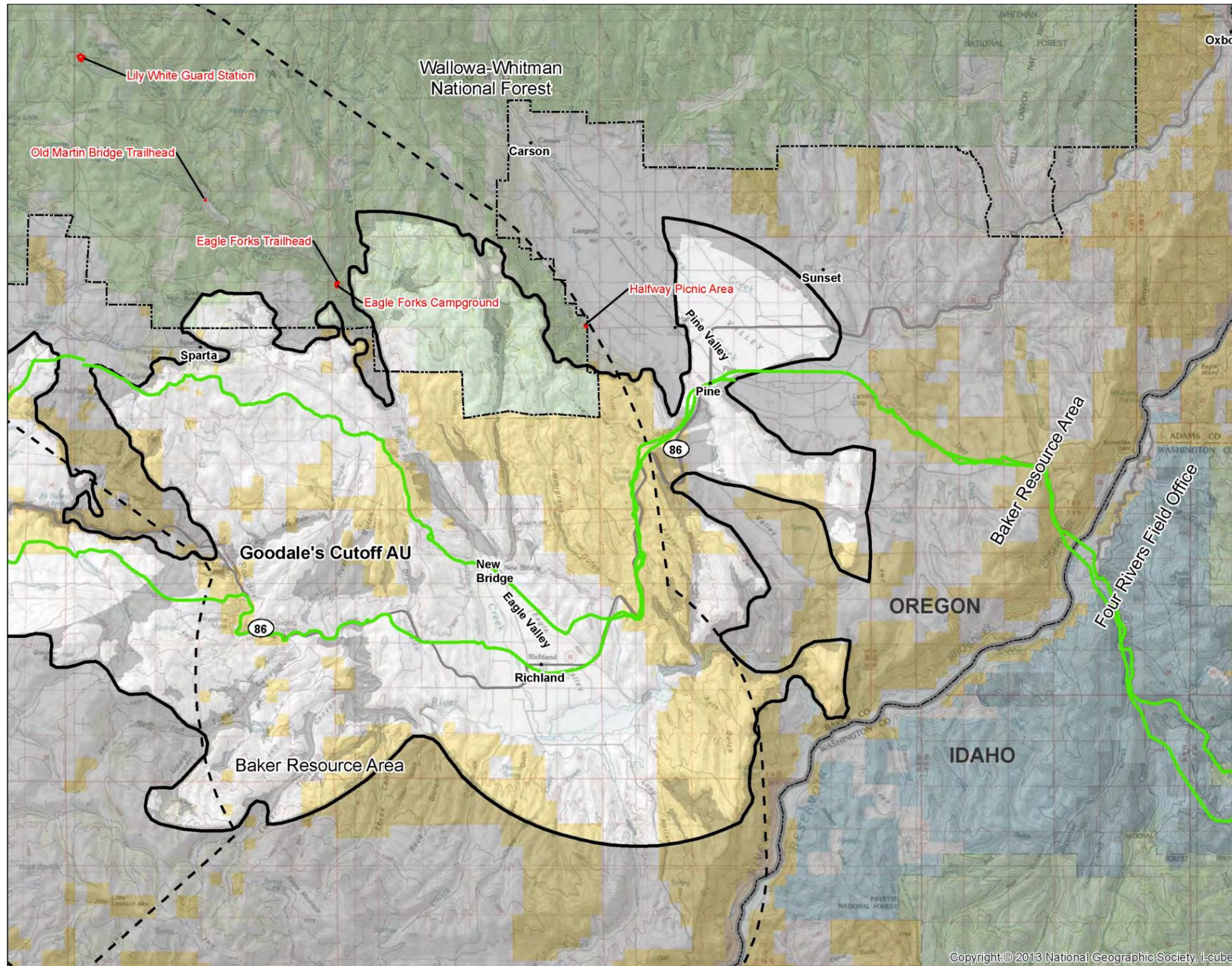
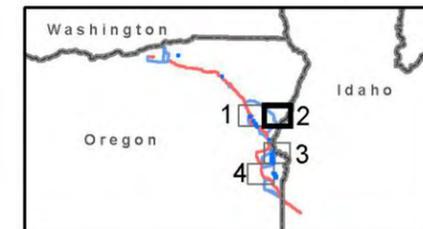
REFERENCE FEATURES

-  Oregon National
-  Interstate
-  Highway
-  Goodale's Cutoff
-  Meek Cutoff
-  State Boundary
-  BLM Resource Area/Field Office Boundary
-  Study Trail Analysis Unit
-  No Potential View from BLM Portions of the Study Trails
-  5-mile Buffer from B2H Alternatives
-  Area of Critical Environmental Concern
-  Special Recreation Management Area
-  Recreation Area
-  Bureau of Land Management
-  Bureau of Reclamation
-  Department of Defense
-  Forest Service
-  Private
-  State
-  U.S. Fish and Wildlife Service

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Figure 13. Goodale's Cutoff Study Trail Analysis Unit, Eastern Portion

BLM Study Trails Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

REFERENCE FEATURES

-  Oregon National
-  Interstate
-  Highway
-  Goodale's Cutoff
-  Meek Cutoff
-  State Boundary
-  BLM Resource Area/Field Office Boundary
-  Study Trail Analysis Unit
-  No Potential View from BLM Portions of the Study Trails
-  5-mile Buffer from B2H Alternatives
-  Area of Critical Environmental Concern
-  Special Recreation Management Area
-  Recreation Area
-  Bureau of Land Management
-  Bureau of Reclamation
-  Department of Defense
-  Forest Service
-  Private
-  State
-  U.S. Fish and Wildlife Service

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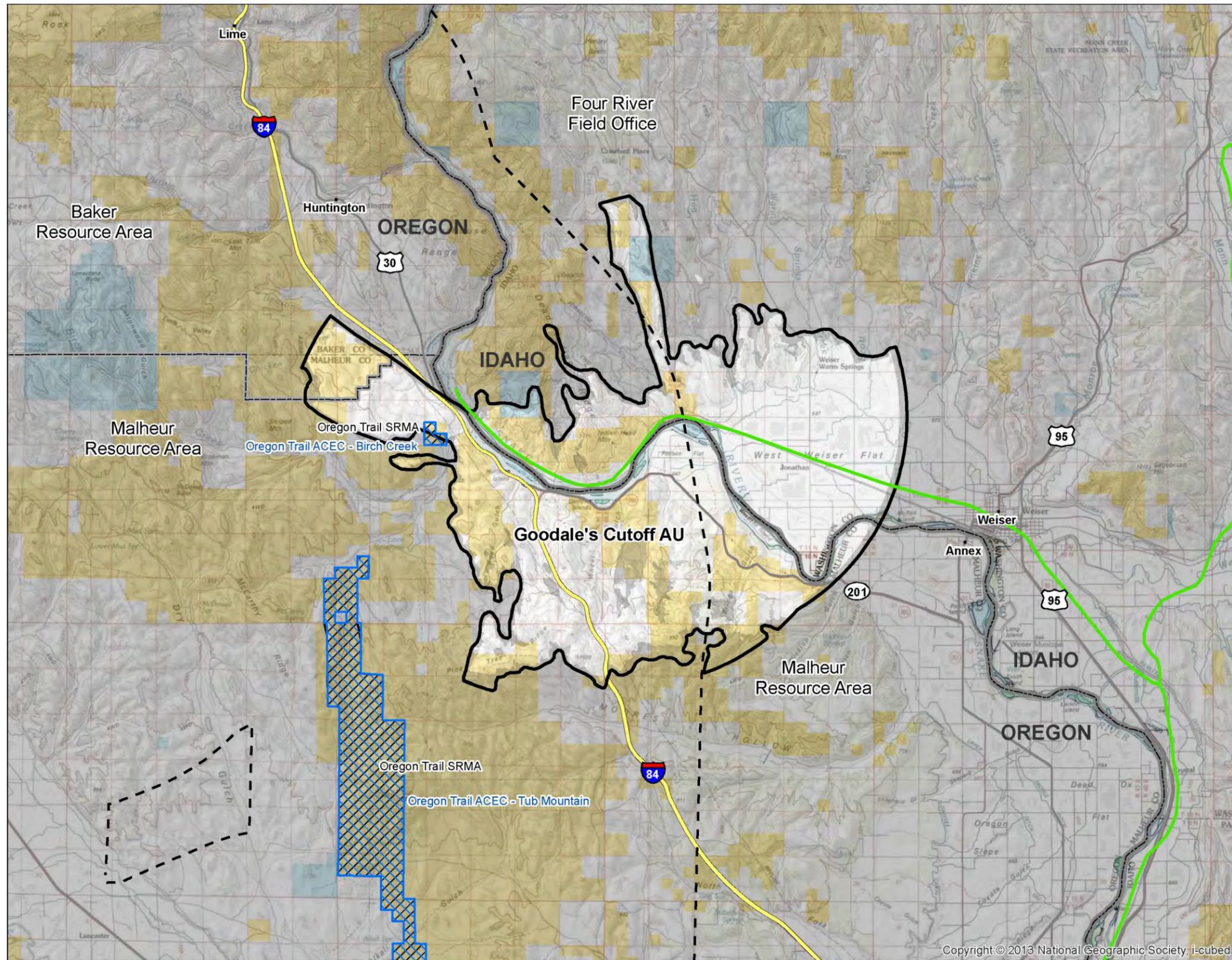
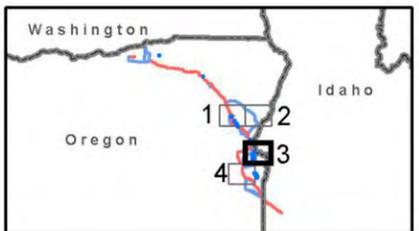


Figure 14. Goodale's Cutoff Study Trail Analysis Unit, Southern Portion

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4.0 METHODOLOGY

Manual 6280 instructs BLM to document the resources, qualities, values, associated setting, and primary uses that support the nature and purposes of segments of the Oregon NHT and Meek Cutoff and Goodale's Cutoff Study Trails that may be affected by the B2H Project. However, the manual does not provide a formal methodology for such documentation. As such, a detailed strategy for inventory and analysis of impacts on the Oregon NHT and Meek Cutoff and Goodale's Cutoff Study Trails was developed for the B2H Project in coordination with BLM trail administrators, BLM Washington Office National Trails System managers, and the B2H Project's visual and cultural resources technical leads. The preliminary approach and initial inventory findings were shared with appropriate public trail organizations including the Oregon California Trails Association (OCTA) and the Oregon Historic Trails Advisory Council (OHTAC). The following discussion summarizes the methodology for collecting the data presented in this inventory, which included the establishment of inventory observation points for documenting the physical nature, including appearance, setting, and visual data, for HPHSs and HPRSEGs. Information on primary uses supporting the NHT and Study Trails' purposes, including recreational and travel management opportunities, was collected at the level of the AU through examination of relevant BLM planning and management documents.

4.1 INVENTORY OBSERVATION POINTS

Inventory observation points (IOPs) were established per the guidance provided in Manual 6280, and they include points related to HPHSs and HPRSEGs, other significant historic trail-related features, and interpretative exhibits and trails that provide historical information and facilitate access and opportunities for the public to have vicarious experiences. Based on viewshed analyses performed from each of the initially selected IOPs, additional IOPs were established to ensure that all views of the potentially affected Oregon NHT segments were captured by at least one IOP. IOPs established for this inventory and analysis are presented in Figure 4 through Figure 10, and photographic overviews of the viewsheds from each IOP are presented in Appendix A.

The guidance provided in Manual 6280 blends the traditional concepts of BLM IOPs (for visual resource inventory fieldwork efforts) and the viewshed analysis-based "observer points" (for GIS viewshed analysis efforts). Both of these concepts have been incorporated into this inventory and analysis, and additional "observer points" were incorporated into the trail-centric viewshed analysis in order to provide viewsheds that more accurately represent the multiple and sometimes braided trail segments located on lands managed by the BLM. Although these IOPs are illustrated as single points, they functionally represent multiple Oregon NHT segments that share similar physical qualities, including historic setting and contemporary viewshed (see Figure 4 through Figure 10).

Inventory of the Oregon NHT is based on fieldwork efforts associated with IOPs. Per Manual 6280 directive, the two Study Trails were inventoried using desktop analysis involving three-dimensional GIS mapping applications, and as a result, generalized qualitative assessments were made rather than using point-specific IOPs.

4.2 BACKGROUND AND ARCHIVAL RESEARCH

Once AUs and IOPs were established for the inventory area, existing data available from the BLM and NPS regarding HPHSs and HPRSEGs, visual resources, historic setting, and recreation (including travel and transportation) was compiled. The purpose of the research effort was to determine what information is known about the condition of the Oregon NHT and Study Trails and their resources, qualities, values, and associated settings. Technical documents consulted during the background research effort include the following:

- *National Trails Feasibility Study*
- *Oregon Trail Comprehensive Management and Use Plan* (NPS 1981)
- *Oregon, California, Mormon Pioneer, and Pony Express National Historic Trails Long-Range Interpretive Plan* (NPS 2010)
- *Oregon Trail Management Plan* (BLM 1984)
- BLM resource management plans (RMPs) for the Oregon NHT (Oman 1989); the Owyhee Resource Area (BLM 1999); the Baker Resource Area (BLM 1989); the Malheur and Jordan Resource Areas (BLM 2002)
- The Oregon Trail, Oregon 1840 to 1880 National Register of Historic Places Multiple Property Documentation Form (Beckham 2012)
- Oregon Trail: White Swan and Flagstaff Hill Segments National Register of Historic Places Registration Form (Beckham 2013a)
- Oregon Trail: Blue Mountain Crossing Segment National Register of Historic Places Form (Beckham 2013b)
- *Management and Use Plan Update Final Environmental Impact Statement Oregon National Historic Trail Mormon Pioneer National Historic Trail* (NPS 1998)

In addition to reviewing BLM and NPS technical reports, archival research was completed to characterize the historical resources by AU and the historical setting by IOP, as well as to identify the possible presence of previously unrecorded HPHSs not documented by previous cultural resources investigations for the B2H Project. Primary and secondary sources consulted during this effort included published emigrant accounts; manuscripts and books on the history of the Oregon Trail; historic maps (e.g., General Land Office plats and Metsker's map); modern trail guides; BLM pamphlets for Oregon NHT interpretative sites; genealogical records; ethnographies; diaries and journals; and oral and family histories. Members of OCTA and OHTAC confirmed the results of the background and archival research effort and to identify the likelihood of additional HPRSEGs and HPHS within the inventory area.

4.3 VISUAL RESOURCE INVENTORY

Per the guidance provided in BLM Manual 6280, documentation of visual resources included both disclosure of existing BLM visual resource inventory (VRI) components and determination of trail-

specific visual components for the portions of trail located on lands managed by the BLM. Applicable VRI components were derived from the existing VRI documents and data provided by the Owyhee FO in Idaho and the Baker and Malheur FOs in Oregon. This data included existing scenic quality classifications, sensitivity level classifications, visual distance zone classifications, and VRI classes. This information has been included in the description for each IOP associated with this report and is illustrated on the maps provided in Appendix B.

As described in BLM Visual Resource Management (VRM) Manual 8400, scenic quality classifications are an evaluation of the visual quality of the landscape. Scenic quality ratings include three distinct classifications—A, B, and C. Class A landscapes have the most variety and highest harmonious composition, which correlates to scenic value/visual quality, when compared to Classes B and C landscapes. Class B landscapes have more scenic value in relation to Class C but less than Class A; and so forth. BLM considers that all public lands have scenic value, including Class C landscapes. Scenic quality ratings within the inventory area are directly related to the visual assessment units (VAUs) used for the visual analysis for the B2H Draft EIS. These VAUs are consistent with the scenic quality rating units (SQRUs) from the existing FO VRI documents.

The BLM's VRI sensitivity levels represent an analysis to ascertain the general sentiment about where visual change to the public lands would be more or less accepted by the public. Sensitivity levels include three classifications, including high, moderate, and low.

Distance zones provide an assessment of how visible lands are to the general “viewer,” or user of public lands. The distance zones provide a generalized method to describe relative visibility within the landscape as it relates to varying distances. In general terms, distance zones rely on the premise that visibility of an object decreases as the distance from the object increases. Distance zones per the VRIs are generally based on views from the most heavily used and/or visually sensitive viewing platforms (primary roads, scenic roads and trails, etc.), and include the following categories:

- Foreground/Middleground (FG/MG) (0 to 5 miles)
- Background (BG) (beyond 5 miles, up to 15 miles)
- Seldom seen/Not seen (SS) (beyond 15 miles, and/or not visible)

On the basis of these three inventory factors (*scenic quality, visual sensitivity, distance zone*), all BLM-administered lands are placed into one of four visual inventory classes (Class I, II, III, or IV). VRI Class I areas are assigned based on existing management direction—as opposed to inventory—using the matrix provided in Manual 8400. VRI classes for each of the IOPs are presented in the inventory.

VRM classes describe allowable levels of visual modification to the land. Each class permits a level of noticeability by the public (Table 4). VRM classes are established through the RMP process and are subject to NEPA review and public comment. Once a Record of Decision is signed for an RMP, the VRM class decisions are established and must be conformed to, as with any other agency resource management decision.

Table 4. Visual Resource Management Class Objectives

VRM Class	Management Objective
I	Preserve the existing character of the landscape. This class provides for natural ecological changes but does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention
II	Retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
III	Partially retain the existing character of the landscape. The level of change to characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
IV	Provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high

Table Source: BLM 1986.

Determination of trail-specific visual resources was completed based upon field evaluation at each IOP within each AU. The field assessment included an evaluation of the scenic quality of the IOP viewshed based on BLM Manual 8410. For each IOP, these evaluations are compared to the scenic quality rating from the VRIs. Differences in these evaluations are expected, because the VRI scenic quality ratings are based on large resource areas and the trail-specific evaluations are particular to the viewshed of the IOP. Any differences in the visual quality assessed in the VRI and the field assessment of existing conditions within the IOP viewshed are described in the individual IOP descriptions presented in each AU.

Because the IOPs are located directly on or very near to trail segments, the level of sensitivity is considered to be “high” (unless otherwise noted) for all IOPs. As the trail-specific distance zone determinations of each IOP are consistently in the foreground/midground of the trail segments, they are not restated in the individual IOP descriptions.

The general landscape character surrounding the IOPs/trail segments was also documented during fieldwork efforts, including descriptions of the elements and patterns created by the forms, lines, colors, and textures of landforms, water, vegetation, and existing human-made structures within the landscape.

4.4 HISTORIC AND CULTURAL RESOURCE INVENTORY

According to BLM Manual 6280, the cultural resource inventory for NHTs should include a Class I literature review to determine the presence of nationally, regionally, and locally significant NHT-related resources and determine the quality of existing inventory data; a Class II random sample survey to characterize the probable density, diversity, and distribution of significant cultural resources; and a comprehensive Class III cultural resources survey of select locations to identify, locate, and verify HPHSs and HPRSEGs and determine the potential NRHP eligibility of NHT-related resources. The manual also acknowledges that additional research and documentation may be required and should be determined in consultation with the SHPO and Trails groups.

In 2012 and 2013, a Class I literature review, Class II 15 percent random sample surveys, and a reconnaissance level survey (RLS) were completed for the B2H Project (Tetra Tech 2012 and 2013c). The findings of these cultural resources inventories as they pertain to the Oregon NHT and to the Meek Cutoff and Goodale's Cutoff Study Trails are briefly summarized below.

4.4.1 CLASS I LITERATURE REVIEW

The study area for the Class I literature review consisted of a 2-mile-wide area located on both sides of the Proposed Action centerline (a 4-mile-wide corridor) in Oregon and Idaho. This broad area was established to aid siting efforts for the route, to accommodate shifts in the route alignment, and to accommodate areas where access roads, substations, and other construction or operation facilities may be needed outside the 500-foot-wide intensive survey corridor (Tetra Tech 2012). The inventory resulted in the identification of three previously recorded cultural resources associated with the Oregon NHT on BLM land, all of which are located in Oregon. These resources consisted of an NRHP-eligible "historic site" (not further specified), trail monument, and a "landmark" whose NRHP eligibility had not been previously assessed at the time of the literature review (Tetra Tech 2012).

4.4.2 CLASS II 15 PERCENT RANDOM SAMPLE SURVEYS

Field surveys of a 15 percent sample of the applicant preferred route and alternatives were completed in 2011 and 2012 employing random sampling units. Individual mile-long sampling units for each alternative were assigned numerical identifiers and selected for survey through a web-based random number generator. Selected units that were located in areas of inaccessible private land were excluded from consideration, and a replacement unit was randomly selected. A total of 41 sample units on private land and 49 sample units on federal lands were surveyed. No cultural resources associated with the Oregon NHT or the Meek Cutoff and Goodale's Cutoff Study Trails were recorded on BLM land during the Class II 15 percent random sample surveys (Anderson et al. 2013).

4.4.3 RECONNAISSANCE LEVEL SURVEY

In 2013, an RLS of the built environment was conducted to evaluate the presence of significant built environment resources that have the potential to be indirectly (e.g., visually) impacted by the Proposed Action and alternatives (Tetra Tech 2013c). The study area for the RLS consisted of a 10-mile-wide corridor, 5 miles from centerline or to the visual horizon (whichever was closer), which is also consistent with the inventory area for Manual 6260 compliance. The reconnaissance effort involved driving publicly accessible rights-of-way to re-locate and record previously identified buildings and structures over 50 years of age and to identify any previously unrecorded buildings and structures within the RLS study area. Built environment resources (generally consisting of buildings or structures that possessed integrity) that may be indirectly impacted by the B2H Project were recommended to move forward for further evaluation and impact analysis through an intensive level survey (ILS) of the built environment, which will occur in the Phase II cultural resources inventory efforts for the B2H Project.

The RLS of the built environment resulted in the identification of 19 discrete segments of the Oregon NHT, 12 of which were recommended for further study in the ILS. Of these segments, 9 are located either entirely or partially on BLM land (Table 5).

Table 5. Oregon National Historic Trail Resources Identified in the Reconnaissance Level Survey

Resource Name	NRHP Status	Landowner	Associated Analysis Unit	Associated IOPs
Oregon Trail Interpretive Park ACEC—California Gulch/Blue Mountain Segment	Unevaluated	BLM/USFS	Blue Mountains	1-2
Whiskey Creek Segment	Unevaluated	BLM	Blue Mountains	1-3
Oregon Trail ACEC—White Swan Segment (Flagstaff Hill)	Determined eligible	BLM/Private	Flagstaff Hill/Virtue Flat	2-4 2-5
Virtue Flat Segment	Determined eligible	BLM	Flagstaff Hill/Virtue Flat	2-2
Oregon Trail ACEC—Straw Ranch 1 and 2 Segments (near Pleasant Valley and Durkee)	Determined eligible	BLM/Private	Burnt River Canyon	3-2 3-5
Oregon Trail ACEC—Swayze Creek Segment (near Plano Road)	Determined eligible	BLM/ Private	Burnt River Canyon	3-8
Oregon Trail ACEC—Birch Creek Segment	Determined eligible	BLM	Alkali Springs/Tub Mountain	4-1
Oregon Trail ACEC—Tub Mountain Segment	Determined eligible	BLM	Alkali Springs/Tub Mountain	4-3 4-4 4-5 4-6 4-7
Oregon Trail: Alkali Springs Segment	Determined eligible	BLM	Alkali Springs/Tub Mountain	4-8

Table Source: Tetra Tech 2013c.

Table Abbreviations: ACEC = area of critical environmental concern; IOP = inventory observation point; NRHP = National Register of Historic Places; USFS = U.S. Forest Service.

4.5 HISTORIC AND CULTURAL SETTING INVENTORY

Field observation of trail segments at IOPs was conducted to characterize the physical appearance of the trail segment, including retention of character-defining features and observation of changes and/or additions to the landscape that would impact historic setting. The inventory of historic and cultural setting presented below characterizes the surroundings and viewshed of the NHT HPHSs and HPSEGs from IOPs. The inventory further describes elements that complement, support, or otherwise corroborate the period of historic significance for the trail (1840-1880), as well as those elements that have developed outside the period of trail significance or are visually intrusive. Field assessment of trails resources did not include comprehensive physical documentation of the resource per professional cultural resources standards, as this work will occur either during the Class III pedestrian inventory of the preferred alternative or during the ILS of built environment resources.

4.6 RECREATION AND TRAVEL MANAGEMENT OPPORTUNITIES INVENTORY

Recreation and travel resources within the inventory area consist of three general opportunities. First are resources and experiences related directly to the NHT, which include access to, interpretation, presentation, protection, and vicarious trail-based recreational experiences. These opportunities are unique to the NHT and occur within the trail corridor. Second are opportunities for recreation that occur within and near the project corridor but that may not be related to the NHT. These types of recreation opportunities typically include hiking, trail use, hunting, fishing, wildlife viewing, camping, or other recreational activities not directly related to the NHT. The third type of recreational opportunities include developed recreational sites including campgrounds, day use area, or other developed sites that are within or near the project corridor but that are not related to the NHT.

For the purposes of this inventory, current published information regarding recreation opportunities forms the basis of descriptions of recreation opportunities within each AU. Such sources include BLM websites listing developed recreation sites, EISs associated with RMPs that identify recreation resources in the affected environment chapters, and publicly available recreation maps. Some developed recreation sites, such as state parks or U.S. Forest Service campgrounds are not on BLM lands and therefore are not in the inventory area. However, these sites may serve as a base for recreation associated with segments of the NHT on BLM-administered lands, and were consequently included in the inventory.

Recreation within the trail corridor either is associated with developed recreation sites or is considered “dispersed recreation.” Developed recreation sites are specific locations that have constructed facilities to support the recreating public. These generally include day-use areas that may have picnic facilities, parking areas, restrooms, campgrounds, interpretive opportunities, trail heads, boat ramps, constructed trails, or motorized trail use staging areas. Dispersed recreation is recreation that takes place on undeveloped portions of BLM lands and generally includes many recreation activities that are not facility-dependent, such as fishing, hiking, hunting, wildlife viewing, or even sightseeing from roads or trails not specifically built for recreation purposes. Camping can be categorized as a dispersed recreation activity if it does not involve a constructed campground with facilities. Both developed and dispersed recreation opportunities are identified for each AU of this inventory.

4.7 STUDY TRAILS INVENTORY

For the two Study Trails in the inventory area, (Meek Cutoff and Goodale’s Cutoff), there is less available information regarding the characteristics that would advance the Study Trail to an NHT designation. Per Manual 6280, desktop documentation of these trails was performed, which took into account the significant trail values, characteristics, and settings to determine if the B2H Project would potentially compromise the Study Trails’ future designation as NHTs. The desktop analysis utilized existing cultural resource reports, including the Class I Literature Review (Tetra Tech 2012), the Class II 15 percent pedestrian archaeological surveys (Anderson et al. 2013), and the RLS of the built environment (Tetra Tech 2013c); information gathered through aerial images and Google Earth was also examined. As the inventory discussion for the two Study Trails is based solely on desktop analysis,

with no field reconnaissance, discussion of these segments occurs by AU and does not include site-specific descriptions from IOPs.

4.8 IMPACT ANALYSIS METHODOLOGY

4.8.1 VISUAL RESOURCE ANALYSIS METHODOLOGY

In broad terms, impacts on visual resources refer to the change in aesthetic values resulting from modifications to the landscape. Because BLM Manual 6280 does not specifically identify methodology for evaluation of impacts on visual resources related to the identified trail segments, the methodology for evaluating visual impacts in this assessment was based on the general concepts of VRM System, as identified in the Bureau of Land Management VRM Manual 8400.

The VRM System was developed to minimize the visual impacts of activities and to manage scenic values as a specific resource. The VRM System includes a large scale (planning level) inventory of scenic values known as a VRI—followed by establishment of VRM classes, which establish objectives for the inventoried values through the resource management planning (RMP) process. Proposed activities are then evaluated from key observation points (KOP) using contrast rating forms (BLM Handbook 8431-1). The contrast rating forms provide a determination of the level of contrast (and associated environmental factors) expected from each KOP, which relates directly to the determination of conformance with the VRM class objectives. In the BLM's VRM System, KOPs represent the most critical viewpoints in a project analysis area and can include both stationary platforms (e.g., scenic overlooks, trailheads) and linear platforms (e.g., trails, scenic roads, floatable rivers).

Although the VRM system does not specifically discuss analysis of NHTs and Study Trails, the trails and trail segments represent linear KOPs from which viewers could potentially see the proposed project. Impacts for this analysis were therefore assessed in terms of changes to the landscape that could be identified by viewers along the BLM-managed trail segments identified in the NHT inventory. These changes were identified using the thresholds identified in Section 3.2.7 (Visual Resources) of the Draft EIS for linear KOPs and are included in Table 6.

In accordance with general guidance in BLM Manual 6280 regarding IOPs and KOPs, the IOPs established for the NHT inventory were used as the KOPs for the environmental consequences portion of the document. This concept is distinctly different than standard VRM policy, in which IOPs are generally located for inventory purposes to gain representative perspective on a specific unit of the landscape, and KOPs are separately located for analysis purposes to represent key locations from which viewers see the landscape. These concepts are merged in efforts related to BLM Manual 6280 because the points that offer representative perspectives of the landscape are also the same locations from which trail users would potentially be viewing the proposed project.

As recommended in BLM Manual 6280, visual analysis (and inventory) related to the Oregon NHT was based on fieldwork efforts, while analysis related to the Study Trails was based on desktop analysis. The Oregon NHT analysis was therefore associated with specific KOPs, and the Study Trails were instead analyzed using desktop analysis involving three-dimensional GIS mapping applications. Rather

than using field-specific KOPs, the Study Trails were reviewed by larger geographical areas based on changes in landform.

Both the KOPs and geographical areas functionally represent either a single trail segment or multiple trail segments that are in relatively close proximity to one another and share a similar visual setting (see Figure 4 through Figure 14). Based on the linear nature of the trail segments, both the KOPs and geographical areas were analyzed as linear viewing platforms rather than stationary viewing platforms. This type of analysis allows for disclosure of impacts that directly relate to the environmental factors that users would experience as they move along the trail segments, rather than merely standing at stationary points along the trail segments.

Environmental factors can influence the amount of visual contrast, dominance, and level of attraction introduced by project components, including the visibility conditions, the angle of observation (head-on or parallel), the length of time the project would be in view, and the scale of the Proposed Action and alternative (BLM 1986a). For each of the linear platforms identified in this analysis, an environmental factors evaluation was completed. The visual resource thresholds associated with the linear analyses are located in Table 6, and they match the thresholds identified for linear platforms in Section 3.2.7 (Visual Resources) of the Draft EIS.

As noted in BLM Manual 8400, the ability to discern change in the landscape partially depends on distance. Distance zones are established with the intent of representing general changes in “relative visibility” from observation platforms at varying distances from the proposed project. In this assessment, the foreground distance zone is defined as the area up to 0.5 mile from the Proposed Action or the alternatives, and the middleground distance zone is the area from 0.5 mile to 5.0 miles. Distance zones in this analysis were incorporated into the Environmental Factors evaluation and then carried through to the impact summaries and comparison of alternatives.

4.8.2 CULTURAL AND HISTORIC RESOURCE ANALYSIS METHODOLOGY

To evaluate potential impacts on the qualities and values of the Oregon NHT and Study Trails, cultural resource studies completed for the B2H Project were consulted to determine the condition, NRHP eligibility, and character-defining features of the trail segments and their associated cultural and historic resources. These findings were then compared with observations made during the field inventory to determine what impacts, if any, the project would have on NRHP-eligible trail segments and cultural and historic resources located within the B2H analysis area.

Cultural and historic resources were evaluated according to the impact thresholds provided in Table 6. These thresholds are based on the alteration of character-defining features, the diminishment to aspects of NRHP integrity (i.e., location, design, setting, materials, workmanship, feeling, and association), and whether or not the degree of alteration would constitute an adverse effect that would or would not be amenable to minimization or mitigation.

In general, if there was no alteration to the character-defining features of the trail segments and no diminishment to aspects of NRHP integrity, then the impact threshold of the project was considered to

be “none.” In comparison, an impact threshold of “high” was assigned to trail segments and associated cultural and historic resources if the character-defining features of the trail were subject to both indirect and direct impacts which severely altered the aspects of NRHP integrity to such a degree that the NRHP eligibility of the trail segments was adversely affected and could not be minimized and/or mitigated. As the field assessment associated with the draft NHT inventory report did not include comprehensive physical documentation of trail resources per professional cultural resources standards, impacts on trail segments for which an NRHP eligibility assessment has not yet been made, a sixth category, of “undetermined” was assigned.

4.8.3 CULTURAL AND HISTORIC SETTING ANALYSIS METHODOLOGY

The analysis of cultural and historic settings is dependent on both the existing historic character of the landscape and the degree to which the historic character would be affected by the project. In order to evaluate potential impacts on the historic and/or cultural landscape elements that influence actual and vicarious trail experiences and comprise the trail setting, the inventory included background research and field inventory data that identify, to the extent practicable, the historic character or character-defining qualities of the trail, as well as those elements that detract from the historic landscape.

Based on observations made during the field inventory, the historic setting of each trail segment was categorized in the draft NHT inventory report as either retained or diminished. Generally, the historic setting of a trail segment was considered to be retained if the segment was located in a pristine wilderness area with no visible modern intrusions, such as transmission lines, circulation features, fencing, and/or buildings and structures. In comparison, if the trail segment was situated in close proximity to I-84, was located within a utility corridor or right-of-way, or the surrounding landscape was dominated by modern intrusions, then the historic setting of the trail segment was considered to be diminished. Cardinal directions were also taken into account, making it possible for the historic setting of a trail segment to be diminished in some views, and retained in others.

Changes in historic setting were then compared to the historic character of the landscape to determine what impact, if any, the project would have on the trail segment. These impacts on cultural and historic settings were evaluated based on the thresholds provided in Table 6. If the cultural and historic setting of the trail segment was retained and there was no perceived change to the historic character of the landscape, then the impact of the project to the cultural and historic setting of the trail segment was considered to be “none.” However, if the historic character of the landscape was considered to be diminished, one of four impact thresholds were assigned—negligible, low, moderate, or high—based on the perceived level of impact that the project would have on the surrounding landscape of the trail segment. For example, the project was considered to have a negligible impact on the cultural and historic setting of a trail segment if intact supporting or contributing elements of the historic character of the landscape would be *subtly modified*. Similarly, if historic character of the landscape was considered to be *notably, substantially, or severely modified* by the project, then the trail segments were assigned low, moderate, and high impact thresholds, respectively.

4.8.4 METHODOLOGY FOR IMPACTS ON THE NATURE AND PURPOSE AND PRIMARY USES OF THE OREGON NATIONAL HISTORIC TRAIL

According to BLM Manual 6280, the NHT analysis must identify “any adverse impacts on the nature and purposes” or “primary use or uses” of the NHT. This requirement does not apply to Study Trails because they do not have an established nature and purpose or primary uses. For this assessment, it was assumed that low and very low adverse impacts would not specifically have a considerable impact on the nature and purpose or primary uses of the Oregon NHT. Potential impacts on the nature and purpose and primary uses of the Oregon NHT for this analysis were therefore based on the assumption that both moderate and high magnitudes of impact would be specifically “adverse to the nature and purpose and primary uses” because they represent substantial and severe impacts, respectively (see Table 6). These impacts would vary for the Proposed Action and alternatives based on the three identified trail-related resources (visual resources, historic and cultural resources, and historic and cultural settings). For this reason, the number of impacts “adverse to the nature and purpose and primary uses” is included for the Proposed Action and each alternative in Table 19 through Table 31. The total number of adverse impacts for the Proposed Action and each alternative are likewise provided in Table 32, allowing for a quick comparison of each alternative route.

Although the magnitude of change related to sensitive viewers is divided into impacts associated with visibility conditions, angles of observation, quantifications of view, and spatial relationships, the impacts “adverse to the nature and purpose and primary uses” of the Oregon NHT were specifically based on the spatial relationships for each linear platform. The impacts associated with spatial relationships were considered because they represent the overall degree to which the project components would be noticeable from the trail segments, as well as the perceived degree of contrast from trail users on the trail segments.

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Table 6. National Trails System Impact Thresholds

Visual Resources Visibility Conditions	Visual Resources Angle of Observation	Visual Resources Quantification of View	Visual Resources Spatial Relationship	Cultural and Historic Resources	Historic and Cultural Setting	Nature and Purpose and Primary Uses of the Oregon National Historic Trail
None (No Impacts) (Green)						
<ul style="list-style-type: none"> • Not seen 	<ul style="list-style-type: none"> • Not applicable 	<ul style="list-style-type: none"> • Not seen 	<ul style="list-style-type: none"> • No perceived change 	<ul style="list-style-type: none"> • No alteration of the character defining features of the Trail and/or associated resources; no diminishment to aspect of NRHP integrity (location, design, setting, materials, workmanship, feeling, setting and association). 	<ul style="list-style-type: none"> • No perceived change to the historic character of the landscape. 	<ul style="list-style-type: none"> • No perceived change to spatial relationship in visual resources, cultural and historic resources, or historic and cultural setting.
Negligible Impacts (Green)						
<ul style="list-style-type: none"> • Views of proposed project components are consistently backdropped against terrain. • Views are consistently partially obstructed • Views are consistently intermittent 	<ul style="list-style-type: none"> • Viewer position: superior • View orientation: views are consistently parallel 	<ul style="list-style-type: none"> • The project component(s) would be seen from 20 percent or less of the total miles of the linear KOP platform within the analysis area. • The project component(s) would be seen 20 percent or less of the total travel time along the linear KOP platform within the analysis area. • 20 percent or less of the total miles of the project component(s) would be seen along the linear KOP platform. 	<ul style="list-style-type: none"> • Project components would repeat elements/patterns common in the landscape. • Project components would not be visually evident. 	<ul style="list-style-type: none"> • Character defining features of the Trail and/or associated resources would be subtly altered with some degree of diminishment to aspects of NRHP integrity (location, design, setting, materials, workmanship, feeling, setting, and association.). However, this degree of alteration would not constitute an “adverse effect” to the NRHP-listed and/or eligible property. 	<ul style="list-style-type: none"> • Existing historic character of the landscape is diminished. • Intact elements that support or contribute to the historic character of the landscape would be would be subtly modified by the project. 	<ul style="list-style-type: none"> • Negligible degrees of change to spatial relationship in visual resources, cultural and historic resources, or historic and cultural setting.
Low Impacts (Yellow)						
<ul style="list-style-type: none"> • Views of proposed project components are predominantly backdropped against terrain • Views are predominantly partially obstructed • Views are predominantly intermittent 	<ul style="list-style-type: none"> • Viewer position: are neutral and/or superior • View orientation: views are predominantly parallel 	<ul style="list-style-type: none"> • The project component(s) would be seen 20 percent to 40 percent of the total miles of the linear KOP platform within the analysis area. • The project component(s) would be seen 20 percent to 40 percent of the total travel time along the linear KOP platform within the analysis area. • 20 percent to 40 percent of the total miles of the project component(s) would be seen along the linear KOP platform. 	<ul style="list-style-type: none"> • Project components would introduce elements/patterns common in the landscape that would be visually subordinate • Project components would create low contrast as compared to other features in the landscape. 	<ul style="list-style-type: none"> • Character defining features of the Trail and/or associated resources would be notably altered with some degree of diminishment to aspects of NRHP integrity (location, design, setting, materials, workmanship, feeling, setting, and association.) However, this degree of alteration would not constitute an “adverse effect” to the NRHP-listed and/or eligible property. 	<ul style="list-style-type: none"> • Existing historic character of the landscape is diminished. • Intact elements that support or contribute to the historic character of the landscape would be would be notably modified by the project. 	<ul style="list-style-type: none"> • Low degrees of change to spatial relationship in visual resources, cultural and historic resources, or historic and cultural setting.

Visual Resources Visibility Conditions	Visual Resources Angle of Observation	Visual Resources Quantification of View	Visual Resources Spatial Relationship	Cultural and Historic Resources	Historic and Cultural Setting	Nature and Purpose and Primary Uses of the Oregon National Historic Trail
Moderate Impacts (Blue)						
<ul style="list-style-type: none"> Views of proposed project components are equally backdropped against terrain and skylined. Views are equally unobstructed and partially obstructed Views are equally continuous and intermittent 	<ul style="list-style-type: none"> Viewer position: neutral and/or inferior View orientation: views are equally head-on and parallel 	<ul style="list-style-type: none"> The project component(s) would be seen 40 percent to 80 percent of the total miles of the linear KOP platform within the analysis area. The project component(s) would be seen 40 percent to 80 percent of the total travel time along the linear KOP platform within the analysis area. 40 percent to 80 percent of the total miles of the project component(s) would be seen along the linear KOP platform. 	<ul style="list-style-type: none"> Project components would introduce elements/patterns not common in the landscape. Project components would be visually prominent in the landscape and would create moderate contrast as compared to other features in the landscape. 	<ul style="list-style-type: none"> Character defining features of the Trail and/or associated resources would be substantially altered with a degree of diminishment to aspects of NRHP integrity (location, design, setting, materials, workmanship, feeling, setting, and association) such that the NRHP eligibility of the Trail and/or associated resources would be adversely affected. The adverse effect would be indirect and amenable to minimization and/or mitigation. 	<ul style="list-style-type: none"> Existing historic character of the landscape is diminished. Intact elements that support or contribute to the historic character of the landscape would be substantially modified by the project. 	<ul style="list-style-type: none"> Moderate degrees of change to spatial relationship in visual resources, cultural and historic resources, or historic and cultural setting.
High Impacts (Red)						
<ul style="list-style-type: none"> Views of proposed project components are predominantly skylined. Views are predominantly unobstructed Views are predominantly continuous 	<ul style="list-style-type: none"> Viewer position: neutral and/or inferior View orientation: views are predominantly head-on 	<ul style="list-style-type: none"> The project component(s) would be seen 80 percent or greater of the total miles of the linear KOP platform. The project component(s) would be seen greater than 80 percent of the total travel time along the linear KOP platform within the analysis area. 80 percent or greater of the total miles of the project component(s) would be seen along the linear KOP platform. 	<ul style="list-style-type: none"> Project components would introduce elements/patterns that would be visually dominant and create strong contrast as compared to other features in the landscape. 	<ul style="list-style-type: none"> Character defining features of the Trail and/or associated resources would be severely altered with a degree of diminishment to aspects of NRHP integrity (location, design, setting, materials, workmanship, feeling, setting, and association) such that the NRHP eligibility of the Trail and/or associated resources would be adversely affected. The adverse effect would be either direct or indirect and not amenable to minimization and/or mitigation. 	<ul style="list-style-type: none"> Existing historic character of the landscape is intact. The historic character of the landscape would be severely modified by the project. 	<ul style="list-style-type: none"> High degrees of change to spatial relationship in visual resources, cultural and historic resources, or historic and cultural setting.

5.0 INVENTORY RESULTS

The inventory results associated with the Oregon NHT and Meek Cutoff and Goodale's Cutoff Study Trails are described below. Discussion of the NHT begins with a characterization of the nature and purposes of the trail, as established in the Oregon Trail Comprehensive Management and Use Plan (CMUP) and as articulated in the RMPs which govern BLM land in the inventory area. The discussion of the Oregon NHT is organized within the five AUs defined for the inventory area (Blue Mountains AU, Flagstaff Hill/Virtue Flat AU, Burnt River Canyon AU, Alkali Springs/Tub Mountain AU, and South Alternate AU). Separate AUs have been established for the Meek Cutoff and Goodale's Cutoff Study Trails. Each of these AUs is characterized in terms of visual resources, historic and cultural resources, historic and cultural setting, and recreation and transportation opportunities. Each corresponding IOP is described within its respective AU for the NHT. As previously noted, representative photographs of viewsheds from each IOP are presented in Appendix A.

5.1 OREGON NATIONAL HISTORIC TRAIL

The numerous braided trails that compose the Oregon NHT are actually a network of trail segments, river crossings, and sites that stretch across 1,800 miles of landscape and link what at the time was considered to be the western frontier to the settled lands of the east. Interconnecting with these braided transcontinental trail alignments are regional and local historic stage and freight roads.

The Oregon NHT represented the principal route of westerly migration across southern Idaho, Oregon, and northern California. The trail was originally blazed by Native Americans to meet their short and long distance transportation needs, and later refined by early Euro-American explorers and fur trappers, including members of the Astor expedition of 1811 to 1812 and 1843 Frémont expedition. Although formal documentation has never occurred, the Shoshone-Paiute Tribes maintain that segments of the Oregon NHT generally follow the "Trail of Tears" followed by Shoshone and Paiute peoples during their forced march from Fort Harney to Fort Simcoe.

The first wave of migration along the trail came during the 1830s as Protestant missionaries journeyed west to convert native populations in Idaho and Oregon (Hutchinson and Jones 1993). The Bartleson-Bidwell Party, led by Captain John Bartleson and John Bidwell, was the first true emigrant wagon train to attempt a wagon crossing from Missouri to California. However, when the wagon train arrived in the 19th-century military and trading outpost of Fort Hall in southeastern Idaho, the party fractured and only 34 members continued west accompanying missionaries along what would eventually become the Oregon NHT. Shortly after, in 1843, Captain John C. Frémont explored the region as part of a federal expedition, publishing accounts that would eventually become trail guides for emigrants traveling along the Oregon Trail (Hutchinson and Jones 1993). By the mid-1840s, the Oregon Trail had become a major, nationally recognized thoroughfare for emigrants making their way west.

Emigrants were generally driven by a mindset which held that it was Euro-Americans' destiny to settle and reclaim western lands for productive use, converting the natural resources of the Pacific Northwest (land, minerals, wildlife and fisheries) into wealth. Native peoples, who maintained a subsistence strategy, moved seasonally along many travel routes that later formed the Oregon Trail to utilize

available resources prior to historic emigrant use. The sudden influx of emigrants, whose settlement patterns favored water sources and whose agricultural practices converted the most fertile grasslands into agricultural production, along with livestock, rapidly decimated the wild grasses and root crops and severely disrupted the subsistence patterns upon which Native American traditional lifeways depended.

Portions of the Oregon Trail continued to be used into the late 1890s; however, use of the route declined once the transcontinental railroad, which provided faster, safer, and, usually, cheaper travel east and west, was completed in 1869. Many well-traveled segments of the Oregon Trail were converted to modern highways and railroad segments, including several segments of Interstate 84 (I-84) in Idaho and Oregon. Numerous markers and memorials have been erected at burial sites, springs, emigrant camps, and inscription sites along these segments.

In the past decade, community interest and partnerships have led to the development, improvement, and rehabilitation of several recreation facilities and interpretive sites; most notably, the construction of the Flagstaff Hill National Historic Oregon Trail Interpretive Center (NHOTIC) in 2001 and ongoing rehabilitation of its historic landscape (BLM Preserve America 2004), as well as improvements to parking facilities and interpretive signage at several Oregon NHT interpretive sites. Malheur and Baker Counties have identified investments in tourism industries, attractions and activities, particularly those related to the Oregon NHT, to further bolster the region's economy (BLM 2002).

Nature and Purpose

The Oregon Trail was designated an NHT on November 10, 1978. Although neither the NTSA nor the CMUP developed for the Oregon Trail by the NPS specifically defines the "nature and purpose" of the Oregon NHT, the CMUP does describe the trail's "purpose and significance" (NPS 1999). According to the CMUP, the primary purposes of the Oregon NHT are "to identify, preserve, and interpret the sites, route, and history of the Oregon Trail for all people to experience and understand" and "to commemorate the westward movement of emigrants to the Oregon country as an important chapter of our national heritage" (NPS 1999).

The CMUP (NPS 1999) further states that the Oregon NHT is significant because:

- It was the first trail that demonstrated the feasibility of moving families, possessions, and cultures by wheeled vehicles across an area previously perceived as impassable;
- It was the corridor for one of the largest and longest emigration of families in the history of the United States;
- It is a symbol of American westward traditional migration embodied in traditional concepts of pioneer spirit, patriotism, and rugged individualism; and
- It strengthened the United States' claim to the Pacific Northwest.

A Multiple Property Documentation Form, prepared by Dr. Stephen Dow Beckham in 2012, defines a period of significance of 1840 to 1880 for the segments of the trail located in Oregon and eastern Idaho (Beckham 2012). This period begins with the commencement of overland emigrant travel through

Oregon and concludes with completion of the Oregon Railway & Navigation Company's line between Portland and Umatilla, which ultimately led to a decline in trail use (Beckham 2012).

Primary Uses

The Oregon NHT CMUP (1999) identifies a variety of recreational uses including: interpretation; heritage tourism; media interest (which manifests itself in production of movies and documentaries); walking, biking; horseback riding; historic reenactments of the trails experience, including handcart and covered wagon expeditions; and commemorative activities such as trail visitation, driving along auto-tour routes and BLM backcountry byways, reading interpretive brochures and publications, and visiting associated museums and educational facilities.

The primary use or uses of the Oregon NHT as defined in BLM RMPs are as follows:

- *Baker RMP* (BLM 1989): Sightseeing, historical interpretation, historic sightseeing, hiking, hunting, and interpretation.
- *Southeastern Oregon RMP* (BLM 2002): Recreation management emphasizing public education and enjoyment of the Oregon NHT and its setting while protecting important cultural resource values, with specific management for semi-primitive motorized and roaded natural recreation.
- *Owyhee RMP* (BLM 1999): Sightseeing, hiking, picnicking, and horseback riding.

Overall recreation activities on BLM lands within the Oregon NHT AUs include camping, boating, hunting, fishing, horseback riding, motorized recreational vehicles, sightseeing, hiking/walking, education/interpretation, wildlife viewing, driving for pleasure, and picnicking. In the Baker FO area, which covers the majority of the inventory area, NHOTIC visitation is the fourth most popular recreational activity on BLM lands—attracting over 66,000 visitors annually or 26 percent of all recreational use on Baker FO BLM lands, after boating (137,000 visitors), fishing (100,000 visitors), and camping and picnicking (69,767) (BLM, *Baker Draft RMP and EIS*, 2011a). NHOTIC visitors typically consist of adults primarily between the ages of 22 and 50 and groups numbering between one or two people (BLM 2011b).

Visitors wishing to follow the Oregon NHT can do so through a number of means such as hiking, biking, horseback riding, and driving along county roads and specially designated roadways. Many of the cross-country sections along the Oregon NHT provide recreational opportunities for motorized travel in a semi-primitive setting. Trail-related sites along the Old Oregon Trail State Highway (State Highway 30) and I-84 provide easy access to recreational opportunities. Interpretive sites can be accessed throughout the year, with most visits occurring between June and October. Current recreation use is not controlled and private ownership and/or the lack of legal public access agreements generally limits access to historic remnants and trail sites on BLM parcels that are located more than one mile from I-84. The route can be followed during dry weather periods between April and November; however, cross country portions are inaccessible during winter months and spring thaw due to snowpack or muddy conditions (NPS 1989).

As the Oregon Trail Auto Tour Route (NHT³), I-84 provides opportunities for visitors to enjoy the trails year round. The Auto Tour Route has been marked consistent with the provisions of the NTSA and existing state departments of transportation plans. The purpose of the Auto Tour Route is to heighten public awareness of the trails, to confirm the routes, and to stimulate interest in visiting actual trail sites, segments, and interpretive facilities. The route and NPS visitor brochures guide visitors on a relatively simple and direct line of travel that parallels the designated route of the Oregon NHT to the extent possible, making it convenient for auto tourists to locate designated trail sites and segments (NPS 1999).

5.1.1 BLUE MOUNTAINS ANALYSIS UNIT (OREGON)

The Blue Mountains AU is situated within Union County in northeast Oregon. The 87,260-acre AU is characterized by views of the Blue Mountains, an imposing mountain range that encompasses a 4,060-square-mile area between Pendleton and the Oregon-Idaho border, and the wide fertile valley of the Grande Ronde River. Similar to other historic trails in the region, segments of the Oregon NHT in this AU were originally blazed for use by indigenous peoples including the Walla Walla, Cayuse, Nez Perce, and Umatilla (who comprise the contemporary Confederated Tribes of the Umatilla Indian Reservation), as well as 19th-century Euro-American trappers and traders, missionaries, and explorers, until the first emigrants made their ascent up the mountain's eastern flanks in 1843 (Beckham 2013b). Both the river and mountains were important landmarks of the trail, as the well-watered, lush valley and steep forested slopes characterizing the Blue Mountains AU were a verdant contrast to the open sagebrush plains located immediately to the south. Additionally, the mountain's steep terrain—with summits reaching upward of 9,000 feet—made crossing the Blue Mountains both a memorable and daunting experience, requiring that travel be strategically planned to avoid inclement winter weather (Franza 1972). In comparison, those who traveled the route during the summer and early fall encountered natural springs and a “grand and beautiful” wooded environment supporting a variety of vegetation (Palmer 1845:55).

The Oregon NHT within the Blue Mountains AU is comprised of numerous trail segments. These segments, which include 77.8 miles of trail and 19.0 miles of the congressionally designated route, are predominantly located to the east of I-84 and, although braided, generally follow the same southeast to northwest alignment (see Table 2 and Figure 4). A single trail segment is also present to the west of I-84; this segment largely parallels the current alignment of the interstate until it crosses the Grande Ronde River, then turns to the east, where it connects with the congressionally designated route and other trail braids. Within this AU, the trail crosses BLM land in three areas—in the California Gulch area to the east of I-84; to the west of I-84 within the Blue Mountain Forest Wayside, and in the Whiskey Creek area to the southwest of La Grande. Trail segments within these three areas total approximately 1.85 miles and are characterized by IOPs 1-1, 1-2, and 1-3 respectively. These trail segments and associated IOPs are discussed in more detail below.

5.1.1.1 VISUAL RESOURCES

Within the Blue Mountains AU, trail segments on BLM lands are located within landscapes dominated by rolling mountains and narrow creek valleys. The landforms surrounding these trail segments are

enclosed to varying degrees by tall evergreen vegetation. The sense of enclosure is strongest within heavily wooded areas and is diminished in areas where evergreen vegetation gives way to pockets of open grasslands. Evergreen vegetation includes fir, pine, larch, and cedar of varying shades of dark and medium green. Grassland patches vary seasonally from bright green to straw color, and soil colors are not generally visible. Cultural modifications visible from these trail segments vary within the AU and are discussed below for each IOP. The trail segments in the Blue Mountain AU fall within VRM Class III. The visual quality ratings identified in the FO VRI would be consistent with the IOP-specific visual quality ratings identified through field inventory for this AU.

IOP 1-1

- IOP 1-1 is located on the eastern rim of Railroad Canyon and represents the setting of a trail segment that passes through a heavily wooded landscape. Cultural modifications are not visible from this IOP because tall evergreen vegetation screens views.
- This trail segment falls within a high sensitivity level rating, the seldom-seen visual distance zone VRI Class III, as identified in the Baker FO VRI.

IOP 1-2

- IOP 1-2 is located on the eastern rim of California Gulch and represents four trail segments that pass through a wooded landscape with small pockets of grassland.
- Tall evergreen vegetation generally limits views from this IOP, although I-84 can be seen intermittently to the west.
- This trail segment falls within a high sensitivity level rating, the seldom-seen visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 1-3

- This IOP is located approximately 0.5 mile to the east of Whiskey Creek and represents the setting of a trail segment that passes through a pocket of grassland surrounded by clusters of evergreen trees.
- This trail segment runs generally parallel to the Proposed Alternative. Cultural modifications visible from this IOP include gravel and two-track roads, fences, cattle tanks, and corrals.
- The trail segment represented by this IOP falls within sensitivity level rating unit (SLRU) 004, as identified in the Baker FO VRI, which is designated as having a high public concern for visual quality.
- This trail segment falls within a high sensitivity level rating, the seldom-seen visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

5.1.1.2 HISTORIC AND CULTURAL RESOURCES

Trail-related cultural resources identified within the Blue Mountains AU include two discrete trail segments and two historic markers. One of the segments—originally identified in the NPS CMUP as the Blue Mountains HPRSEG—consists of a 17-mile-long, predominantly southwest-to-northeast-trending

section of the congressionally designated trail that stretches from the western edge of present-day La Grande, Oregon, northwest to Mount Emily Interchange of I-84. Of this length, only approximately 0.23 mile is located on BLM land; the remaining mileage is situated within Wallowa-Whitman Forest or is within Oregon State Park and private lands. In July 2013, this section of trail was recommended eligible for listing in the NRHP for its many miles of intact earthen swales and well-preserved “forest and meadow landscape” through the preparation of a NRHP nomination by historical consultant Stephen Dow Beckham (Beckham 2013:4). In June 1995, the Northwest Chapter of OCTA erected a permanent marker consisting of a bronze plaque mounted on a granite rock to commemorate this segment of the Oregon NHT (OCTA 2013). However, due to its recent age, this marker is not considered a historic trail-related resource.

The second segment of trail previously identified within the Blue Mountains AU is located in the vicinity of Whiskey Creek and IOP 1-3. Referred to in the *Baker RMP* as the Whiskey Creek Site (Oman 1989:64), this segment consists of remnants possibly associated with a ca. 1867 unnamed wagon road or an alternate route of the Oregon NHT. The RMP also notes the presence of a stone marker, or small boulder inscribed with “Oregon Trail 1856,” located in a “grassy field” in close proximity to the road/trail remnants (Oman 1989:64). Both the stone marker and trail segment were identified in the August 2013 RLS, although neither were evaluated for their NRHP eligibility (Tetra Tech 2013). An additional trail marker, which was erected by OCTA in the 20th century to mark the trail’s location, was also identified during the RLS. The trail segment was assigned a site number (B2H-UN-005), and the trail markers were recorded as features. The site will be further documented during the ILS of the inventory area. Neither marker was re-located during the NHT inventory.

5.1.1.3 HISTORIC AND CULTURAL SETTING

The Blue Mountain AU represents a notable landscape change along the Oregon Trail as it would have been historically experienced; emigrants reached the fertile valley of the Grande Ronde River after having traveled through miles of extensive sagebrush hills. The Blue Mountains stood as an imposing backdrop against the verdant river valley which received water from the Grande Ronde. Many emigrants stopped at the valley to camp before attempting to cross the mountains. John C. Fremont described the valley as “a beautiful level basin, or mountain valley, covered with good grass, on a rich soil, abundantly watered, and surrounded by high and well timbered mountains” (Fremont 1845:174). Fremont further postulated that the valley, some 20 miles in diameter, would serve as excellent farm land. To the north of the valley, the precipitous slopes of the Blue Mountains were thick with pines, including spruce, balsam, and larches. In the fall the deciduous larches turned yellow, contrasting with the green of the surrounding pines, which were described by some travelers as being up to 200 feet in height. Emigrants Overton Johnston and William Winter noted that “a great portion of these Mountains are covered with dense forests of lofty pine. Those portions which are destitute of timber, are generally covered with good grass and a considerable portion of the soil appears to be fit for cultivation” (Johnson and Winter 1846:32–33). The denseness of the stands of pine and fallen timbers often made the trail nearly impassable which was only exacerbated by the steep ravines and ridgelines of the surrounding topography.

Contributing and non-contributing features of the Blue Mountains AU which are evident today are listed in Table 7. The area's topography and vegetation remain the dominant contributing elements of the AU as they would still likely be recognizable to emigrants who traveled through this region during the historic period. Evidence of these notable landscape features can be seen at IOP 1-1 where the trail segment is located on a steeply sloped hilltop of the Blue Mountains. The trail segment is present in a small clearing surrounded by dense pine vegetation, similar in nature to the description given above by Johnson and Winter (1846:32–33). In comparison, the trail segment represented by IOP 1-3 more closely demonstrates the characteristics of the La Grande Ronde valley as it is set in a landscape of open grassy plains surrounded by low rolling hills with limited stands of pine located along ravines and hilltops. The hydrology of Whiskey Creek and the nearby Grande Ronde River contribute to the lush grasses in the landscape at this location.

In comparison, the most noticeable human-related intrusion to the historic setting of the trail segments within the Blue Mountains AU is I-84, which largely parallels the congressionally designated route to the northwest of La Grande. At IOP 1-2, for example, the interstate is located downslope and approximately 0.5 mile west of the Oregon NHT which follows an adjacent ridgeline. Although the intrusion at this IOP location is primarily auditory, portions of the highway are visible from viewpoints along the route through clearings in the vegetation. In other areas, such as at IOP 1-1, the highway is effectively shielded from the trail by intervening forest. Similarly, the interstate is not visible from IOP 1-3, which is located 1.9 miles to the southeast near the intersection of Oregon State Highway 244 and Mill Canyon Road.

Table 7. Inventory of Features Contributing and Non-Contributing to Historic Character of Trail Segments within the Blue Mountains Analysis Unit

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Blue Mountains	C		This range was an important landmark and was considered the first forested terrain the emigrants had seen since leaving the hills of Kansas. It was also the last major vertical obstacle to be overcome before reaching the Columbia River.
Terrain	Ladd Canyon	C		Many emigrant journals describe the difficulty of descending this “rocky,” “circuitous,” and “dusty” canyon into the Grand Ronde Valley (Beckham 2012).
Hydrology	Grande Ronde River	C		Although not visible from the three IOP locations, the river played a prominent role in the landscape of the region creating a respite before emigrants attempted to cross the Blue Mountains.
Hydrology	Whiskey Creek	C		This small creek is an offshoot of the Grande Ronde River and flows to the southeast intersecting with the trail segment identified at IOP-3; the creek is not visible from this IOP location, however.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Circulation	I-84	NC	No	The current alignment of I-84 as seen from IOP 1-2 was built by the Oregon State Highway Department in the 1970s; it was completed to interstate standards by 1980.
Circulation	Mill Canyon Road	NC	No	At IOP 1-3, a portion of the trail follows the same alignment as this graded gravel road.
Vegetation	Native vegetation community	C		Includes vegetation mentioned in historical accounts such as cedar, larches, and other pines, as observed at IOPs 1-1 and 1-2.
Small-scale features	Post and wire fencing	NC	Yes	A post and wire fence separates BLM land from Forest Service land and the Oregon Trail Interpretative Park, which is located 1.3 miles (6,976 feet) to the southeast of IOP 1-3. Similar fencing is also visible at IOP 1-3 along both sides of Mill Canyon Road.
Small-scale features	Trail marker	NC	Yes	Concrete marker in the vicinity of IOP 1-3 was erected in the 20th century to identify the historic trail.
Small-scale features	Stone marker	C		The origin of this stone marker, noted as being in the vicinity of the trail trace at IOP 1-3, will be further investigated by Tetra Tech during its ILS.

Table Abbreviations: C= contributing, NC = non-contributing; ILS = intensive level survey; IOP = inventory observation point.

A summary of the historic setting at the three IOP locations within the Blue Mountains AU is provided in Table 8. With the exception of IOP 1-1, which has no discernable intrusions, largely due to its remote location and tall dense canopy of evergreen trees, the integrity of setting within the Blue Mountains AU has been moderately impacted by modern development, including the construction of I-84, gravel and two-track roads, fence lines, and an existing transmission line. Despite these modern intrusions, however, the trail segments within the Blue Mountains AU, and particularly those on BLM land, are highly representative of their original historic setting. As such, the Blue Mountains AU is found to retain a high degree of integrity of historic setting.

Table 8. Integrity Assessment by Inventory Observation Point, Blue Mountains Analysis Unit

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
1-1	Emigrants traveling along the eastern rim of Railroad Canyon would have experienced medium grade slopes and a heavily wooded landscape.	This IOP is located in a heavily forested area that is enclosed by tall evergreen vegetation.	The historic setting at this IOP is retained as there are no visible intrusions.
1-2	Located along a ridgeline within the Blue Mountains/California Gulch ACEC; California Gulch is located to the west. The heavily forested mountains with medium grade slopes restricted paths of travel.	This IOP, located approximately 0.5 mile east of Interstate 84, has earthen trail ruts and swales in some stage of reclamation.	This IOP retains integrity due to the well-preserved trail ruts and minimal intrusion of modern circulation features.
1-3	Located on Mill Canyon Road, approximately 1.9 miles east of its intersection with State Highway 244; Whiskey Creek is approximately 0.5 mile to the east. Historically, this area would have been grasslands surrounded by clusters of evergreen trees.	Modern intrusions visible from this location include gravel and two-track roads, fences (some with wrought iron signage/gates), and an H-frame transmission line. Additionally, it is not clear if the trail trace in this location, which has been permanently altered by road construction, represents the remains of a historic wagon road, or an alternate route of the Oregon NHT. The relationship of this segment to the Oregon NHT will be further investigated as part of the ILS.	Although the area's rolling hills and timbered draws are reminiscent of the natural environment which would have been encountered by emigrants, modern intrusions diminish the integrity of historic setting at this IOP location.

Table Abbreviations: ACEC = area of critical environmental concern; ILS = intensive level survey; IOP = inventory observation point; NHT = National Historic Trail.

5.1.1.4 RECREATION AND TRAVEL MANAGEMENT OPPORTUNITIES

The majority of the Blue Mountains AU resides in the Blue Mountains North/Grande Ronde River Basin Area in the Wallowa-Whitman National Forest. Several developed recreation sites managed by the Forest Service are found within this AU including the Blue Mountain Crossing Interpretative Park, which is considered an HPHS in the NPS CMUP (1998). This park, which features pristine ruts of the Oregon NHT, offers fully accessible interpretive trails developed by the Forest Service, as well as living history demonstrations. Hilgard Junction, a state park managed by the Oregon Parks and Recreation Division, is also located within the boundary of the AU and is considered by the NPS to be an HPHS (1998). Hilgard Junction offers streamside camping, fishing, rafting, swimming, and bird watching. An interpretive kiosk describes the historical significance of the area as a place where emigrants camped before making the ascent into the Blue Mountains. The 1989 *Baker RMP* establishes the Oregon NHT Area of Critical Environmental Concern (ACEC) and the NHOTIC to protect trail settings but does not provide Recreation Opportunity Spectrum (ROS) direction for segments of the Oregon NHT on BLM land. The 1989 *Baker RMP* also identifies recreation activities in this area, as they relate to the Oregon NHT, as sightseeing, historic interpretation, historic sightseeing, hiking, hunting, and interpretation. These recreation opportunities can either be related to or unrelated to the Oregon NHT, but occur within the trail corridor.

5.1.2 FLAGSTAFF HILL/VIRTUE FLAT ANALYSIS UNIT (OREGON)

The Flagstaff Hill/Virtue Flat AU is located within Baker County in northeastern Oregon. Located north of the Virtue Hills, the sagebrush covered, rolling hills of Virtue Flat bridged the gap between the Burnt and Powder Rivers and provided emigrants with nearly panoramic views of the distant Willamette Mountains to the north, the Blue Mountains to the west, and more immediately, Flagstaff Hill to the northwest (Beckham 2013). Emigrant accounts did not refer to the area as Virtue Flat, but instead described it as the “sage plains” or “dividing grounds” between the two river channels (Clever 1848; Frémont 1845). Similarly, Flagstaff Hill, to the northwest of Virtue Flat, was not known during the Emigrant era by this name. Flagstaff Hill and the land immediately surrounding it would become known as the Virtue District for James W. Virtue who purchased a gold mining claim there in 1868; after Virtue established the Flagstaff Mine, the landform would become known as Flagstaff Hill (Tetra Tech 2013; Oregon Department of Geology and Mineral Industries n.d.). This hill, on which the NHOTIC is now located, was an important landmark for emigrants traveling the Oregon Trail, as it was one of the first landforms visible after descending the north face of Virtue Hills onto Virtue Flat (Beckham 2013). Flagstaff Hill also offered, and continues to offer through the NHOTIC, a commanding view across the Baker Valley. The “lone tree” often described by emigrants prior to its removal in the early 1840s would have been visible in the Baker Valley from Flagstaff Hill.

Encompassing approximately 56,340 acres of the public and private land to the east of Baker City, the Flagstaff Hill/Virtue Flat AU consists of approximately 13.7 miles of the congressionally designated route of the Oregon NHT (see Table 2 and Figure 5). Data provided from the BLM, Oregon SHPO and OCTA indicate another 48.4 miles of Oregon NHT, consisting predominantly of trail braids paralleling the congressionally designated route, are also present within this AU. The segments of the Oregon NHT and its parallel braids cross Baker Valley and Missouri Flat in a generally northwest to southeast trending direction and continue south along the western and southern flanks of Flagstaff Hill within the Flagstaff Hill ACEC. Approximately 1.1 miles southeast of this landform, the trail diverges to the south and forms a second alignment which roughly parallels the congressionally designated route to the east. In this location, the trail splits in numerous directions and crosses BLM land in ten locations before turning to the east at Quartz Gulch and nearly reconnecting with the congressionally designated route within the White Swan ACEC. In comparison, the congressionally designated route continues to the southeast, where it crosses the White Swan ACEC and forms multiple trail braids to the west of White Swan Mine. In total, approximately 13.3 miles of trail are located on BLM land within this AU. Due to the braided and divergent nature of the trail in this area, data was collected from five IOP locations (IOPs 2-1, 2-2, 2-3, 2-4, and 2-5) established within the AU.

5.1.2.1 VISUAL RESOURCES

Within the Flagstaff Hill/Virtue Flat AU, trail segments on BLM lands are located within landscapes dominated by rolling hills and flat to moderately sloping valleys. The landscapes surrounding these trail segments are generally panoramic, with open views of rolling sage steppe vegetation against the occasional backdrop of steep, rugged mountains. The sense of enclosure experienced from the trail segments is generally weak. The sagebrush vegetation includes shades of sage green and gray, while the grassland vegetation varies seasonally from bright green to straw color. Landform colors are not

generally visible through the dense vegetative cover, but beige and medium brown colors are occasionally visible. Cultural modifications visible from these trail segments vary within the AU, and are discussed below for each IOP. The Flagstaff Hill/Virtue Flat AU falls within VRM Class II.

The trail segments on BLM-managed lands occur intermittently throughout the AU; the setting of these segments is represented by five IOPs. Unless noted otherwise, the visual quality ratings identified in the FO VRI would be consistent with the IOP-specific visual quality ratings identified through field inventory for this AU.

IOPs 2-1 and 2-2

- These IOPs are generally located along State Highway 86 near Flagstaff Hill and together represent a number of trail segments that extend in a southeast to northwest alignment from Flagstaff Hill. IOP 2-1 is located at an historic marker directly adjacent to State Highway 86, and IOP 2-2 is located upon the general trail alignment northeast of an interpretive site along State Highway 86. The setting of these trail segments includes open, panoramic views of rolling hills covered with fairly dense sage steppe vegetation. The flat expanse of Baker Valley is visible to the northwest against the backdrop of the steep, rugged Blue Mountains. Cultural modifications visible from these IOPs include State Highway 86, roadway and interpretive signage, guardrail, wood and wire fencing, a large stone monument (known as the Flagstaff Hill Monument), transmission lines and wooden poles, the NHOTIC and its associated facilities, and agricultural fields and rural development associated with Baker Valley.

IOP 2-1

- IOP 2-1 is located within VAU BA-014.
- This trail segment falls within a high sensitivity level rating, the background visual distance zone, and VRI Class II, as identified in the Baker FO VRI.

IOP 2-2

- IOP 2-2 is located within VAU BA-021.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the Baker FO VRI.
- This trail segment falls within a high sensitivity level rating, the background visual distance zone, and VRI Class II, as identified in the Baker FO VRI.

IOP 2-3

- IOP 2-3 is located on the eastern rim of the Ruckles Creek drainage, and was selected to represent several trail segments that pass through rolling sagebrush hills.
- The setting of these trail segments includes open, panoramic views of rolling hills covered with dense sage steppe vegetation.

- The steep and rugged Wallowa Mountains are visible in the distance to the northeast. The only cultural modifications visible from this IOP are distant, clustered ranching structures.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the background visual distance zone, and VRI Class II, as identified in the Baker FO VRI.

IOP 2-4

- This IOP is located approximately 0.5 mile east of Quartz Gulch and was selected to represent several trail segments that pass through rolling sagebrush hills.
- The setting of these trail segments includes open, panoramic views of rolling hills covered with dense sage steppe vegetation.
- The steep and rugged Wallowa Mountains are visible in the distance to the northeast. Cultural modifications visible from this IOP include gravel roads; fence lines; the NHOTIC; and distant, clustered ranching buildings and structures.
- This IOP is located within VAU BA-021.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality B, which differs from the scenic quality rating of C identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the background visual distance zone, and VRI Class II, as identified in the Baker FO VRI.

IOP 2-5

- IOP 2-5 is located to the south of the White Swan Mine and the upper end of White Swan Gulch.
- The IOP was selected to represent several trail segments that pass through rolling sagebrush hills.
- The setting of these trail segments includes open, panoramic views of rolling hills covered with dense sage steppe vegetation.
- The steep and rugged Wallowa Mountains are visible in the distance to the northeast. Cultural modifications visible from this IOP include gravel roads; the NHOTIC; and distant, clustered ranching buildings and structures.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class II, as identified in the Baker FO VRI.

5.1.2.2 HISTORIC AND CULTURAL RESOURCES

Identified historic and cultural resources within the Flagstaff Hill/Virtue Flats AU include the Flagstaff Hill and White Swan Segments of the Oregon NHT, the Flagstaff Hill Monument, and the Meeker Marker. Additionally, the NHOTIC, a 23,000-square-foot center built on top of Flagstaff Hill and overlooking a

well-preserved section of the Flagstaff Hill Segment of the Oregon NHT, is considered an HPHS (No. 106) in the 1989 CMUP (NPS 1989:306). The center was constructed by the BLM in partnership with a non-profit organization between 1989 and 1992.

The Flagstaff Hill Segment of the Oregon NHT is located adjacent to State Highway 86 in an expansive sagebrush plain known as Virtue Flat. The trail segment was first recommended eligible for inclusion in the NRHP by the BLM in 1976. That year, the BLM prepared a NRHP nomination for a historic district composed of the Flagstaff Hill Segment and an adjacent segment of the Oregon NHT, referred to in the nomination as the Virtue Flat Segment. The historic district was determined eligible for listing by the Keeper of the NRHP; however, as portions of the nominated trails were located on both public and private land, the nomination was returned to the BLM so that permissions from private landowners could be obtained. The BLM was unsuccessful in obtaining landowner agreement to list the property, and the proposed nomination was not re-submitted (NPS 1989:14).

In 2013, the previously nominated portion of the Flagstaff Hill Segment on BLM land was again recommended eligible for inclusion in the NRHP through a NRHP nomination prepared by Stephen Beckham. This nomination included a second segment of the Oregon NHT—the White Swan Segment—also located on BLM land in the Virtue Flat area. The Flagstaff Hill Monument and Meeker Marker were also documented in the nomination as non-contributing. Constructed in 1943, outside the established period of significance for the NHT, the Flagstaff Hill Monument consists of an 18-foot-tall roughly pyramidal-shaped cement and cobble marker situated in a pull-off along the southern shoulder of State Highway 86. The monument was assigned a site number (B2H-BA-279) by Tetra Tech as part of their 2013 RLS of the analysis area. The Meeker Marker was originally placed along the Oregon NHT by Ezra Meeker in 1906 but was moved to its current location along an unpaved interpretative trail at the NHOTIC sometime prior to 1992.

5.1.2.3 HISTORIC AND CULTURAL SETTING

Emigrants who traveled the segment of Oregon Trail through the Flagstaff Hill/Virtue Flat AU crossed the sagebrush hills north of the Burnt River Canyon, where they were then afforded a view over the Powder River Valley with the imposing Blue Mountains in the distance. During his 1842 expedition of the trail, J.C. Frémont described the condition of the trail between the Brulé (Burnt) River and Powder River, noting that “from the dividing grounds we descended by a mountain road to Powder River, on an old bed of which we encamped. Descending from the summit, we enjoyed a picturesque view of high rocky mountains on the right, illuminating [*sic*] by the setting sun” (Frémont 1845:177). Emigrants Cecelia Adams and Parthenia Blank described their journey along the trail after leaving the Burnt River as follows:

[We] traveled over hills till afternoon then came to a pretty level piece of land covered with sage on which we traveled till nearly night and then descended to another beautiful smooth plain several miles in extent bounded by grass covered hills except on the west which is bounded by the Blue Mountains, beautiful in the distance covered with pine looks as if we

were coming somewhere - camped among the sage without water plenty of grass for our cattle on hill nearby [*sic*]. (Holmes and Dunniway 1997:300)

Peter Burnett, who journeyed along the Oregon Trail in 1843, noted the presence of tall mountain ranges in the distance, remarking that the sun glanced through “open spaces upon the gleaming mountains” (Burnett 1904:81). He also wrote about passing “through some of the most beautiful valleys” and camping “on the branch of the Powder River at the Lone Pine” (Burnett 1904:81).

Contributing and non-contributing features of the Flagstaff Hill/Virtue Flat AU which are evident today are listed in Table 9. The area’s topography, which afforded expansive views, and vegetation remain the dominant contributing elements of the AU, as they would still likely be recognizable to emigrants who traveled the through this region during the historic period. Evidence of these significant landscape features can be seen at IOP 2-3 where the trail segment is located on a modest slope of the Virtue Hills. The trail segment is present in an open landscape of rolling hills where sagebrush and grasses are the predominant forms of vegetation. The trail segment represented by IOP 2-5 offers the expansive views of the distant Wallowa and Blue Mountains which emigrants commonly described while crossing the northern side of the Virtue Hills. Due to its poorly developed hydrology, this area is also dominated by brush and grasses which the emigrants more broadly referred to as “sage plains” (Cleaver 1848).

The most noticeable human-related intrusion to the historic setting of the trail segments in the Flagstaff Hill/Virtue Flat AU is State Highway 86, which runs east to west across the expanse of the AU. IOP 2-1 is located in an asphalt pull-off along the highway and it is also adjacent to the trail segment identified at IOP 2-2. Similarly, the road its traffic is visible from each of the five IOPs.

The NHOTIC is located on the southern slope of Flagstaff Hill. This modern facility which is operated by the BLM is visible from all of the IOP locations within the Flagstaff Hill/Virtue Flat AU, except IOP 2-3; while considered an HPHS site in the Oregon NHT CMUP, the facility’s presence affects the retention of historic setting of the trail segments identified in these locations.

A summary of the historic setting at the five IOP locations within the Flagstaff Hill/Virtue Flat AU is provided in Table 10. The integrity of setting within the Flagstaff Hill/Virtue Flat AU has been moderately impacted by modern development, including the construction of State Highway 86, gravel and two-track roads, fence lines, mining features, existing transmission lines, and the NHOTIC and its associated facilities. Despite these modern intrusions, however, the trail segments and associated features within the Flagstaff Hill/Virtue Flat AU—and particularly those on BLM-administered land—have strong visual values that are generally representative of their original historic setting. As such, the Flagstaff Hill/Virtue Flat AU is found to retain integrity of historic setting.

Table 9. Inventory of Features Contributing and Non-Contributing to Historic Character of Trail Segments within the Flagstaff Hill/Virtue Flat Analysis Unit

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Flagstaff Hill	C		Although not referred to as “Flagstaff Hill” between 1840 and 1880, this landform was an important landmark along the Oregon NHT, as it was one of the first landforms visible when emigrants descended the north face of Virtue Hills onto Virtue Flat (Beckham 2013).
Terrain	Virtue Flat	C		This expansive area was historically referred to in emigrant accounts as the “sage plains” or “dividing grounds” between the Burnt and Powder Rivers (Cleaver 1848; Frémont 1845).
Terrain	Virtue Hills	C		From the top of these hills, emigrants had a panoramic view of Virtue Flat and the distant Blue and Wallowa Mountains.
Terrain	Wallowa Mountains	C		Panoramic views of the Wallowa Mountains were visible to the north as emigrants traveled through Virtue Flat.
Terrain	Blue Mountains	C		The “lofty peaks” of these mountains were described by numerous emigrants traversing the Oregon NHT as they were a constant reminder of the difficult segments of trail that they ahead.
Terrain	Lone Pine Mountain	C		This landform was named after a large pine tree which served as a landmark for emigrants until it was cut down for fuel sometime prior to 1843 (Burnett 1904).
Circulation	Oregon State Highway 86	NC	No	This highway is either adjacent to or visible from all of the IOPs within the Flagstaff Hill/Virtue Flat AU.
Circulation	Two-track roads	NC	Yes	Numerous two-track roads providing access to mines and ranches in the region are present in the Virtue Flat area. In some cases, portions of the Oregon NHT have been incorporated into these graveled routes, as is evidenced by the trail trace at IOP 2-5.
Buildings and structures	Transmission lines	NC	No	H-frame structures of a predominantly north-south trending transmission line are visible to the north, south, and west of IOPs 2-1 and 2-2.
Buildings and structures	Oregon National Historic Trail Interpretative Center	NC	Yes	This building is listed in the National Park Service’s 1989 Comprehensive Management and Use Plan as High Potential Historic Site No. 106 of the Oregon NHT. Although not historic in age, it contributes to the character of the Oregon NHT at IOPs 2-1 and 2-2 as it provides opportunities for visitors to experience the trail in these locations.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Vegetation	Native vegetation community	C		Consists predominantly of sagebrush, rabbitbrush, and grasses, which were historically present in the region.
Vegetation	Agricultural crops	NC	No	Agricultural fields within Baker Valley are visible at IOPs 2-1 and 2-2.
Small-scale features	Post and wire fencing	NC	Yes	Post and wire fencing lining the State Highway 86 rights-of-way are visible at IOPs 2-1 and 2-2.
Small-scale features	Tailings/prospects	NC	No	Prospects and tailing piles of varying sizes, evident of both historic and modern mining occurring in the region, are visible at IOPs 2-3, 2-4, and 2-5 in the Virtue Flat area of the analysis unit.
Small-scale features	Interpretative signage	NC	Yes	Panels describing the general history of the Oregon NHT are present at a wayside along the north side of State Highway 86 in the vicinity of IOP 2-2.
Small-scale features	Concrete marker	NC	Yes	A 20th-century concrete trail maker is present in the vicinity of IOP 2-4.
Small-scale features	Flagstaff Hill Monument	NC	Yes	Located in the vicinity of IOP 2-1, this cement and cobble marker was erected by the Kiwanis Club in 1943.

Table Abbreviations: C= contributing, NC = non-contributing; IOP = inventory observation point; NHT = National Historic Trail.

Table 10. Integrity Assessment by Inventory Observation Point, Flagstaff Hill/Virtue Flat Analysis Unit

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
2-1	Located within Virtue Flat to the southwest of Flagstaff Hill. Emigrants traversing the trail in this location would have had expansive views of Baker Valley and Missouri Flat to the west and north, as well as the Blue Mountains and Wallowa Mountains in the distance.	This IOP is located in a pull-off/parking area at the ca. 1943 Flagstaff Hill Monument. State Highway 86 and its right-of-way fence, a predominantly north-south trending H-frame transmission line, and infrastructure associated with the NHOTIC (National Park Service's High Potential Historic Site No. 106) are prominent intrusions to the historic setting in this location. Additionally, numerous residential and agricultural buildings are present	This IOP has diminished integrity due to prominent modern circulation features and development associated with agriculture and power transmission.

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
2-2	Located along the southern flank of Flagstaff Hill. The relatively level topography of this area created opportunities for multiple paths of travel and several braids of the trail intersect here. The Goodale's Cutoff, an NHT study trail which enters Virtue Flat from the Lower Powder Valley to the east, also converges with the Oregon NHT in this location.	This IOP, located to the west of State Highway 86, has several sets of earthen and reclaimed trail ruts in excellent condition. Lone Pine Mountain is visible in the distance to the south and the level topography of Missouri Flat is visible to the north and east. Interpretative signage and a post and wire fence are present within a wayside approximately 189 feet to the southwest of the IOP. The IOP is accessed via a graveled footpath which extends to the trail trace.	This IOP retains integrity due to the well-preserved trail ruts and minimal intrusion of modern circulation features.
2-3	Historically, this area was characterized by low rolling hills covered with sage steppe vegetation. Emigrants who passed through this area had panoramic views of the Blue Mountains to the west and distant Wallowa Mountains to the north, which they described as being either "bald" or "black with pines" (Jackson and Spence 1970[1]:543).	This IOP is located downslope and east of a two-track road; the Emma and Virtue Mines are located to the southwest. Although hardly discernable, the trail trace in this location has not been altered and appears to follow its original alignment. A cluster of buildings and a gravel pit and numerous prospects/tailings piles associated with historic and modern mining activities in the Virtue Flat area are the most prominent intrusions to the historic setting in this location. State Highway 86, located to the north of the IOP, is not visible unless traffic is present.	The historic setting at this IOP is retained. With the exception of several two-track roads to the south, the majority of the intrusions visible from this IOP are located to the northeast.
2-4	Situated at the northern base of the Virtue Hills, this area is characterized by level and homogenous terrain which emigrants commonly referred to as "sage plains."	The trail trace at this IOP has been altered by the construction of a graded and graveled county road which follows the trail's historic alignment. Intrusions visible at this location include numerous ranch buildings and structures to the north, west, and east; State Highway 86 to the north; the NHOTIC to the northwest; and several fence lines to the west. Additionally, a concrete trail marker is present immediately west of the IOP.	While modern development is evident, this IOP retains integrity as the surrounding landscape remains evocative of an expansive sagebrush flat interspersed with low rolling hills.
2-5	Situated within Virtue Flat near the upper end of White Swan Gulch, emigrants traveling the Oregon NHT in this location would have had panoramic views of the steep and rugged Wallowa Mountains to the northeast.	Intrusions visible from this IOP include gravel roads; the NHOTIC; and distant, clustered ranching buildings and structures. Additionally, the trail trace at this IOP has been permanently altered by a graveled road which was constructed in the early 20th century to provide access to the White Swan Mine, which is located to the north.	While modern development is evident, this IOP retains integrity as the location retains both its sweeping views of distant mountains, as well as the surrounding rolling hills covered in sage steppe vegetation.

Table Abbreviations: IOP = inventory observation point; NHT = National Historic Trail; NHOTIC = National Historic Oregon Trail Interpretive Center.

5.1.2.4 RECREATION AND TRAVEL MANAGEMENT OPPORTUNITIES

The Oregon NHT in the Flagstaff Hill/Virtue Flat AU can be accessed from several locations along State Highway 86 and White Swan Road. The primary recreation activity related to the Oregon NHT in this AU is visitation of the NHOTIC. Considered an HPHS in the 1998 NPS CMUP, this center provides educational, interpretive, and sightseeing programs throughout the year and attracts approximately 66,000 visitors annually. Due to its hilltop location, it also provides panoramic views of the Oregon NHT north into the Baker Valley and south into Virtue Flat. The AU also has two ACEC parcels of the Oregon Trail ACEC—the White Swan segment and the Flagstaff Hill segment—both of which were established under the *Baker RMP* as part of the larger Oregon Trail ACEC to protect well-preserved trail segments. These ACEC segments have special provisions which (1) prohibit uses incompatible with maintaining visual qualities or public interpretation within the 0.5 mile congressionally designated corridor of the NHT; (2) prohibit the development of campgrounds within 0.25 mile of the Oregon Trail; (3) prohibit the construction of new roads; and 4) restrict OHV usage to designated roads and trails (Oman 1989).

The 1989 *Baker RMP* also recognizes Virtue Flat as an extensive recreation management area and the Oregon NHT as a special recreation management area (SRMA). Virtue Flat primarily resides on BLM land with some spurs extending onto private land, and provides a variety of motorized trails year-round for all classes of off-highway vehicles (OHVs) including motorcycles, four-wheel drives, and quads. While the RMP protects trail settings within these areas, it does not provide ROS direction for the segments of the Oregon NHT on BLM land.

Another recreation opportunity associated with the trails segments in this AU is State Highway 86, or the Hells Canyon Scenic Byway, which provides access to recreation sites along the Oregon NHT and within Virtue Flat. This section of byway follows the route early pioneers first traveled to Willamette Valley to reach mining towns like Halfway, Pine, and Copperfield.

5.1.3 BURNT RIVER CANYON ANALYSIS UNIT (OREGON)

The Burnt River Canyon AU is located in Baker County in eastern Oregon near the Idaho border. The Burnt River is a tributary of the Snake River where it intersects near the present-day town of Huntington, Oregon. The Oregon Trail largely paralleled the Snake River in its route across Idaho. Upon crossing the Oregon border, emigrants left the river—which continued north for the final time at “Farewell Bend,” traveling northwest until arriving at the Burnt River.

The Burnt River Canyon was one of the more treacherous segments of the Oregon Trail. The river received its name from the frequent number of wildfires which burned the adjacent hillsides. Emigrant journals frequently described the poor nature of the trail and the necessity of crossing the river at multiple locations. The river included both shallow and deep depths which exacerbated the difficulties of crossing and left animals fatigued from their efforts. Joel Palmer, who traveled through Burnt River Canyon in September of 1845, reported the following: “This day we traveled about twelve miles. The road exceeded in roughness that of yesterday. Sometimes it pursued its course along the bottom of the creek, at other times it wound its way along the sides of mountains, so sidelong as to require the weight

of two or more men on the upper side of the wagons to preserve their equilibrium” (Palmer 1845). The emigrants continued to follow the Burnt River’s southeast to northwest trajectory until reaching the area of the present-day town of Durkee, where they departed the river and continued north.

Within the Burnt River Canyon AU, the Oregon NHT is comprised of six trail segments, five of which follow the same general northwest to southeast trending alignment as I-84 and State Highway 30 (see Table 2 and Figure 6). The remaining trail segment extends from the White Swan ACEC within Virtue Flat and continues to the southwest where it crosses the interstate and highway before terminating to the east of Dry Gulch and Dogtown Creek. Within this AU, the trail crosses BLM land in approximately 20 locations which are spread out over a 156,540-acre area between Pleasant Valley and Huntington, Oregon. The length of the trail segments within these locations varies, with the shortest segment measuring approximately 0.2 mile and the longest spanning approximately 1.2 miles between Weatherby and Doman Road to the east of I-84; the total length of all of the trail segments on BLM land within this AU is approximately 14.8 miles. The historic setting of the trail segments within the Burnt River Canyon AU are characterized by 13 IOPs, which are discussed in more detail below.

5.1.3.1 VISUAL RESOURCES

Within the Burnt River Canyon AU, trail segments on BLM lands are located along the I-84 corridor which generally stretches from the unincorporated community of Pleasant Valley, OR south to Huntington, OR. The landscapes surrounding these trail segments are dominated by rolling hills, steep mountains, and narrow agricultural valleys. Setting varies from open and panoramic in the uplands to strongly enclosed within valleys and landform depressions. Views from the trail segments are dominated by adjacent mountains within the Blue Mountain Range, including Iron Mountain, Gold Ridge, Gold Hill, Baldy Mountain, Lookout Mountain, Fur Mountain, Weatherby Mountain, Morgan Mountain, Table Rock, Lost Tom Mountain, and the Slaughterhouse Range. The mountains and rolling hills are generally covered by dense sagebrush steppe vegetation. The sagebrush introduces shades of sage green and gray, while the mixed grasses are straw color and seasonally bright green. Higher elevations within the adjacent mountains also include dark green colors of clustered and stippled evergreen trees. Agricultural vegetation within the flat valley bottoms varies seasonally from bright green to straw color. Riparian vegetation is also visible from some of the trail segments, and introduces medium to bright green colors along the edges of the rivers and creeks. Landform colors are often visible within the steep mountain formations, and range from light beige to gray, medium brown, and dark brown. Cultural modifications visible from these trail segments vary within the AU and are discussed below for each IOP. The Burnt River Canyon AU falls within VRM Class III.

The trail segments on BLM-managed lands occur intermittently throughout the AU and their setting are represented by 13 IOP locations. Unless noted otherwise, the visual quality ratings identified in the FO VRI would be consistent with the IOP-specific visual quality ratings identified through field inventory for this AU.

IOP 3-1

- IOP 3-1 lies within the rolling sage steppe hills north of I-84 and south of Virtue Flat.
- The IOP represents a single trail segment that passes from Baiseley Creek over a small saddle into Dry Creek.
- The setting varies along the trail segment, as views from the higher ground of the saddle are open and panoramic. In comparison, views from within the Dry Creek drainage are generally enclosed by valley sidewalls with distant focal views oriented down the drainage toward the Blue Mountains to the southwest.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe vegetation, while distant mountains transition to evergreen trees in the higher elevations.
- Cultural modifications are not generally visible from this trail segment, although distant modifications can be seen along the I-84 corridor.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-2

- This IOP is located within the rolling sage steppe hills north of I-84 and south of Virtue Flat and has been selected to represent four trail segments that follow an unnamed drainage approximately 2.5 miles north and east of Pleasant Valley.
- The setting of these trail segments varies; from the higher ground on the northern portions of the trail segments, views of surrounding hills and valleys are relatively open and panoramic.
- Views from within the drainage are generally enclosed by its sidewalls, but also include distant focal views down the drainage to the southeast.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe vegetation, transitioning to evergreen trees in the higher elevations.
- Cultural modifications visible from these trail segments include wire fencing, as well as distant modifications along the I-84 corridor.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-3

- This IOP is located to the west of Dogtown Creek within rolling sage steppe hills along I-84.
- The IOP represents four trail segments—two of which parallel the I-84 alignment.
- The third segment passes through a shallow drainage and up to the top of broad, low hill south of I-84, and the fourth is an extension along this same alignment that lies just north of I-84 across State Highway 30.

- The setting of these trail segments includes open and panoramic views of surrounding hills and mountains, as well as the broad valley through which I-84 passes.
- Vegetative cover adjacent to the trail segments consists of dense sage steppe transitioning to evergreen trees in the higher elevations.
- The lands within view appear generally undeveloped, aside from cultural modifications visible along the I-84 corridor.
- These modifications include the interstate and interchange, an underpass structure, a transmission line comprised of wood H-frame structures, and a cluster of ranching structures.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/middleground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-4

- This IOP is located atop a rolling sage steppe hill directly adjacent to I-84 southeast of the community of Pleasant Valley, OR.
- The IOP represents a single trail segment, which parallels the alignment of I-84.
- The setting of this trail segment includes moderately enclosed views of Pleasant Valley and the surrounding rolling mountains.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe and scattered evergreen trees, while adjacent mountains also include clustered evergreen trees.
- A variety of cultural modifications are visible within this enclosed landscape, including I-84, State Highway 30, gravel roads and parking/staging areas, railroad tracks, and associated staging areas, transmission lines (both single and H-frame wooden poles), communication towers, and the clustered development associated with the community of Pleasant Valley.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/middleground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-5

- This IOP is located within the rolling sage steppe hills north of I-84 and south of Virtue Flat in the Straw Ranch I ACEC.
- The IOP represents four trail segments that follow an unnamed drainage just east of Straw Ranch Creek.

- The setting of these trail segments varies along the trail. From the higher ground on the northern portions of the trail segments, views of surrounding hills and valleys are relatively open and panoramic. Views from within the drainage are generally enclosed by its sidewalls but include distant focal views down the drainage to the southeast.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe transitioning to evergreen trees in the higher elevations.
- Cultural modifications visible from this trail segment include a cluster of ranching structures, barbed wire fencing, transmission lines with wooden H-frame poles, and distant modifications along the I-84 corridor.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-6

- This IOP is located within a weakly enclosed valley west of Pritchard Creek.
- The IOP represents five trail segments that are directly parallel to I-84 and Old US 30.
- The setting of these trail segments includes weakly enclosed views of Durkee Valley and the surrounding rolling mountains.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe and scattered evergreen trees, while adjacent mountains also include clustered evergreen trees.
- A variety of cultural modifications are visible within this landscape, including clustered ranching buildings and structures, gravel roads, and fences.
- I-84 is not visible from IOP 3-6, but the highway and associated features would be visible from the trail at various points along the five segments.
- A small segment of trail also falls within VAU BA-014.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-7

- This IOP is located on the eastern edge of Durkee Valley, adjacent to I-84 and north of Durkee Creek.
- The IOP represents five trail segments that are directly parallel to I-84.
- The setting of these trail segments includes weakly enclosed views of Durkee Valley and the surrounding rolling mountains.
- Two trail segments follow the alignment of I-84, and one is a short segment that is crossed by the interstate.

- The two remaining segments parallel an unnamed drainage before crossing over a low, rounded ridge on the edge of the valley.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe and scattered evergreen trees. Adjacent mountains include clustered to dense evergreen trees in higher elevations.
- A variety of cultural modifications are visible from the IOP and trail segments within this landscape, including I-84 and its associated features, signage, gravel roads, transmission lines comprised of wooden H-frame poles, clustered ranching buildings and structures, fences, and agricultural fields.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality C, which differs from the scenic quality rating of B identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/middleground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-8

- This IOP is located along Plano Road, near the southern end of Durkee Valley.
- The IOP represents two trail segments that parallel Swayze Creek to the north of Gold Hill.
- One segment follows the alignment of Plano Road, while the other runs parallel along the south of the road, and north of Swayze Creek.
- The setting of these trail segments includes moderately enclosed views of Durkee Valley as it extends up Swayze Creek and is surrounded by Gold Hill and other rolling mountains.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe and scattered evergreen trees.
- Riparian vegetation is also visible from the trail segments, clustered alongside the edges of the creek. Agricultural fields and heavily grazed grassland vegetation dominate the flat valley bottom.
- Several cultural modifications are visible from the IOP and trail segments, including a gravel road, irrigation equipment, single wooden pole transmission lines, clustered ranching structures, a large cement plant, and agricultural fields.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality B, which differs from the scenic quality rating of C identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/middleground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-9

- This IOP is located within Pearce Gulch, north and east of the unincorporated community of Weatherby, OR.

- The IOP represents a single trail segment that parallels Plano Road and the eastern slope of the gulch. The setting of this trail segment includes moderately enclosed views of Pearce Gulch and distant views of the Fir and Weatherby Mountains to the southwest.
- Vegetative cover adjacent to the trail segment consists of dense sage steppe and scattered evergreen trees. Higher elevations within the distant Fir and Weatherby Mountains also include fairly dense evergreen trees.
- Cultural modifications visible within this landscape are limited, and consist of a gravel road (Plano Road).
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-10

- This IOP is located along Sisley Creek, north and east of the unincorporated community of Weatherby, OR.
- The IOP represents three trail segments that parallel Sisley Creek south of Gold Cliff Gulch.
- One segment follows the alignment of Sisley Road, while the others run parallel to the road at a higher grade within the Sisley Creek valley.
- The setting of these trail segments includes strongly enclosed views of the Sisley Creek valley which is surrounded by rounded hills and mountains.
- Vegetative cover adjacent to the trail segments consists of dense sage steppe and scattered evergreen trees. Riparian vegetation is also visible from the trail segments, clustered alongside the edges of the creek.
- Cultural modifications visible within this landscape are limited, and consist of the gravel road and a transmission line comprised of single wood poles.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-11

- This IOP is located along the I-84 corridor, atop a ridge to the east of Quartz Gulch and directly across I-84 from Weatherby Mountain.
- The five trail segments that this IOP represents stretch from the community of Weatherby, OR south to Jordan Creek.
- One trail segment follows the alignment of I-84, and two others parallel the alignment of Doman Road. The remaining two trail segments traverse a steep hill and cross several drainages before reaching the Sisley Creek valley.
- The setting of the trail segments varies depending on each segment's location within the landscape.

- The setting of the trail segments in the valley bottoms includes strongly enclosed views of the Burnt River valley surrounded by steep, rounded hills and mountains.
- Cultural modifications are readily apparent from these trail segments and include I-84 and its associated facilities (signage, rock cuts, guard rail/Jersey barrier, etc.), railroad tracks, clustered ranching structures, agricultural fields, and transmission lines comprised of wooden H-frame poles.
- Views from the portions of trail that traverse over the hills and drainages are panoramic from highpoints, and enclosed within drainage bottoms.
- The setting of these trail segments includes occasional views of cultural modifications within the valley bottoms—as seen from above—but is nearly devoid of visible cultural modifications within drainages.
- Vegetative cover adjacent to the trail segments generally consists of dense sage steppe and scattered evergreen trees.
- Agricultural vegetation is also visible within the valley bottom, in addition to riparian vegetation that is clustered along the Burnt River.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-12

- This IOP is located within the Chimney Creek valley, southeast of the unincorporated community of Dixie, Oregon.
- The IOP represents four trail segments that traverse down the southern slope of the Chimney Creek valley landform, extending northward near the creek's edge.
- From the higher ground on the southern portions of the trail segments, views are moderately enclosed, generally limited by surrounding hills and the rounded mountains to the west, but also including distant focal views up and down the adjacent Burnt River Canyon.
- Views from within the Chimney Creek valley are more enclosed than the southern portions of the trail segments. Vegetative cover adjacent to the trail segments consists of dense sage steppe vegetation, transitioning to evergreen trees in the higher elevations.
- Riparian vegetation is also visible from the trail segments, clustered alongside the edges of the creek.
- Cultural modifications visible within this landscape include a gravel road (Valentine Lane), the I-84 corridor, railroad tracks, and a transmission line with wooden H-frame poles.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

IOP 3-13

- This IOP is located along the I-84/State Highway 30 corridor within Burnt River Canyon, and represents nine trail segments extending approximately from Binder Gulch north to Powel Creek.
- The six southernmost trail segments are located along the Burnt River/State Highway 30 corridor—lying between Binder Gulch and Bragg Creek.
- The three northernmost trail segments traverse the bottom of Powell Creek Canyon.
- The setting of the trail segments varies depending on these two general locations, as described below.
- The setting of the southernmost six trail segments includes strongly enclosed views to the east and west within Burnt River Canyon but also offers distant focal views down the length of the canyon to the north and south.
- Cultural modifications are readily apparent from these trail segments, including I-84/State Highway 30 and associated facilities (signage, rock cuts, guardrails, Jersey barriers, etc.), railroad tracks, gravel roads, clustered ranching structures, wood and wire fencing, and single wooden pole transmission lines.
- The setting of the northernmost trail segments includes strongly enclosed views to the north, east, and west within the Powell Creek valley but also offers distant focal views down the length of the adjacent Burnt River Valley to the south.
- Cultural modifications are not readily apparent from these trail segments, although the corridors for I-84 and the railroad are visible in the distance to the south.
- Vegetative cover adjacent to all nine of the trail segments generally consists of dense sage steppe vegetation and scattered evergreen trees.
- Riparian vegetation is also visible within the valley bottoms, clustered along the Burnt River and Powell Creek.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality B, which differs from the scenic quality rating of C identified in the FO VRI.
- This trail segment falls within a high sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Baker FO VRI.

5.1.3.2 HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources within the Burnt River Canyon AU include three segments of the Oregon NHT identified in Tetra Tech's 2013 RLS as the Straw Ranch I and II and Swayze Creek segments (Tetra Tech 2013). All three of these trail alignments are located either entirely or partially within an ACEC. The three trails were assigned site numbers (B2H-BA-285 [includes both Straw Ranch segments] and B2H-BA-291) and recommended eligible for inclusion in the NRHP. Additionally, a fourth segment of the trail within the Chimney Creek ACEC is identified by Tetra Tech as an NRHP-

eligible Goal 5 Resource (Tetra Tech 2013). With the exception of the Chimney Creek segment, all of these trail segments will be documented during the ILS of the project study area.

5.1.3.3 HISTORIC AND CULTURAL SETTING

The treacherous topography and dramatic change in landscape seen after traveling for such an extensive distance along the Snake River, led many emigrants to comment on their experience of the Burt River Canyon. Emigrant Peter Burnett, who traveled the Oregon Trail in 1843, noted that the Burnt River was “so named from the many fires that have occurred there, destroying considerable portions of timber.” However, it is clear that extensive vegetation was nonetheless present in the canyon, as he continues: “. . . the road up this stream was then a terrible one, as the latter runs between two ranges of tall mountains through a narrow valley full of timber, which we had not the force or time to remove” (Burnett 1904:81). This description is corroborated by John C. Frémont, who notes that while

. . . travelling was slow and fatiguing to the animals, we were delighted with the appearance of the country, which was green and refreshing after our tedious journey down the parched valley of Snake River. The mountains were covered with good bunch grass, (*festuca*;) the water of the streams was cold and pure; their bottoms were handsomely wooded with various kinds of trees; and huge and lofty and picturesque precipices were displayed where the river cut through the mountains. (Frémont 1845:176)

These precipices, while “picturesque,” had to be avoided and emigrants often struggled to move their wagons up and over the hills that flanked the steep canyon walls, before ultimately bearing north across the flats toward the Virtue Hills.

Features evident today that either contribute to or detract from the historic character of the trail segments within the Burnt River Canyon AU are listed in Table 11. As with the other AUs located within the analysis area, the topography of the region and its retention of native vegetation are the predominant contributing elements of the trail segments situated within the Burnt River Canyon AU. Topography within this AU is varied, with the majority of the trail segments traversing rolling hills or narrow agricultural valleys. This dichotomy of setting is most evident at IOP 3-7 where the trail crosses gentle undulating hills along the east edge of Durkee Valley, and at IOP 3-10, where the trail trace is enclosed within a narrow valley to the south of Sisley Creek. In both of these locations, modern intrusions are largely absent; thus the setting remains characteristic of the historic period. Additionally, sage steppe and riparian vegetation, as observed at IOPs 3-8 and 3-10, was commonly noted by emigrants who traveled along the many braided routes of the Oregon Trail within Burnt River Canyon.

The most noticeable intrusion to the historic setting of the trail segments in the Burnt River Canyon AU is I-84, which runs generally northwest to southeast through the center of the AU. The I-84 corridor is visible and/or audible from nearly all of the IOPs within the AU; the only exceptions are IOPs 3-10 and 3-11, where the trail trace is either located on a ridgeline overlooking the I-84 corridor or in an enclosed valley where the highway is effectively shielded from view. Additionally, numerous transmission lines,

including several parallel alignments, are visible from eight of the 13 IOPs within the Burnt River Canyon AU.

Table 11. Inventory of Features Contributing and Non-Contributing to Historic Character of Trail Segments within the Burnt River Canyon Analysis Unit

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Burnt River Canyon	C		A deeply incised, narrow canyon experienced as taxing on both emigrants and their draft animals.
Terrain	Blue Mountains	C		The “lofty peaks” of these mountains were described by numerous emigrants traversing the Oregon NHT as they were a constant reminder of the difficult segments of trail that they ahead.
Terrain	Iron Mountain	C		A distinctive spired butte north of Durkee, Oregon.
Hydrology	Burnt River	C		The numerous crossings along this river between miles 1552 and 1600 were commonly mentioned in emigrant accounts (Beckham 2012).
Hydrology	Dry Creek	C		IOP 3-1 is located on the west bank of this creek.
Hydrology	Sisley Creek			IOP 3-10 is located to the east of this creek. This creek served as the northern terminus of a 6-mile-long cut-off trail (commonly referred to as the Gold Hill Cutoff) which extended south to Swayze Creek.
Hydrology	Swayze Creek	C		This creek, located in the vicinity of IOP 3-8, served as the southernmost terminus of the Gold Hill Cutoff.
Circulation	I-84	NC	N	This highway and its associated infrastructure including guardrails, underpass structures, and signage, are visible from IOPs 3-3, 3-7, and 3-8. Although noise is pervasive, the interstate is only visible from the trail segments at IOPs 3-1 and 3-6.
Circulation	Oregon State Highway 30	NC	N	This 75-mile-long highway largely parallels I-84 within the inventory area.
Circulation	Durkee Cemetery Road	NC	N	This graded and graveled road leads to the ca. 1890s Durkee Cemetery, which is located to the southeast of IOP 3-6.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Circulation	Plano Road	NC	Y	This graded and graveled road follows the historic alignment of Oregon Trail at IOP 3-8.
Buildings and Structures	Union Pacific Railroad	NC	N	Tracks and signage associated with this historic railroad are visible from several IOP locations.
Buildings and Structures	Transmission lines	NC	N	Transmission lines comprised of both H-frame and single wooden pole structures are visible from six of the 13 IOPs within the Burnt River Canyon Analysis Unit. In some areas, such as at IOPs 3-4 and 3-11, more than one transmission line is present.
Buildings and Structures	Cell tower	NC	N	A cell tower and adjacent radio equipment are visible on a ridgeline overlooking the I-84 corridor at IOPs 3-3 and 3-4.
Buildings and Structures	Residential/agricultural buildings	NC	N	With the exception of IOP 3-4, which is situated within Pleasant Valley, most of the buildings and structures visible from the IOP locations exist in small clusters and are barely visible.
Buildings and Structures	Underground gas pipeline	NC	N	Markers denoting the presence of a buried gas pipeline are visible at IOPs 3-4 and 3-11.
Buildings and Structures	Cement plant	NC	N	Visible from IOP 3-8, the property's current owner, the Ash Grove Cement Company, began operations at this plant in 1979.
Vegetation	Native vegetation community	C		Includes plants mentioned in historical accounts, such as sagebrush, rabbit brush, juniper, various grasses, and evergreen trees (in higher locations). Riparian vegetation such as cottonwoods and willows are also present in locations where the trail is situated in close proximity to creeks (e.g., IOPs 3-8 and 3-10).
Small-scale features	Post and wire fencing	NC	Y	Post and wire fencing is present in the vicinities of IOPs 3-1 and 3-6.
Small-scale features	Trail markers	NC	Y	One concrete marker erected in the 20th century to identify the historic trail is located at IOP 3-8. An additional concrete marker was noted along the trail segment paralleling Oregon State Highway 30 near IOP 3-6.

Table Abbreviations: C= contributing, NC = non-contributing; IOP = inventory observation point.

A summary of the historic setting at the 13 IOP locations within the Burnt River Canyon AU is provided in Table 12. The integrity of setting within this AU has been moderately impacted by modern development, including the construction of I-84, gravel and two-track roads, fence lines, existing transmission lines, and agricultural development. Despite these modern intrusions, however, the trail segments within the Burnt River Canyon AU, and particularly those on BLM land, have strong visual values and are representative of their original historic setting. Additionally, the trail traces at many of the IOP locations have a high degree of integrity and appear virtually unchanged since their period of historic use. Although some of the segments have been impacted by erosion, the appearance of the trail and its grassy swales are as close to their historic condition as could be expected. For these reasons, the Burnt River Canyon AU retains integrity of historic setting.

Table 12. Integrity Assessment by Inventory Observation Point, Burnt River Canyon Analysis Unit

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
3-1	Located to the north of I-84 and south of Virtue Flat along the west bank of Dry Creek.	The trail is a two-track road at this IOP. The trace is enclosed by the gently sloping sidewalls of the drainage, which parallels the trail in a generally north-south trending direction. Vegetation consists predominantly of sagebrush, rabbitbrush, and grasses. Modern intrusions include the audible (not visual) presence of I-84, and two buildings located to the south-southeast of the IOP on a hill slope above the I-84 corridor.	This IOP retains integrity due to the continued use of the trail as a roadway, and the absence of any modern features.
3-2	Located within the Straw Ranch II ACEC, to the south of Virtue Flat. This location would have provided emigrants with panoramic views of the surrounding hills, Virtue Flat area to the north, and their first glimpse of the distant Blue Mountains to the northwest.	A barbed wire fence is the only cultural modification in this location. Vegetation consists predominantly of sagebrush, rabbitbrush, and grasses. The trail trace at this IOP is well-preserved and shows no evidence of being impacted by subsequent use or other modifications.	Due to its lack of modern intrusions and retention of native vegetation, this IOP retains its integrity of historic setting in all directions.
3-3	Located within rolling sage steppe hills to the north of I-84 and west of Dogtown Creek.	I-84 (including an underpass structure), two transmission lines, and a cluster of radio/communications towers are intrusive to the historic setting at this location. The transmission lines and radio/communication towers are within the I-84 corridor, which is located approximately 1,705 feet (0.35 mile) to the north. A trail trace was not evident in this location.	Integrity of historic setting at this IOP has been diminished to the east-northeast by the construction of I-84 and development associated with power transmission/communications. Integrity of the viewshed to the west, however, is retained.

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
3-4	<p>Located directly east of I-84 and Oregon State Highway 30. The small unincorporated community of Pleasant Valley is located to the southeast. Although a post office wasn't established there until 1868, the community served as a way station on the Toll Place Road as early as 1865, and was also settled by Oregon Trail emigrants who farmed the area.</p>	<p>Circulation features including I-84, State Highway 30, and several graded and graveled roads are prominent intrusions to the historic setting at this IOP. Other inclusions include tailings piles associated with mining activity to the north; the Union Pacific Railroad, which parallels the current alignment of I-84; two transmission lines to the north and south; and numerous buildings situated within the community of Pleasant Valley to the northwest. Additionally, a temporary building and staging/gravel storage area for the Oregon Department of Transportation is located 1,745 feet (0.3 mile) to the southeast.</p>	<p>This IOP has lost integrity due to prominent modern circulation features and development associated with mining and energy transmission.</p>
3-5	<p>Located south of Virtue Flat within the Straw Ranch I ACEC. This location would have provided emigrants with panoramic views of the surrounding hills, Virtue Flat area to the north, and the distant Blue Mountains to the northwest.</p>	<p>This IOP has several sets of trail ruts which are in excellent condition. Lindsay and Lookout Mountains are visible in the distance to the southwest and east respectively, and the relatively flat topography of Virtue Flat is visible to the north. Intrusions include an H-frame transmission line 0.1 miles north, an H-frame transmission line 0.4 miles south, a ranching complex, and a barbed wire fence. A concrete marker is present along the trail trace and immediately southwest of the IOP.</p>	<p>Integrity of historic setting to the west and east of the IOP is diminished due to development associated with energy transmission, vehicular noise from I-84, and visible ranching complex. Integrity is retained to the north and south, however, as these features are screened from view.</p>
3-6	<p>Located within an enclosed valley to the west of Prichard Creek. There are three braids of trail here, all of which generally parallel I-84 and Oregon State Highway 30. The gently rolling slopes of the valley created opportunities for multiple alignments.</p>	<p>This IOP is located adjacent to a rocky outcrop in an area where two trail braids purportedly intersect. However, no trail traces are evident. Prominent intrusions include State Highway 30 and Durkee Cemetery Road, both of which are graded and graveled. Limited agricultural development comprised of temporary equipment storage, tanks, and fences is also visible to the southwest.</p>	<p>This IOP retains integrity of historic setting to the east, north, and west. Although I-84 is audible, the east-west trending road is not visible from this location. Integrity of setting to the south has been diminished by agricultural development.</p>

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
3-7	Located north of Durkee Creek along the eastern edge of Durkee Valley. Three braids of trail are located here, all of which parallel I-84 to the east. The undulating hills at this IOP allowed for numerous paths of travel.	This IOP, located approximately 0.18 mile east of I-84, is surrounded by gentle, undulating hills in all directions, except to the north, where the steep peaks of Iron Mountain are visible. The trail in this location is a gravel two-track road that follows a shallow east-west trending gulch. An H-frame transmission line is sited approximately 0.08 mile east of the trail and parallels its general alignment.	This IOP retains its integrity of historic setting to the north and west due to the absence of any modern features. Integrity is diminished to the south and east, however, by views of the transmission line and I-84 travel corridor.
3-8	Located approximately 0.08 mile north of Swayze Creek along the northern shoulder of Plano Road. The lush vegetation surrounding the creek and the relatively level terrain would have likely served as a respite for emigrants traveling this section of the trail before entering the Burnt River Valley at Durkee.	The trail in this location follows the improved and maintained alignment of Plano Road, although intact and well-preserved wagon ruts pass over the adjacent hills on private land. A concrete trail marker marks the location of the trail along the shoulder of the road. The flat valley bottom in this location is currently dominated by agricultural fields and heavily-grazed grasslands. Prominent intrusions include I-84 and a large cement plant, as well as two predominantly north-south trending transmission lines.	This IOP retains integrity of its historic setting to the north, south, and east, where the only visible intrusions are Plano Road, a fence line, and agricultural fields. Integrity is lost to the west due to prominent and modern industrial and circulation features, and energy transmission structures.
3-9	Located along Plano Road north of Weatherby within sage steppe hills.	The graded, gravel alignment of Plano Road to the southwest and a distant communication tower to the southeast are the only modern intrusions at this IOP location. A potential trail trace, running east-west across a natural drainage and Pearce Creek was identified; however, the alignment of the trail, as shown in the Tetra Tech GIS data, was not found here.	This IOP retains its integrity of historic setting due to its remote location and lack of modern intrusions.
3-10	Located along the east bank of Sisley Creek and to the south of Gold Cliff Gulch. The unincorporated community of Weatherby, founded by area's first postmaster Andrew J. Weatherby in 1879, is located to the southwest.	The trail follows the graded, graveled alignment of Plano Road in this location. A transmission line comprised of single wooden pole structures is the only modern intrusion.	Integrity of historic setting is retained in all cardinal directions at this IOP, as its location within a canyon effectively screens all modern intrusions from view.

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
3-11	Situated to the east of Quartz Gulch on a ridgeline overlooking the I-84 travel corridor.	Although the trail trace is not evident at this location, the area retains its native sage steppe vegetation and panoramic views of the surrounding hills and mountain ranges. I-84 and two parallel transmission lines are the only intrusions to the historic setting in this location.	This IOP has diminished integrity to the south and west, where both east-west trending transmission lines are visible. Integrity is retained, however, to the north and east due to the absence of any modern features.
3-12	Located within the Chimney Creek ACEC to the west of I-84 within the foothills of Lookout Mountain; Chimney Creek, a predominantly east-west trending drainage, is located approximately 0.06 mile to the north. The low rolling hills at this IOP allowed for multiple paths for travel.	Vegetation within the trail corridor is dominated by grasses, compared to the sage steppe vegetation on the adjacent hills. Lookout Mountain is visible to north. Modern intrusions consist of I-84, the Union Pacific Railroad, and an existing transmission line to the northwest. The trail in this location is well-preserved and has visible swales.	This IOP has diminished integrity to the northwest due to prominent circulation features (e.g., I-84, Lookout Mountain Road, and the Union Pacific Railroad tracks) and an existing transmission line paralleling the I-84 travel corridor. However, integrity of historic setting is retained to the north, east, and south.
3-13	Located along the eastern shoulder of Oregon State Highway 30/ Oregon Trail Boulevard approximately 3 miles northwest of the city of Huntington.	Circulation features including I-84 and State Highway 30, and a bladed road are prominent intrusions to the historic setting at this IOP. Other inclusions include the Union Pacific Railroad, which parallels the current alignment of I-84; two north-south trending transmission lines and an associated substation to the north; and an abandoned cement plant to the northwest near the unincorporated community of Lime.	This IOP has lost integrity due to prominent modern circulation features and development associated with energy transmission and industrial facilities.

Table Abbreviations: ACEC= area of critical environmental concern; I-84 = Interstate 84; IOP = inventory observation point.

5.1.3.4 RECREATION AND TRANSPORTATION MANAGEMENT OPPORTUNITIES

The *Baker RMP* establishes the Oregon NHT ACEC and the NHOTIC to protect trail settings. There is no ROS characterization for this area of BLM-managed lands. The Straw Ranch I ACEC is situated in the Burnt River Canyon AU, but is not accessible to the public due to adjacent private property. The ACEC has special requirements which (1) prohibit uses incompatible with maintaining visual qualities or public interpretation within a 0.5-mile buffer of the trail corridor; (2) prohibit the development of campgrounds within 0.25 mile of the Oregon Trail; (3) prohibit the construction of new roads; and (4) restrict OHV usage to designated roads and trails (Oman 1989). Due to the mixed private-public ownership and steep terrain, many public parcels of the Oregon NHT in the Burnt River AU have little or no public access by vehicle. Easily accessible trail segments located on BLM land follow developed roads such as State Highway 30 (also known as the Old Oregon Trail State Highway) and Sisley Creek Road.

Recreation in the Burnt River AU is generally dispersed in nature. There are no developed recreation sites, with the exception of some trail markers and interpretive signage for the Oregon NHT. Recreation activities in the area generally include those typical of dispersed recreation areas, including hiking, biking, horseback riding, OHV use, sightseeing, fishing, hunting, picnicking, wildlife viewing, and dispersed camping.

5.1.4 ALKALI SPRINGS/TUB MOUNTAIN ANALYSIS UNIT (OREGON)

The Alkali Springs/Tub Mountain AU is located on the eastern border of Oregon in Malheur County. The unit spans an area roughly 20 miles in length, from Vale, Oregon near the Malheur River, to Birch Creek west of Farewell Bend. The trail passes through a rolling terrain covered in sagebrush and rabbitbrush and was historically considered to be a readily passable road in this location. Alkali Springs represented the first water emigrants reached, some ten miles, after leaving the Malheur River. The Tub Mountain Springs are located 1.5 miles to the north of Alkali, and after leaving these springs emigrants had to travel another 10 miles to reach water at Birch Creek. The springs, as indicated by their name, were alkaline in nature and were commonly referred to as “sulphur springs” by emigrants. The water was noted as brackish and those with sufficient water often avoided drinking it. However, the water was of sufficient quality for herds of livestock to use as watering holes. Alkali poisoning was a risk factor and ox and cattle who were weakened by the travel could easily succumb; thus a number of accounts exist regarding hardship and the sight of dead livestock along this portion of the trail. This area served as a resting point en route to Birch Creek where the formally established campground of Willow Springs was located. Upon reaching the Willow Springs camp, emigrants found good water as well as abundant grasses for their livestock.

Encompassing approximately 127,822 acres of public and private land to the north of Vale, the Alkali Springs/Tub Mountain AU consists of approximately 27.8 miles of the congressionally designated route of the Oregon NHT (see Table 2, Figure 7, and Figure 8). Another 70.6 miles of trail, consisting predominantly of trail braids paralleling the congressionally designated route, are also present within this AU. Six braids of trail segments extend from Farewell Bend on the Snake River southwest to Birch Creek. Only three of these trail braids cross Birch Creek and extend southwest to the Willow Springs Campground. The three parallel segments then follow a southern alignment along low rolling hills passing Tub Springs, an important historical site where the BLM has placed an interpretive panel for public education. To the south of Tub Springs, three additional trail ILSs split off to the southwest while the remaining three track to the southeast before curving back to the southwest to rejoin the other three trail alignments. Alkali Springs is present along the three trail braids which extend to the southeast. The site of this spring was often noted by emigrants and BLM has placed an interpretive panel at this location. The two sets of parallel segments converge to the northeast of the agricultural valley surrounding Willow Spring. Three segments continue on a southeastern trajectory hugging the foothills adjacent to the valley to the east. Within this AU, the trail crosses BLM land in approximately ten locations. The length of the trail segments within these locations vary with the shortest segment, located to the northeast of Willow Spring Campground measuring 73 feet, and the longest, extending between an area south of Willow Spring Campground and Tub Springs, spanning 6.5 miles. The setting

of the trail segments within this AU is characterized by nine IOP locations (IOPs 4-1 through 4-10) which are discussed in further detail below.

5.1.4.1 VISUAL RESOURCES

Within the Alkali Springs/Tub Mountain AU, trail segments on BLM lands are located within landscapes dominated by rolling sage steppe hills. The landscapes surrounding these trail segments are generally panoramic, with open views of rolling sage steppe, flat agricultural valleys, and distant steep, rounded mountains. A moderate sense of enclosure experienced from the trail segments occurs in the northern half of the AU where trail segments are located on valley bottoms. Views in the southern half of the AU are panoramic and overlook Willow Creek. The sagebrush vegetation includes shades of sage green and gray, while grassland vegetation varies seasonally from bright green to straw color. Agricultural vegetation likewise varies seasonally from bright green to straw color, and includes bright to medium green deciduous trees that are clustered around agricultural structures. Landform colors are not generally visible through the dense vegetative cover, but beige and medium brown colors of soil and rock are occasionally visible. Cultural modifications visible from these trail segments vary within the AU, and are discussed below for each IOP. The Alkali Springs/Tub Mountain AU falls within VRM Classes II, III, and IV.

The trail segments on BLM-managed lands occur intermittently throughout the AU, with continuous segments occurring west of Tub Mountain for approximately 6.5 miles. Unless noted otherwise, the visual quality ratings identified in the FO VRI would be consistent with the IOP-specific visual quality ratings identified through field inventory for this AU.

IOP 4-1

- This IOP is located within the rolling sage steppe hills in the vicinity of Birch Creek and McBride Reservoir.
- The IOP represents seven trail segments that follow two general routes.
- The first route generally parallels Birch Creek and includes two short trail segments.
- The five remaining trail segments extend north from Birch Creek and traverse gently rolling sage steppe hills to the west of McBride Reservoir.
- The setting of the trail segments along Birch Creek is dominated by views of the Birch Creek drainage, while the setting of the trail segments west of McBride Reservoir is dominated by views of softly rolling sage steppe hills.
- Both setting include distant views of the steeply rolling Blue Mountain range to the northeast. Vegetative cover adjacent to the trail segments is consistent with the dense sage steppe vegetation that covers nearly all landforms within view.
- These areas possess sparse development, including cultural modifications such as wooden and wire fences, clustered ranch buildings and structures, single wooden pole transmission lines, and gravel and dirt roads.

- Moderate visual contrast results from the presence of pipeline corridors at 0.2 miles away, an H-frame transmission line at 0.4 miles away, and a silver cell tower at 0.75 miles away, as well as distant wind towers in the Blue Mountains.
- This trail segment falls within a low sensitivity level rating, the seldom seen visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall primarily within VRM Class II, although portions of the trail also fall within VRM Class III.

IOP 4-2

- This IOP is located within the rolling sage steppe hills adjacent to Love Reservoir.
- The IOP captures the experience along multiple braided trail segments that traverse the north edge of the reservoir across Willow Creek, towards the rolling hills south of Birch Creek.
- The setting of the segments is dominated by moderately enclosed views of nearby hills and Love Reservoir, although views become open and panoramic from atop the rolling hill south of Birch Creek.
- Vegetative cover adjacent to the trail segments is consistent with the dense sage steppe vegetation that covers nearly all landforms within view.
- Riparian vegetation is also visible within the drainages and along the edges of the reservoir.
- The visual quality rating for this IOP's viewshed was identified through field review as scenic quality B, which differs from the scenic quality rating of C identified in the FO VRI.
- Cultural modifications within these areas are fairly limited, consisting primarily of gravel and dirt roads.
- This trail segment falls within a low sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall primarily within VRM Class IV, although the northernmost segment falls within VRM Class III.

IOP 4-3

- This IOP is located within the rolling sage steppe hills to the east of Bierman Spring.
- The IOP represents six trail segments that closely parallel one another through a drainage that runs north and then northeast toward Love Reservoir.
- Because the trail segments follow the drainage, the setting of the segments is dominated by moderately enclosed views of nearby hills.
- Vegetative cover adjacent to the trail segments is consistent with the dense sage steppe vegetation that covers nearly all landforms within view.
- Cultural modifications within these areas are fairly limited, consisting primarily of gravel and dirt roads.

- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall primarily within VRM Class II, although the northern three segments are within VRM Class IV.

IOP 4-4

- This IOP is located within the rolling and undulating hills northwest of Tub Mountain.
- The IOP represents three trail segments that closely parallel one another northward through a hollow surrounded by hills and small badland formations.
- The setting of the trail segments is dominated by moderately enclosed views, and vegetative cover adjacent to the trail segments is consistent with the dense sage steppe vegetation that covers nearly all landforms within view.
- Cultural modifications within these areas are fairly limited, consisting primarily of gravel and dirt roads. White trail/road markers are visible along the route, as are wind towers in the distant Blue Mountains.
- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class II.

IOP 4-5

- This IOP is located within the rolling hills in the vicinity of Tub Mountain Reservoir.
- The IOP represents views from a fenced enclosure containing Class I trail segments that closely parallel one another across an elevated landform adjacent to Tub Mountain.
- Surrounding landforms are comprised of rolling hills and small pockets of badland formations.
- The setting of the trail segments is dominated by fairly open, panoramic views, with distant views of steeply rounded mountains.
- A portion of the Malheur River valley is also visible to the southwest from the southern portions of the trail segments.
- Vegetative cover adjacent to the trail segments is consistent with the dense sage steppe vegetation that covers nearly all landforms within the viewshed.
- Agricultural fields are also visible in the distance. Cultural modifications within these areas are fairly limited, consisting primarily of dirt roads.
- Wind towers are visible to the north in the distant Blue Mountains, and agricultural development can be seen in the distance to the southwest.
- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class II.

IOP 4-6

- This IOP is located east of the West Tub Mountain Reservoir, within a vast expanse of rolling hills near the southwest base of Tub Mountain.
- The IOP represents three trail segments that closely parallel one another as they climb northward toward a highpoint west of Tub Mountain.
- Surrounding landforms are generally comprised of rolling hills.
- The rounded, flat-topped Tub Mountain formation is visible to the northwest of the trail segments, and the view includes dark brown to black basalt rock outcroppings and scree slopes.
- The setting of the trail segments is dominated by fairly open, panoramic views, with distant views of steeply rounded hills and mountains, as well as a portion of the valley to the southwest.
- Vegetative cover adjacent to the trail segments is consistent with the dense sage steppe vegetation that covers nearly all landforms within the viewshed.
- Agricultural fields are also visible in the distant Malheur River valley.
- Cultural modifications within this area are fairly limited, consisting primarily of dirt roads. A communication structure is visible 5.25 miles in the distance to the south atop a rounded hill, and agricultural development to the southwest can be seen in the distance.
- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class II.

IOP 4-7

- This IOP is located at the Sulphur Springs/Tub Springs Interpretive Site, within a vast expanse of rolling hills south and west of Tub Mountain.
- The IOP represents three trail segments that closely parallel one another as they climb out of Alkali Flats to the north.
- Surrounding landforms are generally comprised of rolling hills with patches of white to light gray/brown soils.
- The rounded, flat-topped Tub Mountain formation is visible to the northwest of the trail segments, and includes dark brown to black basalt rock outcroppings and scree slopes.
- The setting of the trail segments is dominated by weakly enclosed views, with open, panoramic views limited to the south.
- Distant views to the south include steeply rounded hills and mountains.
- Vegetative cover adjacent to the trail segments is consistent with the sage steppe vegetation that covers nearly all landforms within the viewshed.
- Cultural modifications within this area are fairly limited, consisting primarily of dirt roads and wire/T-post fences.

- A communication structure is visible in the distance to the south atop a rounded hill.
- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class II.

IOP 4-8

- This IOP is located at the Alkali Springs Interpretive Site, within an expanse of rolling hills south of Tub Mountain.
- The IOP represents three trail segments that closely parallel one another as they turn from the west to the north within the Alkali Flats landform.
- Surrounding landforms are generally comprised of rolling hills with patches of white to light gray/brown soils; landforms to the southeast include steeply rolling hills.
- The setting of the trail segments is dominated by panoramic to weakly enclosed views.
- Vegetative cover adjacent to the trail segments is consistent with the sage steppe vegetation that covers nearly all landforms within view.
- Cultural modifications within this area are fairly limited, consisting primarily of dirt roads and wooden and wire fences.
- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class II.

IOP 4-9

- This IOP is located at the northern edge of the Malheur River valley, where the flat valley bottom begins to transition to rolling hills.
- The IOP represents three trail segments that generally parallel one another near the base of the rolling hills.
- Landforms to the east of the trail segments consist of rolling hills with patches of white to light gray/brown soils, while the land to the west of the segments consists of flat valley bottom and distant rounded mountains.
- The setting of the trail segments is dominated by panoramic views across the valley. Vegetative cover adjacent to the trail segments includes heavily grazed sage steppe vegetation with considerable amounts of bare earth.
- Within the valley bottom, agricultural fields are dominant, along with clustered deciduous trees near ranching structures.
- Because this trail segment occurs at the edge of a developed agricultural valley, cultural modifications are readily visible.

- These modifications include gravel roads, fences, clustered agricultural structures and fields, and utility poles and lines.
- This trail segment falls within a low sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class III.

IOP 4-10

- This IOP is located at the northern edge of the Malheur River valley, where the flat valley bottom begins to transition to rolling hills.
- The IOP represents three trail segments that generally parallel one another near the base of the rolling hills.
- Landforms to the east of the trail segments consist of rolling hills with patches of white to light gray/brown soils, while the land to the west of the segments consists of flat valley bottom and distant rounded mountains.
- The setting of the trail segments is dominated by panoramic views across the valley.
- Vegetative cover adjacent to the trail segments includes heavily grazed sage steppe vegetation with considerable amounts of bare earth.
- Within the valley bottom, agricultural fields are dominant, along with clustered deciduous trees near ranching structures.
- Because this trail segment occurs at the edge of a developed agricultural valley, cultural modifications are readily visible.
- These modifications include gravel roads, fences, clustered agricultural structures and fields, and utility poles and lines.
- This trail segment falls within a low sensitivity level rating, the foreground/midground visual distance zone, and VRI Class IV, as identified in the Malheur FO VRI.
- The IOP and associated trail segments fall within VRM Class III.

5.1.4.2 HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources within the Tub Mountain/Alkali Springs AU include three discontinuous alignments of the Oregon NHT known as the Birch Creek, Alkali Springs, and Tub Mountain segments (Tetra Tech 2013). All three of these segments are located entirely within ACECs and were assigned site numbers (B2H-MA-042, B2H-MA-10, and B2H-MA-041) during the 2013 RLS of the inventory area (Tetra Tech 2013). Additionally, the Alkali Springs segment is considered to be a HPRSEG (no. 7) by the NPS, as the springs for which the route is named were the only water source for emigrants traveling the 22-mile stretch of trail between the Malheur River and Birch Creek (NPS 1999:286). This segment, as defined by the NPS CMUP (1999:286), begins 6 miles north of the present-day community of Vale, Oregon and extends north to a former emigrant camp site at Willow Springs. Portions of all three of

these segments are recommended eligible for listing in the NRHP and will be documented further during the ILS.

5.1.4.3 HISTORIC AND CULTURAL SETTING

Emigrants traveling along the Alkali Springs/Tub Mountain route of the Oregon Trail found a landscape between the Malheur River and Birch Creek which was sandy and largely comprised of sagebrush. Two small alkali springs were present, roughly halfway between these waterways, and at times, grasses could be found there. Emigrant Martha Reed's 1852 description of the route stated, ". . . went 12 miles to the sulphur springs. Our teams drank the water very well. Camp't [sic] 1/2 mile from the spring. Found pretty good grass. Found a level road today but deep sand as usual" (Holmes and Duniway 1997:242). Cecilia Adams and Parthenia Blank, in a separate account, noted: "to day [sic] traveled over a smooth level road for about 15 miles when we came to a sulphur spring. Here we watered our cattle but did not find much grass. Country very poor-Nothing but sage and grease wood - From the spring we began to ascend hills and the country began to improve" (Holmes and Duniway 1997:297). In 1852, emigrant Elizabeth Jane Scott described the journey from the Malheur River to Birch Creek observing that the land through the dry branch of the Malheur was covered in grass; however, she noted that after "leaving this bottom we struck sand hills and traveled through a very dusty ravine until ten o'clock when we reached the before mentioned spring and encamped. . . . The water of these springs is not very palatable, it being strongly impregnated with Sulphur" (Scott 1852:114-115). It was another ten miles to reach Birch Creek where Scott stated "there are several good springs at the head of this stream which is a small one, it heads near the road" (Scott 1852:115). Each of these accounts notes that livestock were watered at the springs; however, it is clear that emigrants were also often forced to drink the water, as Martha Reed's travel log noted that the group had taken ill after drinking it (Holmes and Duniway 1997:242).

Contributing and non-contributing features of the Tub Mountain/Alkali Springs AU which are evident today are listed in Table 13. The area's topography, which in many cases afforded expansive views, vegetation, and access to hydrological features, are the dominant contributing elements of the AU; the setting of which is, for the most part, unchanged and is therefore characteristic of the historic period. Evidence of significant landscape features can be seen at IOP 4-3 where the trail segment is located on low, rolling sage covered hills and views of distant mountains to the north, south, and west provide a sense of vast openness. The trail segment at IOP 4-5 also offers expansive views of the distant Blue Mountains to the north, which would have served as a key topographical landmark for the emigrants' journey. While vegetation at the majority of segments of trail within the Tub Mountain/Alkali Springs AU consists of sage brush, rabbit brush, and grasses, the hydrological features of Tub Springs, Alkali Springs, and Birch Creek provided contrasting riparian vegetation in the form of cattails, grasses, and birch trees.

**Table 13. Inventory of Contributing and Non-Contributing Features
to the Historic Character of the Tub Mountain/Alkali Springs Analysis Unit**

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Blue Mountains	C		The Blue Mountains are visible in the distance to the north from IOPs 4-1, 4-3, 4-4, and 4-5.
Terrain	Tub Mountain	C		Tub Mountain, which gave name to the nearby Tub Springs, is visible from IOP 4-7.
Hydrology	McBride Reservoir	NC	Y	The McBride Reservoir is located to the north of IOP 4-1 and has limited visibility.
Hydrology	Birch Creek	C		This creek was a noted landmark in emigrant accounts describing this section of Oregon Trail. Although located between IOPs 4-1 and 4-2, the creek is not visible from these points.
Hydrology	Tub Springs	C		Referred to more broadly as "Sulphur Springs" by emigrants, Tub Springs is located to the west of IOP 4-7. Water from these springs was historically used to water livestock, many of which later died after drinking it.
Hydrology	Alkali Springs	C		Referred to more broadly as "Sulphur Springs" by emigrants, Alkali Springs is located to the west of IOP 4-8. Water from these springs was historically used to water livestock, many of which later died after drinking it.
Hydrology	Malheur River	C		Although not visible from any of the IOPs, the river forms the southernmost boundary of the AU and was consistently mentioned in historic emigrant accounts.
Circulation	State Highway 26	NC	N	This road is in close proximity to the trail segments visible to the west at IOPs 4-9 and 4-10, but is not visible.
Circulation	State Highway 30 (Old Oregon Trail State Highway)	NC	N	This graded gravel road, which follows the original route of the Oregon Trail in some locations, parallels IOPs 4-2 through 4-10.
Circulation	Lockett Road/turnout	NC	Y	This graded, gravel road is located adjacent to IOP 4-1. The road has a turnout/parking area for access to an interpretative panel that describes the trail's history.
Buildings and structures	Wind turbines	NC	N	Wind turbines on the ridgeline of distant mountain to the north are visible from IOP 4-1, 4-4, and 4-5.
Buildings and structures	Transmission lines	NC	N	An H-frame transmission line is visible to the east and northeast of IOP 4-1.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Buildings and structures	Cell tower	NC	N	A cell tower is visible on a hilltop to the northeast of IOP 4-1.
Buildings and structures	Residential/ agricultural buildings	NC	N	Small clusters of residential buildings are visible from numerous IOP locations within this AU, including IOPs 4-1, 4-9, and 4-10. IOP 4-1.
Buildings and structures	Stock corral	NC	Y	A wood frame stock corral is located to the northwest of IOP 4-8.
Vegetation	Native vegetation community	C		Includes plants mentioned in historical accounts, such as sagebrush, rabbitbrush, and various grasses. In the areas along Birch Creek, such as that represented at IOP 4-1, riparian vegetation including cottonwoods and willows are also present.
Vegetation	Agricultural fields	N	N	Agricultural fields are present to the west of the trail segments at IOPs 4-6, 4-9, and 4-10.
Small-scale features	Post and wire fencing	NC	Y	Post and wire fencing is visible at numerous IOP locations, including IOPs 4-1, 4-5, 4-7, 4-8, 4-9, and 4-10. In some areas, these fence lines delineate BLM and private lands.
Small-scale features	Interpretive panel	NC	N	An interpretive panel commemorating the Oregon Trail is located at IOP 4-1. Additional panels located at Alkali and Tub Springs note emigrant accounts of passing these two "sulphur springs."
Small-scale features	Trail markers	NC	Y	Concrete markers erected in the 20th century to identify the historic trail are located at IOPs 4-1 and 4-4 through 4-6.

Table Abbreviations: C= contributing, NC = non-contributing; IOP = inventory observation point.

In comparison to the contributing features to the Tub Mountain/Alkali Springs AU, the most noticeable human-related intrusions to the historic setting of the trail segments include the energy-generating wind turbines on the Blue Mountains, which are visible from IOPs 4-1, 4-4, and 4-5, as well as the modern development of agricultural land to the south and west of IOPs 4-6, 4-9, and 4-10. Graded gravel roads are present at all ten IOPs, and it is possible that many of these follow portions of the original alignment of the Oregon Trail. Small-scale features such as post and wire fencing are considered to have minimal impact upon the landscape.

A summary of the historic setting at the ten IOP locations within the Tub Mountain/Alkali Springs AU is provided in Table 14. The integrity of setting within the Tub Mountain/Alkali Springs AU has been moderately impacted by modern development, including the construction of wind turbines, gravel and two-track roads, fence lines, and existing transmission lines, as well as agriculture. Despite these modern intrusions, however, the trail segments within the Tub Mountain/Alkali Springs AU, and

particularly those on BLM land, have strong visual values and are representative of their original historic setting. As such, the Tub Mountain/Alkali Springs AU retains integrity of historic setting.

**Table 14. Integrity Assessment by Inventory Observation Point,
Tub Mountain/Alkali Springs Analysis Unit**

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
4-1	Located to the north and west of Birch Creek and south of McBride Reservoir along an elevated sage steppe hill. There are multiple braids of trail in this location which cross Birch Creek before intersecting with the Snake River. Birch Creek is often noted resting stop along the Oregon Trail where emigrants took advantage of fresh water after traveling along the trail for 10 miles with no potable water other than the two springs (Tub Springs and Alkali Springs).	The trail consists of earthen ruts at this IOP. The trace is located along the top of the hill following a north-south trending direction. Vegetation consists predominantly of sagebrush, rabbitbrush, and grasses. Modern intrusions include the graded gravel Lockett Road (with turnout/parking loop), a transmission line, cell tower, wind turbines, fencing, an adjacent trail marker and interpretive panel, and two buildings.	Integrity of historic setting at this IOP has been diminished to the northeast by the construction of power transmission/communications structures. Integrity of setting to the south has diminished by the construction of two residential buildings and modern fencing. Integrity to the west-northwest, however, is retained.
4-2	Located within rolling sage steppe hills approximately 1.2 miles to the southwest of Love Reservoir.	The trail in this location is a graded, gravel road. With the exception of the reservoir itself, several fences, and a distant wind farm that is intermittently visible from access roads in the vicinity, there are no modifications at this IOP.	This IOP retains integrity of setting in all directions due to its remote location and lack of modern intrusions.
4-3	Located within rolling sage steppe hills to the east of Bierman Spring. The trail in this location consists of three parallel braids located within natural drainages.	The IOP in this location is adjacent to a graded, gravel road. The improved road may be the original trail alignment, as no other trail trace is evident. The graded road is the only modern intrusion in the setting of the landscape.	This IOP retains integrity of setting due to the minimal intrusion of modern features.
4-4	The IOP is located to the northwest of Tub Mountain in a series of rolling hills. Three parallel alignments of the trail are present in the vicinity of this IOP.	The IOP is adjacent to a graded, gravel road which may be an original trail alignment. A narrow depression to the east of the road could be indicative of the historic trail, but its width suggests that it is a modern cattle trail. Modern intrusions at this IOP consist of the graded road as well as six wind turbines located on the ridgeline to the north. The turbines, although a considerable distance away, are readily visible.	The IOP retains integrity of setting to the east, west, and south. Integrity of setting to the north has been diminished by wind farm development.

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
4-5	This IOP is located to the west of Tub Mountain and southeast of Tub Mountain Reservoir in an area of rolling sagebrush hills. Three parallel trail segments are present in this location.	The trail segment at this IOP has been classified as a Class I segment and has been fenced by BLM to protect its prominent earthen ruts. A single modern intrusion is present within the landscape and consists of six wind turbines located on the ridgeline of a distant mountain to the north. Although a considerable distance away, the turbines are visible from this location.	This IOP retains integrity of setting to the east, west, and south due to the well-preserved trail ruts and lack of modern intrusions. Integrity of setting to the north, however, has been diminished by the wind farm, which is visible on a distant ridgeline.
4-6	This IOP is located to the southwest of Tub Mountain and to the east of West Tub Mountain Reservoir within rolling sagebrush hills. Tub Mountain, with its dark brown to black basalt rock outcroppings would have likely been a prominent geographical way finding point. Three parallel historic trail segments are located in the area.	The IOP is adjacent to a graded gravel road which may be an original trail alignment. A narrow depression to the east of the road could be indicative of the historic trail, but its narrow width suggests that it is a modern cattle trail. Native vegetation consists of dense sage and rabbitbrush. Agricultural fields are present to the southwest of the IOP and a cell tower is located on a distant mountain to the southeast.	Integrity of setting is retained to the north, south, and east as few modern modifications are visible. Integrity of setting has been diminished to the southwest by the development of agricultural fields.
4-7	The IOP is located at Tub Springs, which historically was one of two springs referred to by emigrants as the "sulphur springs." The springs were a stopping point between water at the Malheur River and Birch Creek. Due to the alkalinity of the water, the spring predominantly served as a watering hole for livestock.	The IOP is adjacent to a graded road and an interpretive panel which provides emigrant accounts of the spring. Native vegetation is consistent with the sage steppe vegetation that covers nearly all landforms within view, with spring-fed wetlands in the valley bottoms. The graded, gravel road may represent one of these alignments, and an additional trail trace is evident to the northeast of the gravel road. The only modern intrusion, in addition to the interpretive panel, includes post and wire fencing which surrounds the spring.	Integrity of setting is retained to the east. Integrity of setting to the north, south, and west has been minimally impacted by the graded road and the fence to the west.

IOP Number	Historic Character	Existing Condition	Historic Setting Integrity
4-8	This IOP is located to the east of Alkali Springs, one of two springs historically referred to by emigrants as the “sulphur springs.” The springs served as a resting point between available water at the Malheur River and Birch Creek. Due to the alkalinity of the water, emigrants with adequate drinking water used the spring predominantly to water livestock.	The IOP is adjacent to a graded road and interpretive panel describing emigrants’ accounts of the spring. Native vegetation is consistent with the sage steppe vegetation that covers nearly all landforms within view, with spring-fed wetlands in the valley bottoms. The graded gravel road may represent one of these alignments, as no other trace is evident. Modern intrusions include the wire and wood post fence surrounding a wetland area with cattail growth. A metal stock corral is present to the north of the IOP and an isolated single building is located to the east of the IOP.	Integrity of setting is retained to the east. Integrity of setting to the north and south has been minimally impacted by the graded road. Integrity of setting has also been diminished to the northwest and west by construction of the modern stock corral structure, post and wire fencing, and isolated building.
4-9	This IOP is located at the eastern edge of the flat bottomed agricultural valley where Willow Creek flows. At this location the topography shifts to rolling hills. This IOP is located north of the Malheur River, which historically provided water for emigrants along the Oregon Trail.	The IOP is adjacent to a graded gravel road which may be an original trail alignment. No other trail trace is evident. Modern intrusions at this IOP consist of the graded road as well as agricultural fields to the west and south, and clusters of buildings to the west, southwest, and south. A post and wire fence line follows the western edge of the gravel road and an additional fence is located to the east of the IOP.	The IOP retains integrity of setting to the north. Integrity of setting to the west and south has been diminished by the development of agricultural fields and clusters of residential and agricultural buildings. Integrity of setting to the east has been minimally impacted by the installation of a post and wire fence.
4-10	This IOP is located near the eastern edge of the flat bottomed agricultural valley where Willow Creek flows south toward the Malheur River. The topography in this location shifts to rolling hills. Emigrants gave many accounts of the travel between the Malheur River and the “sulphur springs,” noting the shift to rolling sage steppe hills.	The IOP is adjacent to a two-track road which may be an original trail alignment. The two-track road intersects with a graded road to the north. A narrow depression to the east of the road could be indicative of a historic trail alignment, but its narrow width suggests that it could also be a cattle trail. Native vegetation consists of dense sage and rabbitbrush. Agricultural fields are present to the west and southwest of the IOP. A cluster of residential and agricultural buildings is present to the west of the IOP and a single building is located to the southwest. Post and wire fence lines are present along both sides of the two-track road.	The IOP retains integrity of setting to the east. Integrity of setting to the north, west, and east has been impacted by the construction of roads and fences, agricultural development, and clusters of residential and agricultural buildings.

Table Abbreviations: IOP = inventory observation point.

5.1.4.4 RECREATION AND TRANSPORTATION MANAGEMENT OPPORTUNITIES

The majority of the Oregon NHT segments on BLM land in the Alkali Springs/Tub Mountain AU are located within the Oregon Trail ACEC and SRMA. Along these segments, visitors have the opportunity to follow the trail for 12 continuous miles on BLM backcountry roads (BLM, *Southeastern Oregon RMP*, 2002). The purpose of the Oregon Trail SRMA is to emphasize public education and enjoyment of the trail and its setting while protecting important cultural resource values. The RMP designates the Oregon NHT within the Oregon Trail SRMA as “semi-primitive motorized” and “roaded natural” ROS classes. The term “semi-primitive motorized” is defined as natural or natural-appearing with low user interaction whereas “roaded natural” is described as predominantly natural-appearing with moderate evidence of humans where opportunities for motorized and non-motorized recreation are available (BLM, *Southeastern Oregon RMP*, 2002). Approved activities within the Oregon Trail SRMA include boating, motor biking, specialized land-craft use, mountain climbing, driving for pleasure, camping, and picnicking. Recreation activities identified in the RMP also include hiking, horseback riding, biking, OHV use, hunting, fishing, sightseeing, wildlife viewing, and dispersed camping.

The two interpretive sites—the Alkali Springs and Tub Mountain Interpretive Site and the Birch Creek Interpretive Site—are located within the ACEC and SRMA boundaries. The Alkali Springs and Tub Mountain Interpretive Site has carsonite markers and concrete obelisks along the trail route as well as interpretive signs which explain the sites’ historical significance. The Birch Creek Interpretive Site offers recreationists the opportunity to learn about the prehistoric and historical significance of the area through interpretive displays. Management objectives highlighted for these two sites include providing enhanced interpretive signage, parking facilities, permitted overnight camping, and limited surface-disturbing activities observable from the trail (BLM, *Southeastern Oregon RMP*, 2002).

Located on private land, but within the southern end of the AU is the Vale Complex, which consists of several Oregon NHT historic and interpretive sites dispersed throughout the town of Vale. These sites, which include Malheur Hot Springs, the Old Stone House, the Malheur River Crossing, and the grave of John D. Henderson, are all considered HPHSs in the 1998 NPS CMUP.

Another HPHS located at the north end of the Alkali Springs/Tub Mountain AU but outside of BLM lands is the Farewell Bend State Recreation Area, which memorializes the place where trail emigrants rested and enjoyed one last look at the Snake River. Wagon ruts are visible and accessible from the site, and historic markers and interpretive displays are provided for educational purposes. Camping, fishing, water skiing, boating, picnicking, hiking, and interpretive programs are also offered at this recreation area (oregonstateparks.org).

5.1.5 SOUTH ALTERNATE ANALYSIS UNIT (IDAHO)

The South Alternate AU is comprised of two discontinuous areas along the Snake River; one area is located on the central border of Oregon and Idaho and the second area is located in Idaho just east of the Oregon border. The northernmost portion of the AU encompasses the section of the trail that originates northwest of Homedale, Idaho and continues southeast of Owyhee, Oregon, and the

southernmost portion of the AU encompasses an area between the Idaho communities of Givens Hot Springs and Marsing. Some of the trail segments in these areas are collectively referred to as the South Alternate Route. At Three Island Crossing, Idaho, emigrants were faced with the option of crossing the Snake River and taking a northern route to Fort Boise or staying to the south of the Snake River and following a route which closely paralleled the river. When water was flowing more rapidly in the Snake River, emigrants often had no choice but to take the southern route. The route which followed the south side of the Snake River, the South Alternate, traversed a rough landscape which was dry and lacked vegetation. In many instances, the trail paralleling the Snake River was perched high above the river, traversing rocky bluffs. Geographical landmarks for emigrants on the route included Castle Butte, Wild Horse Butte, and Sinker Creek (Hutchison and Jones 1993:75). As the route continued to the northwest, enterprising emigrants also set up ferries along the Snake River. Emigrants who continued along the western bank of the Snake found themselves on the opposite bank of Fort Boise before reuniting with the northern alternate route to the west of Fort Boise. It was at this location that the landscape, as experienced by emigrants, changed from rocky bluffs to the dry plains of the South Alternate Route.

Approximately 16.2 miles of the congressionally designated route of the Oregon NHT and an additional 16.9 miles of trail consisting predominantly of braids paralleling the congressionally designated route are present within the South Alternate AU (see Table 2, Figure 9, and Figure 10). The discontinuous AU encompasses approximately 69,937 acres between the Idaho communities of Adrian and Given Hot Springs. The trail within this AU consists of two primary routes, both of which follow the Snake River. A portion of one of these alignments, known as the South Alternate Route, represents the route which developed as a spur of the main trail extending along the south side of the river. Although this route allowed emigrants to avoid two river crossings, the terrain along the route was much steeper and had less access to water than the main route. The two trail routes within the South Alternate AU cross BLM land in three locations in the vicinity of Adrian and to the south of Marsing along the eastern shoulder of State Highway 78 between Fruit and Dilley Islands. The historic setting of the trail segments within this AU is characterized by a single IOP location (IOP 5-1) (see Figure 10) which is discussed in more detail below.

5.1.5.1 VISUAL RESOURCES

Within the South Alternate AU, trail segments on BLM lands are located within landscapes dominated by flat valley bottoms along the Snake River. The landscapes surrounding these trail segments are generally panoramic, with open views of the Malheur River valley in Idaho to the east. Views to the west are limited by the rolling Owyhee Mountains and associated foothills. The sense of enclosure experienced from the trail segments is generally weak. Sagebrush vegetation of the mountains and foothills includes shades of sage green and gray, while the agricultural vegetation of the flat valley bottoms generally varies seasonally from bright green to yellowish brown. Riparian vegetation is also visible from the trail segments, and introduces medium to bright green colors along the edges of the river. Where visible, landform colors are predominantly beige to medium brown and gray. Dark brown to black basalt rock outcrops are also visible within the foothills and mountains. Cultural modifications

visible from these trail segments vary within the AU, and are discussed below for each IOP. The South Alternate AU falls in VRM Class III.

The trail segments on BLM-managed lands occur in two general locations within the AU. The setting of these trail segments is represented by the following Oregon NHT IOP. The visual quality rating identified in the FO VRI would be consistent with the IOP-specific visual quality rating identified through field inventory for this AU.

IOP 5-1

- This IOP is located upon a bluff between State Highway 78 and the Snake River near Dilley Island.
- The IOP represents a single trail segment that passes through a flat to softly rolling valley bottom.
- The setting of the trail segment includes open, panoramic views of the flat valley bottom, several buttes and bluffs within the valley and along the river, as well as the rounded Owyhee Mountains and foothills to the west.
- The Snake River is visible, but partially hidden from view by the bluffs adjacent to the river.
- Vegetative cover directly adjacent to the trail segment consists of dense sage-steppe vegetation, as does the vegetative cover within the distant mountains.
- Nearby lands within the valley are primarily covered with agricultural vegetation and clustered deciduous trees surrounding farm dwellings.
- The adjacent river is flanked with riparian vegetation, including tall cottonwood trees.
- Because this trail segment occurs within a developed agricultural valley, cultural modifications are readily visible in all directions. These modifications include paved and gravel roads, clustered agricultural buildings, structures and fields, and utility poles and lines.
- An existing 500kv transmission line with lattice towers is intermittently visible along the foot of the Owyhee Mountain foothills depending on lighting conditions, but generally blends into the backdrop of vertical landforms.
- This trail segment falls within a moderate sensitivity level rating, the foreground/midground visual distance zone, and VRI Class III, as identified in the Malheur FO VRI.

5.1.5.2 HISTORIC AND CULTURAL RESOURCES

Only one trail-related cultural resource—a segment of the South Alternate Route of the Oregon NHT (10OE6025)—is located on BLM land within the South Alternate AU. This 126-mile-long segment, which originates at Three Mile Crossing on the Snake River in Idaho and rejoins the congressionally designated route just west of Fort Boise, is recognized as one of the hottest, driest, and dustiest stretches of the entire Oregon NHT (NPS 1999:35). The NPS CMUP identifies five HPHSs and one HPRSEG along this route, though none are located on BLM land within the inventory area. Although

Tetra Tech notes that the South Alternate Route is listed in the NRHP (Tetra Tech 2013b:47), documentation supporting this listing could not be obtained.

5.1.5.3 HISTORIC AND CULTURAL SETTING

Emigrant accounts of the South Alternate Route, such as those of William H. Winter, noted the bleak and difficult terrain. On his 1843 journey, Winter stated that “this is perhaps the most rugged, desert and dreary country, between the Western borders of the United States and the shores of the Pacific. It is nothing else than a wild, rocky, barren wilderness, of wrecked and ruined nature, a vast field of volcanic desolation” (Johnson and Winter 1846:30). In addition to the barren landscape, the trail condition in this area was also often noted as quite precarious. Abigail Scott noted that “in many places the wagons were held by two or three men or they would [have] been precipitated over the rocks into the river” (Rau 2001:162). While some emigrants chose to cross the Snake River via ferry, others continued along the South Alternate alignment, where they would have the opportunity to camp at what would subsequently be known as Givens Hot Springs. Emigrant Lucia Loraine Williams traveled past the hot springs in July of 1851 and reported:

Came to Hot Springs. There was a little stream or drain running across the road about one-half mile from the spring . . . Camped near. Visited the springs. There we found the water hot enough for cooking. The ground a few feet from the spring was covered with saleratus and those of the company who were short of the same replenished their storage. (Hutchinson and Jones 2000: 78)

When emigrants reached the valley of Fort Boise, the dry plains of the South Alternate Route gave way to a more lush landscape of the Boise and Snake Rivers. L.W. Hasting’s *Emigrant’s Guide to Oregon and California* notes that “there are also several very extensive plains and valleys, in the immediate vicinity of Fort Boisia [sic], which are quite fertile and capable of producing grains and vegetables in great abundance; yet, the surrounding country, is generally, barren and mountainous” (Hastings 1845:37).

Features which either contribute to or detract from the historic character of trail segments within the South Alternate AU are listed in Table 15. The predominant contributing element of the trail segments located within this AU is the Snake River. This 1,078-mile-long tributary of the Columbia River was an important landmark for emigrants following the Oregon Trail and its predominantly north-south trending alignment served as a visible dividing line between Idaho and Oregon. Because of its depth and rough waters, which were often viewed as foreboding to travelers, numerous ferries such as Three Mile Crossing, Brownlee Ferry, and Olds Ferry, were established along its route to provide crossings for emigrants. As the Oregon Trail followed the course of the river for nearly 340 miles, it is a prominent feature mentioned in nearly all emigrant accounts describing their journey along the route. Additionally, the river defined the travel experience throughout Idaho as the numerous braids of the trail in the state were blazed to follow either the eastern or western banks of the river.

Observations regarding the historic setting of the trail segments in this AU were collected from a single observation point, IOP 5-1. This IOP, which is located approximately 244 feet (0.05 mile) west of the Snake River within a softly rolling valley bottom, is surrounded by modern development including numerous residential and agricultural buildings, two-track graded and graveled roads/driveways, ORV trails (many of which intersect with the trail trace), fencing, and landscaping comprised of non-native vegetation. Additionally, two transmission lines are visible to the south and west of IOP 5-1. The transmission line to the south consists of a series of lattice towers and the line to west is supported by wooden poles. The most noticeable human-related intrusion to the historic setting of the trail segment in this location, however, is Idaho State Highway 78, which is located approximately 172 feet (0.03 mile) west of the IOP. The paved and divided highway largely parallels the congressionally designated route and the Snake River to the south of the rural community of Marsing. Due to the close proximity of State Highway 78 to the congressionally designated trail route and residential/agricultural development in this area of Owyhee County, the historic setting within the South Alternate AU is not retained.

Table 15. Inventory of Features Contributing and Non-Contributing to the Historic Character of Trail Segments within the South Alternate Analysis Unit

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Owyhee Mountains	C		These rounded mountains provided a stark contrast to the region's predominantly barren landscape and bluffs adjacent to and along the Snake River.
Terrain	Liberty Butte	C		This prominent butte served as a landmark for emigrants traversing the South Alternate Route of the Oregon NHT.
Hydrology	Snake River	C		The depth and strong current of this river, which emigrants followed for more than 300 miles after first encountering it at Fort Hall, Idaho, was a geographical barrier that shaped the emigrant route and had a profound impact on the accessibility of travel.
Circulation	State Highway 78	NC	No	This divided rural highway, which connects the Idaho communities of Marsing and Hammett, largely parallels the Snake River and South Alternate Route of the Oregon NHT.
Circulation	Off-road-vehicle trails	NC	No	The trail trace at IOP 5-1 is crossed by off-road-vehicle trails in several locations.
Circulation	Paved and graveled roads/driveways	NC	No	Due to residential and agricultural development in the area, paved and graded roads and driveways are numerous.
Buildings and structures	Residential/agricultural buildings	NC	No	Numerous houses and agricultural buildings and structures are visible to the north, northwest, northeast, and southeast of IOP 5-1.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Buildings and structures	Transmission lines	NC	No	Two transmission lines are located to the west of State Highway 78.
Vegetation	Native vegetation community	C		Includes riparian vegetation along the Snake River and the sage steppe vegetation on the distant mountain slopes and adjacent to IOP 5-1.
Vegetation	Agricultural fields	NC	No	Cultivated fields are visible in all directions at IOP 5-1.
Vegetation	Modern landscaping	NC	No	Includes multiple rows of planted trees adjacent to residential development.
Small-scale features	Post and wire fencing	NC	Yes	These are common along property boundaries.

Table Abbreviations: C= contributing, NC = non-contributing; IOP = inventory observation unit; NHT = National Historic Trail.

5.1.5.4 RECREATION AND TRANSPORTATION MANAGEMENT OPPORTUNITIES

Opportunities for recreation in the Southern Alternate AU are limited to typical dispersed types of recreation, and recreation associated with the Snake River. BLM has identified in the 2002 *Southeastern Oregon RMP*, as Rural, in the ROS. On the Idaho portion of the AU, BLM also identified the area as Rural, in the ROS. Additionally, BLM identified the trail as an SRMA in the 1999 *Owyhee RMP*, requiring that the land be managed in accordance with the 1989 NPS CMUP.

Most of the lands in this AU are private, thus limiting public recreation to some extent. Recreation associated with the Snake River includes boating and fishing, as the Oregon NHT generally follow the river. Other recreation opportunities in the AU include auto-touring, sightseeing, wildlife viewing, boating, fishing, hiking, horseback riding, and OHV use. There are no developed recreation sites on the either the Oregon or Idaho portions of the South Alternate AU.

Located on private land, Givens Hot Springs also serves as a base of recreation along the congressionally designated alignment of the Oregon NHT. Initially developed by emigrants Milford and Mattie Givens in 1879 as a wayside, the area is now developed with a bathhouse, swimming, and camping facilities.

5.2 STUDY TRAILS

5.2.1 MEEK CUTOFF (OREGON)

The NPS is currently conducting a feasibility study to add the Meek Cutoff to the Oregon NHT. The Meek Cutoff has been recognized by the Oregon State Legislature as one of five alternate routes of the historic alignment of the Oregon Trail that pass through the state of Oregon (NPS 1998).

The Meek Cutoff trail was blazed as an alternate route of the Oregon Trail in 1845. In August of that year, fur trapper Stephen Meek proposed to take emigrants from Fort Hall to the Willamette Valley via a cutoff through the Cascade Mountains which he alleged would reduce the overall length of travel by 150 miles. Roughly 1,000 persons decided to follow Meek on this trail, which was anticipated to head directly west from the Oregon Trail's juncture with the Malheur River through central Oregon. Meek led the wagon train along the rough and rocky banks of the Malheur River, before heading over precipitous bluffs, which caused injury to both wagons and livestock. When the wagon train was not able to find water, the group forced Meek to abandon the westward route and turn north with the hopes of reaching The Dalles along the Columbia River. As the emigrants faced continued water and food shortages, the group divided into those who wanted to take a direct route to The Dalles and those who wanted to travel west to the Deschutes River to see if there was a passage over the Cascades and, if not, follow the Deschutes north towards The Dalles (Beckham 1991).

The wagon train ultimately split south of the Maury Mountains, with one faction following Meek northwest toward the Deschutes River, while the other group sought to travel due north towards the Columbia River. The northbound group, in particular, experienced bouts of illness and suffered from lack of food and water before inadvertently arriving at Sagebrush Springs on the Deschutes River where the second group joined them. Each wagon train had to be ferried across the river in order to continue the journey to The Dalles, which they reached in mid-October. While accounts vary, at least two dozen people lost their lives on the trip due to disease and hunger (Beckham 1991).

Nature and Purpose

The nature and purpose of this trail has not yet been defined, as it is currently under feasibility study.

Primary Uses

As this trail is currently under feasibility study and does not yet have a Comprehensive Management Use Plan (CMUP), its primary uses have not been identified.

5.2.1.1 MEEK CUTOFF ANALYSIS UNIT

The Meek Cutoff AU is located on the western border of Oregon in Malheur County. The unit spans an area, roughly 5 miles in length, west of the small city of Vale. The trail route, blazed in August of 1845 by fur trapper Stephen Meek and some 1,000 emigrants, was intended to take emigrants from Fort Hall to the Willamette Valley via a cutoff through the Cascade Mountains and eliminate 150 miles of journey on the main alignment of the Oregon Trail. The alignment was attractive to a number of emigrants not only for the proposed shorter duration of travel, but also because of concerns based on accounts of emigrant conflicts with Walla Walla and Cayuse Indians along the Blue Mountains segment of the main trail. The Meek Cutoff left the Oregon Trail at Vale, Oregon and followed the Malheur River to the Harney Basin. However, the flat terrain offered little vegetation other than sagebrush and native grasses. Additionally, there was limited fresh water. The emigrants abandoned the western route and headed north in search of water at the Crooked River. After reaching the river, the group divided into two with one heading northward to The Dalles and the other seeking the Deschutes River to the west (Beckham 1991). The groups split south of the Maury Mountains. The northbound group inadvertently

reached Sagebrush Springs on the Deschutes River where the second group joined them. Each wagon train had to be ferried across the river in order to continue the journey to The Dalles, which they reached in mid-October (Beckham 1991).

Encompassing approximately 4,216 acres of the public and private land to the west of Vale, the Meek Cutoff AU consists of approximately 3.5 miles of trail currently under feasibility study (see Table 3 and Figure 11). The portion of the trail on BLM land includes two parallel braids, both of which extend along the Malheur River. This route was described by emigrants such as Eli Casey Cooley who followed Meek along the trail in 1845. In his accounts, Cooley noted that, while the terrain could be steep and rocky, water and grass was still plentiful (Cooley 2004). At the southwestern boundary of the AU, the two segments diverge with one alignment continuing to follow the Malheur River and the other maintaining a more direct southwestern trajectory. Because the trail is currently under feasibility study, a field inventory was not done in the Meek Cutoff AU. Instead, the setting of the 1-mile-long segment of the Meek Cutoff on BLM land within the inventory area was characterized by desktop analysis, which is discussed in further detail below.

Visual Resources

A single trail segment on BLM land is present within the Meek Cutoff AU, and is located within the incised Malheur Canyon landform. The landscape surrounding this trail segment is strongly enclosed, with steep hills and canyon walls limiting distant views. Landforms are covered in dense sage steppe vegetation, with occasional rock outcroppings. The sagebrush vegetation includes shades of sage green and gray, while grassland vegetation varies seasonally from bright green to brownish-yellow color. Riparian vegetation is visible along rivers and creeks, and introduces bright green and yellow fall colors. Landform colors are visible in the rock outcroppings and appear beige to medium brown in color. Cultural modifications within the AU are limited, including gravel and two-track roads, a canal, and an abandoned railroad alignment. Features of the abandoned railroad would likely be visible from the trail segment, but it is unlikely that the canal or two track roads would be visible since they are higher in elevation than the trail segment and partially hidden by landforms. The Meek Cutoff falls in VRM Class III.

Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the Meek Cutoff AU. A small section of the trail on private land in Malheur County, Oregon was evaluated during the 2013 RLS. The newly-recorded segment of trail, assigned site number B2H-MA-003, was recommended not eligible for listing in the NRHP due to lack of integrity as the structure was previously impacted by road construction (Tetra Tech 2013:13). The trail will not be subject to further documentation as part of this study.

Historic and Cultural Setting

Fur trapper Stephen Meek blazed the notorious Meek Cutoff Trail, an alternate to the main route of the Oregon Trail, in 1845. He proposed a route which would take emigrants from Fort Hall to the Willamette Valley via a cutoff through the Cascade Mountains—a journey which would purportedly take 20 days to

complete. Roughly 1,000 persons followed Meek on this trail, headed west from the Oregon Trail mainline at its juncture with the Malheur River. The rocky and precipitous bluffs leaving the river proved formidable, however, and many groups became separated by large distances. The route chosen was barren with very little available water; emigrant Stephen King reported in an 1846 letter: "...[we] left the old road to follow the new road and traveled for 2 months over sand, rocks, hills and anything else but good roads" (King 1846:1). As the emigrants faced water and food shortages, they pressured Meek to abandon the westward route and turn north with the hopes of reaching The Dalles, along the Columbia River. Emigrant Betsy Bayley described the dire situation stating,

We had men out in every direction in search of water but found none. You cannot imagine how we all felt. Go back, we could not and we knew not what was before us. Our provisions were failing us. There was sorrow and dismay depicted on every countenance. (Oregon Historic Trails Fund n.d.)

The prolonged water shortages caused the group to fracture into those who wanted to take a direct route to The Dalles and those who wanted to continue traveling west to the Deschutes River in search of a passage over the Cascades. The latter argued that if such a passage could not be found, the Deschutes could be followed north towards The Dalles (Beckham 1991). The wagon train split south of the Maury Mountains, with one faction following Meek northwest toward the Deschutes and the other group traveling due north towards the Columbia. The groups inadvertently rejoined one another at Sagebrush Springs on the Deschutes River. Each wagon train had to be ferried across the river in order to continue the journey to The Dalles—which they reached, as Stephen King noted, some two months after they departed from the main Trail (Beckham 1991).

Contributing and non-contributing features identified along the trail segment within the Meek Cutoff AU are listed in Table 16. The surrounding terrain and Malheur River are the predominant contributing elements of the trail. The Malheur River, at its juncture with the main route of the Oregon Trail, marked the beginning point of the Meek Cutoff. Emigrants noted the often difficult and rocky terrain during their some 50 miles of travel along the river. However, it was in departing from the Malheur River that emigrants faced a truly arid and unwelcome landscape which ultimately forced them to abandon their westward journey.

Observations regarding retention of historic setting of the trail segments in this AU were derived from the one segment of trail within the study area that is located on BLM land. Desktop analysis suggests that this segment of trail, which is located approximately 11.7 miles to the southwest of Vale within Malheur Canyon, has been only minimally impacted by modern development. Although intrusions such as the Vale Oregon Canal and its associated graveled access road, two-track roads, and an abandoned grade of the Vale to Juntura Oregon Shortline Railroad (now the Union Pacific Railroad) are visible from multiple vantage points along the trail, the majority of these features are at a higher elevation than the trail segment and are thus not visible or are shielded from view by the steep canyon walls and surrounding hills. Additionally, due to its location within an incised canyon, the trail segment has not been impacted by agricultural development—a common impact to the Oregon NHT in more open areas such as Vale, Hope, and Harper Junction. Due to the retention of natural, sage-steppe

vegetation and the lack of cultural modifications in the area, the Meek Cutoff AU retains its integrity of historic setting.

Table 16. Inventory of Features Contributing and Non-Contributing to the Historic Character of Meek Cutoff Study Trail within the Meek Cutoff Analysis Unit

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Malheur Canyon	C		
Hydrology	Malheur River	C		The “unlucky river” was noted by John C. Fremont in 1846 as “a considerable stream with an average breadth of 50 feet, and, at this time, 18 inches depth of water” (Fremont 1846:174). The river served as a crossroads for the Meek Party where the wagon train left the main alignment of the Oregon Trail seeking a more direct route to the Willamette Valley. The land near the river was noted as possessing grasses for livestock.
Circulation	Two-track roads	NC	No	Numerous two-track and gravel roads (including an access road for the Vale Oregon Canal) are present in the eastern half of the analysis unit.
Buildings and structures	Vale Oregon Canal	NC	No	This 74-mile-long canal, which provides irrigation water to 35,000 acres of rangeland in east-Central Oregon, was built by the Bureau of Reclamation as part of the Vale Project between 1927 and 1935.
Buildings and structures	Union Pacific Railroad	NC	No	Built ca. 1900, this railroad grade is currently abandoned.
Vegetation	Native vegetation community	C		Includes plants mentioned in historical accounts, such as sagebrush and grasses.

Table Abbreviations: C= contributing, NC = non-contributing.

Recreation and Transportation Management Opportunities

Recreation opportunities in the Meek Cutoff AU include those generally associated with dispersed recreation use. Only a small portion of the trail is located on BLM lands. These lands are identified as rural, within the ROS. There are no developed recreation sites within the AU. Although independent of the Oregon NHT or recreation directly associated with it, nearby Bully Creek Reservoir provides boating, fishing, day-use, and camping activities. Other recreation activities within the AU consist of hiking, biking, horseback riding, wildlife viewing, hunting, and OHV use. BLM has not specified any special management for recreation in the AU.

5.2.2 GOODALE’S CUTOFF (OREGON)

The Goodale’s Cutoff (also known as the Goodale/Sparta Trail) is also currently under feasibility study by the NPS as part of three alternate routes to be added to the Oregon NHT in Idaho and Oregon.

The Goodale's Cutoff to the Oregon Trail had its origins as a migration route used by Shoshone peoples and was popularized as an alternate route to the Oregon Trail by John Jeffrey, a river ferry operator, as early as 1852 (NPS n.d.) This cutoff trail left the Oregon Trail at Fort Hall, Idaho proceeding west through the Camas Prairie to the north of the Snake River Valley en route to where it rejoined the trail at the Powder River, near Baker City. The trail saw little emigrant travel until 1862 when a party hired guide Tim Goodale to lead them on the passage. Many of these emigrants were lured by the prospect of gold in the Boise Basin. Goodale successfully led the group of more than 1,000 persons from Fort Hall to Fort Boise. As hostilities increased between Shoshone and Bannock peoples and the emigrants along the main Oregon Trail, larger numbers of people began to use Goodale's alternate route (Dary 2004).

A northern alternate of Goodale's Cutoff continued into Oregon crossing Hells Canyon of the Snake River on the Brownlee Ferry to reach Baker Valley (McGill 2009). This alternative was purportedly used by prospectors, including George Grimes, who used the route to traverse between the Boise mines and Walla Walla. This route became known as the Brownlee Ferry Route (Wells 1972).

Nature and Purpose

The nature and purpose of this trail has not yet been defined, as it is currently under feasibility study.

Primary Uses

As this trail is currently under feasibility study and does not yet have a CMUP, its primary uses have not been identified.

5.2.2.1 GOODALE'S CUTOFF ANALYSIS UNIT

The Goodale's Cutoff AU is comprised of two discontinuous areas: one is located on the central border of Oregon and Idaho and the second is located to the north, spanning the border between Idaho and Oregon. The trail segments within both of these AUs are collectively known as Goodale's Cutoff, an alternate route of the Oregon Trail which extended from Fort Hall, Idaho, through the Camas Prairie, and rejoined the Oregon Trail at the Powder River, in Baker Valley. The route, which was located to the north of the Snake River, was considerably more dry and desolate than the main Oregon Trail route, as it only intermittently crossed creeks and rivers. Emigrants who continued on the Goodale's alignment crossed Devil's Canyon and headed west towards Baker City. The topography and vegetation throughout this western area was comprised of rolling hills with brush and grasses.

As previously mentioned, the NPS is conducting a feasibility study of Goodale's Cutoff trail segments as an alternate route of the Oregon NHT (see Table 3 and Figure 12 through Figure 14). The discontinuous AU encompasses approximately 306,449 acres of which 262,042 are located in the northern area and 44,408 acres are located to the south. The southernmost portion of the AU is situated between Weiser, Idaho and Huntington, Oregon, and the northernmost area is bounded by the Snake River on the east and Baker City, Oregon, to the west. The trail within this northern AU consists of one primary route, roughly 102 miles in length, which splits into two parallel braids in several locations; of these 102 miles, approximately 48.7 are located on BLM land. The trail segment in the

southern portion of the AU is located on the northern banks of the Snake River to the west of Porter's Island and covers an area less than 10 miles in length. The historic and cultural setting of the trail segments within this AU are characterized by three geographical areas which are discussed in further detail below.

Visual Resources

Trail segments of the Goodale's Cutoff occur intermittently on BLM land from Baker Valley east to the Lower Powder Valley. The segments begin at the edge of Baker Valley just west of Flagstaff Hill, and extend eastward through Virtue Flat. Upon entering Virtue Flat, the segments split in two directions, with some paralleling the general alignment of Ruckles Creek to the south and others following the basic alignment of State Highway 86 to the north. The two alignments intersect once again near the intersection of Ruckles Creek and State Highway 86, where they extend further east to the Lower Powder Valley near Waterspoint Creek. Views from these trail segments are generally panoramic, but become moderately enclosed along the Ruckles Creek valley formation. Panoramic views include the expanses of rolling sage steppe hills, and the distant rugged Wallowa Mountains. Enclosed views are generally limited by adjacent rolling hills. The flat agricultural lands of Baker Valley and Lower Powder Valley are also visible from the western and eastern trail segments, respectively. The Goodale's Cutoff falls within VRM Class II and IV.

Cultural modifications within this geographical area consist of State Highway 86, gravel roads, two-track roads, roadway and interpretive signage, guardrail, wood and wire fencing, a large stone monument, transmission lines supported by wooden poles, the NHOTIC and its associated facilities, and clustered ranching structures. An extensive network of OHV routes is also visible north of Virtue Mine Road, between State Highway 86 and Ruckles Creek Road. The eastern and westernmost segments of trail also include views of agricultural fields and associated rural development.

Lower Powder Valley to Eagle Valley

These trail segments occur intermittently on BLM land from the Lower Powder Valley east to Eagle Valley. The segments begin at the easternmost end of Lower Powder Valley, and are split into a northern and a southern alignment.

The southern alignment of trail segments begins near the entry of Miller Creek into the Lower Powder Valley, and traverses east across the rolling hills to the south of the incised Powder River valley. The alignment crosses Five mile Creek and eventually drops into the Powder River Valley to the north of Rattlesnake Gulch. The trail segments of this southern alignment terminate near the confluence of the Powder River and Canyon Creek. Views from these trail segments are generally panoramic, but become strongly enclosed within the incised Powder River Valley. Panoramic views include the expanses of rolling sage steppe, and the distant rugged Wallowa Mountains. Enclosed views are generally limited by adjacent rolling hills and associated rock outcroppings. The flat agricultural lands of the Lower Powder Valley are also visible from the western trail segments. Cultural modifications within this geographical area are fairly limited, but include State Highway 86, gravel roads, two-track roads, fences and corrals, road signage, transmission lines and wooden poles, and clustered ranching

structures. The eastern and westernmost segments of trail also include views of agricultural fields and associated rural development.

The northern alignment begins east of the Goose Creek Valley (north of the Powder River) and extends northeast to eventually parallel Sparta Lane. The trail segments follow the basic alignment of Sparta Lane until terminating on the western rim of Eagle Creek approximately 2 miles northwest of the town of New Bridge. Views from these trail segments are generally panoramic, but are occasionally enclosed from within drainages crossed by the alignment. Panoramic views include the expanses of rolling sage steppe, and the distant rugged Wallowa Mountains. Enclosed views are generally limited by adjacent rolling hills and associated rock outcroppings. Views from the trail segments along the rim of Eagle Creek are particularly panoramic, and include overviews of the deeply incised Eagle Creek Canyon. The flat agricultural lands of the Lower Powder Valley and Eagle Valley are also visible from the western and eastern trail segments, respectively. Cultural modifications within this geographical area are fairly limited, but include gravel and two-track roads, fences, and clustered ranching structures. The eastern and westernmost segments of trail also include views of agricultural fields and associated rural development.

Eagle Valley to Posey Valley

These trail segments occur on BLM lands between Eagle Valley and Posey Valley. The segments begin within the steeply rolling hills east of Eagle Valley, and loosely parallel State Highway 86 across Foster Gulch. The segments then follow State Highway 86 into Road Gulch and terminate in Posey Valley. Views from these trail segments are generally panoramic, but become moderately enclosed within the Foster Gulch and Road Gulch landforms. Panoramic views include expanses of rolling sage steppe, and the distant rugged Wallowa Mountains. Enclosed views are generally limited by adjacent rolling hills. The flat agricultural lands of Eagle Valley and Posey and Pine Valleys are also visible from the trail segments.

Cultural modifications within this area of the AU consist of State Highway 86, gravel and two-track roads, roadway signage, guardrail, wood and wire fencing, transmission lines and poles (wood), and clustered ranching structures. The trail segments also include views of agricultural fields and associated rural development within adjacent valleys.

Snake River Valley near Indian Head Mountain

These trail segments occur on BLM land along the north edge of the Snake River below Indian Head Mountain. The segments begin at the base of the mountain within the flat valley bottom and extend approximately from Huffman Island to Porters Island.

Views from the trail segments near Huffman Island are enclosed by Dead Indian ridge to the north, a steeply rolling mountain formation covered by sage steppe vegetation. To the south, views are limited by rolling sage steppe hills that line the Snake River Valley. The Snake River generally dominates views from these trail segments. Cultural modifications within this geographical area consist of railroad

tracks, State Highway 30, gravel roads, transmission lines and wooden poles, and clustered ranching structures.

Views from the trail segments near Porters Island are enclosed by Dead Indian ridge to the west, but are open and panoramic to the east, where topography flattens into the expansive West Weiser Flat landform. The Snake River generally dominates views from these trail segments. Cultural modifications within this geographical area consist of railroad tracks, paved and gravel roads, transmission lines and wooden poles, agricultural fields, wood and wire fencing, clustered agricultural buildings and structures, and an RV park located along the south edge of the river.

Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the Goodale's Cutoff AU. A segment of the trail on BLM and private land, referred to as Goodale/Sparta Trail (B2H-BA-327), was identified during the 2013 RLS of the inventory area. Although this segment was not evaluated as part of this effort, it was recommended for further study during the ILS (Tetra Tech 2013:13).

Historic and Cultural Setting

Goodale's Cutoff was first used as an alternate route of the Oregon Trail by John Jeffrey, a river ferry operator, as early as 1852 (NPS n.d.) The cutoff left the Oregon Trail at Fort Hall, Idaho, and proceeded west through the Camas Prairie to the north of the Snake River Valley before rejoining the Oregon Trail at the Powder River. The route became popularized in 1862 when fur trader Tim Goodale led a group of more than 1,000 emigrants across the trail (Dary 2004). A northern alternate of the Goodale route continued into Oregon, crossing the Hells Canyon of the Snake River on the Brownlee Ferry to reach Baker Valley near present day Baker City (McGill 2009). This route was purportedly used by prospectors, including George Grimes, to travel between the Boise mines and Walla Walla. This route became known as the Brownlee Ferry Route (Wells 1972).

As the NPS CMUP notes "this route is not well documented, and little evidence has survived to indicate its location" (NPS 1998:71). While efforts have been made to conduct physical documentation of the Goodale's Cutoff, the lack of historical firsthand accounts of the journey along the trail limits the ability to make characterizations of the historic setting. Discussions in Table 17 are based on extrapolations from modern aerial photography.

Observations regarding retention of the historic setting of the trail segments located on BLM land in this AU are based upon desktop analysis. Intrusions such as State Highway 86, present throughout the northern portion of AU, as well as Olds Ferry Road/State Highway 201 located in the southern portion of the AU, are visible from the majority of the trail segments on BLM land, and in many cases, the trail segments parallel these two roads. Because of their proximity to the trail segments, both of these modern roadways diminish the integrity of the historic trail setting in these locations. Graded gravel and two-track roads are also visible from multiple vantage points along the trail; however, due to the retention of native materials, these roads have less of a visual impact on the trail segments than the

improved asphalt roads of State Highway 86 and State Highway 201. Additionally, agricultural and ranching development visible from segments in the western portion of the northern AU area and in the eastern portion of the southern AU area significantly detract from the historic setting, which would have consisted predominantly of open sage brush with some riparian vegetation near adjacent waterways. However, due to the expansive nature of the Goodale’s Cutoff AU—spanning some 306,000 acres—much of the integrity of the broader historic setting is intact.

Table 17. Inventory of Features Contributing and Non-Contributing to the Historic Character of the Goodale’s Cutoff Study Trail within the Goodale’s Cutoff Analysis Unit

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	Baker Valley	C		This relatively flat valley is visible from the western end of the cutoff trail near Flagstaff Hill.
Terrain	Lower Powder Valley	C		This incised river valley is characterized by flat, agricultural lands.
Terrain	Eagle Valley	C		Visible at the eastern end of the cutoff trail in the northernmost analysis unit, this broad valley is comprised predominantly of agricultural fields watered by Eagle Creek and the Tobin Ditch.
Terrain	Posy Valley	C		This expansive agricultural valley is located to the northeast of Richland, Oregon near the northeastern limits of the inventory area.
Terrain	Snake River Valley	C		This valley stretches across the central portion of Idaho. Despite the presence of the river, much of the valley was dry and dusty and covered in sagebrush.
Terrain	Indianhead Mountain	C		Located near the community of Weiser, Idaho, this mountain is a famous local landmark known for its stunning views of the Lower Powder, Snake River, and Eagle valleys.
Terrain	Flagstaff Hill	C		Flagstaff Hill was one of the first landforms visible when emigrants of the Oregon Trail descended the north face of Virtue Hills onto Virtue Flat (Beckham 2013). This prominent feature is also visible from the Goodale’s Cutoff, where the trail joins the Oregon NHT along the eastern and southern flanks of the landform.
Terrain	Virtue Flat	C		This expansive area, visible from the western end of Goodale’s Cutoff, was historically referred to in emigrant accounts as the “sage plains” or “dividing grounds” between the Burnt and Powder Rivers (Cleaver 1848; Frémont 1845).
Terrain	Wallowa Mountains	C		Panoramic views of these mountains were visible to the north as emigrants traveled along the western end of Goodale’s Cutoff through Virtue Flat.
Terrain	Virtue Hills	C		From the top of these hills, emigrants had a panoramic view of Virtue Flat and the distant Blue and Wallowa Mountains.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Terrain	West Weiser Flat	C		This expansive landform is situated to the east of the Snake River in Idaho. Emigrants would have had open, panoramic views of the Snake River valley and surrounding mountains from this location.
Terrain	Dead Indian Ridge	C		This steeply rolling mountain formation, visible along the southern portion of Goodale's Cutoff, remains covered in its native sage steppe vegetation.
Terrain	Huffman Island	C		Located within the Snake River channel, this island was visible to those traveling on the portion of the Goodale's Cutoff in the Southern portion of the analysis unit.
Hydrology	Snake River	C		While the Goodale's Cutoff intentionally departed from the main Oregon Trail alignment along the Snake River, the river became visible again as the route reunited with the main trail near the Powder River.
Hydrology	Ruckles Creek	C		The creek, located on the barren expanse of Virtue Flat, provided a limited source of water to travelers before traversing Flagstaff Hill and reaching the Powder River.
Hydrology	Powder River	C		Emigrants reached the Powder River Valley (now Baker Valley) after crossing Flagstaff Hill. The river provided a clear northern route to the Grande Ronde, as well as a place to stop to water cattle. The Powder River also represents the area where the cutoff rejoined the main Oregon Trail.
Circulation	State Highway 86	NC	N	The western end of the Goodale's Cutoff closely follows the alignment of this west to southeast trending state highway.
Circulation	Oregon State Highway 30	NC	N	State Highway 30 parallels the southern boundary of the northern area of the Goodale's Cutoff Analysis Unit.
Circulation	Olds Ferry Road/State Highway 201	NC	N	Olds Ferry Road is located on the northern banks of the Snake River in the lower portion of the Goodale's Cutoff Analysis Unit.
Circulation	Sparta Lane	NC	N	Although now a modern graded and graveled road, Sparta Lane likely follows one of the original segments of Goodale's Cutoff.
Circulation	Two-track/off-road-vehicle roads	NC	N	Numerous two-track roads providing access to mines and ranches in the region are present in the Virtue Flat area at the western end of the cutoff trail. In some cases, portions of the trail have been incorporated into these graveled routes. Off-road-vehicle roads are also common in this location.
Circulation	Fivemile Road	NC	N	This modern graded and graveled road parallels original segments of Goodale's route in the northern analysis unit and has likely subsumed the trail in other locations.

Characteristic	Feature	Contributing to Character	If Non-Contributing, Compatible?	Description
Buildings and structures	Oregon National Historic Trail Interpretative Center	NC	N	This complex, which is of recent construction, provides opportunities for visitors to experience the trail. It is listed in the National Park Service's 1989 Comprehensive Management and Use Plan as High Potential Historic Site No. 106 of the Oregon National Historic Trail. Due to its prominent location on the top of Flagstaff Hill, the complex is visible from the western end of Goodale's Cutoff.
Buildings and structures	Flagstaff Hill Monument	NC	Y	Located near the western terminus of Goodale's Cutoff, this cement and cobble marker was erected by the Kiwanis Club in 1943.
Buildings and structures	Residential/agricultural buildings	NC	N	Clusters of agricultural and ranching buildings and structures are located throughout the three geographical areas of the analysis unit.
Buildings and structures	Transmission lines	NC	N	Transmission lines are present in the Snake River to Indian Head geographical area.
Buildings and structures	Railroad tracks	NC	N	Railroad tracks are present in the Snake River to Indian Head geographical area only.
Buildings and structures	RV park	NC	N	An RV park is located along the south edge of the Snake River within the Snake River to Indian Head geographical area.
Vegetation	Native vegetation community	C		Consists predominantly of sagebrush, rabbitbrush, and grasses, which were historically present in the region.
Vegetation	Agricultural crops	NC	N	Agricultural fields are common in Baker Valley to the west of where the Goodale's Cutoff intersects with the Oregon National Historic Trail.
Small-scale features	Post and wire fencing	NC	N	Post and wire fencing is present throughout the upper and lower portions of the Goodale's Cutoff Analysis Unit.
Small-scale features	Tailings/Prospects	NC	N	Prospects and tailing piles of varying sizes, reflective of both historic and modern mining, are common intrusions in the Virtue Flat area along the western and west-central portion of Goodale's Cutoff Analysis Unit.

Table Abbreviations: C= contributing, NC = non-contributing RV = recreational vehicle.

Recreation and Travel Management Opportunities

The primary recreation activities related to the Oregon NHT within the Goodale's Cutoff AU is the NHOTIC, as described previously in the Flagstaff Hill/Virtue Flat AU discussion, as well as the Powder River Canyon Extensive Recreation Management Area. Also within the boundary of this AU, but not located on BLM land, is the popular recreation site of Virtue Flat, also described previously in the Flagstaff Hill/Virtue Flat AU discussion.

Recreation opportunities within the Goodale's Cutoff AU include activities usually associated with dispersed recreation. Activities identified by BLM include hiking, biking, horseback riding, auto-touring,

picnicking, wildlife viewing, fishing, hunting, OHV use, and dispersed camping. Additionally, State Highway 86 has been identified as the Hells Canyon Visual Byway, and provides access to recreation sites along the Oregon NHT and within Virtue Flat. The Oregon NHT can be easily accessed from several locations along State Highway 86 and Ruckles Creek Road. Further south near Eaton, ID, the Goodale's Cutoff follows Olds Ferry Road which is heavily used for river recreation. The 1989 *Baker RMP* establishes the Oregon Trail ACEC and NHOTIC to protect trail settings, but does not provide ROS direction for the Oregon NHT on BLM land.

6.0 ANALYSIS OF IMPACTS FOR COMPLIANCE WITH BLM MANUAL 6280

The identification of environmental consequences (impact analysis) that would result to the Oregon NHT and Study Trail segments is based on the change in those conditions that would result from the development of the Proposed Action and alternatives. More specifically, the impact analysis identifies how the B2H Project would affect the trail-specific visual resources, historic and cultural resources, and historic and cultural settings identified by the NHT inventory within each AU. With respect to impact analysis for NHTs and Study Trails, BLM Manual 6280 provides the following guidance:

- Conduct a viewshed analysis to determine if the proposed action is within the viewshed of the trail(s)
- Complete an assessment that enables identification of reasonable alternative locations for the proposed action if it is within the viewshed of the trail(s)
- Delineate the area of potential adverse impact
- Identify any adverse impacts on the nature and purposes and primary use of uses within the area of potential adverse impact
- Determine conformance with established VRM Classes

The viewshed analysis and delineation of the area of potential impact (identified as AUs within this section) were completed during the NHT inventory and illustrated in Figure 4 through Figure 14. This impact analysis will provide data to enable identification of the project alternatives locations that result in lesser degrees of impact, including identification of adverse impacts on the nature and purposes and primary uses of the Oregon NHT for each alternative location. Because the nature and purposes and primary uses of the Study Trails have not been established, there would be no associated impacts. Determination of conformance with National Trail VRM classes is not included in this analysis because no specific National Trail VRM classes have been established for the Oregon NHT or Study Trails within the analysis area.

6.1 DIRECT AND INDIRECT IMPACTS

The following subsections describe the potential impacts associated with the Proposed Action and alternatives. The discussion of potential impacts is organized with regard to impacts for the No Action Alternative and impacts common to all action alternatives. The discussion of impacts common to all

action alternatives also includes disclosure of impacts associated with construction, operation, and maintenance. This is followed by a detailed analysis of impacts on the Oregon NHT and Study Trails as related to the Proposed Action, alternatives, and Proposed Action segments as they compare to the alternative routes.

6.1.1 ANALYSIS OF DIRECT AND INDIRECT IMPACTS FOR NO ACTION ALTERNATIVE

Under the No Action Alternative, the agencies would not issue a permit for the construction or operations of the B2H Project on federally managed lands. This alternative would result in no direct or indirect project-related impacts on identified NHT or Study Trail resources. Other effects associated with continued access, recreation, and similar actions would continue at the current rate and would be the responsibility of the land managing agencies.

6.1.2 EFFECTS COMMON TO ALL ALTERNATIVES

The following subsections provide an overview of the impacts common to all action alternatives as they relate to the construction, operations, and maintenance of the proposed project. Because potential effects related to trail-specific visual resources, historic and cultural resources, and historic and cultural settings are generally tied directly to visibility of the project from the trail, Table 18 provides the length of each trail on BLM-managed lands from which trail users would see project components associated with the Proposed Action and alternatives. The Double Mountain, Malheur A, Malheur S, Horn Butte, and Longhorn Alternatives and the Longhorn Variation would not be visible from the trails within the AUs; therefore, they are not included in Table 18. The lengths of trail with views of the project components are further broken down by foreground and middleground distance zones in Table 18, to provide a general indication of the distance of the Proposed Action and alternatives from the trail segments. The measurements provided in Table 18 are based on the bare-earth visibility analyses that were completed for each of the alternatives.

6.1.2.1 CONSTRUCTION

Construction of the Proposed Action and/or alternatives would potentially introduce temporary impacts on visual resources, recreational experiences, and historic and cultural settings, as well as permanent impacts on historic properties. The Proposed Action and alternatives would include temporary impacts such as tower construction, line stringing, equipment operation, equipment/material transport, construction-related dust, and material stockpiling. These impacts would attract attention within the analysis area, resulting in short-term impacts on visual resources and historic and cultural settings. Access to developed recreation facilities could likewise be impacted during construction, as equipment and materials are transported to their appropriate locations along the route. Ground-disturbing activities related to construction and access road development/improvement could result in permanent adverse impacts on unidentified NHT-associated historic and cultural resources, particularly those that are buried.

Table 18. Lengths of Trail on BLM-Managed Lands Visible from the Proposed Action and Alternatives

Trail Name	Distance Zone	Proposed Action (miles)	Glass Hill Alternative (miles)	Burnt River Mountain Alternative (miles)	Flagstaff Alternative (miles)	Timber Canyon Alternative (miles)	Tub Mountain South Alternative (miles)	Willow Creek Alternative (miles)
Oregon National Historic Trail*	Foreground	11.48	0.77	2.16	0.75	0.00	3.59	0.00
Oregon National Historic Trail*	Middleground	22.02	0.00	8.71	3.54	0.10	14.38	1.70
Total Visible for Oregon National Historic Trail		33.50	0.77	10.87	4.29	0.10	17.97	1.70
Meek Cutoff Study Trail	Foreground	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Meek Cutoff Study Trail	Middleground	0.71	0.00	0.00	0.00	0.00	0.00	0.00
Total Visible for Meek Cutoff		0.71	0.00	0.00	0.00	0.00	0.00	0.00
Goodale's Cutoff Study Trail	Foreground	3.90	0.00	0.00	0.64	2.09	0.00	0.00
Goodale's Cutoff Study Trail	Middleground	8.34	0.00	0.00	1.26	6.09	0.54	0.00
Total Visible for Goodale's Cutoff		12.24	0.00	0.00	1.90	8.18	0.54	0.00

Table Notes: Asterisk (*) indicates that distances for the Oregon National Historic Trail were calculated based on the congressionally designated route only.

6.1.2.2 OPERATIONS AND MAINTENANCE

Once the transmission line has been constructed, the presence of large transmission towers would potentially introduce permanent impacts on visual resources, recreational experiences, and historic and cultural settings. Transmission line replacement/re-stringing, potential transmission tower replacement, ongoing vegetative clearing within the right-of-way, and routine transmission line maintenance (and associated vehicular access) could attract attention within the analysis area. Auditory impacts associated with transmission line “buzzing” or “humming” would also detract from the recreational experience and remote sense of feeling contributing to the historic character of NHT resources.

6.1.3 DIRECT PHYSICAL CROSSINGS OF OREGON NATIONAL HISTORIC TRAIL AND STUDY TRAILS BY ACCESS ROADS

Access roads planned for the Proposed Action and alternatives have been considered in the analysis of residual impacts below. No access roads would directly or physically cross the Meek Cutoff Study Trail, but they would directly and physically cross the Oregon NHT and Goodale's Cutoff Study Trail in the following locations:

Oregon National Historic Trail

- Two physical crossings of the trail segments associated with KOP 3-11, as associated with an access road planned for the Proposed 138/69-kV Rebuild.

Goodale's Cutoff Study Trail

- Three physical crossings of the trail segments associated with the Baker Valley to Lower Powder Valley Geographic Area, as associated with access roads planned for the Proposed Action.
- Three physical crossings of the trail segments associated with the Baker Valley to Lower Powder Valley Geographic Area, as associated with access roads planned for the Timber Creek Alternative.
- Three physical crossings of the trail segments associated with the Baker Valley to Lower Powder Valley Geographic Area, as associated with access roads planned for the Flagstaff Alternative.
- One physical crossings of the trail segments associated with the Lower Powder Valley to Eagle Valley Geographic Area, as associated with access roads planned for the Timber Creek Alternative.

6.1.4 INDIRECT IMPACTS

Development of the Proposed Action and/or alternatives may result in short-term and long-term indirect impacts. Vegetative clearings and permanent access roads would create opportunities for people to access previously inaccessible areas. This could result in trampling of additional vegetation and additional impacts on the resources such as increased erosion. Implementation of the project would also provide lands adjacent to the alignment with stronger connectivity to the power grid, which may

result in increased energy development along the alignment. These indirect impacts could lower the scenic quality and further diminish the historic settings of the Oregon NHT and Study Trails.

Increased use of existing and new or improved access roads may likewise lead to adverse impacts on cultural resources through increased artifact collection and/or looting, as well as potential vandalism to historic and cultural sites and trail segments. Alternatively, increased use of access roads could indirectly result in beneficial impacts on recreational resources because the new routes could provide and/or increase access to NHT-associated recreational resources. Recreational use of the trails may also decrease in areas where the scenic quality and historic setting are impacted.

6.1.5 RESIDUAL IMPACTS

The Proposed Action and alternatives were evaluated to determine whether the project would directly affect the resources, qualities, values, and associated setting of the Oregon NHT and Study Trails. This analysis provides the information and data required for determining consistency with existing management objectives and for determining substantial interference with or incompatibility with the nature and purposes of the Oregon NHT.

The following subsections describe the potential direct impacts associated with the segments of the Oregon NHT and the two Study Trails (Meek Cutoff and Goodale's Cutoff) on BLM-managed lands within the analysis area. The Proposed Action is first described in its entirety, followed by each individual alternative. Descriptions of the potential impacts on the portions of the Proposed Action that compare to each individual alternative directly follow their associated alternative.

The impact analysis discussions present an evaluation of impact thresholds for the Proposed Action and alternatives under each of the following resources: visual resources, historic and cultural resources, and historic and cultural settings. Impacts on visual resources are organized by AU and are discussed for each KOP within the 5-mile buffer of the proposed project alignment. Historic and cultural resources and historic and cultural setting are described by AU in the context of the KOPs within the AUs.

6.1.5.1 PROPOSED ACTION—OREGON NATIONAL HISTORIC TRAIL

Blue Mountains Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 1-1, 1-2, and 1-3 are provided in Table 19.

Impacts on Historic and Cultural Resources

No impacts on previously recorded trail-related cultural resources within the Blue Mountains AU were identified. The 0.23-mile-long section of the NRHP-eligible Blue Mountain Crossing segment of the Oregon NHT on BLM land, as represented by KOP 1-2, is located approximately 1.1 miles east of the Proposed Action and would not be directly impacted; however, moderate impacts on the historic setting

of the trail are anticipated. As the NRHP eligibility of the trail traces in the vicinity of KOPs 1-1 and 1-3 have not yet been evaluated, impacts on these trail segments could not be determined.

Impacts on Historic and Cultural Setting

Generally, the trail segments on BLM land within the Blue Mountains AU are representative of their historic setting. As planned, the Proposed Action would cross the Blue Mountains AU in a generally northwest to southeast direction, and would intersect the braided trail segments in six of locations, although none of these crossings occur on BLM land. At KOPs 1-1 and 1-3, the Proposed Action is 0.08 mile and 0.07 mile to the northeast and north of the trail segments, respectively, whereas at KOP 1-2, the transmission line is sited approximately 1.1 miles to the west. The historic setting of the trail segments at KOPs 1-2 and 1-3 has already been diminished by modern intrusions including fencelines, two-track roads, I-84 (which is both visible and audible), and clusters of ranch buildings. As such, the impact on the historic and cultural setting in these locations would generally be low. At KOP 1-1, however, impacts vary greatly based on the portion of the trail trace under consideration. The trail trace in this location has not been impacted by modern intrusions. The majority of the trail trace here is located in a heavily forested setting, but the southern portion of the trail trace opens into a pocket of grassland. The portions of the trail trace located in heavily forested setting would not be impacted by the project components, but the portion of the trail trace within the open grassland setting would experience open views of the project components at a close distance of less than one tenth of a mile. Construction of the Proposed Action would therefore have a high magnitude of impact on the historic and cultural setting of the Oregon NHT in this location.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 2-1 and 2-2, 2-3, 2-4, and 2-5 are provided in Table 19.

Impacts on Historic and Cultural Resources

None of the previously recorded trail-related historic and cultural resources located on BLM land within the Flagstaff Hill/Virtue Flat AU would be impacted by the Proposed Action. The NHOTIC, identified as HPHS No. 106 in the NPS CMUP, is situated on top of Flagstaff Hill and overlooks the transmission line, which is sited approximately 1.1 miles to the southeast. Additionally, the NRHP-eligible Flagstaff Hill and White Swan Segments of the Oregon NHT, and their contributing resources—the Meeker Marker and Flagstaff Hill Monument—are all located approximately 0.5 mile from the centerline of the Proposed Action. The magnitude of impact on the historic and cultural setting of the trail segments in these locations, as represented by KOPs 2-2, 2-4, and 2-5, is expected to be high, however. Impacts on the trail at KOP 2-3 could not be determined as the NRHP eligibility for this segment has not yet been evaluated.

Impacts on Historic and Cultural Setting

In general, the numerous braided trail segments within the Flagstaff Hill/Virtue Flat AU, as characterized by the area's five KOPs, retain their integrity of historic setting. The Proposed Action, as

planned, would cross the congressionally designated route and trail segments southwest of the NHOTIC through the open and expansive Virtue Flat landform. This landform, as well as the adjacent Flagstaff Hill, were important landmarks for emigrants traversing the Oregon NHT, and as such, were commonly referenced in journals. Although the Proposed Action crosses BLM land in three principal areas, including the White Swan ACEC, the transmission line would not physically impact any of the BLM-managed trail segments. The transmission line is located in closest proximity to KOP 2-3, where it is sited 0.6 mile to the west. In this location, the integrity of the historic setting is retained as the surrounding sage steppe landscape remains largely the same as it did during the historic period, with the only modern intrusions to the setting occurring to the south and east. For these reasons, construction of the Proposed Action in this location would have a moderate magnitude of impact on the historic setting of the Oregon NHT. Historic setting is also retained at KOPs 2-2, 2-4, and 2-5, where the congressionally designated route and its multiple travel paths span the Flagstaff Hill and White Swan ACECs. Although modern development including road construction, fencelines, mining features, existing transmission lines, and the NHOTIC, is visible from all of these KOP locations, these modifications are subordinate to the historic scenic values and are representative of their original setting. As such, the magnitude of impact on the historic and cultural setting of the Oregon NHT in these locations would also be moderate.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12, and 3-13 are provided in Table 19.

Impacts on Historic and Cultural Resources

No impacts on previously recorded trail-related cultural resources within the Burnt River Canyon AU were identified. The three segments of the Oregon NHT on BLM land that were previously recommended eligible for inclusion in the NRHP, as represented by KOPs 3-2, 3-5, and 3-8 are located within the Straw Ranch I and II ACECs and along Swayze Creek would not be directly affected; however, moderate impacts on the historic setting of the trail segments at KOPs 3-2, 3-5, and 3-8 are anticipated. Additionally, the segment of trail within the Chimney Creek ACEC, as represented by KOP 3-12 and identified by the State of Oregon as a Goal 5 Resource, is situated 0.9 mile to the west of the Proposed Action and would not be impacted by the transmission line. As the historic setting at this KOP has already been diminished, the magnitude of impact on the historic setting is considered to be low. As the NRHP eligibility of the trail traces in the vicinity of KOPs 3-1, 3-3, 3-4, 3-6, 3-7, 3-9, 3-10, 3-11, and 3-13, have not yet been evaluated, impacts on these trail segments could not be determined.

Impacts on Historic and Cultural Setting

Despite existing impacts from modern development and erosion, 13 segments of the Oregon NHT on BLM land within the Burnt River Canyon AU retain their historic setting. The Proposed Action, as planned, would intersect with the braided trail segments and congressionally designated route of the Oregon NHT in six areas, although none of these crossings occur on BLM land. The transmission line

intersects the trail most closely at KOP 3-9, which is located approximately 0.8 mile to the west; it is sited furthest from KOPs 3-1 and 3-2, both of which are located in the Virtue Hills approximately 2 miles to the north and northeast of the Proposed Action's centerline.

The historic setting of the trail segments at KOPs 3-4 and 3-13 have already been impacted by prominent modern circulation features and development associated with mining and power transmission. Similarly, modern intrusions including existing transmission lines, I-84 (which is both visible and audible from multiple locations) and Lookout Mountain Road, a communication tower, and the tracks of the Union Pacific Railroad, have diminished the integrity of historic and cultural setting for the representative trail segments at KOPs 3-3, 3-11, and 3-12. As such, the magnitude of impact at these KOP locations would be none.

At KOPs 3-1, 3-2, and 3-5 through 3-10, however, the trail traces are located within canyons or at a low enough elevation that the transmission line is screened from view, or their setting in the direction of the Proposed Action has not been impacted by human-made intrusions. Additionally, the trail segments at KOPs 3-2 and 3-5 are located within the Straw Ranch I and II ACECs, respectively, and do not show evidence of having been impacted by subsequent use or alterations. In particular, several sets of trail ruts in excellent condition are retained in the vicinity of KOP 3-5. For these reasons, the magnitude of impact on the historic and cultural setting of the Oregon NHT at six of the KOPs (KOPs 3-1 and 3-6 through 3-10) would be moderate, whereas construction of the transmission line would have a high magnitude of impact on two of the KOPs (KOPs 3-2 and 3-5).

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from the Proposed Action on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Alkali Springs/Tub Mountain AU was not considered, because the Proposed Action is located beyond the 5-mile NHT analysis area.

South Alternate Analysis Unit (Idaho/Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 5-1 are provided in Table 19.

Impacts on Historic and Cultural Resources

No impacts on previously recorded trail-related cultural resources within the South Alternate AU were identified. A short segment of the 126-mile-long, NRHP-eligible South Alternate Route (10OE6025) of the Oregon NHT is located on BLM land approximately 0.4 mile to the southwest of the Proposed Action (at its closet location) and would not be directly impacted; however, it is possible that the historic setting of the trail in this location may be impacted by construction of the transmission line. Impacts on segments of the Oregon NHT within the South Alternate AU that are not considered part of the South Alternate Route could not be determined, as the NRHP eligibility of these segments have not yet been evaluated.

Impacts on Historic and Cultural Setting

As previously discussed, the historic setting of the Oregon NHT within the South Alternate AU, as represented by the trail trace at KOP 5-1, has diminished integrity due to residential and agricultural development; road construction including two-track, off-vehicle, and gravel roads, driveways, and Idaho State Highway 78; existing transmission lines; and modern landscaping. As planned, the Proposed Action would cross the South Alternate AU in a generally northwest to southeast direction and its sited location does not intersect with either the congressionally designated route or its parallel alignment; only a 3,562-foot-long (0.67-mile-long) section of the trail on BLM land near the southern end of the Proposed Action is located within 0.5 mile of the centerline. In comparison, the centerline of the Proposed Action is located 3.2 miles, or a considerable distance, from KOP 5-1. Due to the distance of the proposed transmission line to the trail routes, as well as the presence of numerous modern intrusions in this location, construction of the transmission line would have a low magnitude of impact on the historic and cultural setting of the Oregon Trail within the South Alternate AU.

6.1.5.2 PROPOSED ACTION—MEEK CUTOFF STUDY TRAIL

Meek Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with Meeks Cutoff are provided in Table 19.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the Meek Cutoff AU. A small section of the trail on private land in Malheur County, Oregon was evaluated during the 2013 RLS. The newly-recorded segment of trail, assigned site number B2H-MA-003, was recommended not eligible for listing in the NRHP due to lack of integrity as the site was previously impacted by road construction (Tetra Tech 2013:13). Due to this recommendation, the magnitude of impact resulting from construction of the Proposed Action would be none.

Impacts on Historic and Cultural Setting

One segment of the Meek Cutoff trail is located within the 5-mile analysis area of the Proposed Action. Although this segment is located within an incised canyon, the transmission line would be visible as it is sited roughly 1.3 miles to the west. Desktop analysis suggests that this segment of trail has been only minimally impacted by modern development. Although intrusions such as the Vale Oregon Canal and its associated gravel access road, two-track roads, and an abandoned grade of the Vale to Juntura Oregon Shortline Railroad (now the Union Pacific Railroad) are visible from multiple vantage points along the trail, the majority of these features are at a higher elevation than the trail segment and are thus not visible or are shielded from view by the steep canyon walls and surrounding hills. For these reasons, as well as the proximity of the Proposed Action to the trail segment, construction of the transmission line would have a moderate magnitude of impact on the historic and cultural setting of the Meek Cutoff at this location.

6.1.5.3 PROPOSED ACTION—GOODALE’S CUTOFF STUDY TRAIL

Goodale’s Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Baker Valley to Lower Powder Valley Geographic Area are provided in Table 19 and are derived from the detailed NHT Environmental Factors evaluation. There would be no impacts from the Lower Powder Valley to Eagle Valley, Eagle Valley to Posey Valley, or Snake River near Indian Head Mountain Geographic Areas because the Proposed Action is not located within the analysis area.

Impacts on Historic and Cultural Resources

Identified historic and cultural resources within the Goodale’s Cutoff AU are limited to the trail segments under study. A segment of the trail on BLM and private land, referred to as Goodale’s/Sparta Trail (B2H-BA-327), was identified during the 2013 RLS of the analysis area. Although this segment was not evaluated as part of this effort, it was recommended for further study during the ILS (Tetra Tech 2013:13). This segment, however, was not evaluated because it is not within the 5-mile analysis area of the Proposed Action.

Impacts on Historic and Cultural Setting

Due to the expansive nature of the Goodale’s Cutoff AU, spanning some 306,000 acres, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land, modern intrusions have diminished the integrity of historic setting. In total, approximately ten of the roughly 31 trail segments in the broader Goodale’s Cutoff AU would fall within the 5-mile analysis area of the Proposed Action. Of these trail segments, six would be subject to visual impacts from the proposed transmission line. As previously discussed, many of the trail alignments in this AU parallel modern roads, and intrusions associated with agricultural development and ranching have impacted the historic setting of trail segments in the eastern and westernmost portions of the 5-mile analysis area. Because the historic setting of the trail segments along Ruckles Creek and Ruckles Creek Road (in the Baker Valley to Lower Powder Valley Geographic Area) has been only minimally impacted by modern development, construction of the Proposed Action in these locations would have a moderate magnitude of impact on the historic and cultural setting of these trail segments.

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Table 19. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Blue Mountains Analysis Unit															
KOP 1-1	H	None	L	None	25/L	75/M	100/H	None	100/H	None	H	None	Undetermined	H	H-4 M-1
KOP 1-2	None	H	None	L	None	100/H	None	100/H	None	100/H	None	L	M	L	
KOP 1-3	H	None	L	None	24/L	76/M	100/H	None	100/H	None	H	H	Undetermined	L	
Oregon NHT—Flagstaff Hill/Virtue Flat Analysis Unit															
KOP 2-1, KOP 2-2	N	M	L	H	5/N	95/H	57/M	43/M	53/M	40/M	N	M	H	M	H-4 M-6
KOP 2-3	H	H	H	L	11/N	89/H	20/L	80/H	21/L	83/H	H	M	Undetermined	M	
KOP 2-4	None	M	None	L	None	100/H	None	100/H	None	84/H	L	N	H	M	
KOP 2-5	None	H	None	L	None	100/H	None	100/H	89/H	None	None	N	H	M	
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-1	None	L	None	H	None	100/H	None	100/H	None	60/M	None	N	Undetermined	M	H-5 M-13
KOP 3-2	None	L	None	H	None	100/H	None	100/H	None	28/L	None	N	M	H	
KOP 3-3	H	M	L	H	11/N	89/H	68/M	32/L	71/M	29/L	M	L	Undetermined	None	
KOP 3-4	None	H	None	L	None	100/H	None	100/H	None	50/M	None	N	Undetermined	None	
KOP 3-5	M	None	L	H	32/L	68/M	100/H	None	95/H	None	M	None	M	H	
KOP 3-6	H	M	L	L	19/N	81/H	7/N	93/H	7/N	93/H	N	M	Undetermined	M	
KOP 3-7	None	M	None	L	None	100/H	None	100/H	None	100/H	None	L	Undetermined	M	
KOP 3-8	None	L	None	H	None	100/H	None	100/H	None	100/H	None	N	M	M	
KOP 3-9	H	None	H	None	29/L	71/M	100/H	None	100/H	None	None	H	Undetermined	M	
KOP 3-10	L	None	H	None	93/H	7/N	100/H	None	90/H	None	H	None	Undetermined	M	
KOP 3-11	M	None	L	None	38/L	61/M	100/H	None	100/H	None	H	None	Undetermined	None	
KOP 3-12	None	L	None	L	None	100/H	None	100/H	None	96/H	None	L	L	None	
KOP 3-13	L	H	L	L	12/N	88/H	46/M	54/M	44/M	56/M	N	M	Undetermined	None	
Oregon NHT—South Alternative Analysis Unit															
KOP 5-1	None	L	None	L	None	100/H	None	100/H	None	86/H	None	L	Undetermined	L	H-0 M-0
Meek Cutoff Study Trail Analysis Unit															
Meek Cutoff Study Trail	None	M	None	H	None	100/H	None	100/H	None	70/M	None	L	None	M	N/A
Goodale's Cutoff Study Trail Analysis Unit															
Baker Valley to Powder Valley Geographic Area	H	H	H	H	13/N	87/H	32/L	68/M	23/L	49/M	H	M	None	M	N/A

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

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6.1.5.4 SEGMENT 1—MORROW-UMATILLA

Horn Butte Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Glass Hill Alternative.

Proposed Action Compared to the Horn Butte Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action in comparison to the Horn Butte Alternative would not be visible within a 5-mile distance from these trail segments.

Longhorn Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Longhorn Alternative would not be visible within a 5-mile distance from these trail segments.

Proposed Action Compared to the Longhorn Alternative—Oregon National Historic Trail, Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action when compared to the Longhorn Alternative would not be visible within a 5-mile distance from these trail segments.

Longhorn Variation—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Longhorn Variation would not be visible within a 5-mile distance from these trail segments.

Proposed Action Compared to the Longhorn Variation – Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action in comparison to the Longhorn Alternative would not be visible within a 5-mile distance from these trail segments.

6.1.5.5 SEGMENT 2—BLUE MOUNTAINS

Glass Hill Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 1-3 are provided in Table 20, and are derived from the detailed NHT Environmental Factors evaluation. There would be no impacts from KOPs 1-1, and 1-2, because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Impacts on Historic and Cultural Resources

The Glass Hill Alternative would potentially impact one previously recorded trail segment within the Blue Mountains AU. This site, identified as the Whiskey Creek Site in the BLM’s Oregon NHT Management Plan (Oman 1989:64), consists of a 4,089-foot-long segment of a possible wagon road or alternate route of the Oregon NHT. A stone marker, or small boulder inscribed with “Oregon Trail 1856,” is reportedly located in a “grassy field” in close proximity to the road/trail remnants, although it was not located during the NHT inventory. It is believed that this marker may have pointed the way to the Oregon Trail via a wagon road. Both the stone marker and road/trail remnants were identified during the 2013 RLS of the analysis area, although neither was evaluated for its NRHP eligibility. The Glass Hill Alternative crosses the unevaluated site approximately 0.2 mile east of its western terminus on BLM land; KOP 1-3 is located approximately 0.5 mile east of crossing. Although the NRHP eligibility of the trail trace and stone marker have not yet been determined, the landscape and scenery in this area is both beautiful and panoramic and these rare resources would be impacted by construction of this alternative.

Impacts on Historic and Cultural Setting

Of the numerous braided trail segments of the Oregon NHT located on BLM land within the Blue Mountains AU, only one alignment, as represented by KOP 1-3, is located within the 5-mile analysis area of the Glass Hill Alternative. The Glass Hill Alternative crosses the 4,089-foot-long (0.8 mile) east-west-trending segment of the Oregon NHT at this KOP near its western terminus of the trail and continues to the southeast, where it eventually terminates 5.3 miles to the southwest of La Grande. The historic setting at this KOP location has been diminished by numerous modern intrusions including

gravel and two-track roads, fences, and an existing H-frame transmission line. Additionally, it is unclear if the trail trace in this location, which has been permanently altered by the construction of Mill Canyon Road, represents the remains of a historic wagon road or an alternate route of the Oregon NHT. Due to this modern development and the unclear association of the trail segment to the Oregon NHT, the magnitude of impact related to the Glass Hill Alternative would be none.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from the Glass Hill Alternative on Oregon NHT resources, qualities, values, associated setting, and primary uses within the Flagstaff Hill/Virtue Flat AU because the trail segments are not within the 5-mile analysis area of the Glass Hill Alternative.

Burnt River Canyon Analysis Unit (Oregon)

The magnitude of impact from the Glass Hill Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Burnt River Canyon AU because the trail segments are not within the 5-mile analysis area of the Glass Hill Alternative.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from the Glass Hill Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Alkali Springs/Tub Mountain AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Glass Hill Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from the Glass Hill Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the South Alternate AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Glass Hill Alternative.

Glass Hill Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Glass Hill Alternative on the resources, qualities, values, associated setting, and primary uses of the Meek Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Glass Hill Alternative.

Glass Hill Alternative—Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Glass Hill Alternative on the Goodale's Cutoff resources, qualities, values, associated setting, and primary uses was not evaluated because the trail segments are not within the 5-mile analysis area of the Glass Hill Alternative.

Proposed Action Compared to the Glass Hill Alternative – Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 1-3 are provided in Table 21.

Impacts on Historic and Cultural Resources

As the NRHP eligibility of the trail trace in the vicinity of KOP 1-3 has not yet been evaluated, impacts on this trail segment could not be determined.

Impacts on Historic and Cultural Setting

As planned, the Proposed Action compared to the Glass Hill Alternative would cross the Blue Mountains AU in a generally northwest to southeast direction, and would intersect the braided trail segments in one location on BLM land. At KOP 1-3, the route is 0.07 mile north of the trail segment. As previously discussed, the historic setting of the trail segment at KOP 1-3 has already been diminished by modern intrusions including fencelines, two-track roads, I-84 (which is both visible and audible), and clusters of ranch buildings. As such, the impact on the historic and cultural setting in this location would generally be low.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from the Proposed Action compared to the Glass Hill Alternative on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Glass Hill Alternative.

Burnt River Canyon Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Glass Hill Alternative.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Glass Hill Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Glass Hill Alternative.

Proposed Action Compared to the Glass Hill Alternative— Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Meek Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Glass Hill Alternative.

Proposed Action Compared to the Glass Hill Alternative— Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Goodale's Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Glass Hill Alternative.

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Table 20. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Glass Hill Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG		
Oregon NHT—Blue Mountains Analysis Unit															
KOP 1-3	H	None	H	None	11/N	89/H	100/H	None	100/H	None	H	None	Undetermined	None	H-1 M-0

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green).

Table 21. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action Compared to the Glass Hill Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG		
Oregon NHT—Blue Mountains Analysis Unit															
KOP 1-3	H	None	L	None	24/L	76/M	100/H	None	100/H	None	H	None	Undetermined	Low	H-4 M-1

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green).

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6.1.5.6 SEGMENT 3—BAKER VALLEY

Timber Canyon Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Timber Canyon Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Blue Mountains AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Timber Canyon Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from the Timber Canyon Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Flagstaff Hill/Virtue Flat AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Timber Canyon Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 3-8, 3-9, 3-10, and 3-11 are provided in Table 22, and are derived from the detailed NHT Environmental Factors evaluation. There would also be no impact on KOPs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-12, and 3-13 because the trail segments are not within the 5-mile analysis area of the Timber Canyon Alternative.

Impacts on Historic and Cultural Resources

Previously recorded trail-related cultural resources within the Burnt River Canyon AU include four NRHP eligible segments of the Oregon NHT identified in the 2013 RLS as Straw Ranch I and II, Swayze Creek, and Powell Creek (Tetra Tech 2013). As none of these resources are located within the 5-mile analysis area of the Timber Canyon Alternative, the magnitude of impact on these cultural resources was not evaluated.

Impacts on Historic Setting

The trail segments on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-1 through 3-13, have generally retained their scenic value and are representative of their historic setting. As planned, the Timber Canyon Alternative would cross the east-central portion of the Burnt River Canyon AU in a generally west to east alignment. The proposed Timber Canyon Alternative would not cross any congressionally designated or braided trail segments within Burnt River Canyon AU. In total, four of the 13 KOPs (3-8, 3-9, 3-10 and 3-11) would fall within the 5-mile analysis area of the proposed Timber Canyon Alternative, and one of these—KOP 3-8—could be subject to visual impacts. As previously discussed, the integrity of historic setting at KOP 3-8 has been notably diminished by the development of agricultural fields, industrial and circulation features, and power transmission

structures. As such, the magnitude of impact resulting from construction of the Timber Canyon Alternative would be none as the historic and cultural setting at this location would not be affected.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from the Timber Canyon Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Alkali Springs/Tub Mountain AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Timber Canyon Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from the Timber Canyon Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the South Alternate AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Timber Canyon Alternative.

Timber Canyon Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Timber Canyon Alternative on the resources, qualities, values, associated setting, and primary uses of the Meek Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Timber Canyon Alternative.

Timber Canyon Alternative—Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Lower Powder Valley to Eagle Valley, and Eagle Valley to Posey Valley Geographic Areas are provided in Table 19, and are derived from the detailed NHT Environmental Factors evaluation. There would be no impacts from the Baker Valley to Lower Powder Valley or Snake River near Indian Head Mountain Geographic Areas because the Proposed Action is not located within the analysis area.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the four general areas of the Goodale's Cutoff AU. A segment of the trail on BLM and private land, referred to as Goodale's/Sparta Trail (B2H-BA-327), was identified during the 2013 RLS of the analysis area. Although this segment was recommended for further study during the ILS, the magnitude of impact on the Goodale's/Sparta Trail would be none based on the proposed location of the Timber Canyon Alternative.

Impacts on Historic and Cultural Setting

Due to the expansive nature of the Goodale's Cutoff AU, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land modern intrusions have diminished the integrity of setting. The Proposed Action route would cross the northwestern portion of the Goodale's Cutoff AU in an arching, southwest to northwest alignment. The proposed alternative would not cross any of the braded trail segments under study in the Goodale's Cutoff AU, however. In total, 7 of the roughly 31 trail segments in the broader Goodale's Cutoff AU would fall within the 5-mile analysis area of the Proposed Action compared to the Timber Canyon Alternative. Five of these trail segments are located in the Lower Powder Valley to Eagle Valley area, three of which would be subject to visual impacts. The other two trail segments are located within the Eagle Valley to Posey Valley area of the AU and would both be subject to visual impacts.

As previously discussed, while modern intrusions such as graded gravel roads and State Highway 86, as well as agricultural and ranching development in the form of fields and buildings, have impacted the historic setting of these trail segments, as a whole, the segments largely retain their historic and cultural setting. As such, construction of the route would have a moderate magnitude of impact on the historic and cultural setting of the trail segments located on BLM land within the Goodale's Cutoff AU (specifically within the Lower Powder Valley to Eagle Valley and the Eagle Valley to Posey Valley Geographic Areas).

Proposed Action Compared to the Timber Canyon Alternative— Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Proposed Action when compared to the Timber Canyon Alternative on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Timber Canyon Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 2-1 and 2-2, 2-3, 2-4, and 2-5 are provided in Table 23.

Impacts on Historic and Cultural Resources

None of the previously recorded trail-related historic and cultural resources located on BLM land within the Flagstaff Hill/Virtue Flat AU would be impacted by this route. The NHOTIC, identified as an HPHS (No.106) in the NPS CMUP, is situated on top of Flagstaff Hill and overlooks the route, which is sited approximately 1.1 miles to the southeast. Additionally, the NRHP-eligible Flagstaff Hill and White Swan Segments of the Oregon NHT, and their contributing resources—the Meeker Marker and Flagstaff Hill Monument—are all located approximately 0.5 mile from the route's centerline for the Proposed Action in comparison to the Timber Canyon Alternative. The magnitude of impact on the historic and cultural

setting of the trail segments in these locations, as represented by KOPs 2-1, 2-2, 2-4, and 2-5, is anticipated to be high, however. As such, construction of the route would have a moderate magnitude of impact on the NRHP-eligible trail segments in these locations. Impacts on the trail at KOP 2-3 could not be determined, because the NRHP eligibility for this segment has not yet been evaluated.

Impacts on Historic and Cultural Setting

In general, the numerous braided trail segments within the Flagstaff Hill/Virtue Flat AU, as characterized by the area's five KOPs, retain their integrity of historic setting. As planned, the Proposed Action in comparison to the Timber Canyon Alternative compared to the Timber Canyon Alternative would cross the congressionally designated route and trail segments southwest of the NHOTIC through the open and expansive Virtue Flat landform. This landform, as well as the adjacent Flagstaff Hill, were important landmarks for emigrants traversing the Oregon NHT, and as such, were commonly referenced in journals. Although the route crosses BLM land in three principal areas, including the White Swan ACEC, the transmission line would not directly impact any of the BLM-managed trail segments. The route is located in closest proximity to KOP 2-3, where it is sited 0.6 mile to the west. In this location, the integrity of the historic setting is retained as the surrounding sage steppe landscape remains largely the same as it did during the historic period, with the only modern intrusions to the setting occurring to the south and east. For these reasons, construction of the route in this location would have a moderate magnitude of impact on the historic setting of the Oregon NHT. Historic setting is also retained at KOPs 2-1, 2-2, 2-4, and 2-5, where the congressionally designated route and its multiple travel paths span the Flagstaff Hill and White Swan ACECs. Although modern development, including road construction, fencelines, mining features, existing transmission lines, and the NHOTIC, is visible from all of these KOP locations, these modifications are subordinate to the strong scenic values and are representative of their original setting. As such, the magnitude of impact on the historic and cultural setting of the Oregon NHT in these locations would also be moderate.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, and 3-11 are provided in Table 23.

Impacts on Historic and Cultural Resources

Three segments of the Oregon NHT on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-2, 3-5, and 3-8, were previously recommended eligible for inclusion in the NRHP by Tetra Tech (Tetra Tech 2013). All of these trail segments, which are located within the Straw Ranch I and II ACECs and along Swayze Creek, would not be directly affected; however, impacts on the historic and cultural setting of the trail segments are anticipated. For this reason, the magnitude of impact of the Proposed Action when compared to the Timber Canyon Alternative would be moderate for these three segments of trail.

As the NRHP eligibility of the trail traces in the vicinity of KOPs 3-1, 3-3, 3-4, 3-6, 3-7, 3-9, 3-10 and 3-11 have not yet been evaluated, impacts on these trail segments could not be determined.

Impacts on Historic and Cultural Setting

Despite moderate impacts due to modern development and erosion, the 12 segments of the Oregon NHT on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-1 and 3-12 retain their integrity of historic setting. The Proposed Action when compared to the Timber Canyon Alternative, as planned, would intersect with the braided trail segments and congressionally designated route of the Oregon NHT in four areas, although none of these crossings occur on BLM land. The transmission line intersects the trail most closely at KOP 3-5, which is located approximately 0.7 mile to the northwest; it is sited farthest from KOPs 3-1 and 3-2, both of which are located in the Virtue Hills approximately 2 miles to the north and northeast of the route's centerline.

As previously discussed, the historic setting of the trail segment at KOP 3-4 has been impacted due to prominent modern circulation features and development associated with mining and power transmission. Similarly, modern intrusions including existing transmission lines, I-84 (which is both visible and audible from multiple locations) and Lookout Mountain Road, a communication tower, and the tracks of the Union Pacific Railroad, have diminished the historic and cultural setting for the representative trail segments at KOPs 3-3, and 3-11. As such, the magnitude of impact at these KOP locations would be none.

At KOPs 3-1, 3-2, and 3-5 through 3-10, however, the trail traces are located within canyons or at a low enough elevation that the transmission line is screened from view, or their setting in the direction of the Proposed Action in comparison to the Timber Canyon Alternative has not been impacted by human-made intrusions. Additionally, the trail segments at KOPs 3-2 and 3-5 are located within the Straw Ranch I and II ACECs, respectively, and do not show evidence of having been impacted by subsequent use or alterations. In particular, several sets of trail ruts in excellent condition are retained in the vicinity of KOP 3-5. For these reasons, the magnitude of impact on the historic and cultural setting of the Oregon NHT at six of the KOPs (KOPs 3-1 and 3-6 through 3-10) would be moderate, whereas construction of the transmission line would have a high magnitude of impact on two of the KOPs (KOPs 3-2 and 3-5).

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from this route on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Timber Canyon Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Timber Canyon Alternative.

Proposed Action Compared to the Timber Canyon Alternative— Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Meek Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Timber Canyon Alternative.

Proposed Action Compared to the Timber Canyon Alternative— Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Lower Powder Valley to Eagle Valley, and Eagle Valley to Posey Valley Geographic Areas are provided in Table 23, and are derived from the detailed NHT Environmental Factors evaluation. There would be no impacts from the Baker Valley to Lower Powder Valley or Snake River near Indian Head Mountain Geographic Areas because the Proposed Action is not located within the analysis area.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the four general areas of the Goodale's Cutoff AU. A segment of the trail on BLM and private land, referred to as Goodale's/Sparta Trail (B2H-BA-327), was identified during the RLS of the analysis area. Although this segment was recommended for further study during the ILS, the magnitude of impact on the Goodale's/Sparta Trail would be none due to the proposed location of the route.

Impacts on Historic and Cultural Setting

Due to the expansive nature of the Goodale's Cutoff AU, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land modern intrusions have diminished the integrity of setting. The Proposed Action would cross the northwestern portion of the Goodale's Cutoff AU in an arching, southwest to northwest alignment; however, it would not cross any of the braded trail segments under study in the Goodale's Cutoff AU. In total, seven of the roughly 31 trail segments in the broader Goodale's Cutoff AU would fall within 5 miles of the route. Five of these are located in the Lower Powder Valley to Eagle Valley area, three of which would be subject to visual impacts. The other two trail segments that would be subject to visual impacts are located within the Eagle Valley to Posey Valley area of the AU.

As previously discussed, while modern intrusions such as graded gravel roads and State Highway 86, as well as agricultural and ranching development in the form of fields and buildings, have impacted the historic setting of these trail segments, as a whole, the segments largely retain their historic and cultural setting. As such, construction of the Proposed Action in comparison to the Timber Canyon Alternative

would have a moderate magnitude of impact on the historic and cultural setting of the trail segments located on BLM land within the Goodale's Cutoff AU.

Flagstaff Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Flagstaff Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Blue Mountains AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Flagstaff Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 2-1 and 2-2 are provided in Table 24. There would be no impacts from KOPs 2-3, 2-4, and 2-5 because the project components would not be visible.

Impacts on Historic and Cultural Resources

None of the previously recorded trail-related cultural resources on BLM land within the Flagstaff Hill/Virtue Flat AU would be directly impacted by the Flagstaff Alternative. The NHOTIC, identified as an HPHS (No. 106) in the NPS CMUP, is situated on top of Flagstaff Hill and overlooks the transmission line, which is sited approximately 1.2 miles to the northwest. Additionally, the NRHP-eligible Flagstaff Hill and White Swan Segments of the Oregon NHT, and their contributing resources—the Meeker Marker and Flagstaff Hill Monument—are all located more than 0.5 mile from the centerline and would not be directly impacted by construction of the alternative; however, impacts on the historic setting of the NRHP-eligible trail segments are anticipated. As such, the magnitude of impact resulting from construction of the transmission line would be high.

Impacts on Historic and Cultural Setting

Despite some impacts due to modern development, the four segments of the Oregon NHT on BLM land within the Flagstaff Hill/Virtue Flat AU retain their integrity of historic setting. The Flagstaff Alternative, as planned, would cross the central portion of the Flagstaff Hill/Virtue Flat AU in a generally southwest to northeast direction. The transmission line would intersect with the braided trail segments and congressionally designated route of the Oregon NHT in three areas, although none of these crossings occur on BLM land. The trail segments at KOPs 2-1 through 2-5 would fall within the 5-mile analysis area of the proposed Flagstaff Alternative, and two of these—the trail segments identified at KOPs 2-1 and 2-2—would be subject to visual impacts. Located 0.6 mile to the northwest, KOP 2-2 is sited the closest to the proposed alternative; KOP 2-2 is located 1.2 miles to the southeast. The historic setting for KOPs 2-1 and 2-2 are predominantly intact. Although the trail segments in these locations have been previously impacted by the construction of State Highway 86 and the NHOTIC on the top of Flagstaff Hill, several sets of trail ruts in excellent condition remain in their vicinity. For this reason, construction and operation of the alternative would have a moderate magnitude of impact on the historic setting of the Oregon NHT for KOPs 2-1 and 2-2.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOP 3-3 are provided in Table 24. There would be no impacts from KOPs 3-1, 3-2, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12, and 3-13 because the project components would not be visible.

Impacts on Historic and Cultural Resources

Previously recorded trail-related cultural resources within the Burnt River Canyon AU include four NRHP-eligible segments of the Oregon NHT identified in the 2013 RLS as Straw Ranch I and II, Swayze Creek, and Powell Creek (Tetra Tech 2013). Two of these resources, represented by KOPs 3-2, and 3-3, are located within the 5-mile analysis area of the Flagstaff Alternative. The project components would not be visible from KOP 3-2, but would be visible from KOP 3-3. A moderate magnitude of change is expected from KOP 3-3.

Impacts on Historic and Cultural Setting

The trail segments on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-1 through 3-13, have generally retained their scenic character and are representative of their historic setting. As planned, the Flagstaff Alternative would cross the northern portion of the Burnt River Canyon AU in a generally southwest to northeast direction. The proposed Flagstaff Alternative would not cross any congressionally designated or braided trail segments within Burnt River Canyon AU. In total, four of the 13 KOPs (3-1, 3-2, 3-3 and 3-4) would fall within the 5-mile analysis area of the proposed Flagstaff Alternative and one of these—KOP 3-3—could be subject to visual impacts. As previously discussed, the historic setting at KOP 3-3 is no longer retained due to the construction of I-84 and developments associated with power transmission and communications. As such, the magnitude of impact in this location would be none as the historic and cultural setting would not be affected by construction of the Flagstaff Alternative.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from the Flagstaff Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Alkali Springs/Tub Mountain AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Flagstaff Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from the Flagstaff Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the South Alternate AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Flagstaff Alternative.

Flagstaff Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Flagstaff Alternative on the resources, qualities, values, associated setting, and primary uses of the Meek Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Flagstaff Alternative.

Flagstaff Alternative—Goodale’s Cutoff Study Trail

Goodale’s Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Baker Valley to Lower Powder Valley Geographic Area are provided in Table 24. There would also be no impact on the Lower Powder Valley to Eagle Valley, Eagle Valley to Posey Valley, or Snake River near Indian Head Mountain Geographic Areas because they are not within the 5-mile analysis area of the Flagstaff Alternative.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the four general areas of the Goodale’s Cutoff AU. A segment of the trail on BLM and private land, referred to as Goodale’s/Sparta Trail (B2H-BA-327), was identified during the 2013 RLS of the analysis area. Although this segment was recommended for further study during the ILS, the magnitude of impact for the Flagstaff Alternative would be none due to its proposed location.

Impacts on Historic and Cultural Setting

Due to the expansive nature of the Goodale’s Cutoff AU, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land the historic and cultural setting of these segments have been diminished by modern intrusions. The proposed Flagstaff Alternative would cross the westernmost portion of the Goodale’s Cutoff AU only and would not intersect with any of the braded trail segments located within it. In total, seven of the roughly 31 trail segments in the broader Goodale’s Cutoff AU would fall within the 5-mile analysis area of the Flagstaff Alternative in the Baker Valley to Lower Powder Valley Geographic Area. Three of these trail segments would be subject to visual impacts from the Flagstaff Alternative. Modern intrusions such as State Highway 86 and agricultural and ranching development in the form of fields and buildings have compromised the historic setting of these trail segments. As such, the magnitude of impact from construction of the Flagstaff Alternative would be none.

Proposed Action Compared to the Flagstaff Alternative— Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Proposed Action compared to the Flagstaff Alternative to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Flagstaff Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 2-1 and 2-2, 2-3, 2-4, and 2-5 are provided in Table 25.

Impacts on Historic and Cultural Resources

None of the previously recorded trail-related cultural resources on BLM land within the Flagstaff Hill/Virtue Flat AU would be directly impacted by the route. The NHOTIC, identified as an HPHS (No. 106) in the NPS CMUP, is situated on top of Flagstaff Hill and would overlook the route, which is sited approximately 1.1 miles to the southeast. Additionally, the NRHP-eligible Flagstaff Hill and White Swan Segments of the Oregon NHT, and their contributing resources—the Meeker Marker and Flagstaff Hill Monument—are all located more than 0.5 mile from the centerline of route and would not be directly impacted by construction; however, impacts on the historic setting of the NRHP-eligible trail segments are anticipated. As such, the magnitude of impact resulting from construction of the Proposed Action in comparison to the Flagstaff Alternative would be high.

Impacts on Historic and Cultural Setting

In general, the numerous braided trail segments within the Flagstaff Hill/Virtue Flat AU, as characterized by the area's five KOPs, retain their integrity of historic setting. The Proposed Action when compared to the Flagstaff Alternative, as planned, would cross the congressionally designated route and trail segments on BLM land in one principal location to the southeast of the NHOTIC. The route is located in closest proximity to KOP 2-3, where it is sited 0.6 mile to the west. In this location, the historic setting is retained as the surrounding sage steppe landscape remains largely the same as it did during the historic period, with the only modern intrusions to the setting occurring to the south and east. For these reasons, construction of the route in this location would have a moderate magnitude of impact on the historic setting of the Oregon NHT.

Historic setting is also retained at KOPs 2-1, 2-2, 2-4, and 2-5, where the congressionally designated route and its multiple travel paths span the Flagstaff Hill and White Swan ACECs. Although modern development including road construction, fencelines, mining features, existing transmission lines, and the NHOTIC, is visible from all of these KOP locations, these modifications are subordinate to the strong scenic values and are representative of their original setting. As such, the magnitude of impact on the historic and cultural setting of the Oregon NHT in these locations would be moderate.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 3-1, 3-2, 3-3, and 3-4 are provided in Table 25.

Impacts on Historic and Cultural Resources

Previously recorded trail-related cultural resources within the Burnt River Canyon AU include four segments of the Oregon NHT; however, only one of these segments is located within 5 miles of the Proposed Action in comparison to the Flagstaff Alternative. This trail segment, as represented by KOP 3-2, is located within the Straw Ranch I ACEC and was previously recommended eligible for inclusion in the NRHP (Tetra Tech 2013). Although the trail would not be directly affected by construction of the route, impacts on its historic setting are anticipated. Therefore, the magnitude of impact would be moderate for this location. As the NRHP eligibility of the trail traces in the vicinity of KOPs 3-1, 3-3, and 3-4 have not yet been evaluated, impacts on these trail segments could not be determined.

Impacts on Historic and Cultural Setting

Despite moderate impacts due to modern development and erosion, the four segments of the Oregon NHT on BLM land, as represented by KOPs 3-1 through 3-4, retain their integrity of historic setting. The Proposed Action when compared to the Flagstaff Alternative, as planned, would intersect with the braided trail segments and congressionally designated route of the Oregon NHT in one area on non-BLM land. The transmission line intersects the trail most closely at KOP 3-3, which is located approximately 0.8 mile to the west; it is sited furthest from KOP 3-1 which is located in the Virtue Hills approximately 2 miles to the north of the route's centerline.

As previously discussed, the historic setting of the trail segment at KOP 3-4 has been impacted due to prominent modern circulation features and development associated with mining and power transmission. Similarly, modern intrusions including existing transmission lines, I-84 (which is both visible and audible from multiple locations) and Lookout Mountain Road, a communication tower, and the tracks of the Union Pacific Railroad, have diminished the integrity of historic and cultural setting for the representative trail segments at KOP 3-3. As such, the magnitude of impact at these KOP locations would be none.

At KOPs 3-1 and 3-2, however, the trail traces are located within canyons or at a low enough elevation that the transmission line is screened from view or their setting in the direction of the route has not been impacted by modern intrusions. Additionally, the trail segment at KOP 3-2 is located within the Straw Ranch I ACEC and does not show evidence of having been impacted by subsequent use or alterations. For these reasons, the magnitude of impact on the historic and cultural setting of the Oregon NHT at KOP 3-1 would be moderate, and construction of the transmission line would have a high magnitude of impact on KOP 3-2.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Flagstaff Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Flagstaff Alternative.

Proposed Action Compared to the Flagstaff Alternative— Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route to the Meek Cutoff Study Trail within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Flagstaff Alternative.

Proposed Action Compared to the Flagstaff Alternative— Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Baker Valley to Lower Powder Valley Geographic Area are provided in Table 25. There would be no impacts from the Lower Powder Valley to Eagle Valley, Eagle Valley to Posey Valley, or Snake River near Indian Head Mountain Geographic Areas because the Proposed Action in comparison to the Flagstaff Alternative is not located within the analysis area.

Impacts on Historic and Cultural Resources

Identified historic and cultural resources within the Goodale's Cutoff AU are limited to the trail segments under study. A segment of the trail on BLM and private land, referred to as Goodale's/Sparta Trail (B2H-BA-327), was identified during the 2013 RLS of the analysis area. Although this segment was not evaluated as part of this effort, it was recommended for further study during the ILS (Tetra Tech 2013:13). This segment, however, is not within the 5-mile analysis area of the Proposed Action compared to the Flagstaff Alternative; therefore, the magnitude of impact on the segment of the Goodale's/Sparta Trail on BLM land within the Goodale's Cutoff AU was not evaluated.

Impacts on Historic and Cultural Setting

Due to the expansive nature of the Goodale's Cutoff AU, spanning some 306,000 acres, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land modern intrusions have diminished the integrity of historic setting. In total,

approximately ten of the roughly 31 trail segments in the broader Goodale's Cutoff AU would fall within the 5-mile analysis area of the Proposed Action when compared to the Flagstaff Alternative. Of these trail segments, six would be subject to visual impacts from the proposed transmission line. As previously discussed, many of the trail alignments in this AU parallel modern roads and modern intrusions associated with agricultural development and ranching have impacted the historic setting of trail segments in the eastern and westernmost portions of the 5-mile analysis area. Because the historic setting of the trail segments along Ruckles Creek and Ruckles Creek Road has been only minimally impacted by modern development, construction of the Proposed Action in comparison to the Flagstaff Alternative in these locations would have a moderate magnitude of impact on the historic and cultural setting of these trail segments.

Burnt River Mountain Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Burnt River Mountain Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Blue Mountains AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from the Burnt River Mountain Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Flagstaff Hill/Virtue Flat AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, and 3-12 are provided in Table 26. There would be no impacts from KOPs 3-1, 3-2, 3-3, and 3-4 because the project components would not be visible. There would also be no impact on KOP 3-13 because it is not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Impacts on Historic and Cultural Resources

Previously recorded trail-related cultural resources within the Burnt River Canyon AU include four NRHP-eligible segments of the Oregon NHT identified in the RLS as Straw Ranch I and II, Swayze Creek, and Powell Creek (Tetra Tech 2013). Straw Ranch I and Swayze Creek, represented by KOPs 3-5 and 3-8, are subject to visual impacts from the Burnt River Mountain Alternative as they are located only 0.5 and 1.5 miles away from the alternative, respectively. No impacts were identified for the Straw Ranch II and Powell Creek segments as the transmission line would not be visible or the historic setting has already been compromised by human-made intrusions. With the exception of the Powell Creek segment, all of these trail segments would be documented during the ILS of the analysis area. An

additional trail segment located on BLM land has not previously been recorded and would be directly impacted by the Burnt River Mountain Alternative. This trail segment, which has not been evaluated for its NRHP eligibility, would be documented during the ILS of the analysis area.

Impacts on Historic and Cultural Setting

Generally, the trail segments on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-1 through 3-13, have retained their scenic character and are representative of their historic setting. As planned, the Burnt River Mountain Alternative would cross the central portion of the Burnt River Canyon AU in a generally northwest to southeast direction, and would intersect the congressionally designated route, braided trail segments, and Auto Tour Route at two locations. One crossing of the congressionally designated route is located on BLM land. In total, eight of the 13 KOP locations (3-5 to 3-12) would be subject to visual impacts from this alternative. The proposed transmission line comes in closest proximity to trail segments on BLM land at KOP 3-11, which is located 0.5 mile from the line, and KOP 3-5, which is situated 0.9 mile from the alternative.

Modern intrusions including existing transmission lines, I-84 (which is both visible and audible from multiple locations) and Lookout Mountain Road, a communication tower, and the tracks of the Union Pacific Railroad have diminished the historic setting for the representative trail segments at KOPs 3-11 and 3-12. The construction of the Burnt River Mountain Alternative would have a low magnitude of impact on the historic and cultural setting in these locations.

At KOPs 3-5 through 3-10, however, the trail traces are located within canyons or at a low enough elevation that the existing transmission line(s) is/are screened from view, or their setting in the direction of the Alternative has not been impacted by human-made intrusions. Additionally, the trail segments at KOP 3-5 are located within the Straw Ranch II ACEC, and do not show evidence of having been impacted by subsequent use or alterations. Several sets of trail ruts in excellent condition are retained in the vicinity of KOP 3-5. For these reasons, the magnitude of impact on the historic and cultural setting of the Oregon NHT at five of the KOPs (KOPs 3-6 through 3-10) would be moderate, whereas construction of the transmission line would have a high magnitude of impact on KOP 3-5.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from the Burnt River Mountain Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Alkali Springs/Tub Mountain AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from the Burnt River Mountain Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the South Alternate AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Burnt River Mountain Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Burnt River Mountain Alternative to the resources, qualities, values, associated setting, and primary uses of the Meek Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Burnt River Mountain Alternative—Goodale’s Cutoff Study Trail

Goodale’s Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Burnt River Mountain Alternative to the resources, qualities, values, associated setting, and primary uses of the Goodale’s Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Burnt River Mountain Alternative.

Proposed Action Compared to the Burnt River Mountain Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Proposed Action compared to the Burnt River Mountain Alternative to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Burnt River Mountain Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Burnt River Mountain Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOPs 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, and 3-12 are provided in Table 27.

Impacts on Historic and Cultural Resources

Previously recorded trail-related cultural resources within the Burnt River Canyon AU include four NRHP-eligible segments of the Oregon NHT identified in the 2013 RLS as Straw Ranch I and II, Swayze Creek, and Powell Creek (Tetra Tech 2013). These trail segments, as represented by KOPs 3-5, 3-8, and 3-12, would not be directly affected by the Proposed Action compared to the Burnt River Mountain Alternative, but impacts on their historic and cultural setting are anticipated. As such, construction of the route would have a moderate magnitude of impact on these NRHP-eligible segments of the Oregon NHT.

As the NRHP eligibility of the trail traces in the vicinity of KOPs 3-4, 3-6, 3-7, 3-9, 3-10, and 3-11 have not yet been evaluated, impacts on these trail segments could not be determined.

Impacts on Historic and Cultural Setting

Generally, the trail segments on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-4 through 3-12, have retained their scenic character and are representative of their historic setting. The route, as planned, would intersect with the braided trail segments and congressionally designated route of the Oregon NHT in two areas, neither of which occur on BLM land.

In total, ten of the 13 KOP locations (3-2 and 3-4 to 3-12) would fall within the 5-mile analysis area of the Proposed Action compared to the Burnt River Mountain Alternative. The route intersects the trail most closely at KOP 3-9, which is located approximately 0.8 mile to the west.

Modern intrusions including existing transmission lines, I-84 (which is both visible and audible from multiple locations) and Lookout Mountain Road, a communication tower, and the tracks of the Union Pacific Railroad have diminished the historic setting for the representative trail segments at KOPs 3-4, 3-11, and 3-12. As such, the route would have a low magnitude of impact in these locations.

At KOPs 3-5 through 3-10, however, the trail traces are located within canyons or at a low enough elevation that the existing transmission line(s) is/are screened from view, or their setting in the direction of the route has not been impacted by modern intrusions. Additionally, the trail segments at KOP 3-5 are located within the Straw Ranch II ACEC, and do not show evidence of having been impacted by subsequent use or alterations. Several sets of trail ruts in excellent condition are retained in the vicinity of KOP 3-5. For these reasons, the magnitude of impact on the historic and cultural setting of the Oregon NHT at five of the KOPs (3-6 through 3-10) would be moderate, whereas construction of the route would have a high magnitude of impact at KOP 3-5.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Burnt River Mountain Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action compared to the Burnt River Mountain Alternative.

Proposed Action Compared to the Burnt River Mountain Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Meek Cutoff Study Trail within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Burnt River Mountain Alternative.

Proposed Action Compared to the Burnt River Mountain Alternative—Goodale’s Cutoff Study Trail

Goodale’s Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Goodale’s Cutoff Study Trail within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Burnt River Mountain Alternative.

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Table 22. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Timber Canyon Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-8	None	L	None	H	None	100/H	None	100/H	None	100/H	None	N	None	None	H-0 M-0
KOP 3-9	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
KOP 3-10	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
KOP 3-11	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
Goodale's Cutoff Study Trail Analysis Unit															
Lower Powder Valley to Eagle Valley Geographic Area	L	L	L	H	27/L	73/M	75/M	25/L	75/M	25/L	M	N	None	M	N/A
Eagle Valley to Posey Valley Geographic Area	None	L	None	L	None	100/H	None	100/H	None	100/H	None	N	None	M	

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

Table 23. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action Compared to the Timber Canyon Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Flagstaff Hill/Virtue Flat Analysis Unit															
KOP 2-1, KOP 2-2	N	M	L	H	5/N	95/H	51/M	49/M	49/M	44/M	N	M	M	M	H-1 M-10
KOP 2-3	H	H	H	L	11/N	89/H	20/L	80/H	21/L	83/H	H	M	M	M	
KOP 2-4	None	M	None	L	None	100/H	None	100/H	None	84/H	None	L	M	M	
KOP 2-5	None	H	None	L	None	100/H	None	100/H	89/H	None	None	N	M	M	
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-1	None	L	None	H	None	100/H	None	100/H	None	60/M	None	N	Undetermined	M	H-2 M-12
KOP 3-2	None	L	None	H	None	100/H	None	100/H	None	28/L	None	N	M	H	
KOP 3-3	H	M	L	H	11/N	89/H	67/M	33/L	71/M	29/L	M	L	Undetermined	None	
KOP 3-4	None	H	None	L	None	100/H	None	100/H	None	50/M	None	N	Undetermined	None	
KOP 3-5	M	None	L	H	32/L	68/M	100/H	None	42/M	None	M	None	M	H	
KOP 3-6	H	M	L	L	19/N	81/H	7/N	93/H	7/N	93/H	N	M	Undetermined	M	
KOP 3-7	None	M	None	L	None	100/H	None	100/H	None	100/H	None	L	Undetermined	M	
KOP 3-8	None	L	None	H	None	100/H	None	100/H	None	100/H	None	N	M	M	
KOP 3-9	None	None	None	None	None	None	None	None	None	None	None	None	Undetermined	M	
KOP 3-10	None	None	None	None	None	None	None	None	None	None	None	None	Undetermined	M	
KOP 3-11	None	None	None	None	None	None	None	None	None	None	None	None	Undetermined	None	
Goodale's Cutoff Study Trail Analysis Unit															
Baker Valley to Powder Valley Geographic Area	H	M	H	H	13/N	87/H	32/L	68/M	23/L	49/M	H	M	None	M	N/A

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

Table 24. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Flagstaff Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG		
Oregon NHT—Flagstaff Hill/Virtue Flat Analysis Unit															
KOP 2-1, KOP 2-2	M	L	H	H	16/N	84/H	19/N	81/H	18/N	67/M	M	N	H	M	H-1 M-2
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-3	None	L	None	H	0/None	100/H	0/None	100/H	0/None	57/M	None	N	M	None	H-0 M-1
Goodale's Cutoff Study Trail Analysis Unit															
Baker Valley to Powder Valley Geographic Area	L	L	H	H	27/L	73/M	34/L	66/M	6/N	13/N	H	N	None	None	N/A

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

Table 25. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action Compared to the Flagstaff Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG		
Oregon NHT—Flagstaff Hill/Virtue Flat Analysis Unit															
KOP 2-1, KOP 2-2	N	M	L	H	6/N	94/H	50/M	50/M	47/M	47/M	N	M	H	M	H-5 M-6
KOP 2-3	M	H	H	L	11/N	89/H	18/N	82/H	17/N	83/H	H	M	H	M	
KOP 2-4	None	M	None	L	None	100/H	None	100/H	None	84/H	None	L	H	M	
KOP 2-5	None	H	None	L	None	100/H	None	100/H	89/H	None	None	N	H	M	
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-1	None	None	None	None	None	None	None	None	None	None	None	None	Undetermined	M	H-1 M-2
KOP 3-2	None	L	None	L	None	100/H	None	100/H	None	8/N	None	N	M	H	
KOP 3-3	None	L	None	H	None	100/H	None	100/H	None	59/M	None	N	Undetermined	None	
KOP 3-4	None	None	None	None	None	None	None	None	None	None	None	None	Undetermined	None	
Goodale's Cutoff Study Trail Analysis Unit															
Baker Valley to Lower Powder Valley Geographic Area	H	H	H	H	14/N	86/H	31/L	69/M	19/N	42/M	H	M	None	M	N/A

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

Table 26. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Burnt River Mountain Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-5	N	L	H	H	4/N	96/H	9/N	91/H	9/N	77/M	N	L	Undetermined	H	H-3 M-6
KOP 3-6	H	M	H	H	10/N	90/H	7/N	93/H	7/N	90/H	H	L	Undetermined	M	
KOP 3-7	None	L	None	L	None	100/H	None	100/H	None	100/H	None	N	Undetermined	M	
KOP 3-8	None	L	None	H	None	100/H	None	100/H	None	100/H	None	N	Undetermined	M	
KOP 3-9	None	L	None	L	None	100/H	None	100/H	None	100/H	None	N	Undetermined	M	
KOP 3-10	L	L	H	H	15/N	85/H	12/N	88/H	10/N	70/M	M	L	Undetermined	M	
KOP 3-11	H	L	H	H	42/M	58/M	88/H	12/N	55/M	6/N	H	N	Undetermined	L	
KOP 3-12	None	L	None	H	None	100/H	None	100/H	None	44/M	None	N	Undetermined	L	

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green).

Table 27. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action Compared to the Burnt River Mountain Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-2	None	None	None	None	None	None	None	None	None	None	None	None	None	None	H-2 M-10
KOP 3-4	None	L	None	H	None	100/H	None	100/H	None	25/L	None	N	Undetermined	L	
KOP 3-5	L	L	H	H	8/N	92/H	3/N	97/H	45/M	68/M	N	N	M	H	
KOP 3-6	H	M	L	L	19/N	81/H	7/N	93/H	7/N	93/H	N	M	Undetermined	M	
KOP 3-7	N	M	None	L	None	100/H	None	100/H	None	100/H	None	L	Undetermined	M	
KOP 3-8	None	L	None	H	None	100/H	None	100/H	None	100/H	None	N	M	M	
KOP 3-9	None	L	None	L	29/L	71/M	None	100/H	None	100/H	None	N	Undetermined	M	
KOP 3-10	L	None	H	None	93/H	7/N	100/H	None	90/H	None	H	None	Undetermined	M	
KOP 3-11	H	L	H	H	58/M	42/M	97/H	3/N	52/M	3/N	M	L	Undetermined	L	
KOP 3-12	None	L	None	H	None	100/H	None	100/H	None	44/M	None	N	M	L	

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green).

6.1.5.7 SEGMENT 4—BROGAN AREA

Willow Creek Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Willow Creek Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Blue Mountains AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Willow Creek Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impacts from the Willow Creek Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Flagstaff Hill/Virtue Flat AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Willow Creek Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOP 3-13 are provided in Table 28. There would also be no impact on KOPs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, and 3-12 because the trail segments are not within the 5-mile analysis area of the Willow Creek Alternative.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the Burnt River Canyon AU. The 0.25-mile-long braided segment of trail, as represented by KOP 3-13, located within a canyon to the east of the Willow Creek Alternative would not be subject to visual impact by the alternative, nor would it be crossed by the proposed transmission line. Therefore, the magnitude of impact on the trail resulting from construction of the Willow Creek Alternative would be none.

Impacts on Historic and Cultural Setting

The trail segments on BLM land within the Burnt River Canyon AU, as represented by KOPs 3-1 through 3-13, have generally retained their scenic values and remain representative of their historic setting. As planned, the Willow Creek Alternative would cross the southernmost portion of the Burnt River Canyon AU in a generally south to north direction. The proposed Willow Creek Alternative would not cross any congressionally designated or braided trail segments within Burnt River Canyon AU. Of the 13 KOPs within the Burnt River Canyon AU, only one (KOP 3-13) would fall within the 5-mile analysis area of the proposed Willow Creek Alternative. However, because this KOP is located within the Burnt River Canyon it would not be subject to visual impact from the proposed Willow Creek transmission line, and therefore the magnitude of impact on its historic and cultural setting would be none.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

Impacts on Visual Resources

The visual impacts associated with KOPs 4-1, 4-2, 4-3, and 4-4 are provided in Table 28. There would also be no impact on KOPs 4-5, 4-6, 4-7, 4-8, 4-9, or 4-10 because the trail segments are not within the 5-mile analysis area of the Willow Creek Alternative.

Impacts on Historic and Cultural Resources

Historic and cultural resources within the Tub Mountain/Alkali Springs AU include three discontinuous alignments of the Oregon NHT known as the Birch Creek, Alkali Springs, and Tub Mountain segments (Tetra Tech 2013). All three of these segments are located entirely within ACECs and were assigned site numbers by Tetra Tech (B2H-MA-042, B2H-MA-10, and B2H-MA-041) during their 2013 RLS of the project area (Tetra Tech 2013). Additionally, the Alkali Springs segment is considered to be a high-potential route segment (No. 7) by the NPS as the springs for which the route is named was the only water source for emigrants travelling the 22 mile stretch of trail between the Malheur River and Birch Creek (NPS 1999:286). This segment, as defined by the NPS CMUP (NPS 1999:286), begins 6 miles north of the present-day community of Vale, Oregon, and extends north to a former emigrant camp site at Willow Springs. Tetra Tech recommended portions of all three segments eligible for listing in the NRHP and is planning to document them further during the ILS. Although the Willow Creek Alternative would not cross any of these trail segments, it is anticipated that the proposed transmission line would have a moderate magnitude of impact on the segments of trail identified at KOP 4-1 and KOP 4-2.

There would be no impacts associated with KOPs 4-3 and 4-4 because the Willow Creek Alternative would not be visible from these locations.

Historic and Cultural Setting

Generally, the trail segments on BLM land within the Alkali Springs/Tub Mountain AU, as represented by KOPs 4-1 through 4-10, have outstanding scenic values and are representative of their historic setting. As planned, the Willow Creek Alternative would follow a general southwest to northwest alignment to the east of the Alkali Springs/Tub Mountain AU. Four of the 10 KOPs (KOPs 4-1 through 4-4) are located within the 5-mile analysis area of the proposed transmission line. The alternative would not intersect the congressionally designated route or braided trail segments within the AU.

The alignment comes in closest proximity to the braided segments at KOP 4-3, or approximately 2.6 miles to the northwest of the trail segments. However, due to topography, only the trail segments identified at KOPs 4-1 and 4-2 would have visibility of the proposed Willow Creek Alternative. The historic setting of the trail segments at KOPs 4-1 and 4-2 has retained a high level of integrity because it has not been altered by modern intrusions. As the proposed Willow Creek Alternative would be visible to the northwest, construction of the transmission line would have a high magnitude of impact the historic and cultural setting from this location.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from the Willow Creek Alternative on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the South Alternate AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Willow Creek Alternative.

Willow Creek Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Willow Creek Alternative to the resources, qualities, values, associated setting, and primary uses of the Meek Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Willow Creek Alternative.

Willow Creek Alternative—Goodale’s Cutoff Study Trail

Goodale’s Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Snake River near Indian Head Mountain Geographic Area are provided in Table 28. There would be no impacts from the Baker Valley to Lower Powder Valley, Lower Powder Valley to Eagle Valley, or Eagle Valley to Posey Valley Geographic Areas because the Willow Creek Alternative is not located within the analysis area.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the four general areas of the Goodale’s Cutoff AU. A segment of the trail on BLM and private land, referred to as Goodale’s/Sparta Trail (B2H-BA-327), was identified during Tetra Tech’s RLS of the analysis area in 2013. Although this segment was recommended for further study during the ILS, the magnitude of impact on the Goodale’s/Sparta Trail within the Goodale’s Cutoff AU would be none due to the proposed location of the Willow Creek Alternative.

Impacts on Historic and Cultural Setting

Generally, due to the expansive nature of the Goodale’s Cutoff AU, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land modern intrusions have diminished the integrity of setting. The proposed Willow Creek Alternative would cross near the northern portion of the southern area of the Goodale’s Cutoff AU in a southwest to northeast alignment. The proposed alternative would not cross any of the braded trail segments under study in the Goodale’s Cutoff AU. In total, two of the roughly 31 trail segments in the broader Goodale’s Cutoff AU would fall within the 5-mile analysis area of the Willow Creek Alternative. Both of these trail segments are located in the Snake River near Indian Head Mountain geographical area and would potentially be subject to visual impacts from this alternative.

As previously discussed, modern circulation features including Olds Ferry Road, Interstate 84, and State Highway 201 are present in this area. As the historic setting for both of these trail traces has been previously diminished by these intrusions, the magnitude of impact would be none as construction of the Willow Creek Alternative would have no impact on historic and cultural setting in these locations.

Proposed Action Compared to the Willow Creek Alternative— Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from The Proposed Action compared to the Willow Creek Alternative to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Willow Creek Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Willow Creek Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOP 3-13 are provided in Table 29.

Impacts on Historic and Cultural Resources

One cultural resource, represented by the trail trace at KOP 3-13, is located within the Burnt River Canyon AU and within 5 miles of the Proposed Action in comparison to the Willow Alternative. Because the NRHP eligibility of this trail trace has not yet been determined, it is not clear what, if any, impacts construction of the route would have on this cultural resource.

Impacts on Historic and Cultural Setting

Of the numerous braided segments of the Oregon NHT located on BLM land within the Burnt River Canyon AU, only one alignment—as represented by KOP 3-13—is located within 5 miles of the route. The route extends into the southernmost portion of the AU coming within 1.4 miles to the southeast of KOP 3-13. Because this trail trace is located in a canyon, the Proposed Action route would not be visible and the magnitude of impact from its construction would be none.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Willow Creek Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action in comparison to the Willow Creek Alternative.

Proposed Action Compared to the Willow Creek Alternative— Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Meek Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Willow Creek Alternative.

Proposed Action Compared to the Willow Creek Alternative— Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Goodale's Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Willow Creek Alternative.

Tub Mountain South Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Tub Mountain South Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon Trail within the Blue Mountains AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Tub Mountain South Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from the Tub Mountain South Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the Flagstaff Hill/Virtue Flat AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Tub Mountain South Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOP 3-13 are provided in Table 30. There would be no impacts from KOPs 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, and 3-12 because the project components would not be visible.

Impacts on Historic and Cultural Resources

One cultural resource, represented by the trail trace at KOP 3-13, is located within the buffer of the proposed Tub Mountain South Alternative. Because the NRHP eligibility of this trail trace has not yet been determined, it is not clear what, if any, impacts construction of the Tub Mountain South Alternative would have on this cultural resource.

Impacts on Historic and Cultural Setting

Of the numerous braided segments of the Oregon NHT located on BLM land within the Burnt River Canyon AU, only one alignment, as represented by KOP 3-13, is located within the 5-mile analysis area of the Tub Mountain South Alternative. The Tub Mountain South Alternative extends into the southernmost portion of the AU coming within 1.2 miles to the south of KOP 3-13. Because this trail trace is located in a canyon, the proposed transmission line would not be visible and the magnitude of impact from its construction would be none.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

Impacts on Visual Resources

The visual impacts associated with KOPs 4-1, 4-2, 4-5, 4-6, 4-7, 4-8, 4-9, and 4-10 are provided in Table 30. There would be no impacts from KOPs 4-3, or 4-4 because the project components would not be visible.

Impacts on Historic and Cultural Resources

Historic and cultural resources within the Tub Mountain/Alkali Springs AU include three discontinuous alignments of the Oregon NHT known as the Birch Creek, Alkali Springs, and Tub Mountain segments (Tetra Tech 2013). All three of these segments are located entirely within ACECs and were assigned site numbers (B2H-MA-042, B2H-MA-10, and B2H-MA-041) during the 2013 RLS of the project analysis area (Tetra Tech 2013). Additionally, the Alkali Springs segment is considered to be a high-potential route segment (No. 7) by the NPS as the springs for which the route is named was the only water source for emigrants travelling the 22-mile stretch of trail between the Malheur River and Birch Creek (NPS 1999:286). This segment, as defined by the NPS CMUP (NPS 1999:286), begins 6 miles north of the present-day community of Vale, Oregon and extends north to a former emigrant camp site at Willow Springs. Tetra Tech recommended portions of all three segments eligible for listing in the NRHP and is planning to document them further during the ILS. For this reason, it is anticipated that construction of the Tub Mountain South Alternative would have a moderate magnitude of impact on these trail segments.

There would be no impacts associated specifically with KOPs 4-4 and 4-5 because the Tub Mountain South Alternative would not be visible from these locations.

Impacts on Historic and Cultural Setting

Generally, the trail segments on BLM land within the Alkali Springs/Tub Mountain AU, as represented by KOPs 4-1 through 4-10, have outstanding scenic values and are representative of their historic

setting. As planned, the Tub Mountain South Alternative would cross the Alkali Springs/Tub Mountain AU in a generally southwest to northwest direction. All ten KOPs are located within the 5-mile analysis area of the proposed transmission line. The alternative would not intersect the congressionally designated route or braided trail segments within the AU. The alignment comes in closest proximity to the braided segments at KOP 4-1 at approximately 0.08 miles to the northeast of the trail segments. With the exception of KOP 4-4, the transmission line is visible from all of the KOP locations within this AU.

As previously discussed, the historic setting of the trail segments at KOPs 4-2 and 4-3 is retained as the landscape surrounding these locations has not been impacted by modern development. Therefore, the proposed transmission line would have a high magnitude of impact upon the historic setting of trail traces in these locations. KOPs 4-1 and 4-4 through 4-10, however, have been diminished by modern intrusions including the construction of wind turbines, graded and graveled roads, fencelines, and ranch and agricultural buildings. As such, the magnitude of impact on historic and cultural setting in these KOP locations would be none.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from the Tub Mountain South Alternative to the resources, qualities, values, associated setting, and primary uses of the Oregon NHT within the South Alternate AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Tub Mountain South Alternative.

Tub Mountain South Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from the Tub Mountain South Alternative to the resources, qualities, values, associated setting, and primary uses of the Meek Cutoff was not evaluated because the trail segments are not within the 5-mile analysis area of the Tub Mountain South Alternative.

Tub Mountain South Alternative—Goodale’s Cutoff Study Trail

Goodale’s Cutoff Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with the Snake River near Indian Head Mountain Geographic Area are provided in Table 30. There would be no impacts from the Baker Valley to Lower Powder Valley, Lower Powder Valley to Eagle Valley, or Eagle Valley to Posey Valley Geographic Areas because the Proposed Action is not located within the analysis area.

Impacts on Historic and Cultural Resources

No trail-related cultural resources, other than the historic alignment of the trail itself, have been identified within the four general areas of the Goodale’s Cutoff AU. A segment of the trail on BLM and private land, referred to as Goodale’s/Sparta Trail (B2H-BA-327), was identified during Tetra Tech’s

RLS of the analysis area in 2013. Although this segment was recommended for further study during the ILS, the magnitude of impact on the Goodale's/Sparta Trail would be none due to the proposed location of the Tub Mountain South Alternative.

Impacts on Historic and Cultural Setting

Due to the expansive nature of the Goodale's Cutoff AU, much of the integrity of the broader historic setting is intact. However, in many of the areas where trail segments are present on BLM land modern intrusions have diminished the integrity of setting. The proposed Tub Mountain South Alternative would cross the southwestern portion of the Goodale's Cutoff AU in a curving southwest to northwest alignment. The proposed alternative would not cross any of the braded trail segments under study in the Goodale's Cutoff AU. In total, 5 of the roughly 31 trail segments in the broader Goodale's Cutoff AU would fall within the 5-mile analysis area of the Tub Mountain South Alternative. All 5 segments are located in the Snake River near Indian Head Mountain area; 3 of the 5 segments would be subject to visual impacts from the alternative. As previously discussed, modern circulation features including Olds Ferry Road, I-84 and State Highway 201 are present in this area, as well as agricultural and ranching development in the form of fields and buildings to the east. These alterations have impacted the historic setting of these trail segments, and as such, the magnitude of impact on the historic setting in these locations would be none.

Proposed Action Compared to the Tub Mountain South Alternative—Oregon National Historic Trail

Blue Mountains Analysis Unit (Oregon)

The magnitude of impact from the Proposed Action compared to the Tub Mountain South Alternative on BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to Tub Mountain South Alternative.

Flagstaff Hill/Virtue Flat Analysis Unit (Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared to the Tub Mountain South Alternative.

Burnt River Canyon Analysis Unit (Oregon)

Impacts on Visual Resources

The visual impacts associated with KOP 3-13 are provided in Table 31.

Impacts on Historic and Cultural Resources

One cultural resource, represented by the trail trace at KOP 3-13, is located within the Burnt River Canyon AU and within 5 miles of the Proposed Action when compared to the Tub Mountain South

Alternative. Because the NRHP eligibility of this trail trace has not yet been determined, it is not clear what, if any, impacts construction of the route would have on this cultural resource.

Impacts on Historic and Cultural Setting

Of the numerous braided segments of the Oregon NHT located on BLM land within the Burnt River Canyon AU, only one alignment—as represented by KOP 3-13—is located within 5 miles of the route. The route extends into the southernmost portion of the AU coming within 1.4 miles to the southeast of KOP 3-13. Because this trail trace is located in a canyon, the Proposed Action route would not be visible and the magnitude of impact from its construction would be none.

Alkali Springs/Tub Mountain Analysis Unit (Oregon/Idaho)

The magnitude of impact from this route on the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared the Tub Mountain South Alternative.

South Alternate Analysis Unit (Idaho/Oregon)

The magnitude of impact from this route to the BLM-managed segments of the Oregon NHT within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared the Tub Mountain South Alternative.

Proposed Action Compared to the Tub Mountain South Alternative—Meek Cutoff Study Trail

Meek Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Meek Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared the Tub Mountain South Alternative.

Proposed Action Compared to the Tub Mountain South Alternative—Goodale's Cutoff Study Trail

Goodale's Cutoff Analysis Unit (Oregon)

The magnitude of impact from this route on the BLM-managed segments of the Goodale's Cutoff within this AU was not evaluated because the trail segments are not within the 5-mile analysis area of the Proposed Action when compared the Tub Mountain South Alternative.

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Table 28. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Willow Creek Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-13	None	L	None	L	None	100/H	None	100/H	None	22/L	None	N	None	None	H-0 M-0
Oregon NHT—Alkali Springs/Tub Mountain Analysis Unit															
KOP 4-1	None	L	None	None	None	100/H	None	100/H	None	48/M	None	N	M	H	H-2 M-2
KOP 4-2	None	L	None	L	None	100/H	None	100/H	None	6/N	None	N	M	H	
KOP 4-3	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
KOP 4-4	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
Goodale's Cutoff Study Trail Analysis Unit															
Snake River near Indian Head Mountain Geographic Area	None	None	None	None	None	None	None	None	None	None	None	None	None	None	N/A

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

Table 29. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action Compared to the Willow Creek Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship				
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)						
	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit															
KOP 3-13	None	L	None	H	None	2/N	None	100/H	None	22/L	None	N	Undetermined	None	H-0 M-0

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green).

Table 30. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Tub Mountain South Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT	
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship					
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)							
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit																
KOP 3-13	None	M	None	H	None	100/H	None	100/H	None	11/N	None	L	Undetermined	None		H-0 M-0
Oregon NHT—Alkali Springs/Tub Mountain Analysis Unit																
KOP 4-1	H	None	H	None	19/N	81/H	100/H	None	100/H	None	H	None	M	None		H-3 M-10
KOP 4-2	None	L	None	H	None	100/H	None	100/H	None	100/H	None	L	M	H		
KOP 4-3	None	M	None	L	None	100/H	None	100/H	None	10/N	None	N	M	H		
KOP 4-4	None	None	None	None	None	None	None	None	None	None	None	None	None	None		
KOP 4-5	None	None	None	None	None	None	None	None	None	None	None	None	None	None		
KOP 4-6	None	L	None	H	None	100/H	None	100/H	None	82/H	None	L	M	None		
KOP 4-7	None	L	None	H	None	100/H	None	100/H	None	100/H	None	L	M	None		
KOP 4-8	None	M	None	H	None	100/H	None	100/H	None	100/H	None	L	M	None		
KOP 4-9	H	H	H	H	0.3/N	99/H	53/M	47/M	58/M	50/M	M	M	M	None		
KOP 4-10	None	L	None	H	None	100/H	None	100/H	None	100/H	None	L	M	None		
Goodale's Cutoff Study Trail Analysis Unit																
Snake River near Indian Head Mountain Geographic Area	None	H	None	L	None	100/H	None	100/H	None	23/L	None	L	None	None	N/A	

Table Abbreviations: KOP = key observation point; NHT = National Historic Trail; FG = foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green); N/A = not available.

Table 31. Summary of Impacts by National Historic Trail/Study Trail Analysis Units—Proposed Action Compared to the Tub Mountain South Alternative

Analysis Units/KOPs and Study Trails/Geographic Areas	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Impacts on Historic and Cultural Resources	Impacts on Historic and Cultural Settings	Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT	
	Visibility Conditions		Angle of View		Quantification of View						Spatial Relationship					
					Miles of Project Seen from Trail (%)		Miles of Trail with Views of Project (%)		Duration of View of Project along Trail (%)							
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Oregon NHT—Burnt River Canyon Analysis Unit																
KOP 3-13	None	H	None	H	None	100/H	None	100/H	None	67/M	None	N	Undetermined	None		H-0 M-0

Table Abbreviations: FG = KOP = key observation point; NHT = National Historic Trail; foreground distance; MG = middleground distance; H = high (red); M = moderate (blue); L = low (yellow); N = negligible (green); None = no impact (green).

6.1.5.8 SEGMENT 5—MALHEUR

Double Mountain Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action compared to Double Mountain Alternative would not be visible within a 5-mile distance from these trail segments.

Proposed Action Compared to the Double Mountain Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action when compared to the Double Mountain Alternative would not be visible within a 5-mile distance from these trail segments.

Malheur S Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Malheur S Alternative would not be visible within a 5-mile distance from these trail segments.

Proposed Action Compared to the Malheur S Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action when compared to the Malheur A Alternative would not be visible within a 5-mile distance from these trail segments.

Malheur A Alternative—Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Malheur A Alternative would not be visible within a 5-mile distance from these trail segments.

Proposed Action Compared to the Malheur A Alternative— Oregon National Historic Trail and Meek Cutoff and Goodale’s Cutoff Study Trails

The magnitude of impact on the resources, qualities, values, associated setting, and primary uses of the Oregon NHT, Meek Cutoff Study Trail, or Goodale’s Cutoff Study Trail on BLM-administered lands was not evaluated because the Proposed Action when compared to the Malheur A Alternative would not be visible within a 5-mile distance from these trail segments.

6.1.6 SUMMARY OF COMPARED-TO ANALYSIS—OREGON NATIONAL HISTORIC TRAIL

Direct impacts to the Oregon NHT from each of the alternatives and associated “compared-to” sections of the Proposed Action are briefly discussed below in a bulleted format by segment. These bullets include each of the Oregon NHT-related resources addressed in this analysis (Scenic/Visual Resources, Historic and Cultural Resources, and Historic and Cultural Settings), and summarize the key differences between the impacts associated with each route, focusing primarily on the high and moderate impacts since these impacts would be severe and substantial, respectively. A detailed summary of quantified impacts associated with the Proposed Action, alternatives, and compared-to segments of the Proposed Action that relate to each of the alternatives is provided in Table 19 through Table 31.

6.1.6.1 SEGMENT 2—BLUE MOUNTAINS

Glass Hill Alternative Compared to the Associated Segment of the Proposed Action

The following bullet lists provide a succinct summary of potential impacts on the Oregon NHT from the Glass Hill Alternative when “compared-to” the section of the Proposed Action. The bullets are organized based on the general headings provided in Table 32. Detailed data for both the Glass Hill Alternative and the equivalent section of the Proposed Action when compared to the Glass Hill Alternative are provided in Table 32.

Sensitive Viewers

- Glass Hill Alternative would have more high impacts with regard to angles of observation.
- Neither the Glass Hill Alternative nor equivalent section of the Proposed Action would have moderate impacts.

Historic and Cultural Resources

- Neither the Glass Hill Alternative nor equivalent section of the Proposed Action would have high impacts.
- Neither the Glass Hill Alternative nor equivalent section of the Proposed Action would have moderate impacts.

Historic and Cultural Settings

- Neither the Glass Hill Alternative nor equivalent section of the Proposed Action would have high impacts.
- Neither the Glass Hill Alternative nor equivalent section of the Proposed Action would have moderate impacts.

Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon National Historic Trail

- The equivalent section of the Proposed Action would have more high and moderate impacts on the nature and purpose and primary uses of the Oregon NHT.

6.1.6.2 SEGMENT 3—BAKER VALLEY

Timber Canyon Alternative Compared to the Associated Segment of the Proposed Action

The following bullet lists provide a succinct summary of potential impacts on the Oregon NHT from the Timber Canyon Alternative when “compared-to” the section of the Proposed Action. The bullets are organized based on the general headings provided in Table 32. Detailed data for both the Timber Canyon Alternative and the equivalent section of the Proposed Action compared to the Timber Canyon Alternative are provided in Table 32.

Sensitive Viewers

- The equivalent section of the Proposed Action would have more high impacts than the Timber Canyon Alternative with regard to visibility, angles of observation, magnitude of project components visible, magnitude of platform affected, magnitude of duration of view and spatial relationships.
- The equivalent section of the Proposed Action would have more moderate impacts with regard to angle of observation, magnitude of platform affected, magnitude of duration of view and spatial relationships than the Timber Canyon Alternative.
- Timber Canyon Alternative would have more moderate impacts with regard to magnitude of project components visible.
- Neither the Timber Canyon Alternative nor equivalent section of the Proposed Action would have moderate impacts in regard to angle of observation.

Historic and Cultural Resources

- Neither the Timber Canyon Alternative nor equivalent section of the Proposed Action would have high impacts.
- The equivalent section of the Proposed Action would have more moderate impacts.

Historic and Cultural Settings

- The equivalent section of the Proposed Action would have more high impacts.

- The equivalent section of the Proposed Action would have more moderate impacts.

Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon National Historic Trail

- The equivalent section of the Proposed Action would have more high and moderate impacts on the nature and purpose and primary uses of the Oregon NHT than the Timber Canyon Alternative.

Flagstaff Alternative Compared to the Associated Segment of the Proposed Action

The following bullet lists provide a succinct summary of potential impacts on the Oregon NHT from the Flagstaff Alternative when “compared-to” the section of the Proposed Action. The bullets are organized based on the general headings provided in Table 32. Detailed data for both the Flagstaff Alternative and the equivalent section of the Proposed Action when compared to the Flagstaff Alternative are provided in Table 32.

Sensitive Viewers

- The equivalent section of the Proposed Action would have more high impacts with regard to visibility, angles of observation, magnitude of project components visible, magnitude of platform affected, magnitude of duration of view and spatial relationships than the Flagstaff Alternative.
- The equivalent section of the Proposed Action would have more moderate impacts with regard to angle of observation, magnitude of platform affected, magnitude of duration of view and spatial relationships than the Flagstaff Alternative.
- The Flagstaff Alternative would have more moderate impacts with regard to magnitude of project components visible than the equivalent section of the Proposed Action.
- Neither the Flagstaff Alternative nor the equivalent section of the Proposed Action would have moderate impacts with regard to angle of observation.

Historic and Cultural Resources

- The equivalent section of the Proposed Action would have more high impacts than the Flagstaff Alternative.
- The equivalent section of the Proposed Action would have more moderate impacts than the Flagstaff Alternative.

Historic and Cultural Settings

- The equivalent section of the Proposed Action would have more high impacts than the Flagstaff Alternative.
- The Flagstaff Alternative and compared-to segment would have equal moderate impacts.

Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon National Historic Trail

- The equivalent section of the Proposed Action would have more high and moderate impacts on the nature and purpose and primary uses of the Oregon NHT than the Flagstaff Alternative.

Burnt River Mountain Alternative Compared to the Associated Segment of the Proposed Action

The following bullet lists provide a succinct summary of potential impacts on the Oregon NHT from the Burnt River Mountain Alternative when “compared-to” the section of the Proposed Action. The bullets are organized based on the general headings provided in Table 32. Detailed data for both the Burnt River Mountain Alternative and the equivalent section of the Proposed Action when compared to the Burnt River Mountain Alternative are provided in Table 32.

Sensitive Viewers

- The Burnt River Mountain Alternative would have more high impacts with regard to visibility, angles of observation, magnitude of project components visible, magnitude of platform affected and spatial relationships than the equivalent section of the Proposed Action.
- The equivalent section of the Proposed Action would have more high impacts with regard to magnitude of duration of view than the Burnt River Mountain Alternative.
- Burnt River Mountain Alternative would have more moderate impacts with regard to magnitude of duration of view than the equivalent section of the Proposed Action.
- The equivalent section of the Proposed Action would have more moderate impacts with regard to visibility and spatial relationships than the Burnt River Mountain Alternative.
- Neither the Burnt River Mountain Alternative nor The equivalent section of the Proposed Action would have moderate impacts with regard to angle of observation.
- Burnt River Mountain Alternative and the equivalent section of the Proposed Action would have equal moderate impacts with regard to magnitude of project components visible.

Historic and Cultural Resources

- Neither the Burnt River Mountain Alternative nor the equivalent section of the Proposed Action would have high impacts.
- The equivalent section of the Proposed Action would have more moderate impacts than the Burnt River Mountain Alternative.

Historic and Cultural Settings

- The Burnt River Mountain Alternative and the equivalent section of the Proposed Action would have equal high impacts.
- The Burnt River Mountain Alternative and the equivalent section of the Proposed Action would have equal moderate impacts.

Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon National Historic Trail

- The Burnt River Mountain Alternative would have more high to the nature and purpose and primary uses of the Oregon NHT than the equivalent section of the Proposed Action.
- The equivalent section of the Proposed Action would have more moderate impacts on the nature and purpose and primary uses of the Oregon NHT than the Burnt River Mountain Alternative.

6.1.6.3 SEGMENT 4—BROGAN AREA

Willow Creek Alternative Compared to the Associated Segment of the Proposed Action

The following bullet lists provide a succinct summary of potential impacts on the Oregon NHT from the Willow Creek Alternative when “compared-to” the section of the Proposed Action. The bullets are organized based on the general headings provided in Table 32. Detailed data for both the Willow Creek Alternative and the equivalent section of the Proposed Action when compared to the Willow Creek Alternative are provided in Table 32.

Sensitive Viewers

- The Willow Creek Alternative would have more high impacts with regard to magnitude of project components visible and magnitude of duration of view than the equivalent section of the Proposed Action.
- The equivalent section of the Proposed Action would have more high impacts with regard to angles of observation, and magnitude of platform affected.
- Neither the Willow Creek Alternative nor the equivalent section of the Proposed Action would have high impacts in regard to visibility and spatial relationships.
- The Willow Creek Alternative would have more moderate impacts with regard to magnitude of duration of view than the equivalent section of the Proposed Action.
- Neither the Willow Creek Alternative nor the equivalent section of the Proposed Action would have moderate impacts in regard to visibility, angle of observation, magnitude of project components visible, magnitude of platform affected and spatial relationships.

Historic and Cultural Resources

- Neither the Willow Creek Alternative nor the equivalent section of the Proposed Action would have high impacts.
- The Willow Creek Alternative would have more moderate impacts than the equivalent section of the Proposed Action.

Historic and Cultural Settings

- Willow Creek Alternative would have more high impacts than the equivalent section of the Proposed Action.

- Neither the Willow Creek Alternative nor the equivalent section of the Proposed Action would have moderate impacts.

Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon National Historic Trail

- The Willow Creek Alternative would have more high impacts on the nature and purpose and primary uses of the Oregon NHT than the equivalent section of the Proposed Action.
- The Willow Creek Alternative would have more moderate impacts on the nature and purpose and primary uses of the Oregon NHT than the equivalent section of the Proposed Action.

Tub Mountain South Alternative Compared to the Associated Segment of the Proposed Action

The following bullet lists provide a succinct summary of potential impacts on the Oregon NHT from the Tub Mountain South Alternative when “compared-to” the section of the Proposed Action. The bullets are organized based on the general headings provided in Table 32. Detailed data for both the Tub Mountain South Alternative and the equivalent section of the Proposed Action as compared to the Tub Mountain South Alternative are provided in Table 32.

Sensitive Viewers

- The Tub Mountain South Alternative would have more high impacts with regard to visibility, angles of observation, magnitude of project components visible, magnitude of platform affected, magnitude of duration of view and spatial relationships than the equivalent section of the Proposed Action.
- The Tub Mountain South Alternative would have more moderate impacts with regard to visibility, magnitude of platform affected, magnitude of duration of view and spatial relationships than the equivalent section of the Proposed Action.
- Neither the Tub Mountain South Alternative nor the equivalent section of the Proposed Action would have moderate impacts in regard to angle of observation and magnitude of project components visible.

Historic and Cultural Resources

- Neither the Tub Mountain South Alternative nor the equivalent section of the Proposed Action would have high impacts.
- The Tub Mountain South Alternative would have more moderate impacts than the equivalent section of the Proposed Action.

Historic and Cultural Settings

- The Tub Mountain South Alternative would have more high impacts than the equivalent section of the Proposed Action.
- Neither the Tub Mountain South Alternative nor the equivalent section of the Proposed Action would have moderate impacts.

Number of Adverse (High and Moderate) Impacts on the Nature and Purpose and Primary Uses of the Oregon National Historic Trail

- The Tub Mountain South Alternative would have more high impacts on the nature and purpose and primary uses of the Oregon NHT than the equivalent section of the Proposed Action.
- The Tub Mountain South Alternative would have more moderate impacts on the nature and purpose and primary uses of the Oregon NHT than the equivalent section of the Proposed Action.

Table 32. Comparison of Alternatives

Alternatives	Magnitude of Impact	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Number of Impacts on Historic and Cultural Resources	Number of Impacts on Historic and Cultural Settings	Total Number of Adverse Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
		Visibility (miles)		Angle of View (miles)		Quantification of View						Spatial Relationship (miles)				
						Magnitude of Project Components Visible (miles)		Magnitude of Trail Affected (miles)		Magnitude of Duration of View (minutes)						
FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Proposed Action	H	6.5	15.1	5.7	12.1	1	31.2	7.5	20.4	198	316	9.7	0	3	3	H- 13 M- 20
Proposed Action	M	5.2	11.7	0	0	0	0	3.3	10.6	66	240	2.6	15.7	4	10	
Proposed Action	L	1.4	4.4	9.8	19.1	6.5	0	4.5	0.2	90	18	0	6.8	1	7	
Proposed Action	N	2.4	0	0	0	8	0	0.2	0	4	0	3	8.7	0	5	
Proposed Action	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13	N/A	
Glass Hill Alternative	H	0.8	0	0.8	0	0	0	0.8	0	16	0	0.8	0	0	0	H- 1 M- 0
Glass Hill Alternative	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Glass Hill Alternative	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Glass Hill Alternative	N	0	0	0	0	0.8	0	0	0	0	0	0	0	0	1	
Glass Hill Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	
Proposed Action Compared to Glass Hill Alternative	H	0.8	0	0	0	0	0	0.8	0	16	0	0.8	0	0	0	H- 4 M- 1
Proposed Action Compared to Glass Hill Alternative	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Proposed Action Compared to Glass Hill Alternative	L	0	0	0.8	0	0.8	0	0	0	0	0	0	0	0	1	
Proposed Action Compared to Glass Hill Alternative	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Proposed Action Compared to Glass Hill Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	
Timber Canyon Alternative	H	0	0	0	0.8	0	5.5	0	5.5	0	114	0	0	0	0	H- 0 M- 0
Timber Canyon Alternative	M	0	0	0	0	0	0.7	2.1	0	42	0	2.1	0	0	0	
Timber Canyon Alternative	L	2.1	6.2	2.1	5.4	2.1	0	0	0.7	0	14	0	0	0	0	
Timber Canyon Alternative	N	0	0	0	0	0	0	0	0	0	0	0	6.2	4	4	
Timber Canyon Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	
Proposed Action Compared to Timber Canyon Alternative	H	5.2	5.3	4.5	11.6	0	25.9	2.1	15.4	50	230	4.5	0	0	2	H- 3 M- 22
Proposed Action Compared to Timber Canyon Alternative	M	2.1	19.5	0	0	0	0	2.7	10.3	96	220	2.6	15.4	7	10	
Proposed Action Compared to Timber Canyon Alternative	L	0	1.1	5	14.3	2.1	0	4.5	0.2	90	18	0	6.5	0	0	
Proposed Action Compared to Timber Canyon Alternative	N	2.2	0	0	0	7.4	0	0.2	0	4	0	2.4	4	0	3	
Proposed Action Compared to Timber Canyon Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	N/A	
Flagstaff Alternative	H	0	0	1.4	4.7	0	3.4	0	3.4	0	0	0.6	0	1	0	H- 1 M- 3
Flagstaff Alternative	M	0.8	0	0	0	0	1.3	0	1.3	0	68	0.8	0	1	1	
Flagstaff Alternative	L	0.6	4.7	0	0	0.6	0	0.6	0	0	0	0	0	0	0	
Flagstaff Alternative	N	0	0	0	0	0.8	0	0.8	0	28	26	0	4.7	0	1	
Flagstaff Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	

Alternatives	Magnitude of Impact	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Number of Impacts on Historic and Cultural Resources	Number of Impacts on Historic and Cultural Settings	Total Number of Adverse Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
		Visibility (miles)		Angle of View (miles)		Quantification of View						Spatial Relationship (miles)				
						Magnitude of Project Components Visible (miles)		Magnitude of Trail Affected (miles)		Magnitude of Duration of View (minutes)						
		FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Proposed Action Compared to Flagstaff Alternative	H	3.8	13.3	4.3	11	0	20.8	0	10.3	50	142	4.3	0	4	1	H- 6 M- 8
Proposed Action Compared to Flagstaff Alternative	M	0.5	6.8	0	0	0	0	2.1	10.5	42	220	0	12.9	1	5	
Proposed Action Compared to Flagstaff Alternative	L	0	0.7	2.1	9.8	0	0	3.8	0	0	0	0	4.7	0	0	
Proposed Action Compared to Flagstaff Alternative	N	2.1	0	0	0	6.4	0	0.5	0	86	4	2.1	3.2	0	2	
Proposed Action Compared to Flagstaff Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	N/A	
Burnt River Mountain Alternative	H	1.9	0	2.2	6.7	0	8.3	1.7	8.3	0	94	1.9	0	0	1	H- 3 M- 6
Burnt River Mountain Alternative	M	0	2.6	0	0	1.7	0.2	0	0	34	72	0.1	0	0	5	
Burnt River Mountain Alternative	L	0.1	5.9	0	1.8	0	0	0	0	0	0	0	5	0	2	
Burnt River Mountain Alternative	N	0.2	0	0	0	0.5	0	0.5	0.2	10	4	0.2	3.5	0	0	
Burnt River Mountain Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	N/A	
Proposed Action Compared to Burnt River Mountain Alternative	H	1.8	0	2.6	3.1	0.9	7.3	2.5	7.5	18	92	0.9	0	0	1	H- 2 M- 10
Proposed Action Compared to Burnt River Mountain Alternative	M	0	4.3	0	0	1.6	0.3	0	0	34	54	1.6	2.7	3	5	
Proposed Action Compared to Burnt River Mountain Alternative	L	1	3.3	0.2	4.5	0	0	0	0	0	4	0	1.7	0	3	
Proposed Action Compared to Burnt River Mountain Alternative	N	0	0	0	0	0.3	0	0.3	0.1	4	2	0.3	3.2	1	1	
Proposed Action Compared to Burnt River Mountain Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	N/A	
Willow Creek Alternative	H	0	0	0	0	0	1.7	0	0	1.7	0	0	0	0	2	H- 2 M- 2
Willow Creek Alternative	M	0	0	0	0	0	0	0	0	0	28	0	0	2	0	
Willow Creek Alternative	L	0	1.7	0	1.7	0	0	0	0	0	4	0	0	0	0	
Willow Creek Alternative	N	0	0	0	0	0	0	0	0	0	2	0	1.7	3	2	
Willow Creek Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	
Proposed Action Compared to the Willow Creek Alternative	H	0	0	0	0.2	0	0	0	0.2	0	0	0	0	0	0	H- 0 M- 0
Proposed Action Compared to the Willow Creek Alternative	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Proposed Action Compared to the Willow Creek Alternative	L	0	0.2	0	0	0	0	0	0	0	4	0	0	0	0	
Proposed Action Compared to the Willow Creek Alternative	N	0	0	0	0	0	0.2	0	0	0	0	0	0.2	0	1	
Proposed Action Compared to the Willow Creek Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	

Alternatives	Magnitude of Impact	Impacts on Visual Resources from Sensitive Viewers (KOPs/Geographic Areas)												Number of Impacts on Historic and Cultural Resources	Number of Impacts on Historic and Cultural Settings	Total Number of Adverse Impacts on the Nature and Purpose and Primary Uses of the Oregon NHT
		Visibility (miles)		Angle of View (miles)		Quantification of View						Spatial Relationship (miles)				
						Magnitude of Project Components Visible (miles)		Magnitude of Trail Affected (miles)		Magnitude of Duration of View (minutes)						
		FG	MG	FG	MG	FG	MG	FG	MG	FG	MG	FG	MG			
Tub Mountain South Alternative	H	3.6	1.1	3.6	13	0	14	2.9	13.4	59	246	2.9	0	0	2	H- 3 M- 10
Tub Mountain South Alternative	M	0	2.2	0	0	0	0	0.7	0.6	14	12	0.7	0.6	8	0	
Tub Mountain South Alternative	L	0	10.7	0	1	0	0	0	0	0	10	0	12.9	0	0	
Tub Mountain South Alternative	N	0	0	0	0	3.6	0	0	0	0	12	0	0.5	2	9	
Tub Mountain South Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	
Proposed Action Compared to Tub Mountain South Alternative	H	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0	0	H- 0 M- 0
Proposed Action Compared to Tub Mountain South Alternative	M	0	0	0	0	0	0	0	0	0	2	0	0	0	0	
Proposed Action Compared to Tub Mountain South Alternative	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Proposed Action Compared to Tub Mountain South Alternative	N	0	0	0	0	0	0	0	0	0	0	0	0.1	0	1	
Proposed Action Compared to Tub Mountain South Alternative	Undetermined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	

Table Abbreviations: FG = foreground distance; MG = middleground distance; H = high; M = moderate; L = low; N= negligible; KOP = key observation point; NHT = National Historic Trail.

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7.0 CONCLUSION

Following guidance provided in BLM Manual 6280, an inventory of the resources, qualities, values, associated setting, and primary uses that support the nature and purposes of NHTs and Study Trails in the B2H analysis area was completed. Because Manual 6280 does not provide a detailed protocol for documenting salient attributes contributing to the nature and purposes of trails requiring evaluation, BLM trail administrators, BLM Washington Office National Trails System managers, and B2H Project visual and cultural resources technical leads collaborated to develop a methodology for collecting the data necessary to support a Manual 6280 inventory. The resulting inventory documents the existing conditions of the Oregon NHT and the Meek and Goodale's Cutoff Study Trails in terms of visual resources, historic and cultural resources, historic and cultural setting, and recreation and travel management opportunities. These same variables were also examined to assess and compare level of impacts for trail segments located on BLM-administered lands within the analysis area for the B2H Project; the results of the comparative impact analysis is summarized in the discussion above and in Table 32.

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Appendix A
Photographs of Viewsheds from
Inventory Observation Points within
Oregon National Historic Trail Analysis Units

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**LIST OF INVENTORY OBSERVATION POINTS (IOPs)
BY OREGON NATIONAL HISTORIC TRAIL ANALYSIS UNIT**

Blue Mountains Analysis Unit IOPs (Oregon)

IOP 1-1
IOP 1-2
IOP 1-3

Flagstaff Hill/Virtue Flat Analysis Unit IOPs (Oregon)

IOP 2-1
IOP 2-2
IOP 2-3
IOP 2-4
IOP 2-5

Burnt River Canyon Analysis Unit IOPs (Oregon)

IOP 3-1 IOP 3-8
IOP 3-2 IOP 3-9
IOP 3-3 IOP 3-10
IOP 3-4 IOP 3-11
IOP 3-5 IOP 3-12
IOP 3-6 IOP 3-13
IOP 3-7

Alkali Springs/Tub Mountain Analysis Unit IOPs (Oregon)

IOP 4-1 IOP 4-6
IOP 4-2 IOP 4-7
IOP 4-3 IOP 4-8
IOP 4-4 IOP 4-9
IOP 4-5 IOP 4-10

South Alternate Analysis Unit IOPs (Idaho)

IOP 5-1

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IOP 1-1 (Heavily forested area, looking southeast)



IOP 1-2 (Visible trail segment within forested area, looking south)



IOP 1-2 (Visible trail segment, looking north)



IOP 1-3 (Graded gravel road as possible trail alignment, looking west)



IOP 1-3 (Grassland with intermittent evergreen trees, looking northeast)



IOP 2-1 (Agricultural development, looking northwest)



IOP 2-1 (National Historic Oregon Trail Interpretive Center and highway, looking east)



IOP 2-2 (Trail trace at Flagstaff Hill, looking northwest)



IOP 2-2 (Sage steppe landscape, looking west)



IOP 2-3 (Rolling sagebrush hills, looking northeast)



IOP 2-3 (Faint trail trace, looking west)



IOP 2-4 (Sage steppe hills with Wallowa Mountains in distance, looking northwest)



IOP 2-4 (Graded road as trail alignment, trail marker, looking southeast)



IOP 2-5 (Modern development, looking north)



IOP 2-5 (Graded mining road as trail alignment, looking west)



IOP 3-1 (Trail segment present in drainage, looking east)



IOP 3-2 (Sage steppe, Blue Mountains in distance, looking north)



IOP 3-2 (Sage steppe hills, looking west)



IOP 3-3 (I-84 infrastructure, looking northwest)



IOP 3-4 (Development along I-84, looking northwest)



IOP 3-4 (Gravel storage area adjacent to I-84, looking southeast)



IOP 3-5 (Trail marker Straw Ranch I, looking southwest)



IOP 3-5 (Rolling sage steppe hills, looking northwest)



IOP 3-6 (Drainage adjacent to Old Oregon Trail State Highway, looking northwest)



IOP 3-6 (Sage steppe hillside, looking northeast)



IOP 3-7 (H-Frame transmission line, looking southeast)



IOP 3-7 (Trail, transmission line, Iron Mountain in distance, looking northeast)



IOP 3-8 (Stone marker adjacent to Plano Road, looking southeast)



IOP 3-8 (Agricultural land, looking southwest)



IOP 3-9 (Plano Road, looking southwest)



IOP 3-9 (Rolling sage steppe hills with evergreens, looking east)



IOP 3-10 (Plano Road, single pole transmission line, looking southwest)



IOP 3-10 (Plano Road adjacent to Sisley Creek, looking north)



IOP 3-11 (Sage steppe hills, mountains in distance, looking southwest)



IOP 3-11 (Sage steppe hills, looking east)

No Photos
IOP 3-12 (Location not accessible)



IOP 3-13 (Interstate 84, modern buildings, looking south)



IOP 3-13 (Interstate 84, Union Pacific Railroad alignment, looking northwest)



IOP 4-1 (Trail trace and adjacent marker, looking north)



IOP 4-1 (Lockett Road, looking southeast)



IOP 4-2 (Love Reservoir, looking northeast)



IOP 4-2 (Graded road, looking northwest)



IOP 4-3 (Gravel road in distance, looking northwest)



IOP 4-3 (Sage steppe hills, looking east)



IOP 4-4 (Graded gravel road, windturbines on mountains in distance, looking north)



IOP 4-4 (Cattle trail adjacent to road, looking south)



IOP 4-5 (Fenced Class I trail segment, looking northeast)



IOP 4-5 (Trail segment, Blue Mountains in distance, looking north)



IOP 4-6 (Graded gravel road as possible trail alignment, looking southwest)



IOP 4-6 (Graded gravel road, looking northwest)



IOP 4-7 (Fenced spring and interpretive panel, looking southwest)



IOP 4-7 (Graded gravel road, looking north)



IOP 4-8 (Fenced wetland, livestock corral in distance, looking northwest)



IOP 4-8 (Graded gravel road, looking north)



IOP 4-9 (Graded gravel road, agricultural development, looking south)



IOP 4-9 (Graded gravel road, agricultural development, looking northwest)



IOP 4-10 (Possible cattle trail, agricultural development, looking south)



IOP 4-10 (Two-track road near fencing, agricultural development, looking northwest)



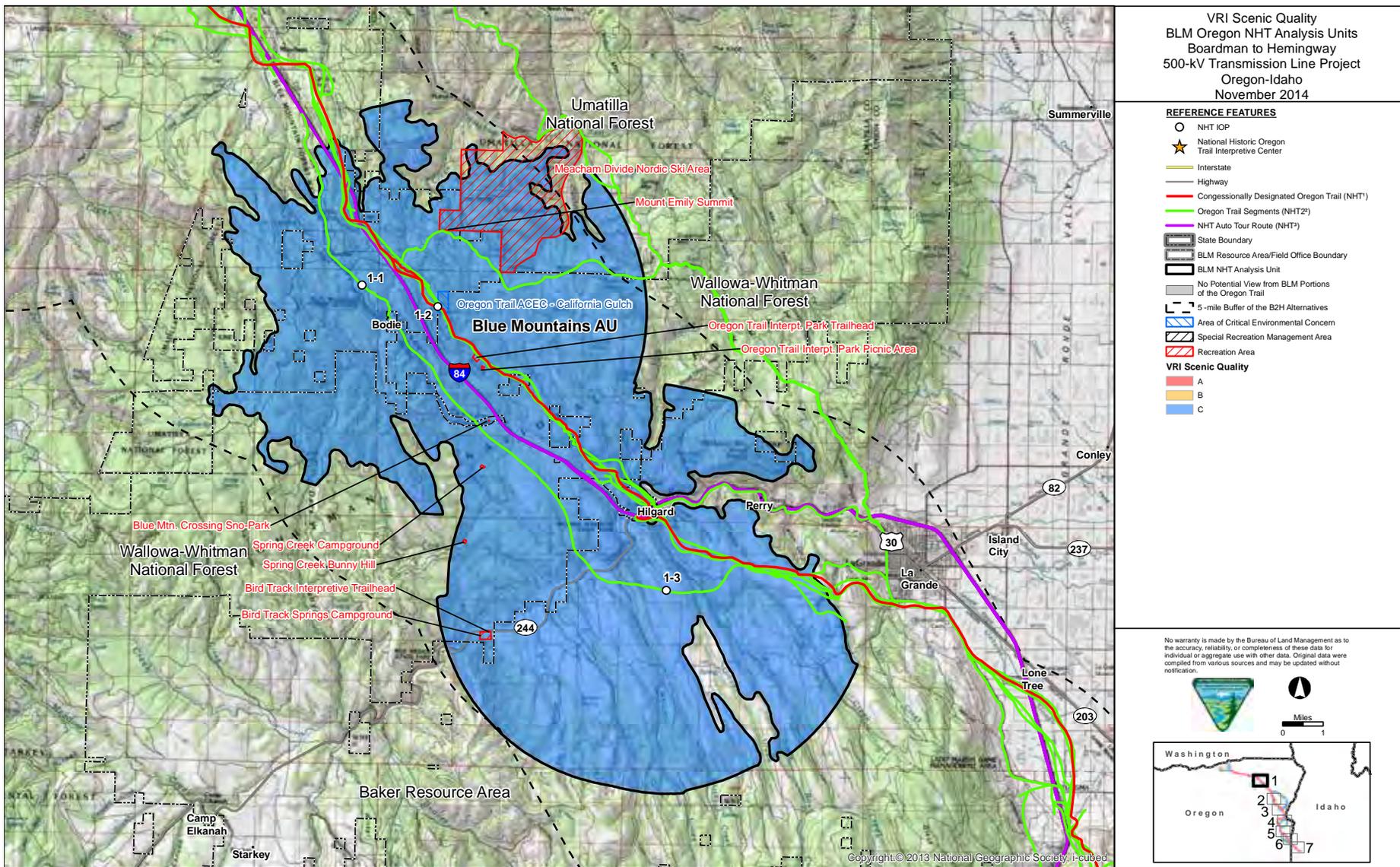
IOP 5-1 (State Highway 78, looking west)

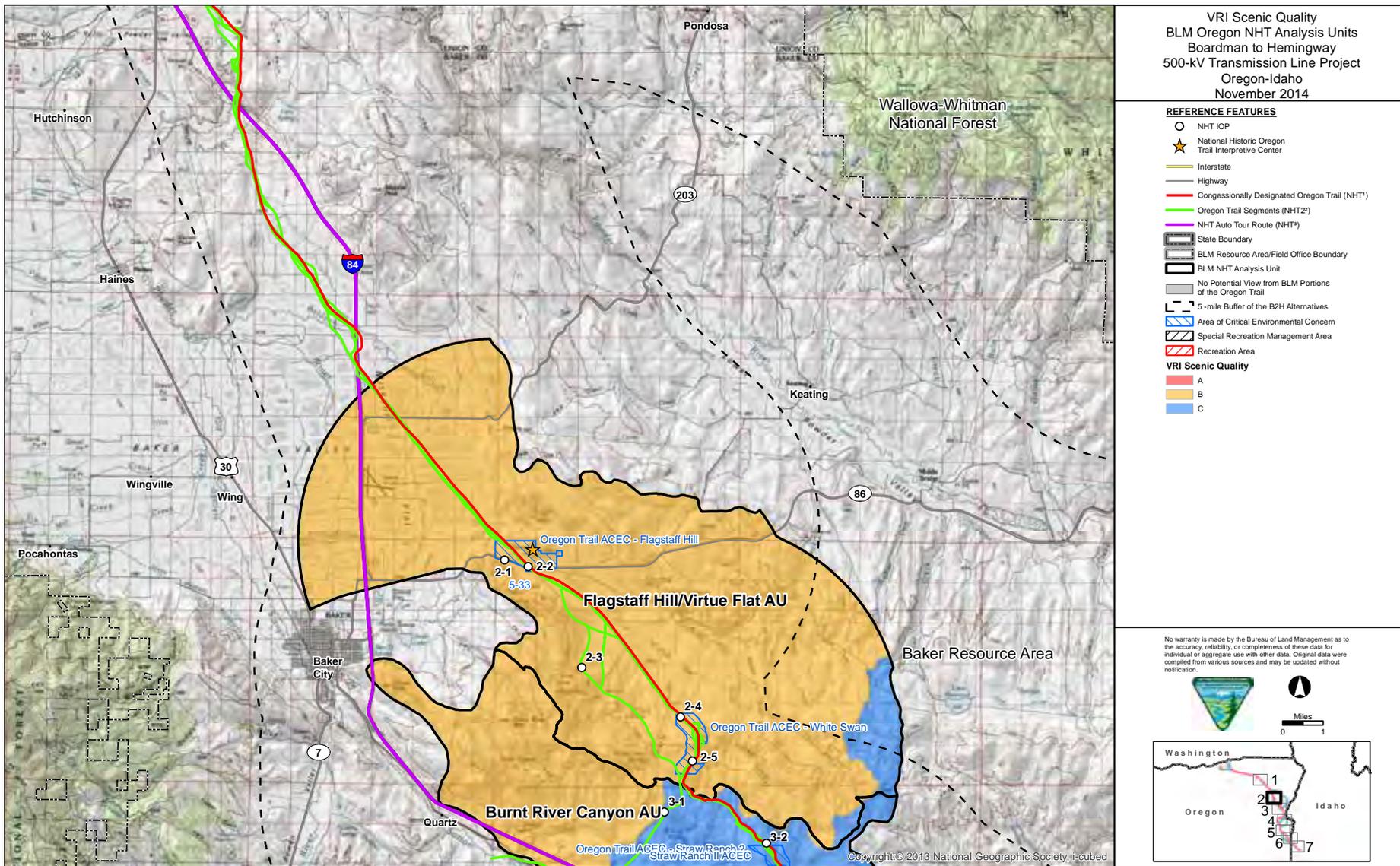


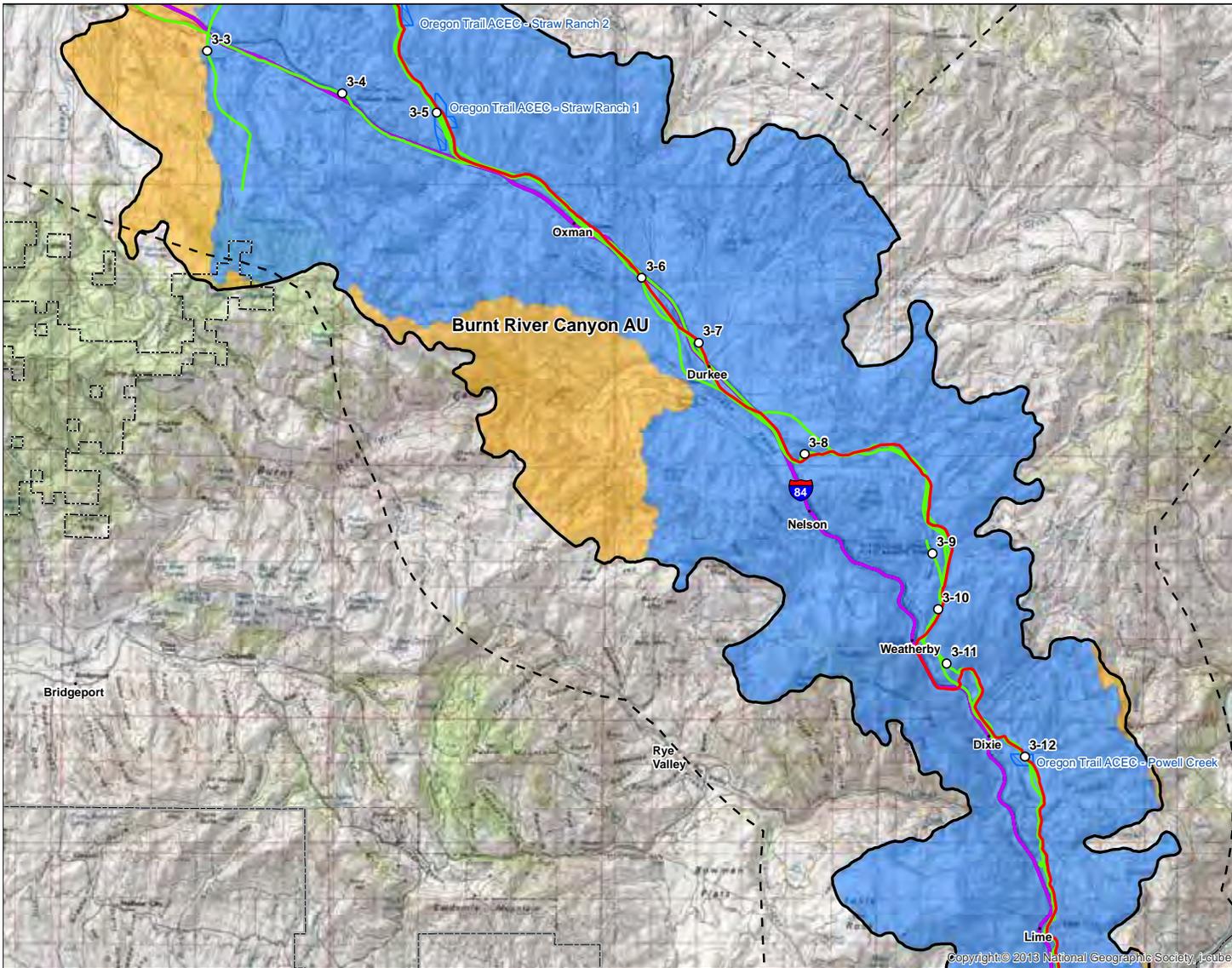
IOP 5-1 (Snake River and surrounding development, looking southeast)

Appendix B
**Maps of Visual Resource Management Classes, Visual
Resource Inventory Data, and Inventory Observation Points
for National Historic Trail/Study Trail Analysis Units**

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VRI Scenic Quality
 BLM Oregon NHT Analysis Units
 Boardman to Hemingway
 500-kV Transmission Line Project
 Oregon-Idaho
 November 2014

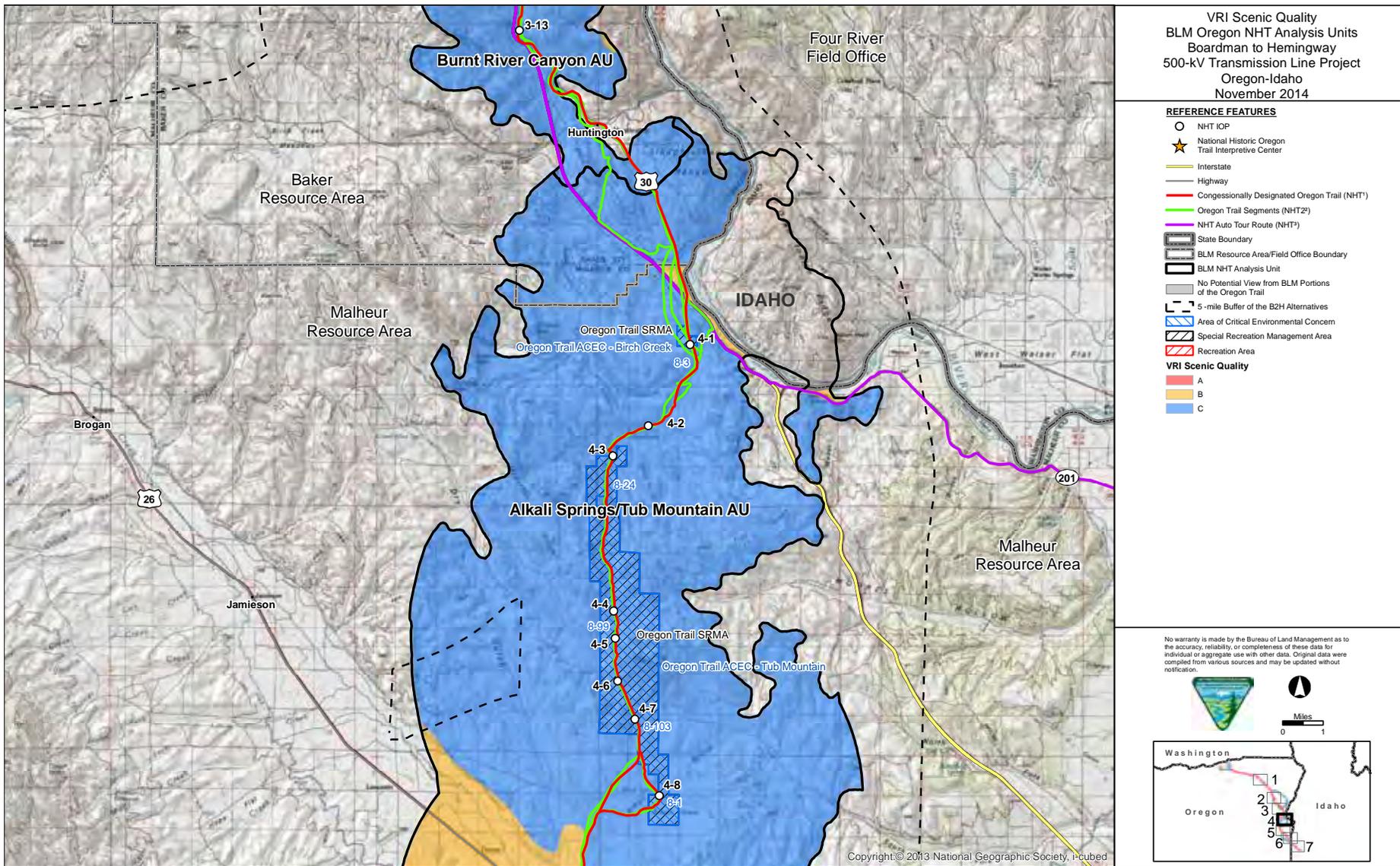
REFERENCE FEATURES

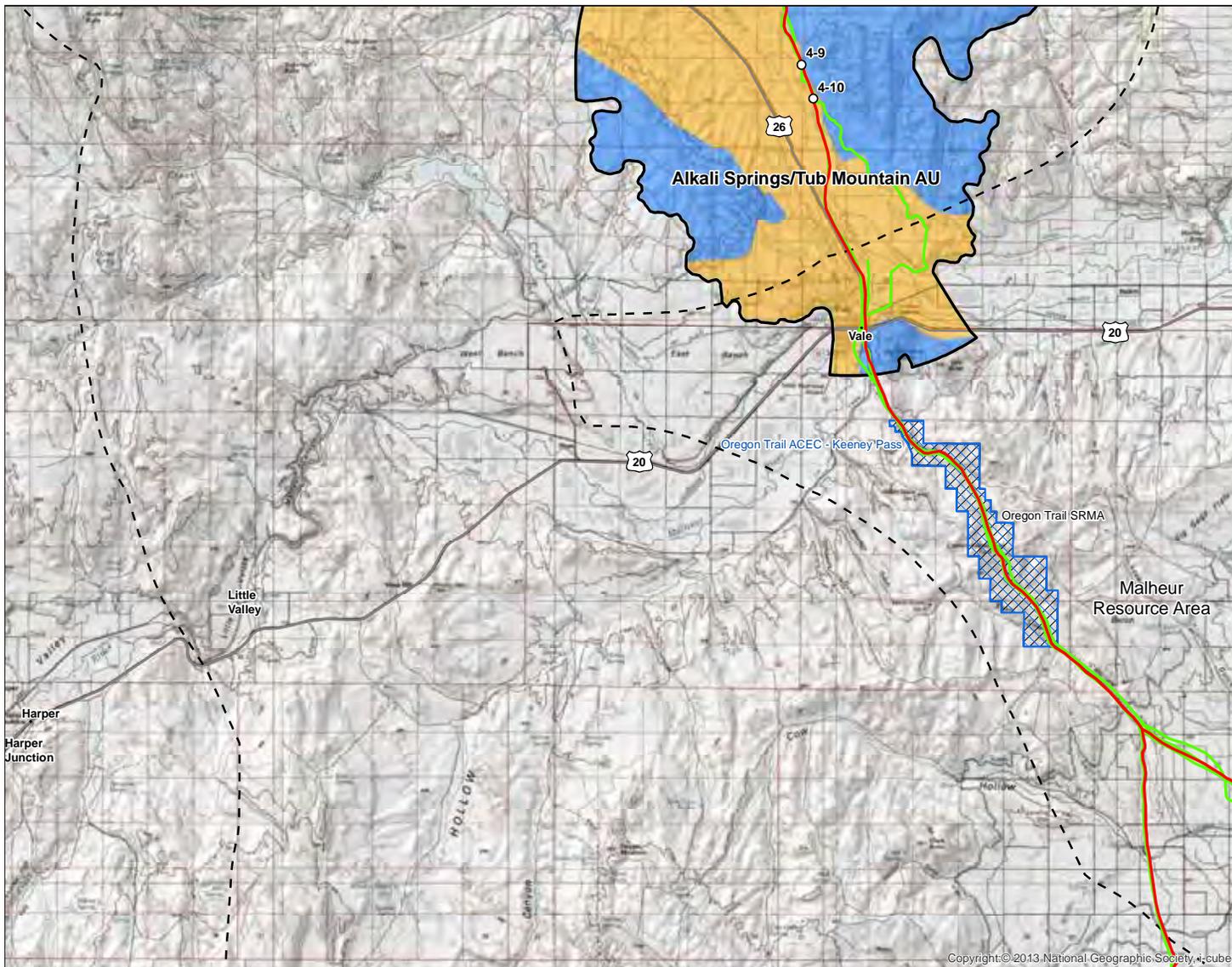
- NHT IOP
- ★ National Historic Oregon Trail Interpretive Center
- Interstate
- Highway
- Congessionally Designated Oregon Trail (NHT¹)
- Oregon Trail Segments (NHT²)
- NHT Auto Tour Route (NHT³)
- State Boundary
- ▭ BLM Resource Area/Field Office Boundary
- ▭ BLM NHT Analysis Unit
- ▭ No Potential View from BLM Portions of the Oregon Trail
- ▭ 5-mile Buffer of the B2H Alternatives
- ▭ Area of Critical Environmental Concern
- ▭ Special Recreation Management Area
- ▭ Recreation Area

VRI Scenic Quality

- A
- B
- C

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.





VRI Scenic Quality
BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

REFERENCE FEATURES

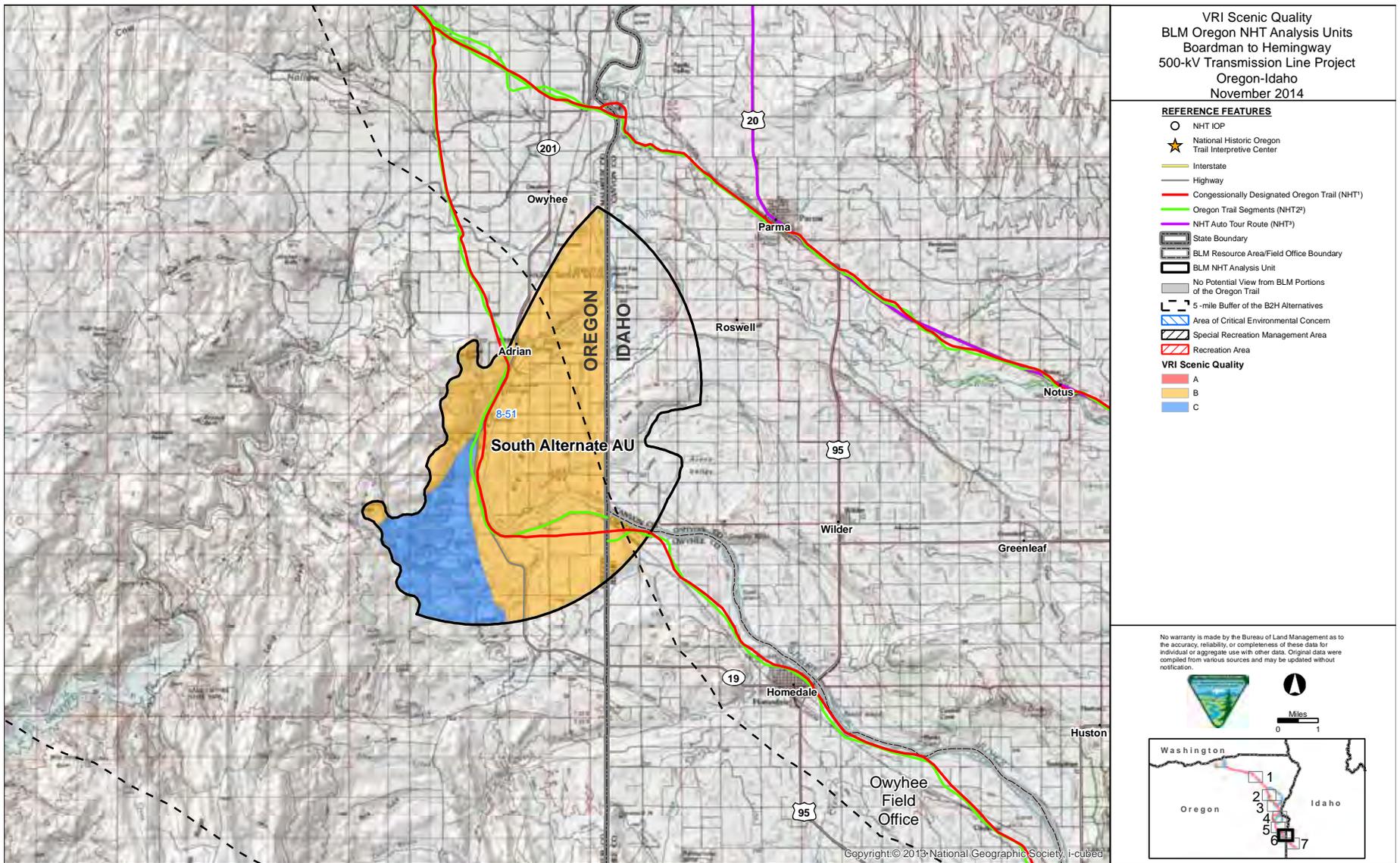
- NHT IOP
- ★ National Historic Oregon Trail Interpretive Center
- Interstate
- Highway
- Congessionally Designated Oregon Trail (NHT¹)
- Oregon Trail Segments (NHT²)
- NHT Auto Tour Route (NHT³)
- ▭ State Boundary
- ▭ BLM Resource Area/Field Office Boundary
- ▭ BLM NHT Analysis Unit
- ▭ No Potential View from BLM Portions of the Oregon Trail
- ▭ 5-mile Buffer of the B2H Alternatives
- ▭ Area of Critical Environmental Concern
- ▭ Special Recreation Management Area
- ▭ Recreation Area

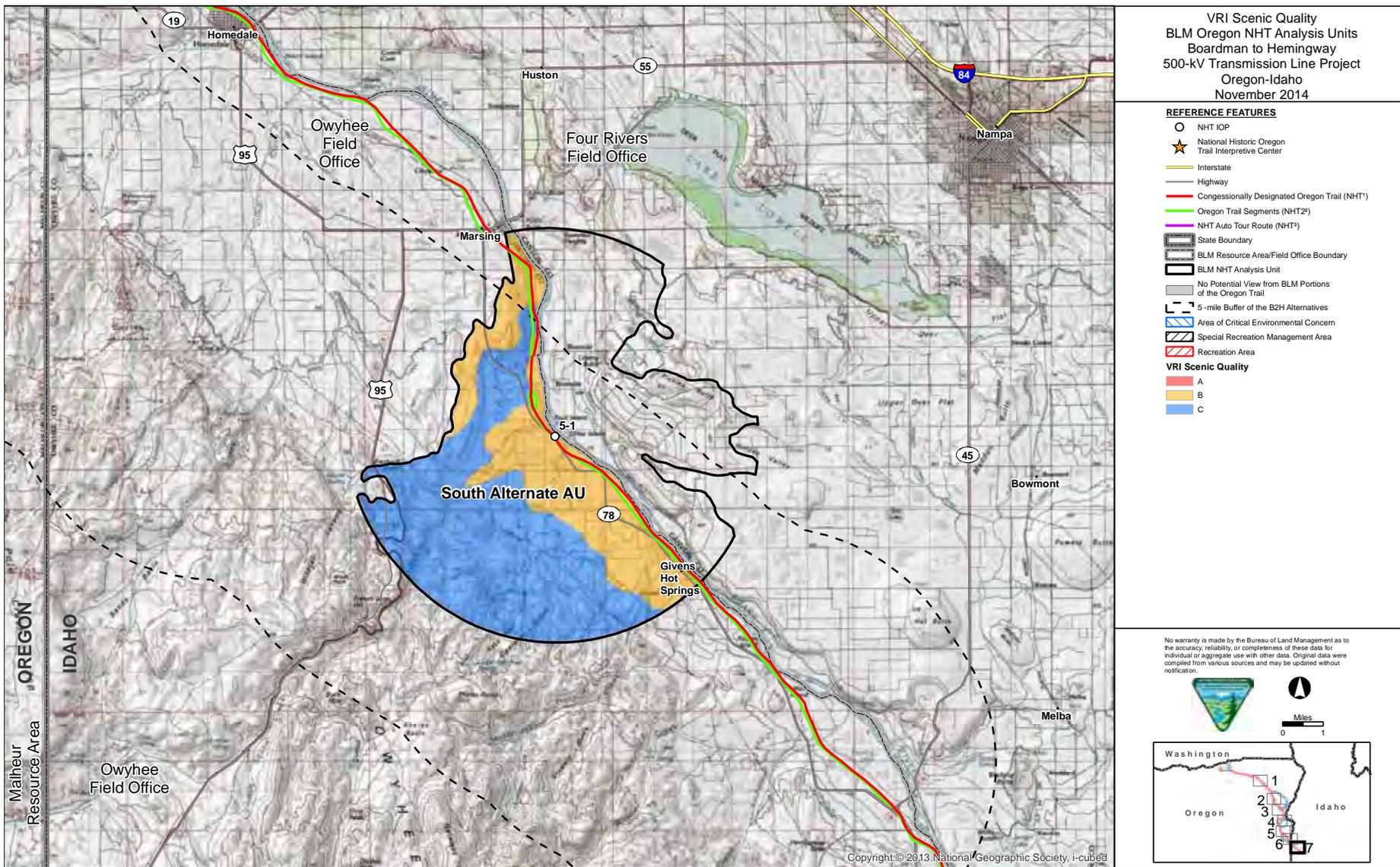
VRI Scenic Quality

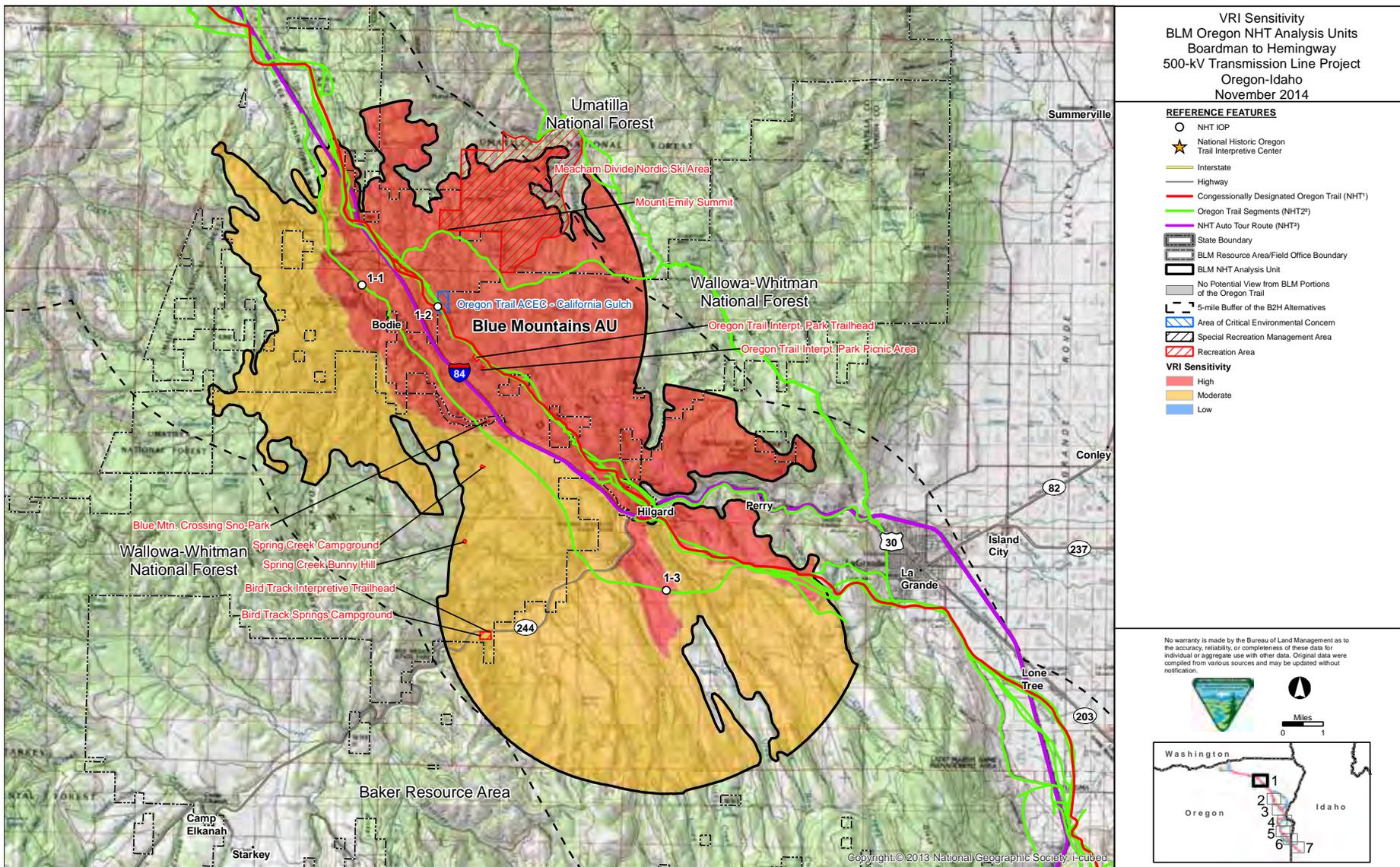
- A
- B
- C

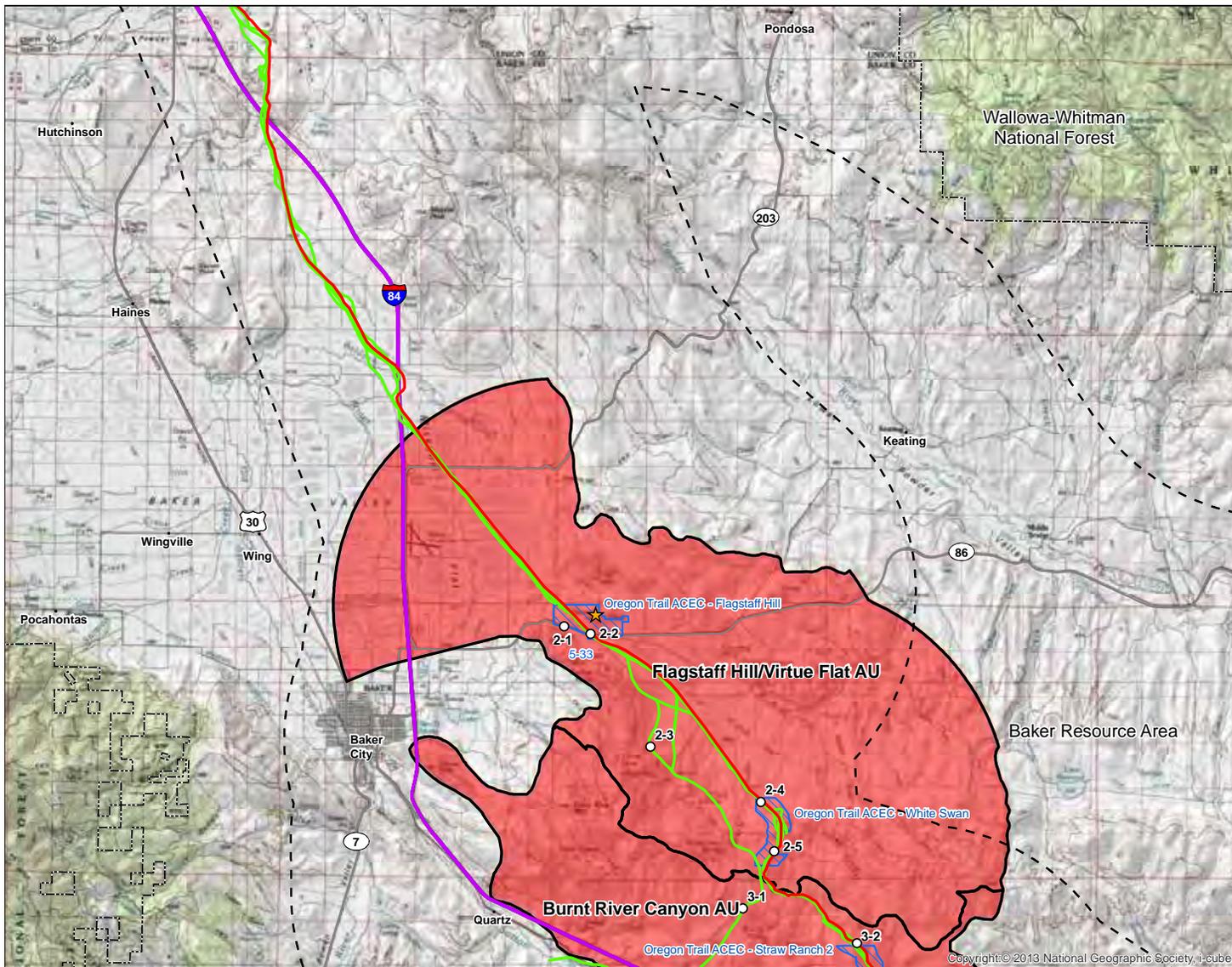
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**VRI Sensitivity
BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014**

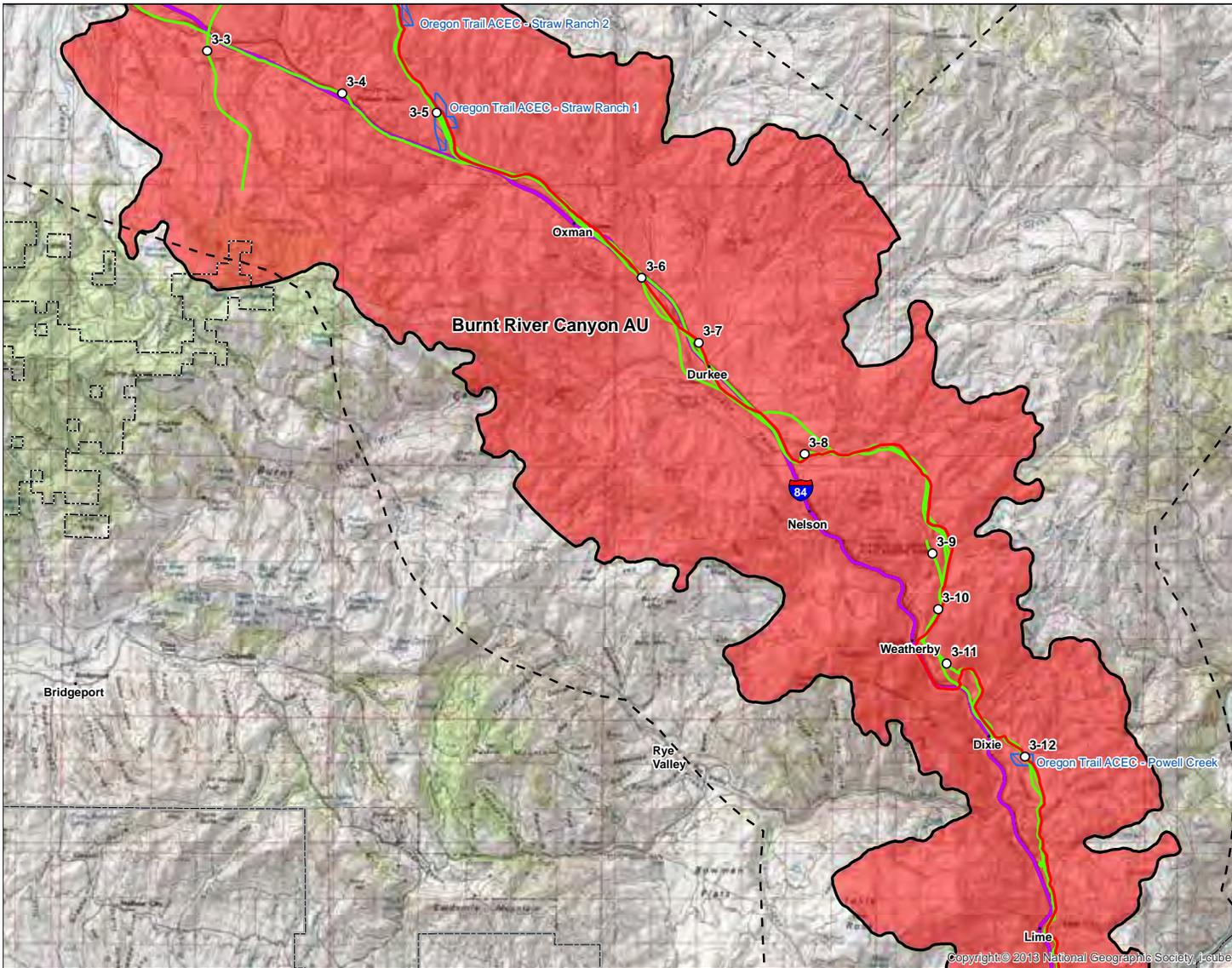
REFERENCE FEATURES

- NHT IOP
- ★ National Historic Oregon Trail Interpretive Center
- Interstate
- Highway
- Congessionally Designated Oregon Trail (NHT¹)
- Oregon Trail Segments (NHT²)
- NHT Auto Tour Route (NHT³)
- ▭ State Boundary
- ▭ BLM Resource Area/Field Office Boundary
- ▭ BLM NHT Analysis Unit
- ▭ No Potential View from BLM Portions of the Oregon Trail
- ▭ 5-mile Buffer of the B2H Alternatives
- ▭ Area of Critical Environmental Concern
- ▭ Special Recreation Management Area
- ▭ Recreation Area

VRI Sensitivity

- High
- Moderate
- Low

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VRI Sensitivity
 BLM Oregon NHT Analysis Units
 Boardman to Hemingway
 500-kV Transmission Line Project
 Oregon-Idaho
 November 2014

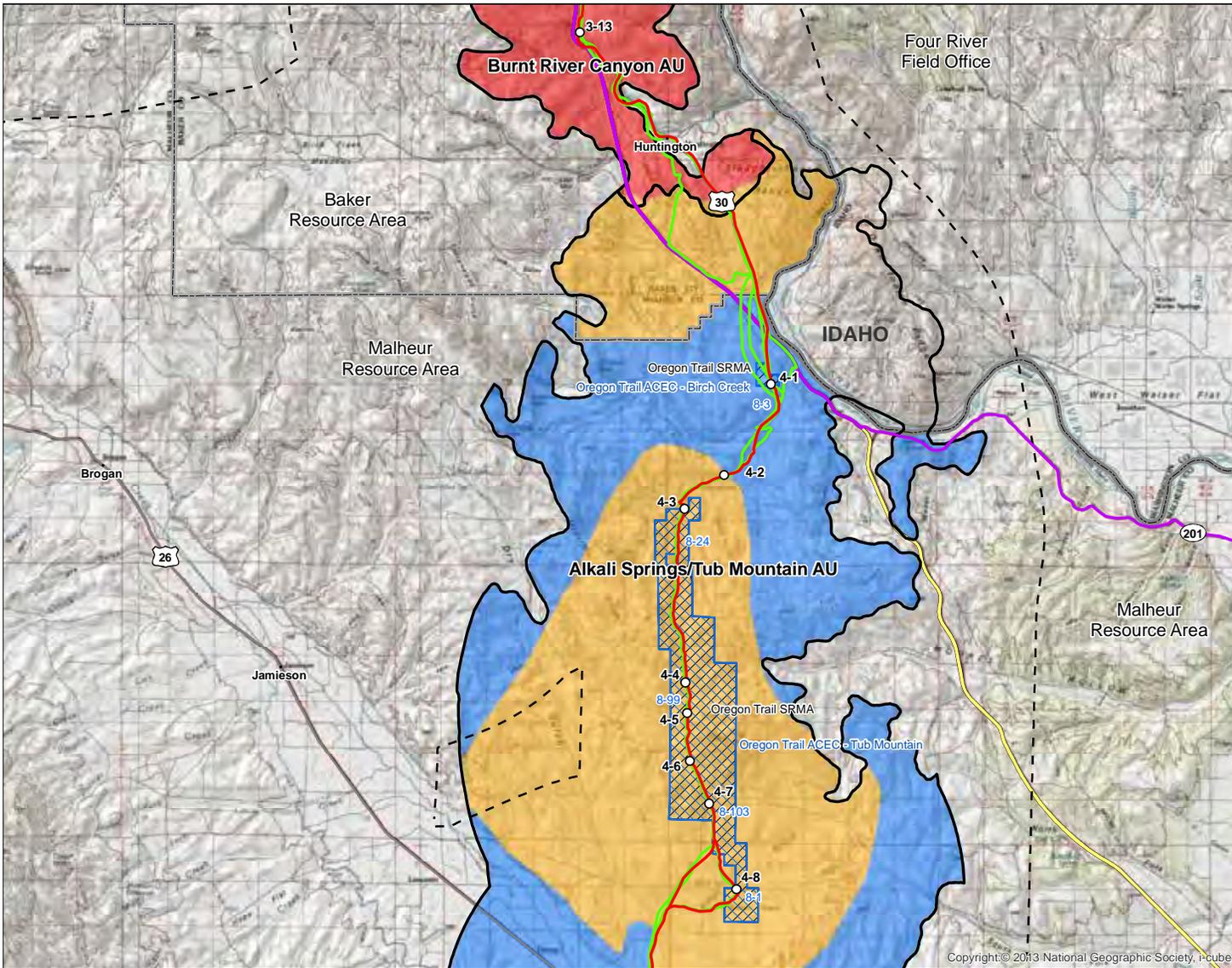
REFERENCE FEATURES

- NHT IOP
- ★ National Historic Oregon Trail Interpretive Center
- Interstate
- Highway
- Congessionally Designated Oregon Trail (NHT¹)
- Oregon Trail Segments (NHT²)
- NHT Auto Tour Route (NHT³)
- State Boundary
- ▭ BLM Resource Area/Field Office Boundary
- ▭ BLM NHT Analysis Unit
- ▭ No Potential View from BLM Portions of the Oregon Trail
- ▭ 5-mile Buffer of the B2H Alternatives
- ▭ Area of Critical Environmental Concern
- ▭ Special Recreation Management Area
- ▭ Recreation Area

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- High
- Moderate
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VRI Sensitivity
BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

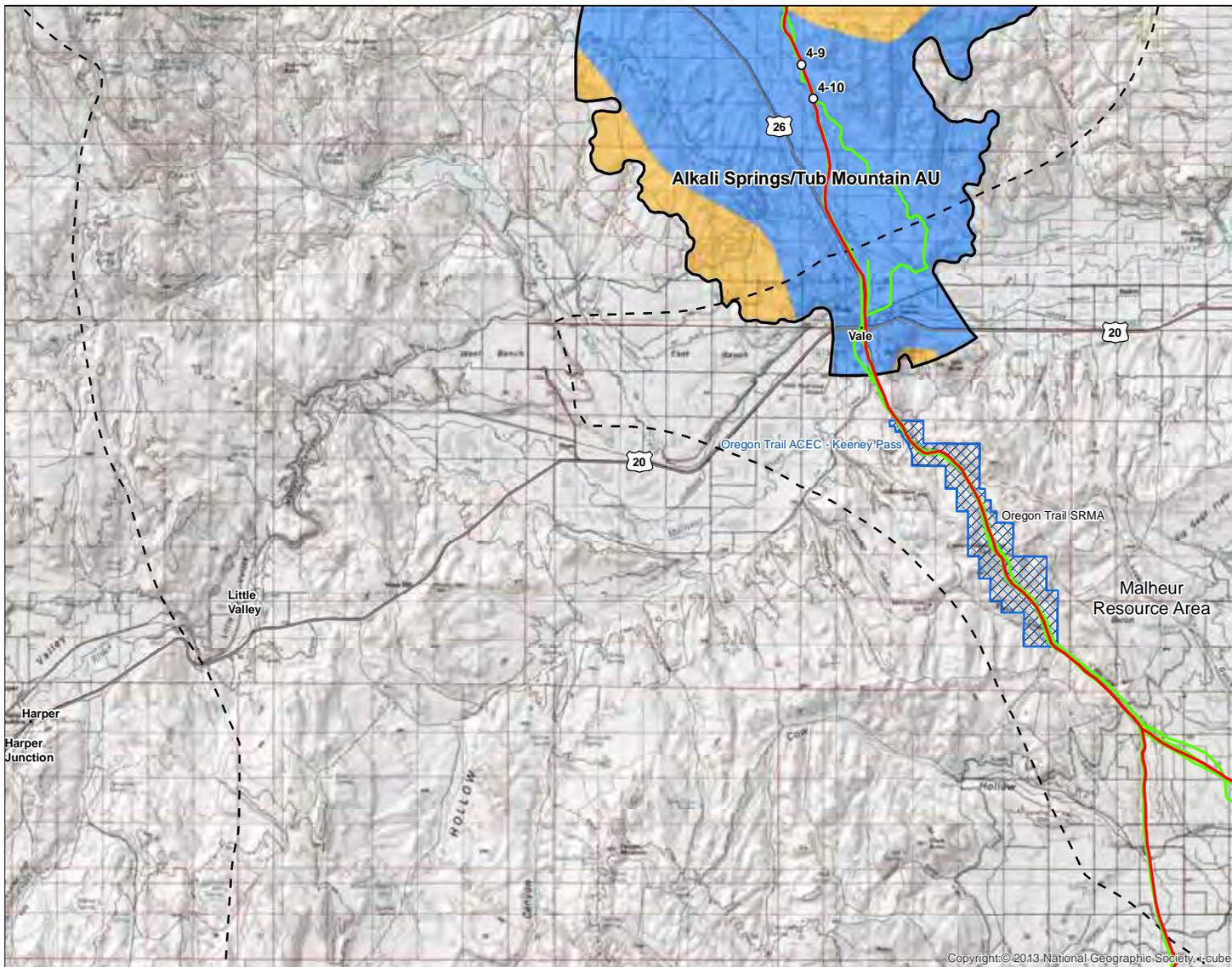
REFERENCE FEATURES

- NHT IOP
- ★ National Historic Trail Interpretive Center
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- High
- Moderate
- Low

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 Oregon-Idaho
 November 2014

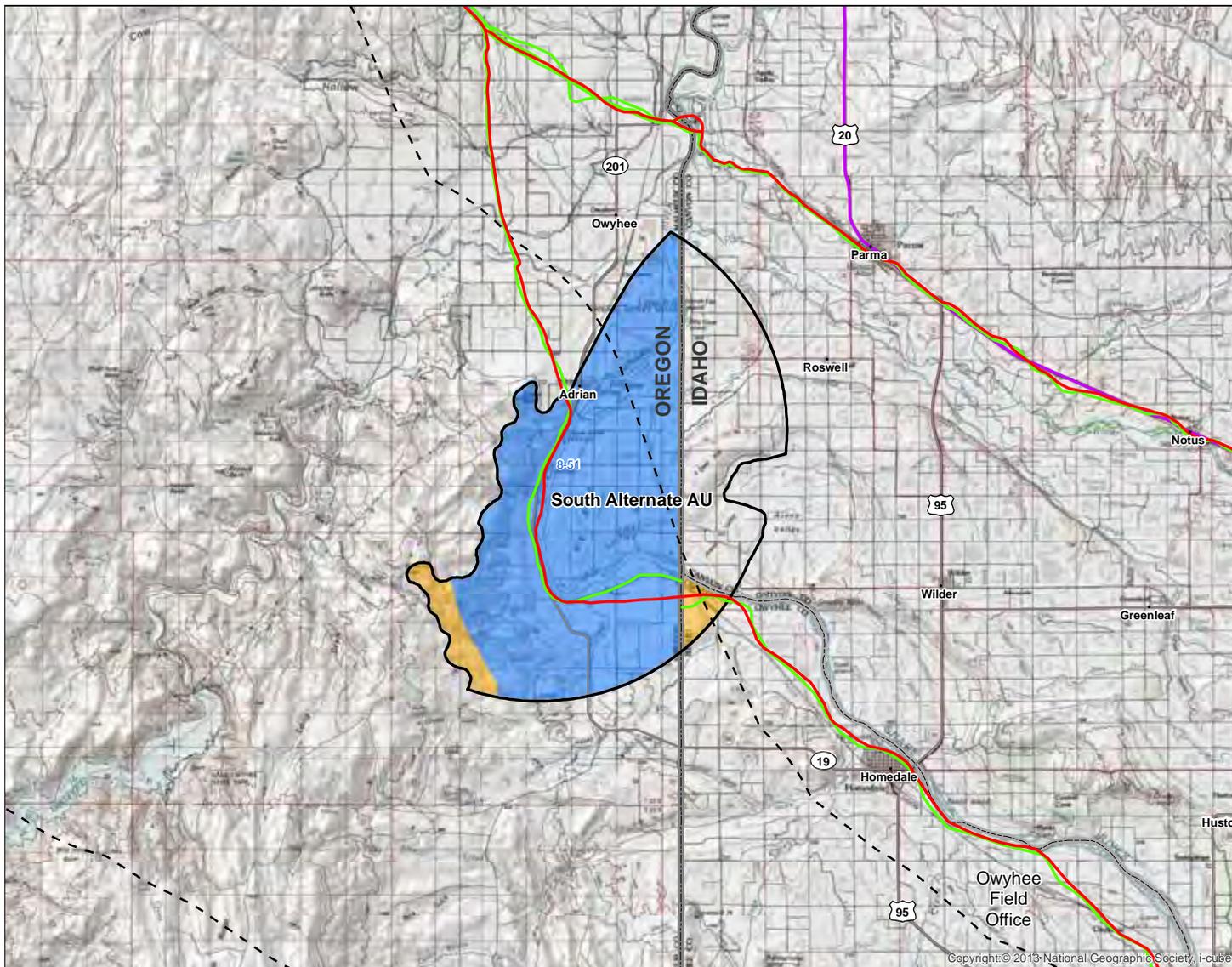
- REFERENCE FEATURES**
- NHT IOP
 - ★ National Historic Oregon Trail Interpretive Center
 - Interstate
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 - ▭ Area of Critical Environmental Concern
 - ▭ Special Recreation Management Area
 - ▭ Recreation Area
- VRI Sensitivity**
- High
 - Moderate
 - Low

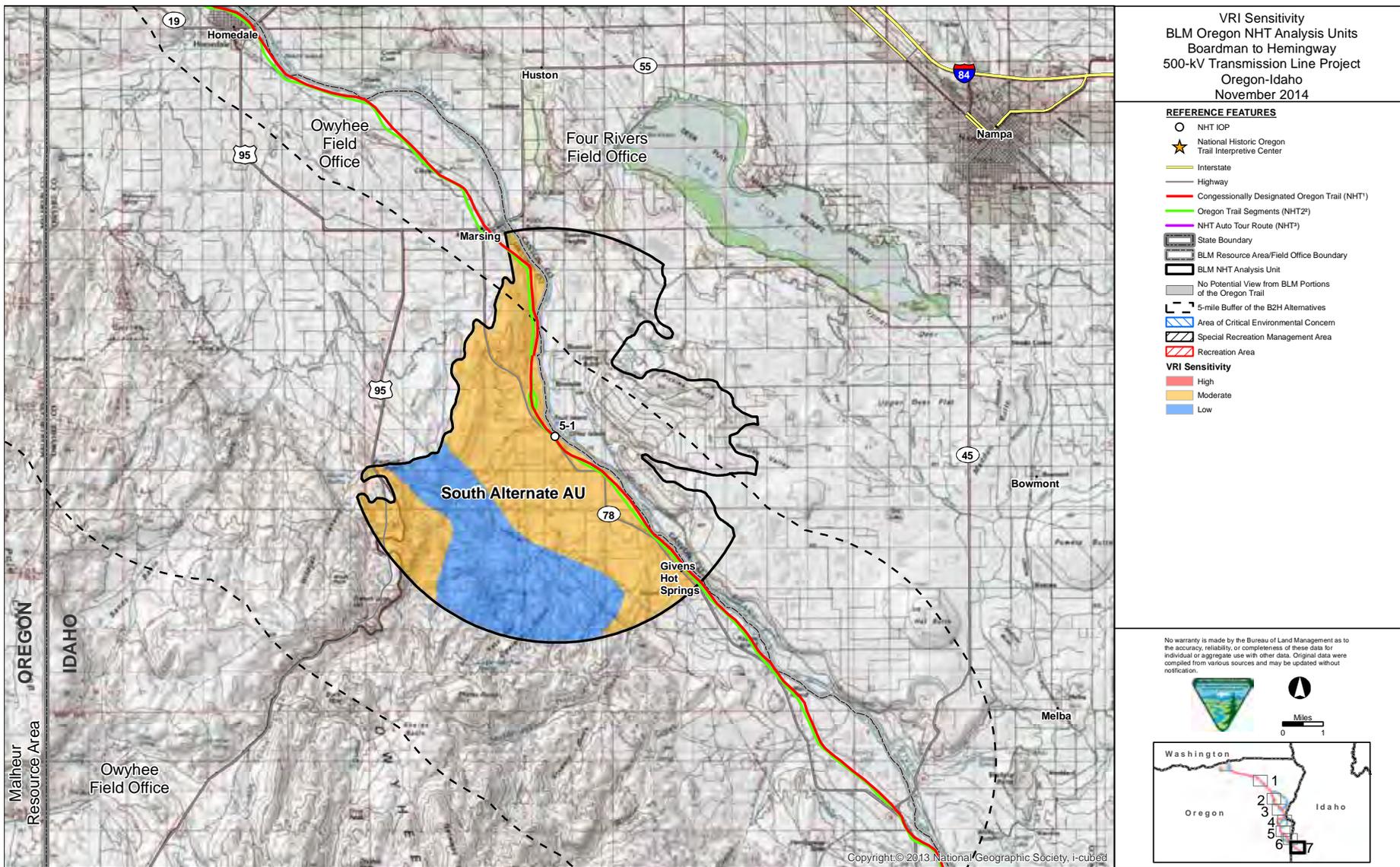
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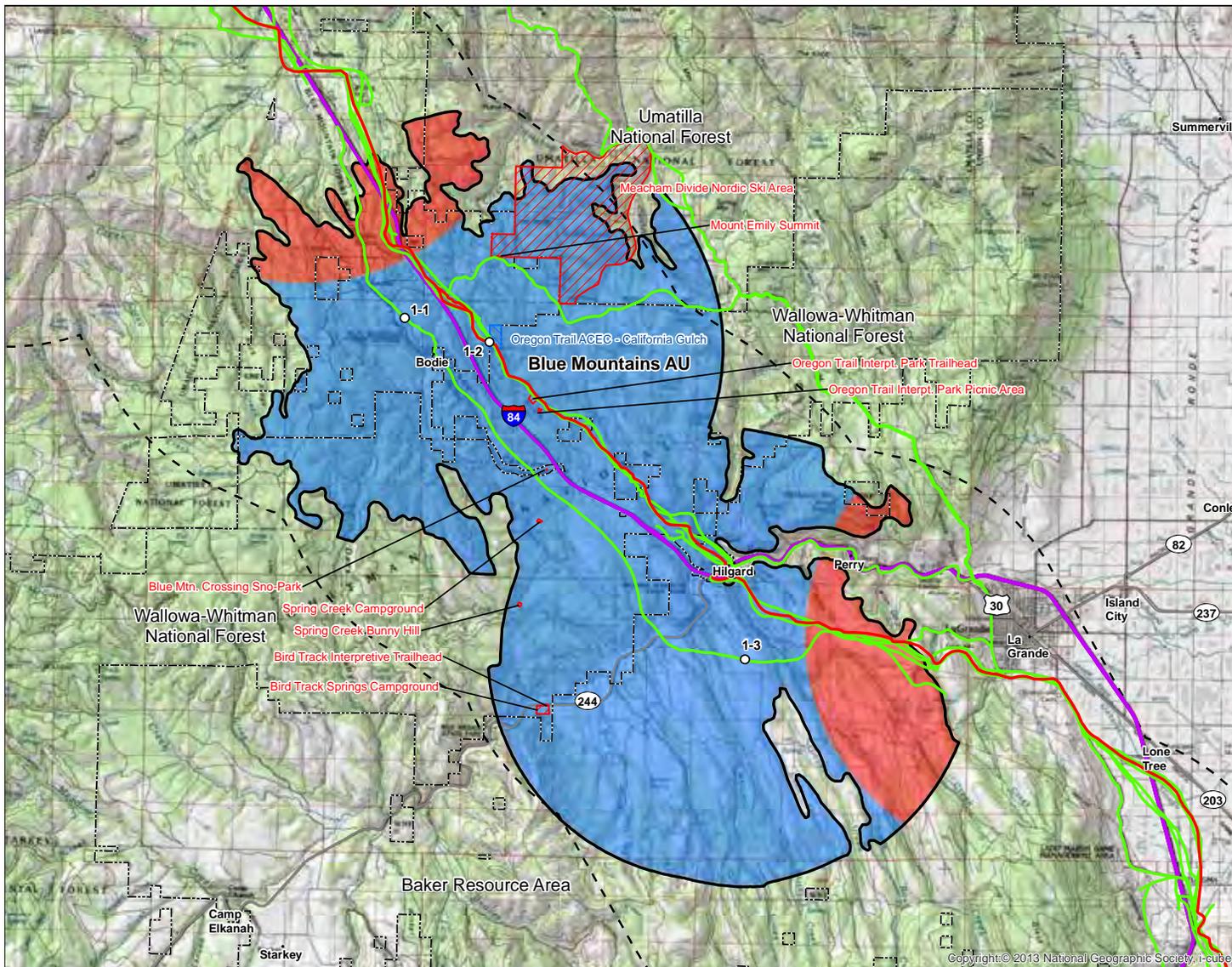
VRI Sensitivity
 BLM Oregon NHT Analysis Units
 Boardman to Hemingway
 500-kV Transmission Line Project
 Oregon-Idaho
 November 2014

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**VRI Visual Distance Zone
BLM Oregon NHT Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014**

REFERENCE FEATURES

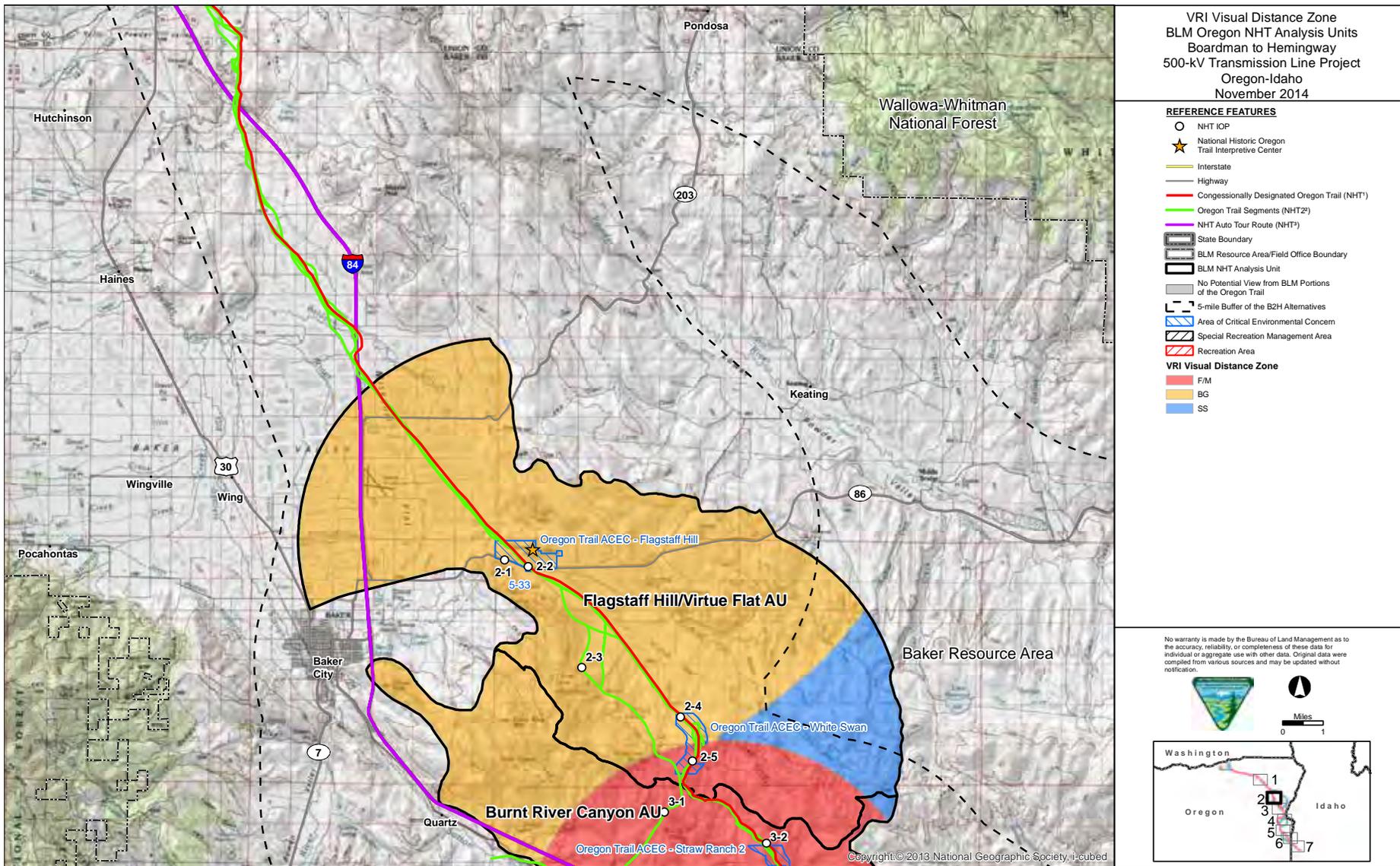
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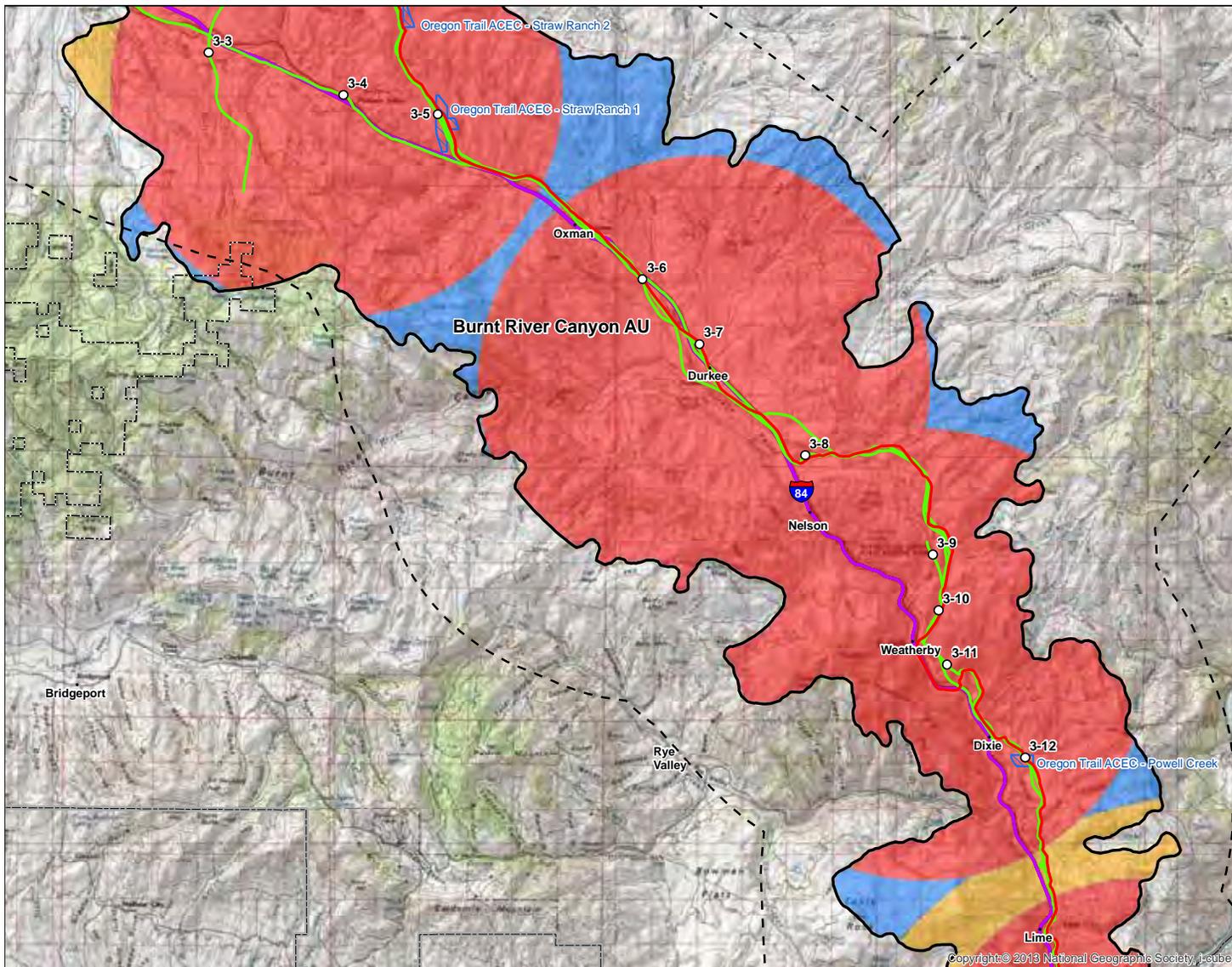
VRI Visual Distance Zone

- F/M
- BG
- SS

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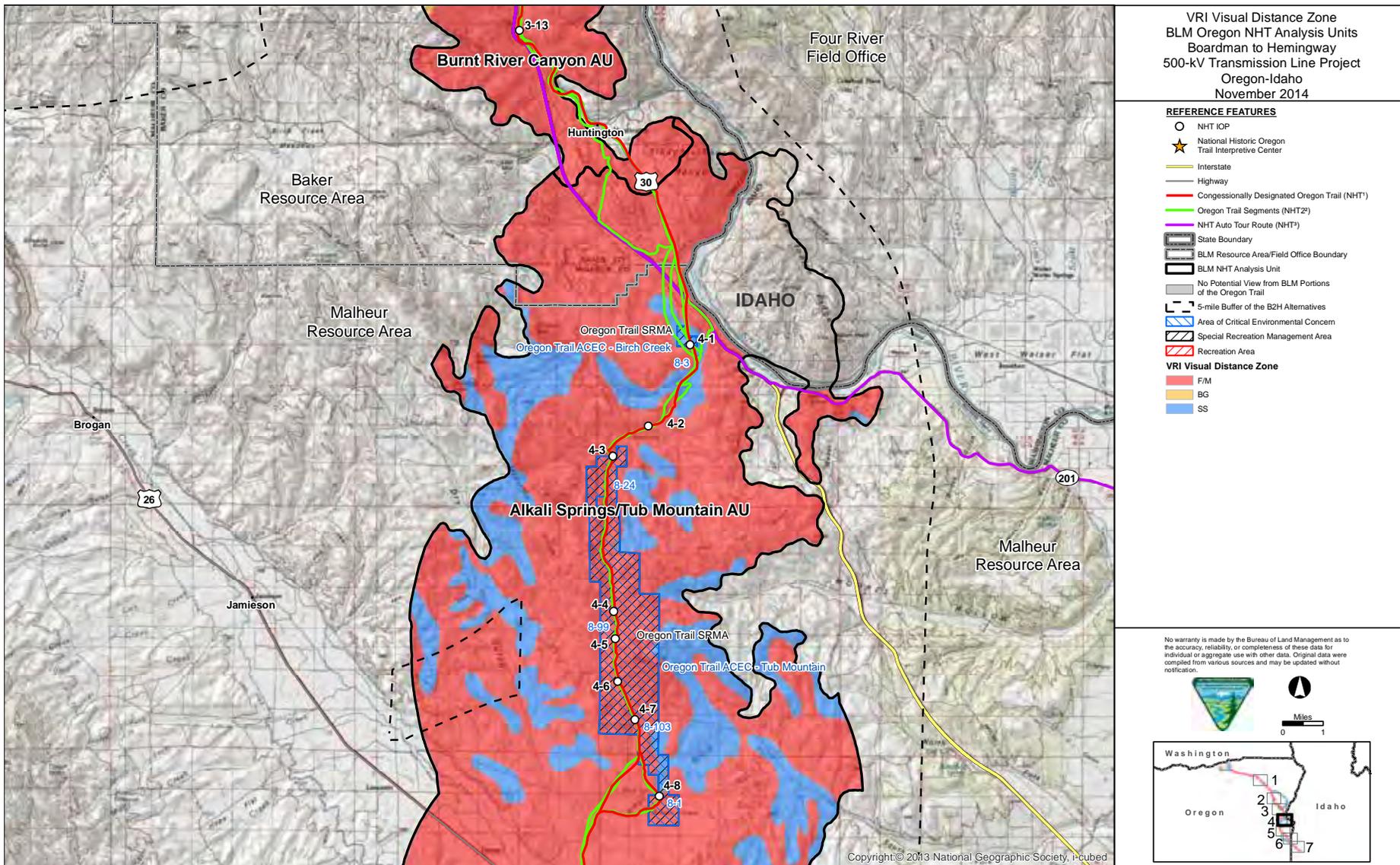
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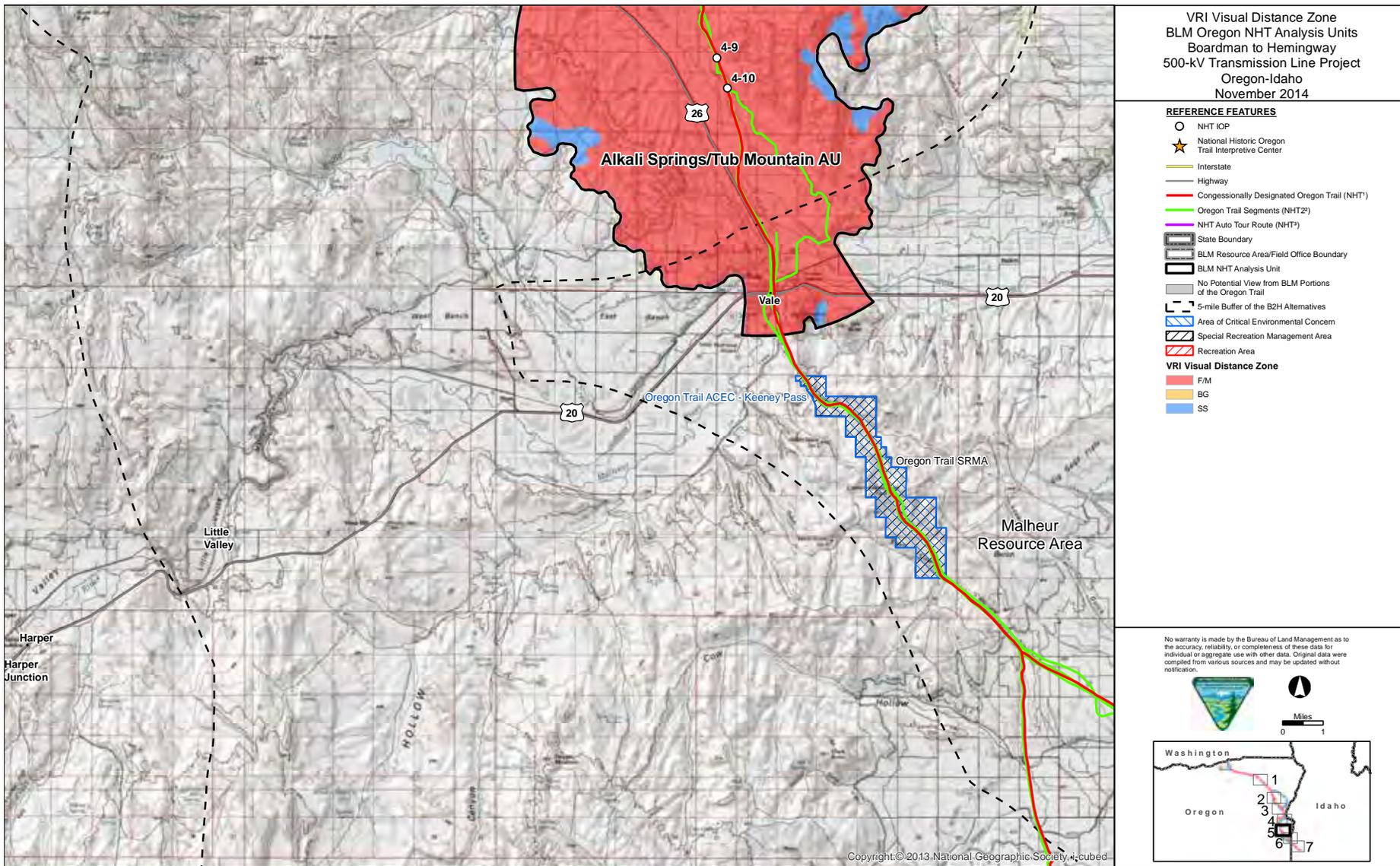
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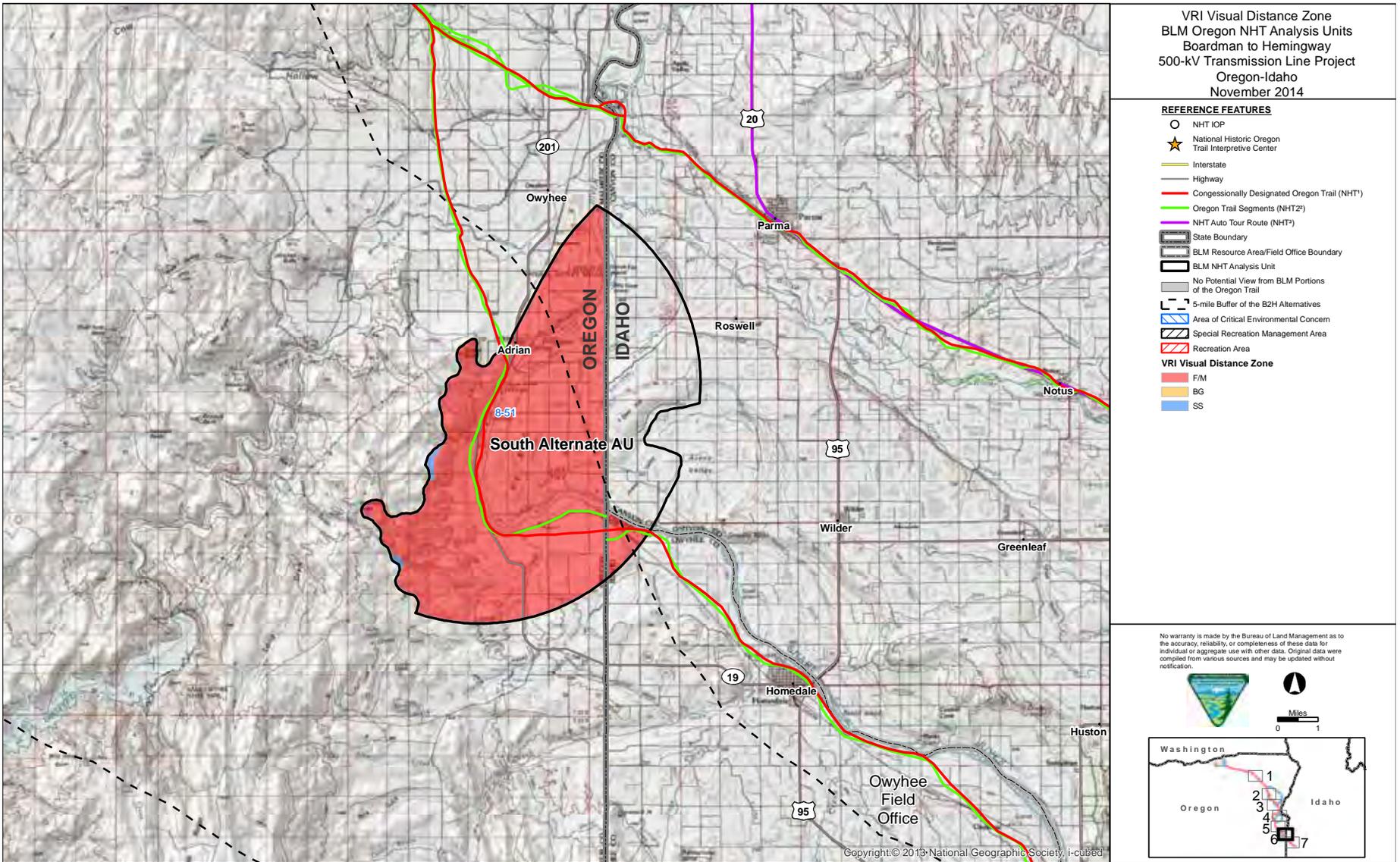
VRI Visual Distance Zone

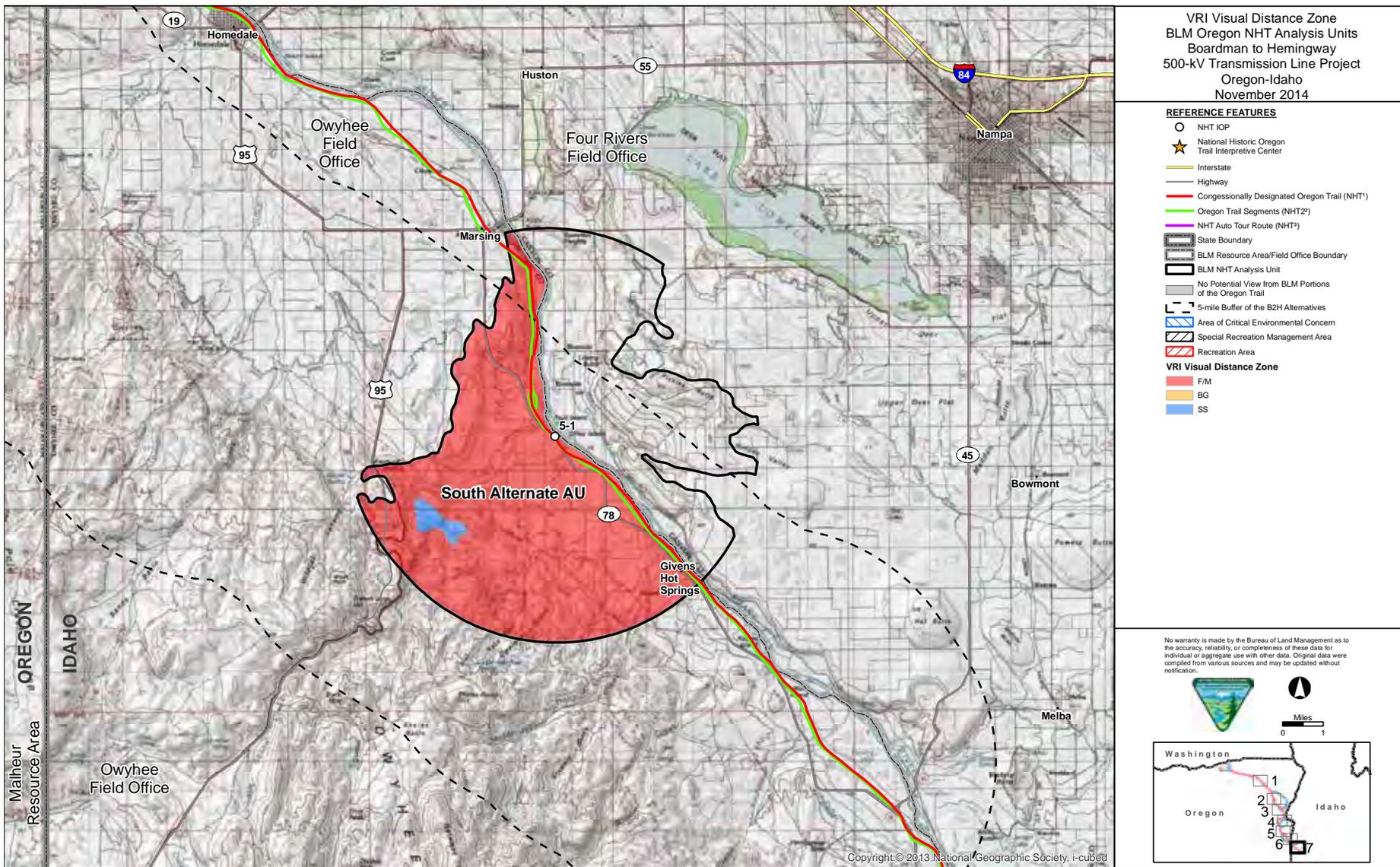
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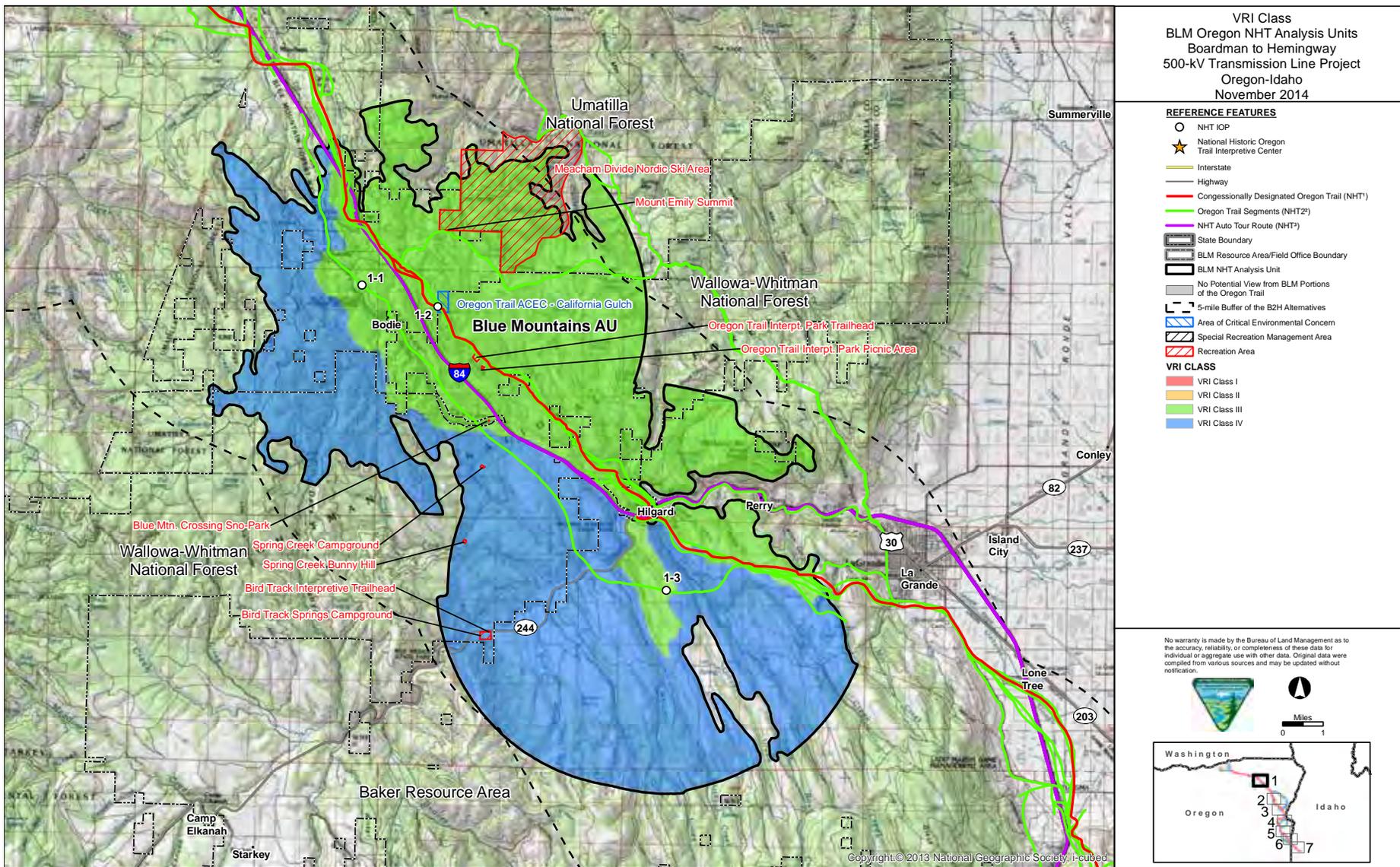
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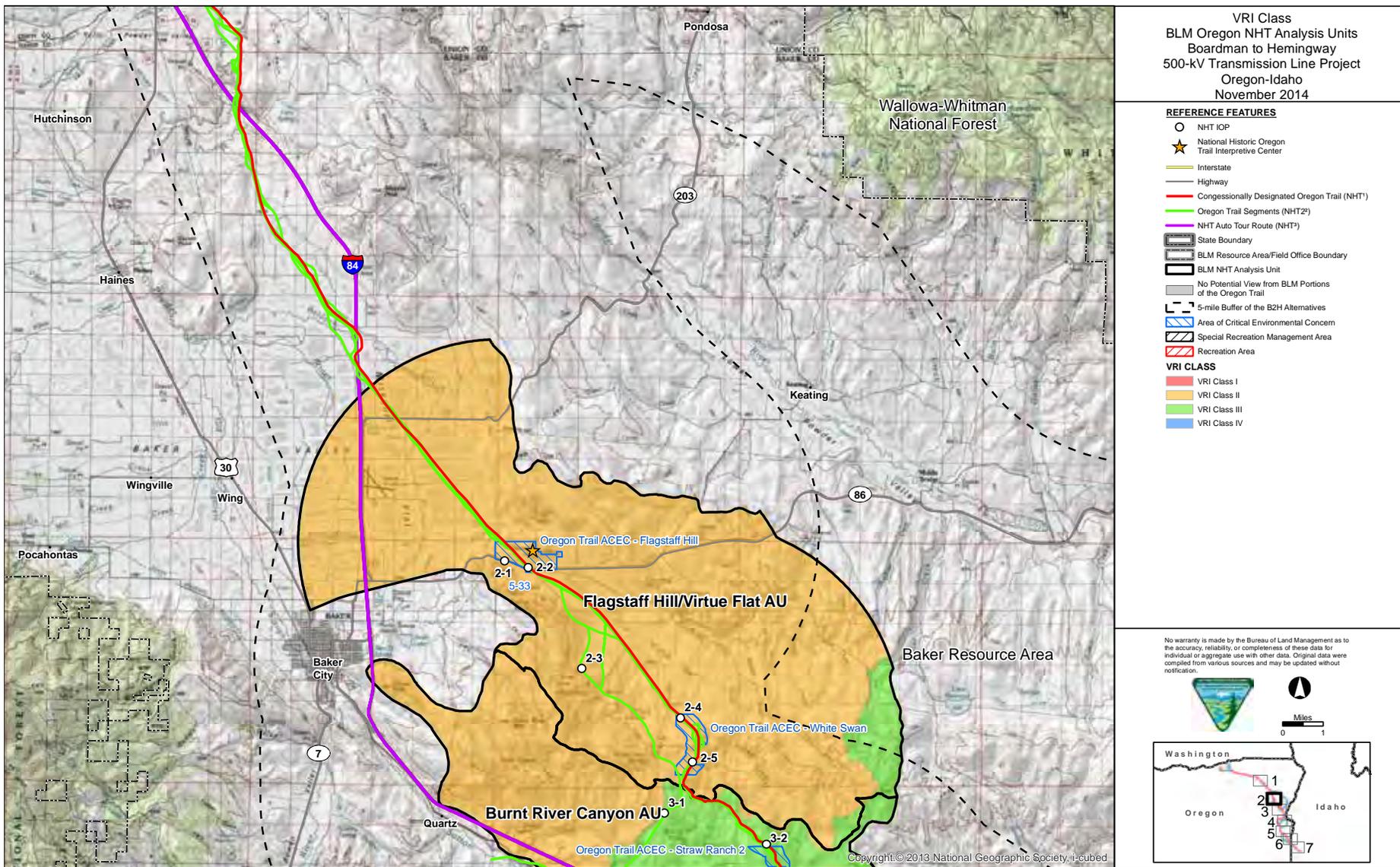


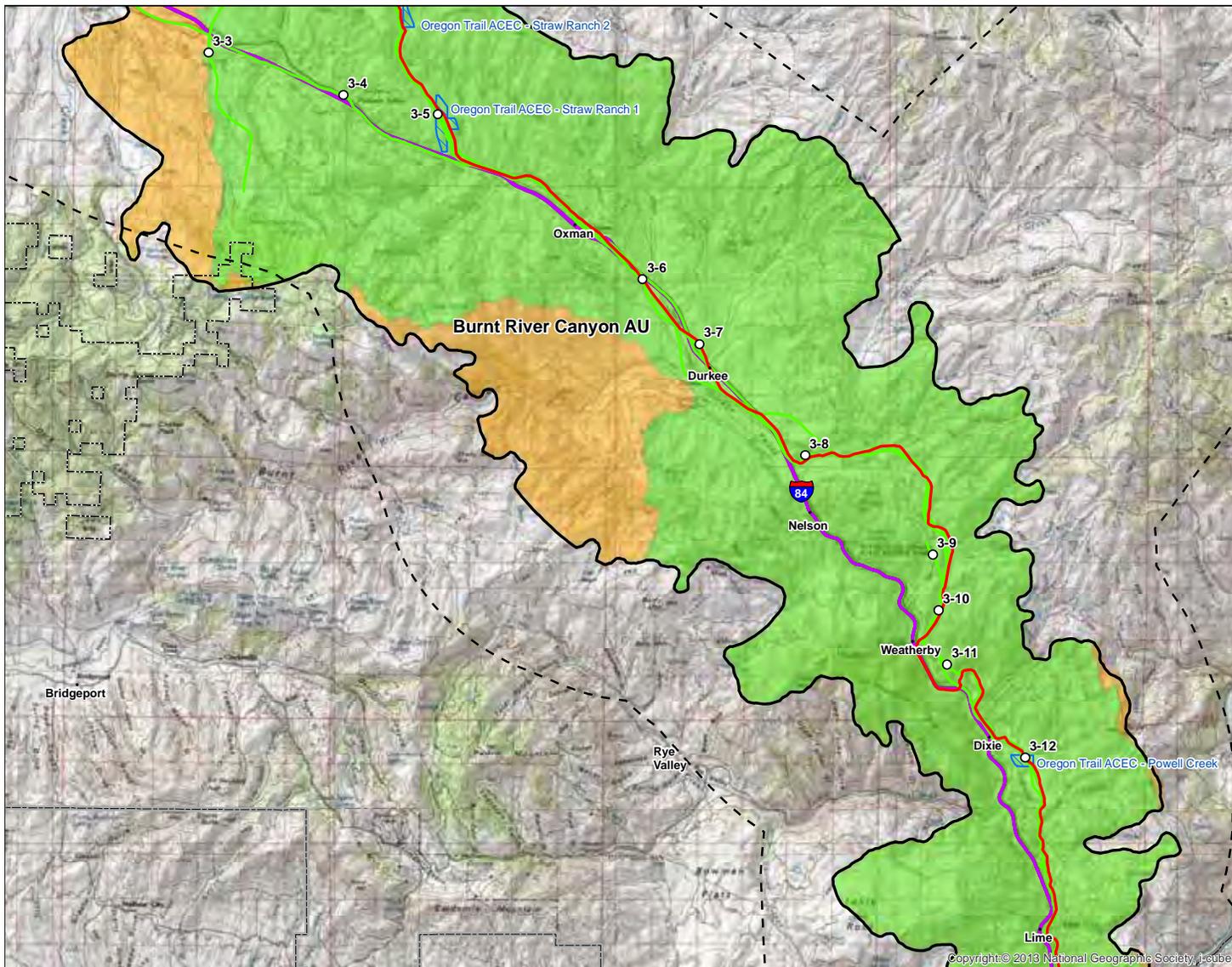








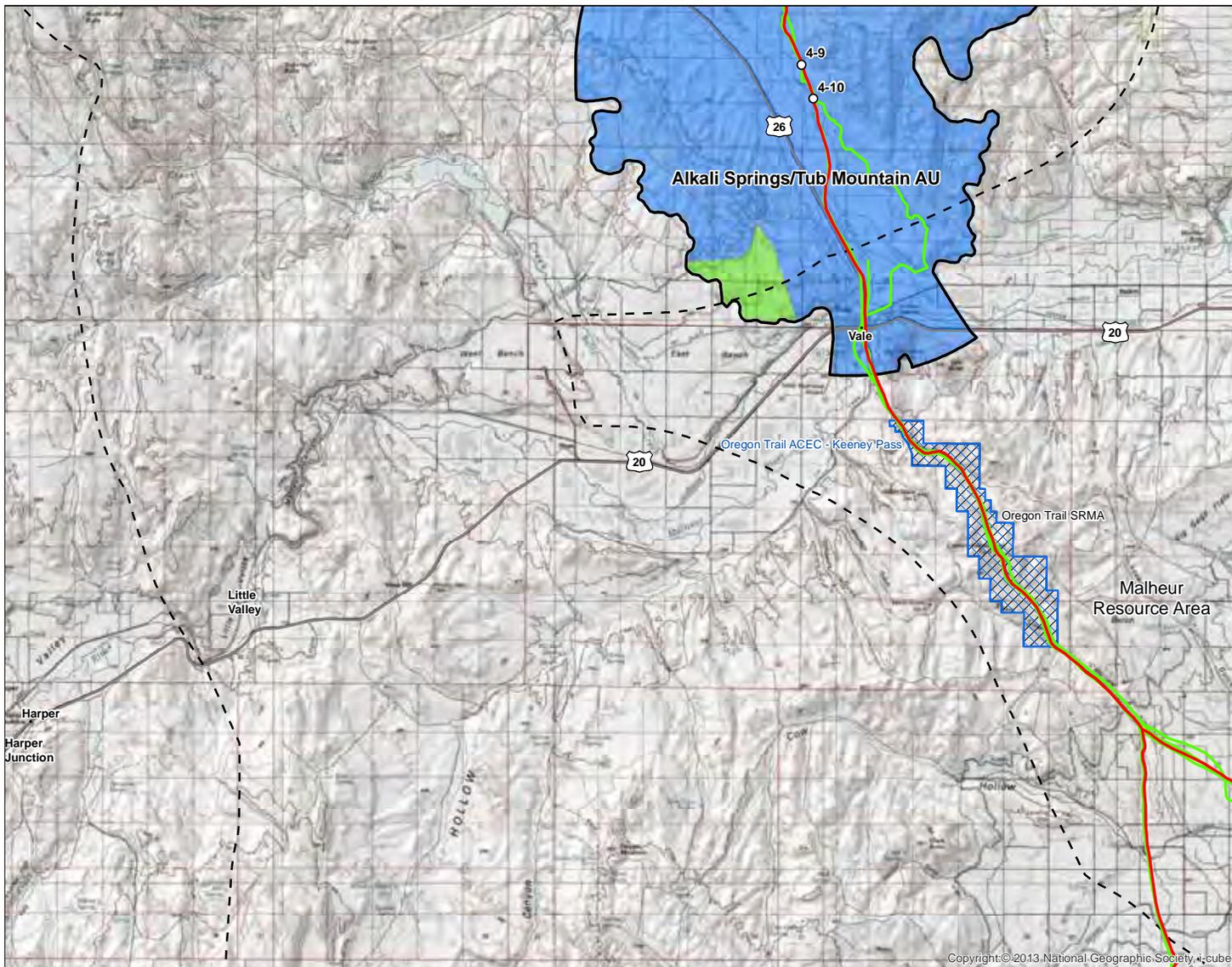




VRI Class
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 Oregon-Idaho
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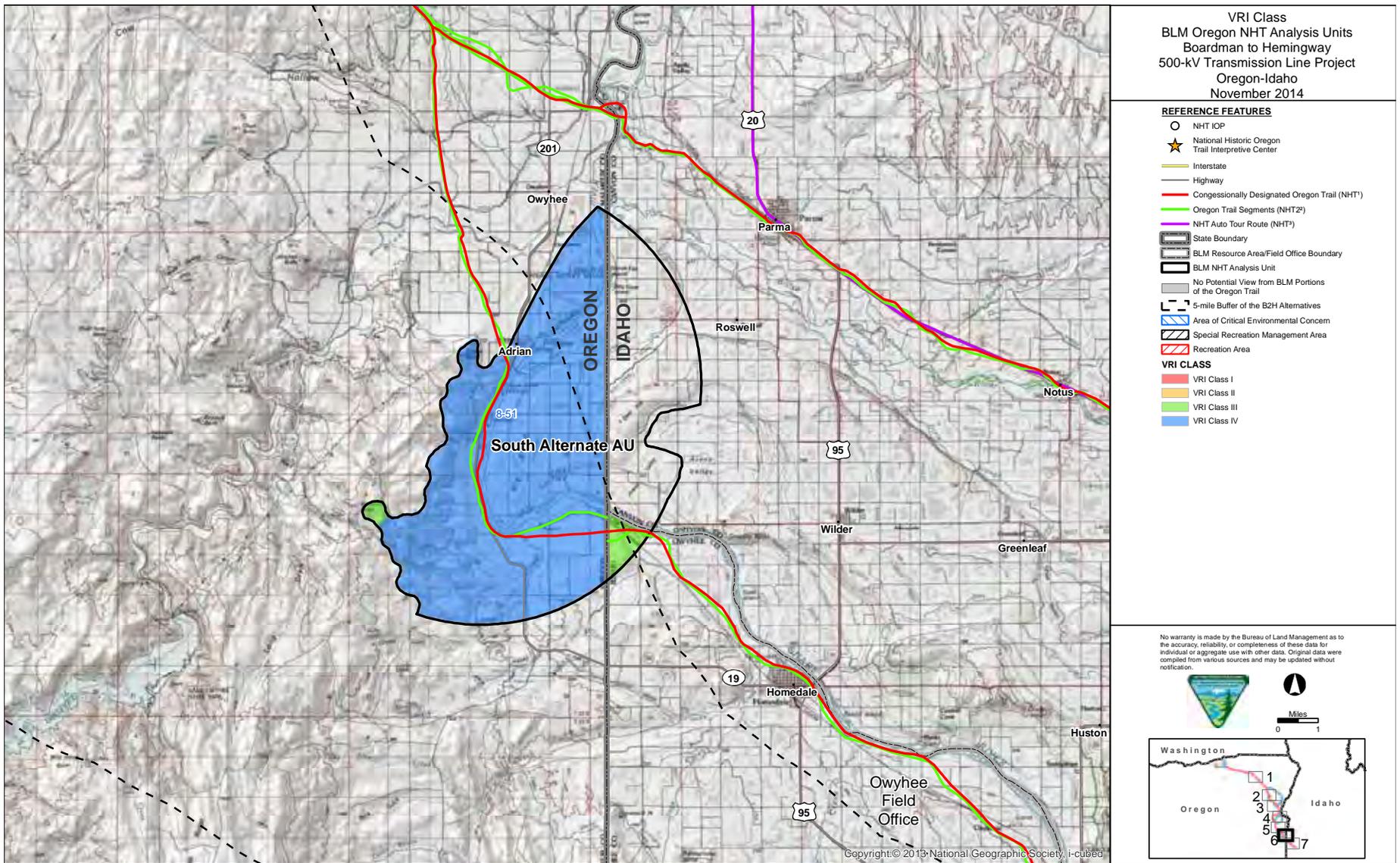
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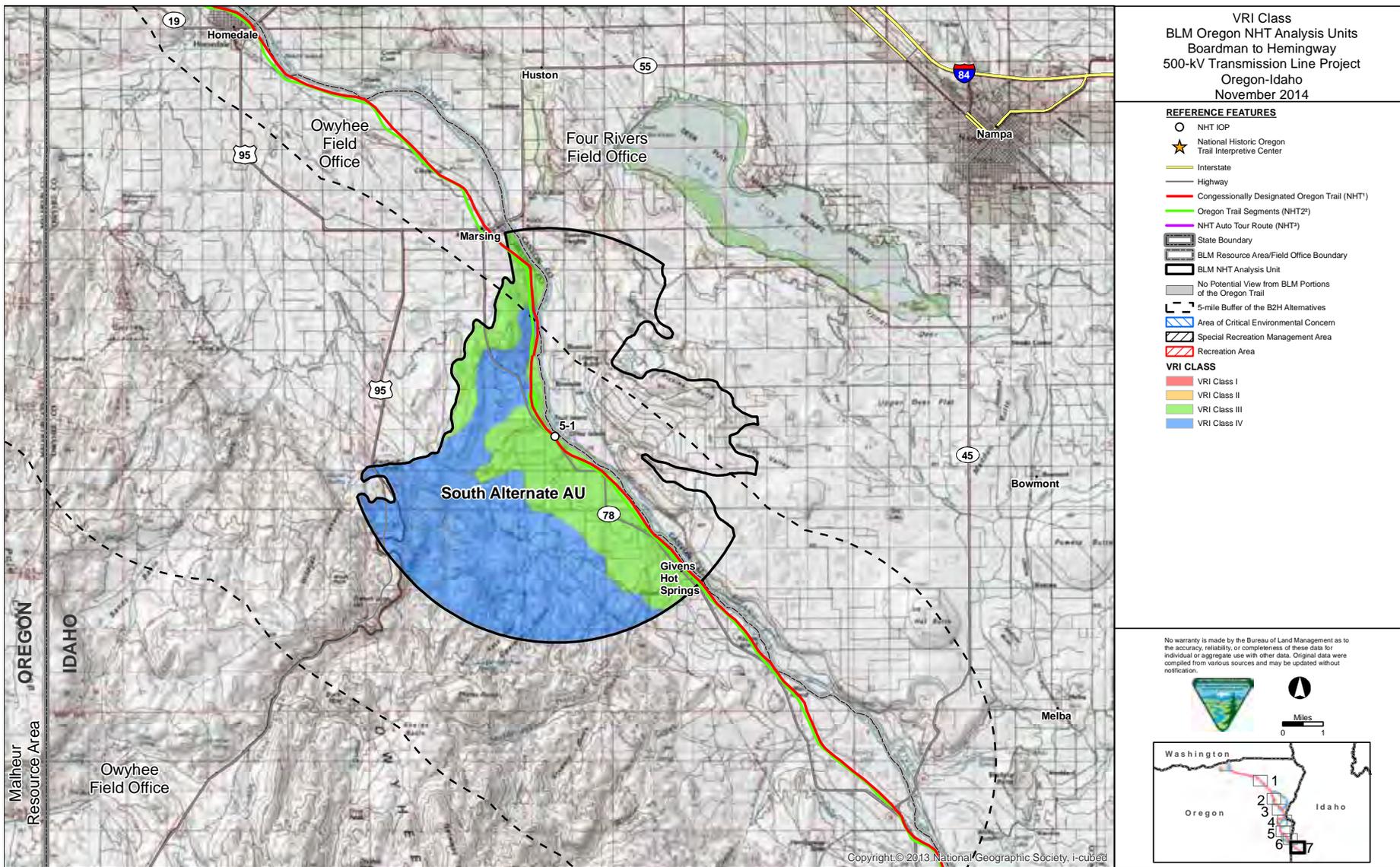
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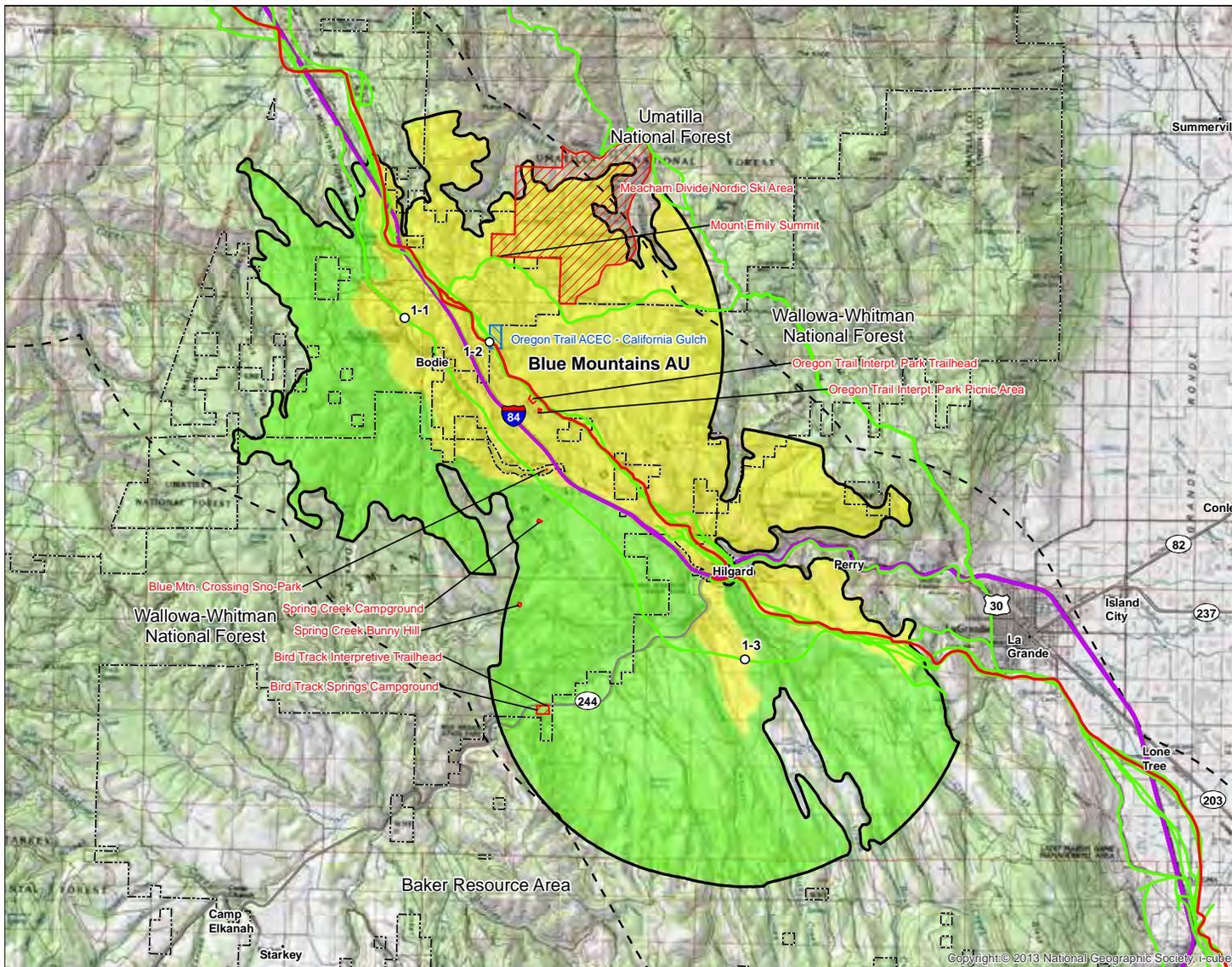
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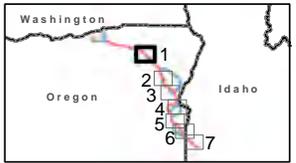


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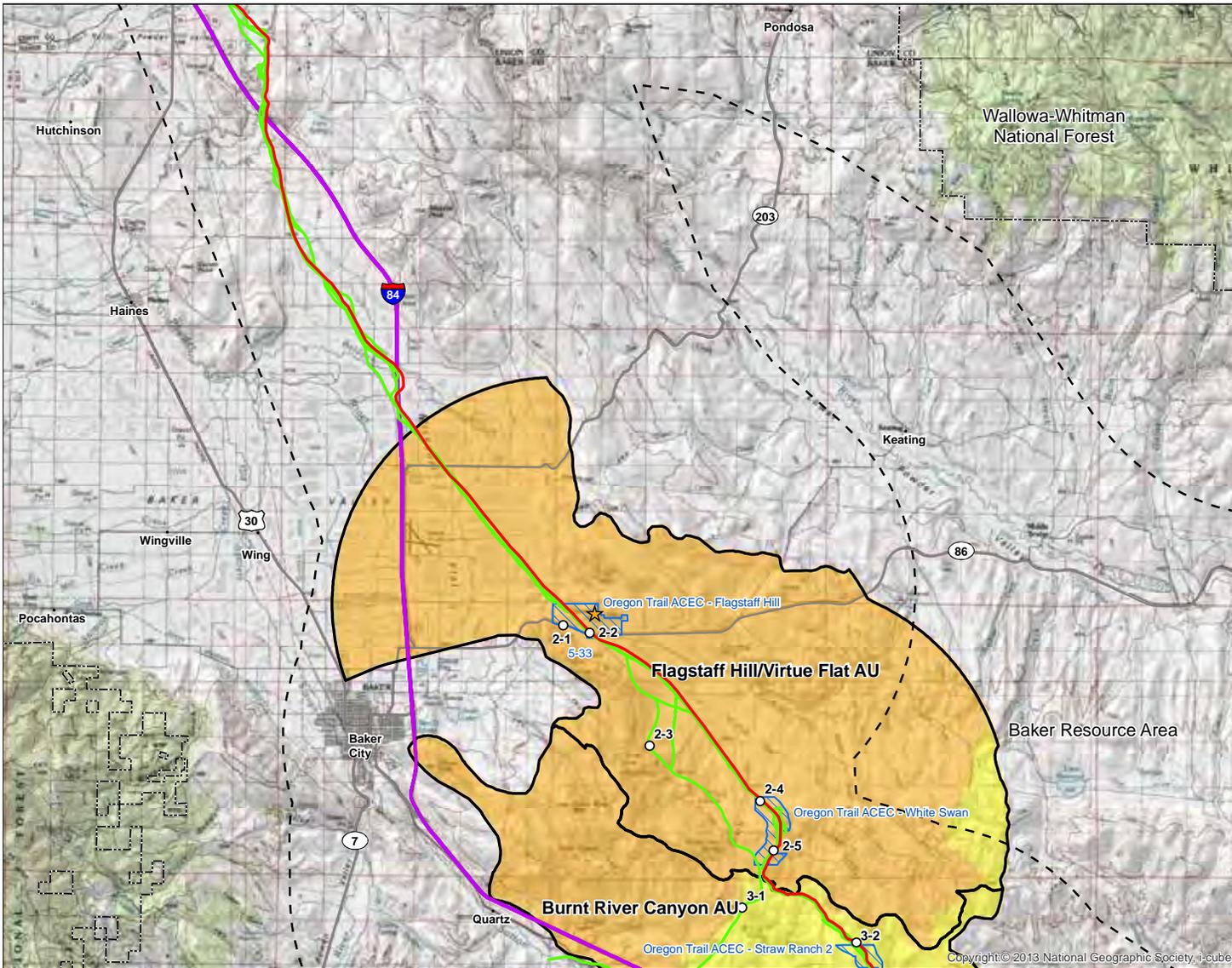
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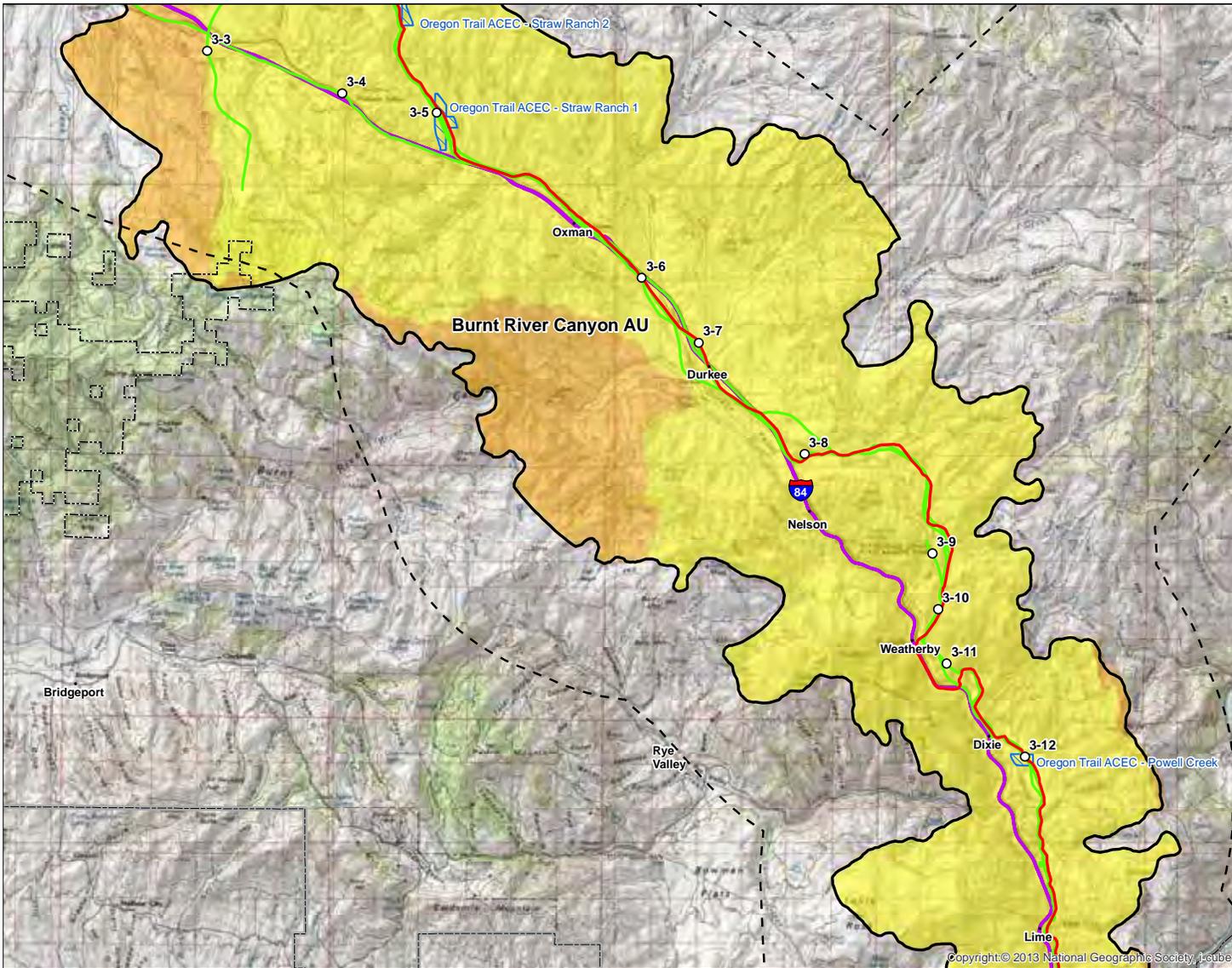
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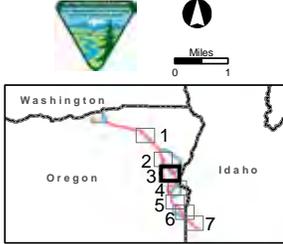
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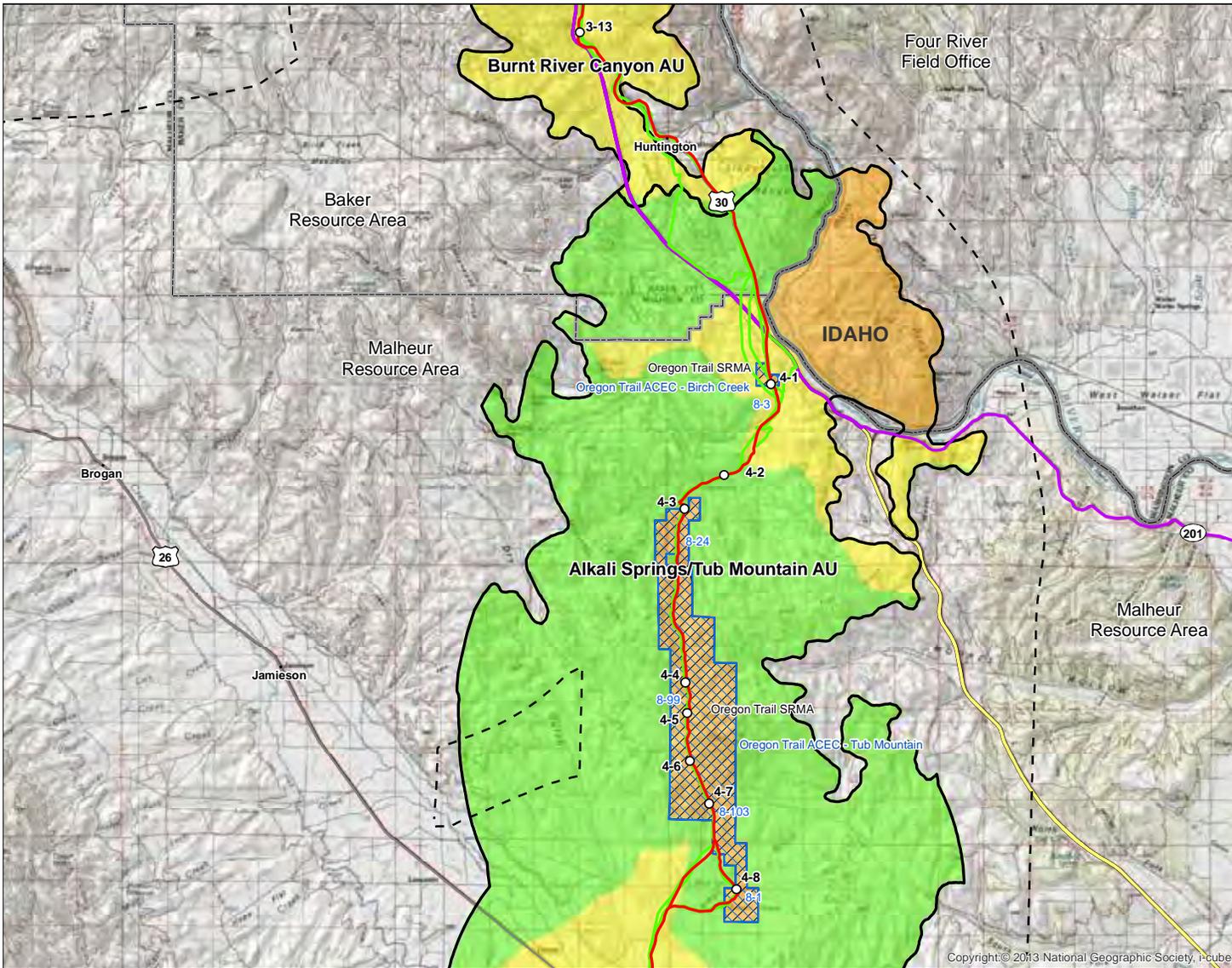
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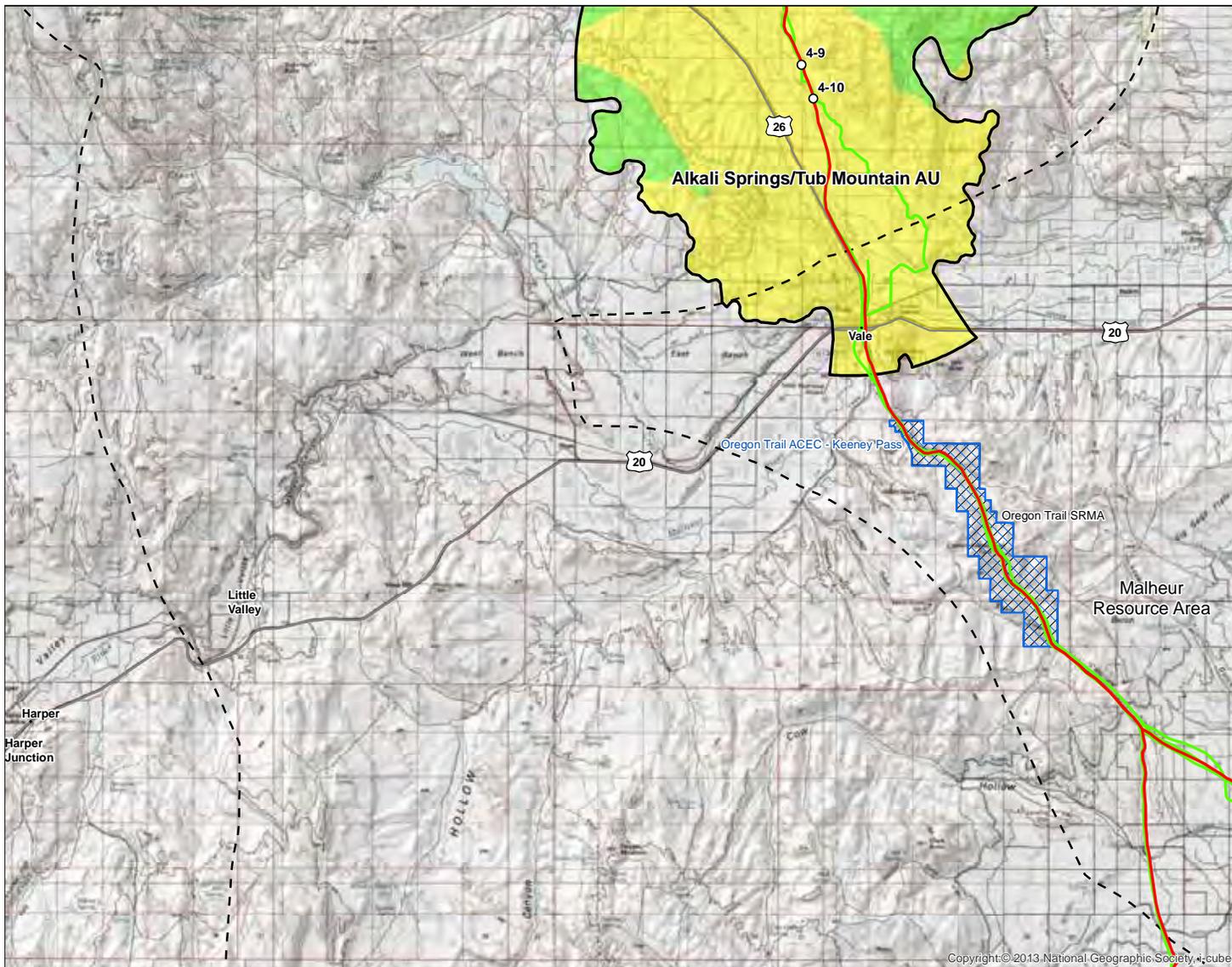
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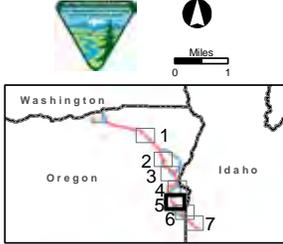
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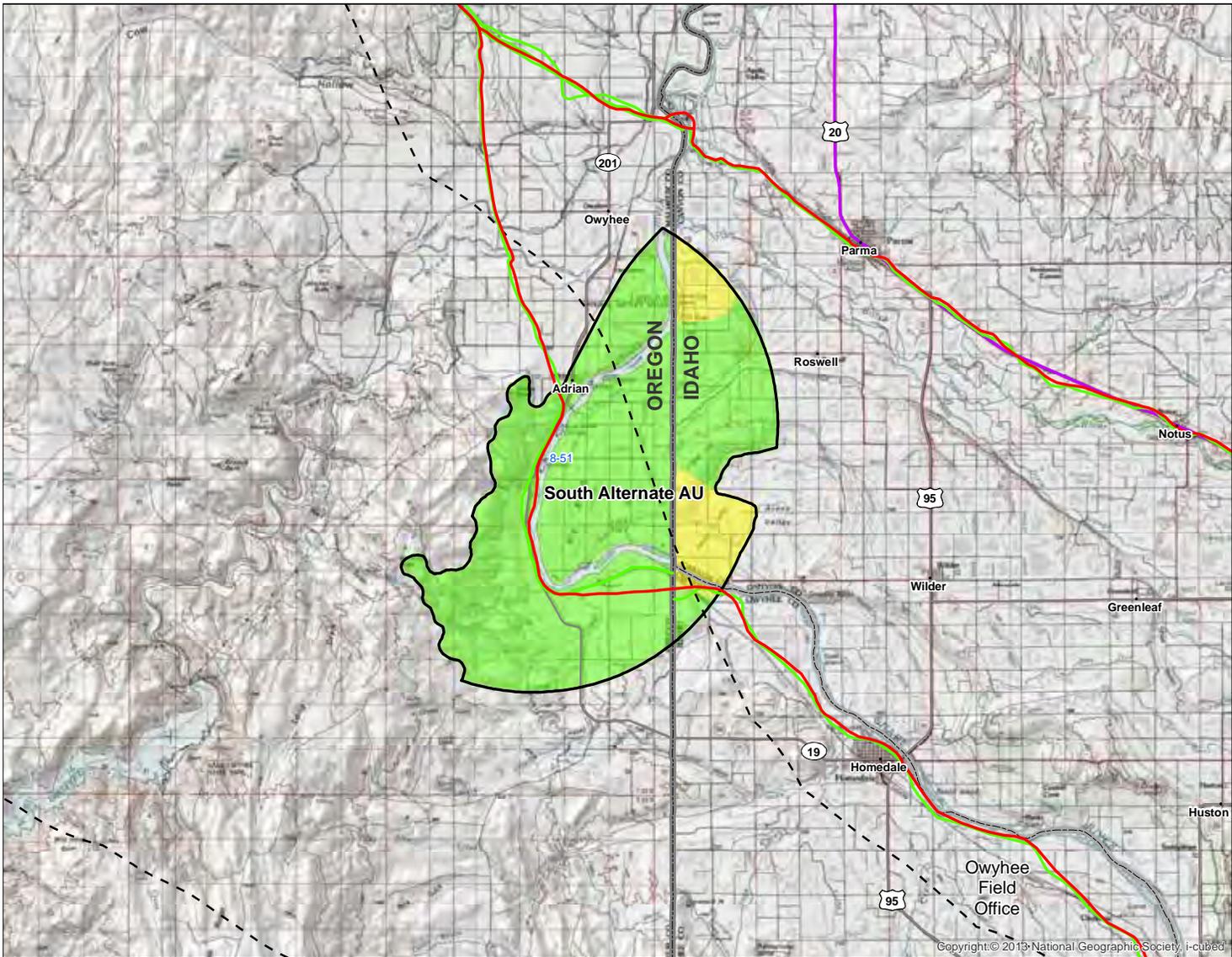
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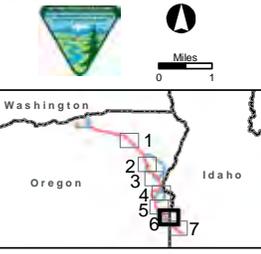
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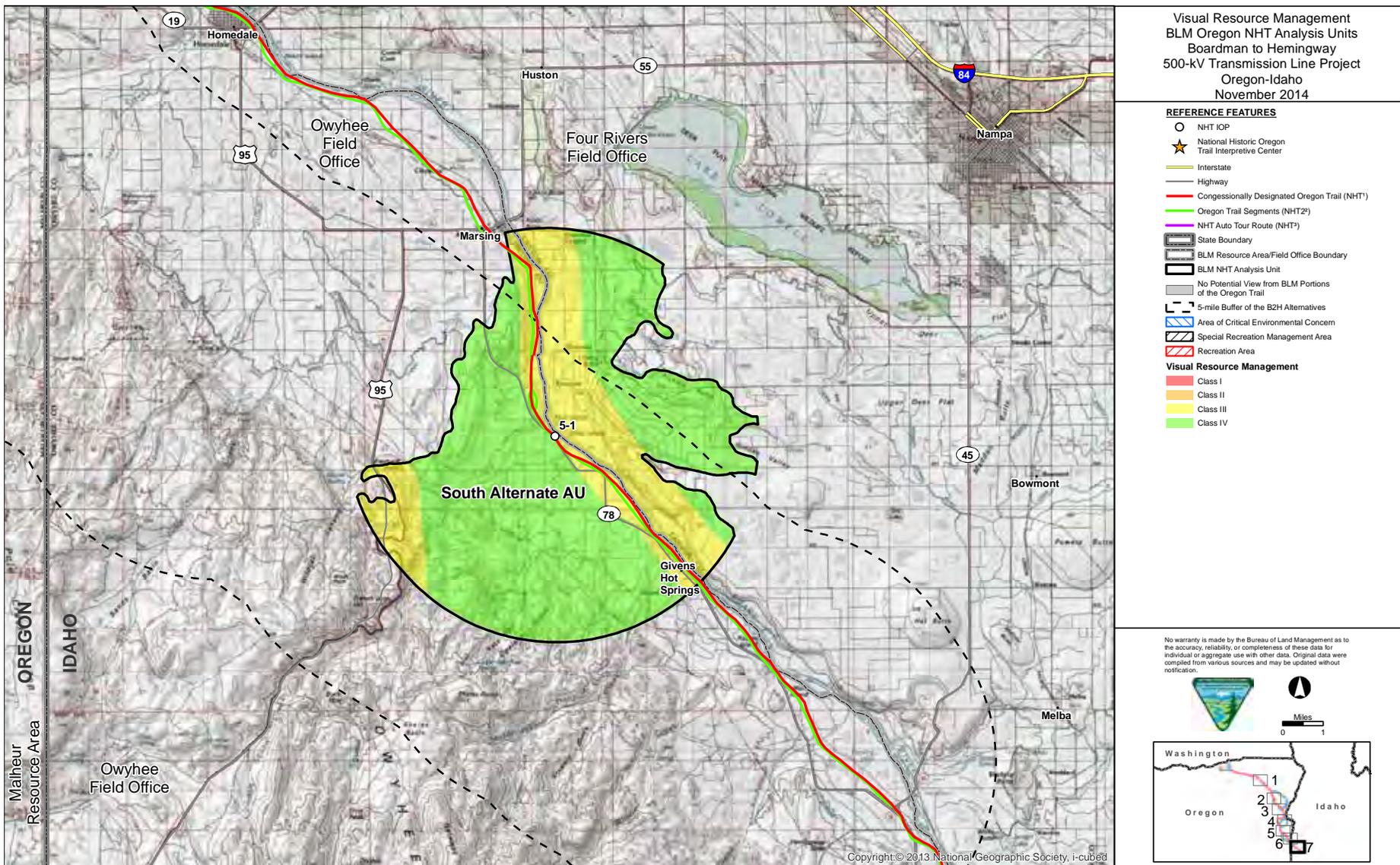


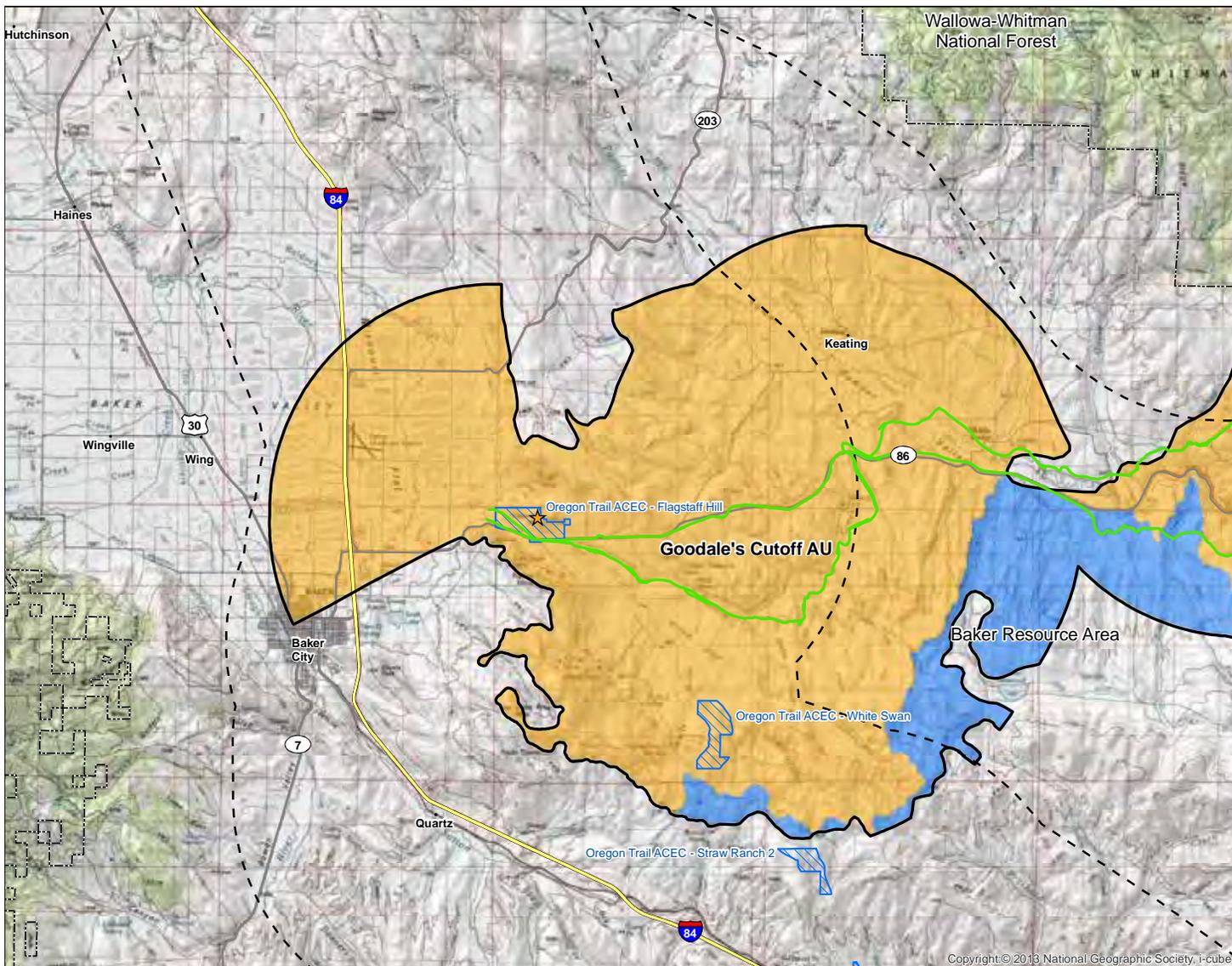
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VRI Scenic Quality
BLM Study Trails Analysis Units
Boardman to Hemingway
500-kV Transmission Line Project
Oregon-Idaho
November 2014

REFERENCE FEATURES

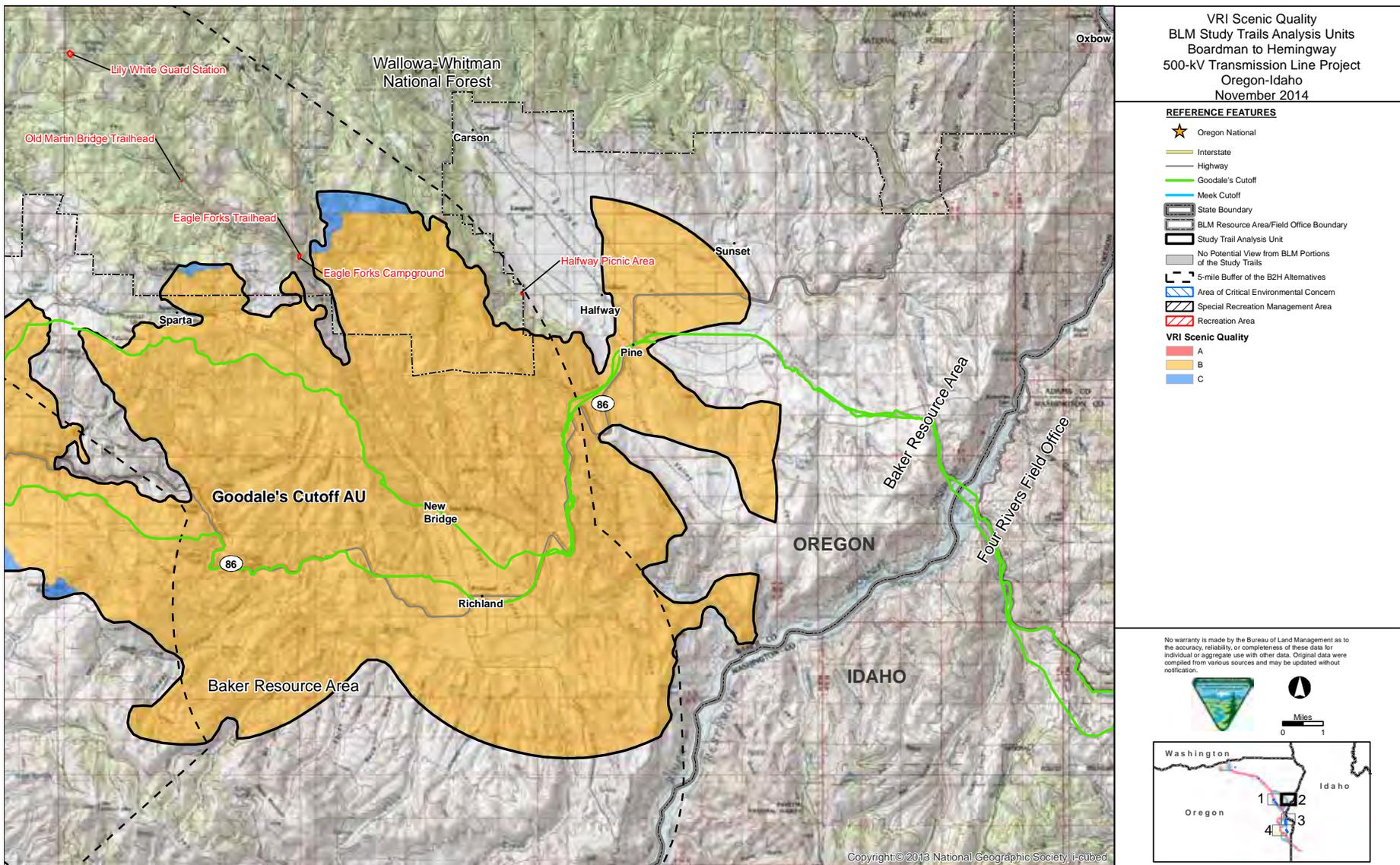
- ★ Oregon National
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- Highway
- Goodale's Cutoff
- Meek Cutoff
- State Boundary
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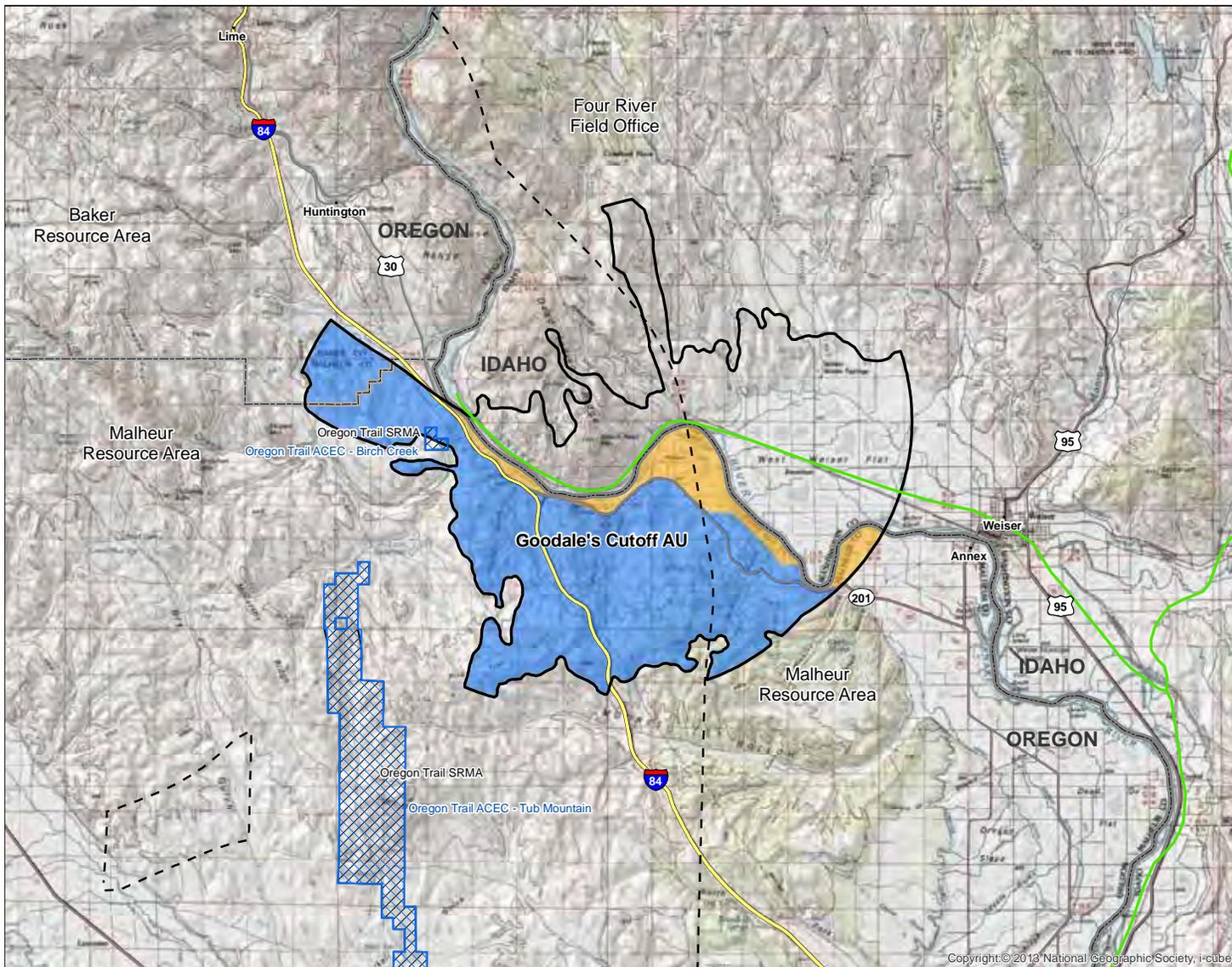
VRI Scenic Quality

- A
- B
- C

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VRI Scenic Quality
 BLM Study Trails Analysis Units
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 500-kV Transmission Line Project
 Oregon-Idaho
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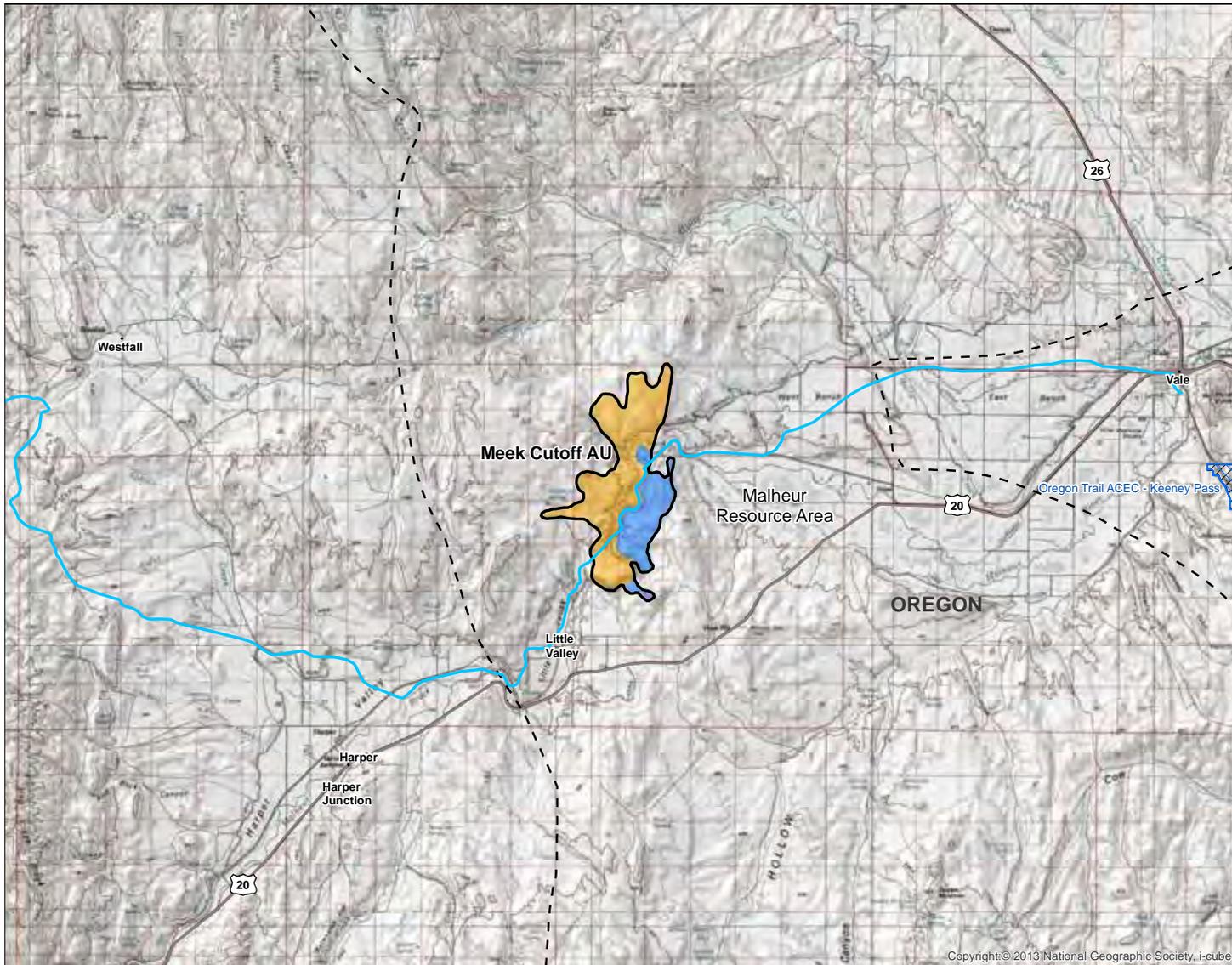


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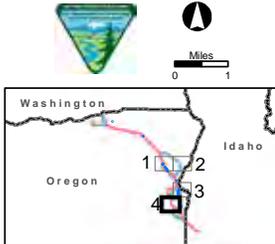
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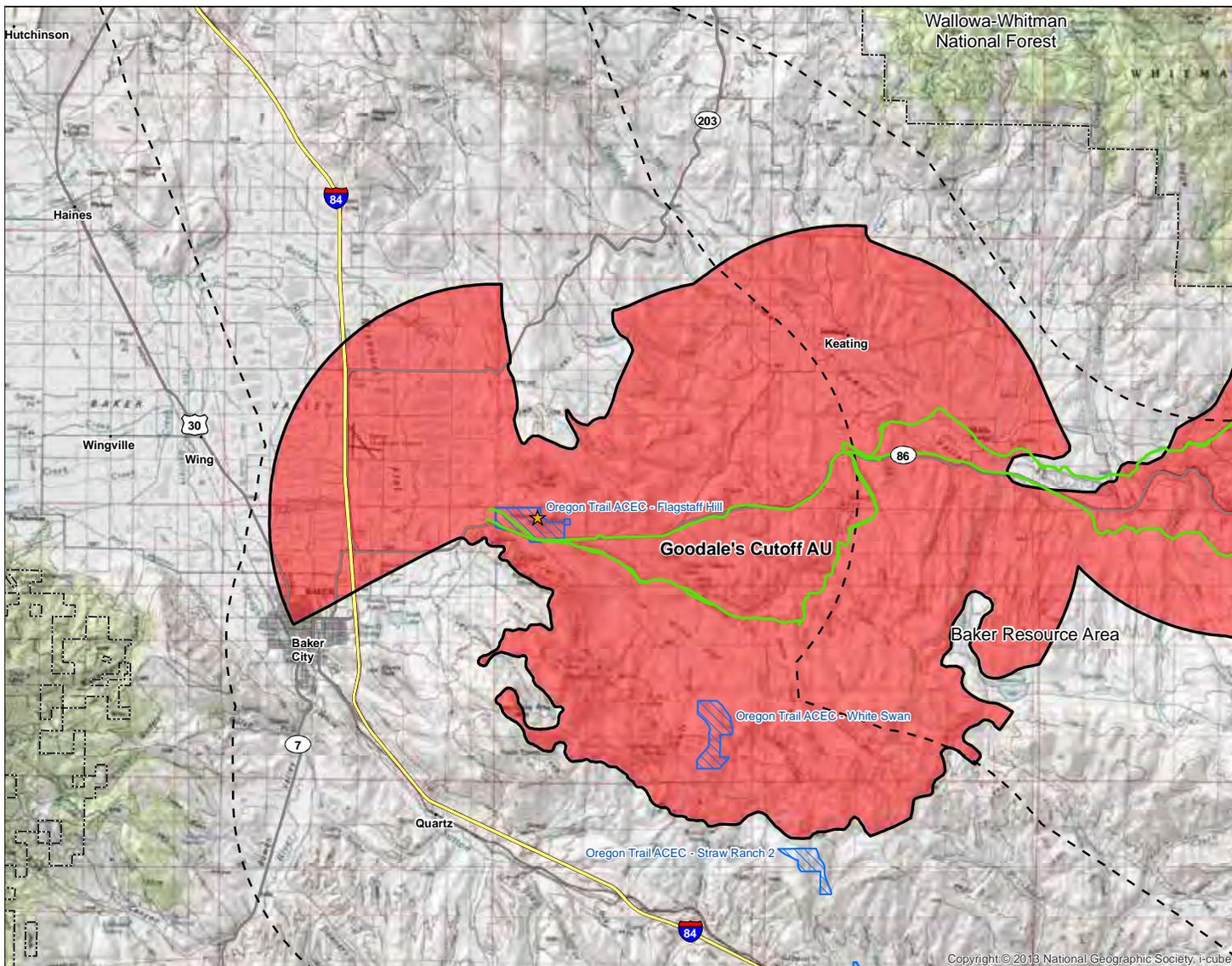
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**VRI Sensitivity
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Oregon-Idaho
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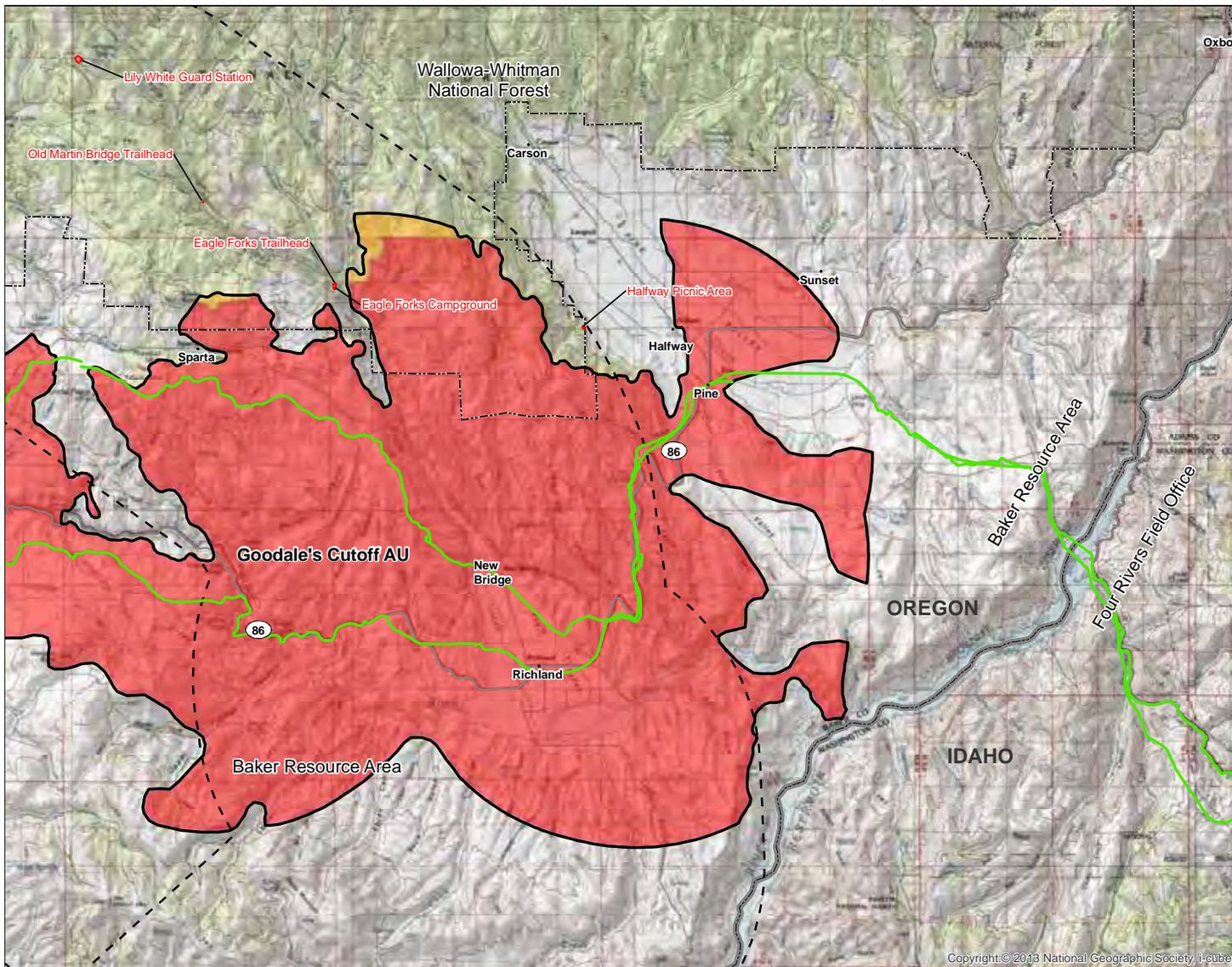
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VRI Sensitivity

- High
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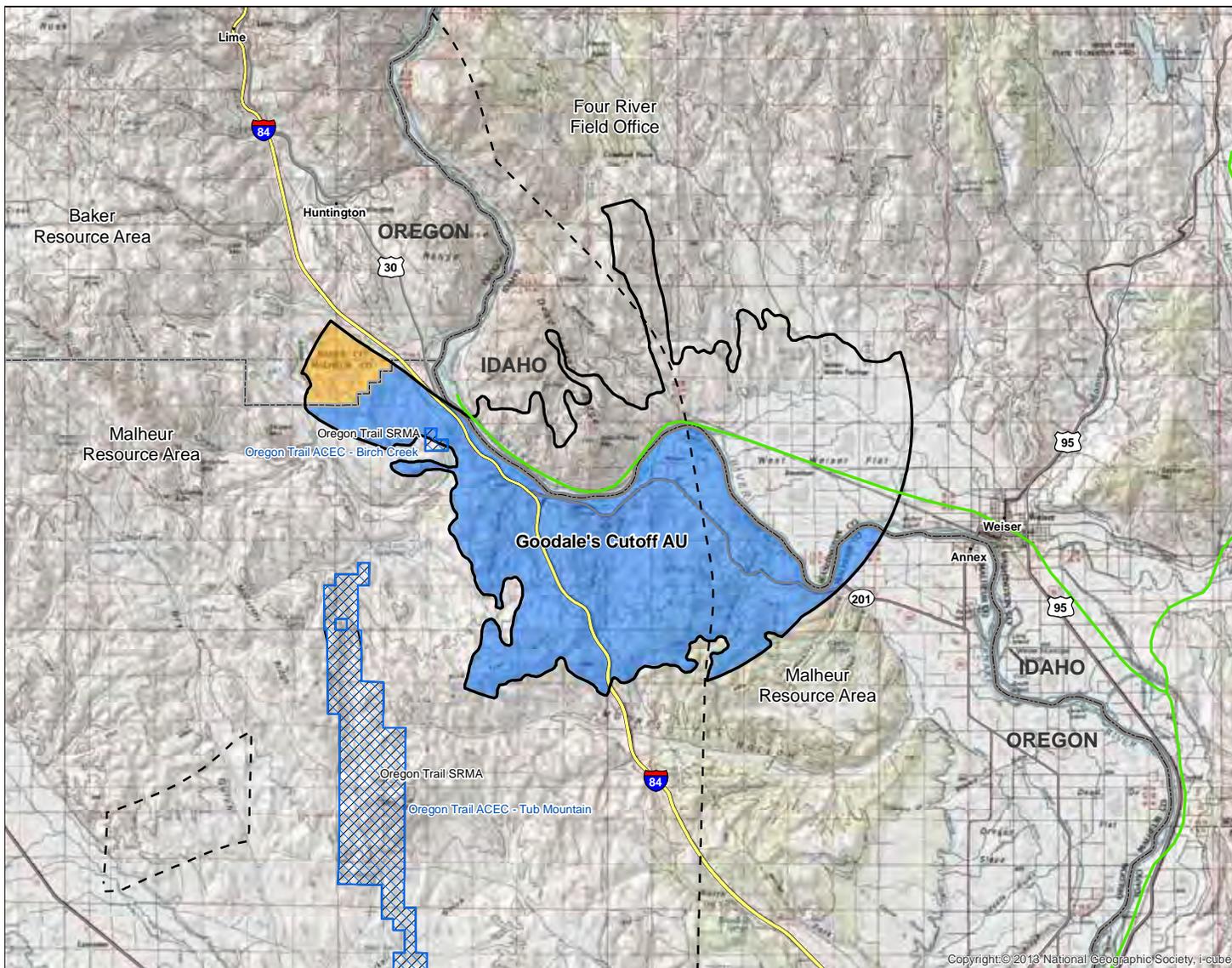
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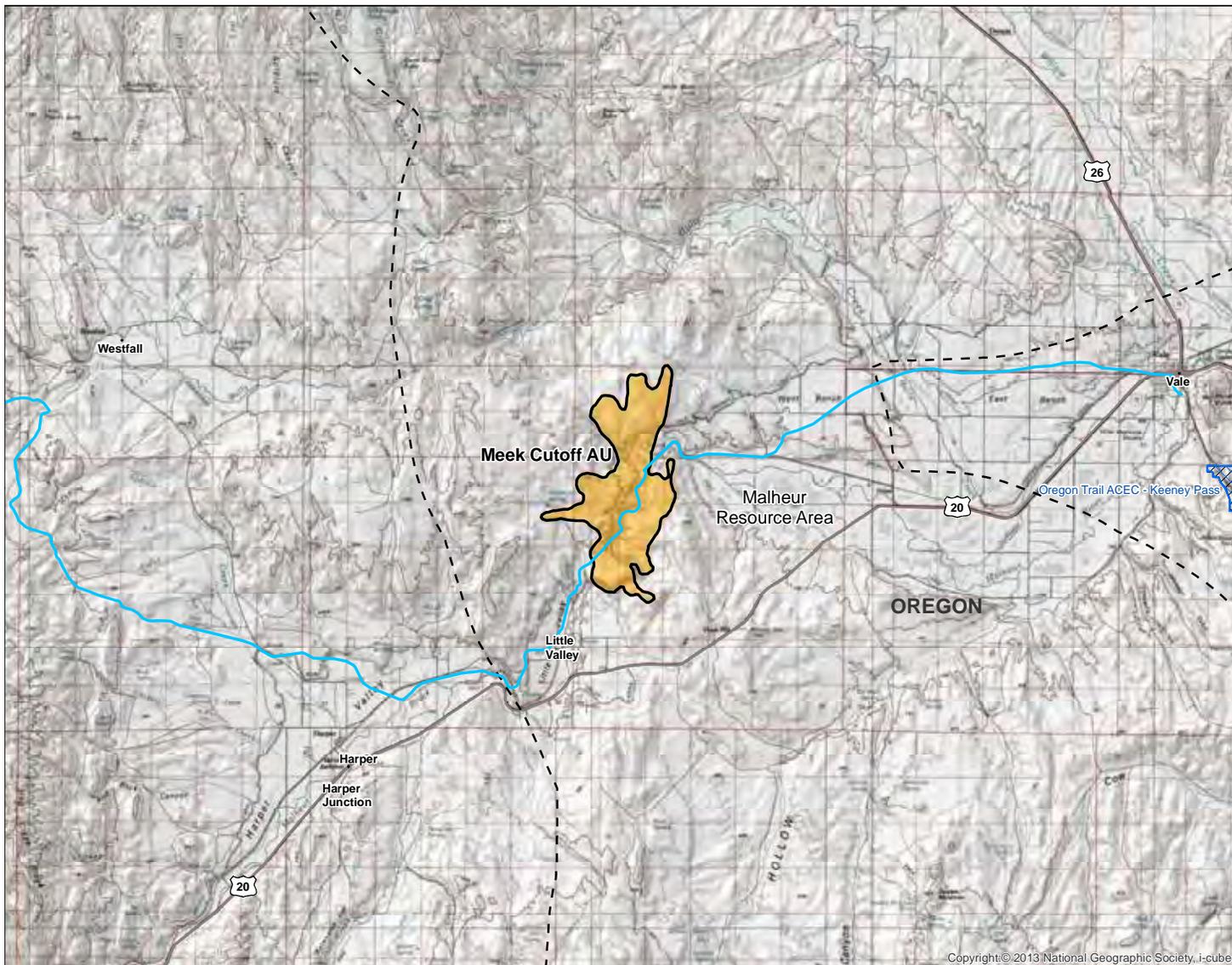
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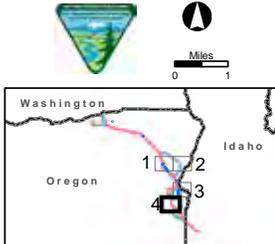
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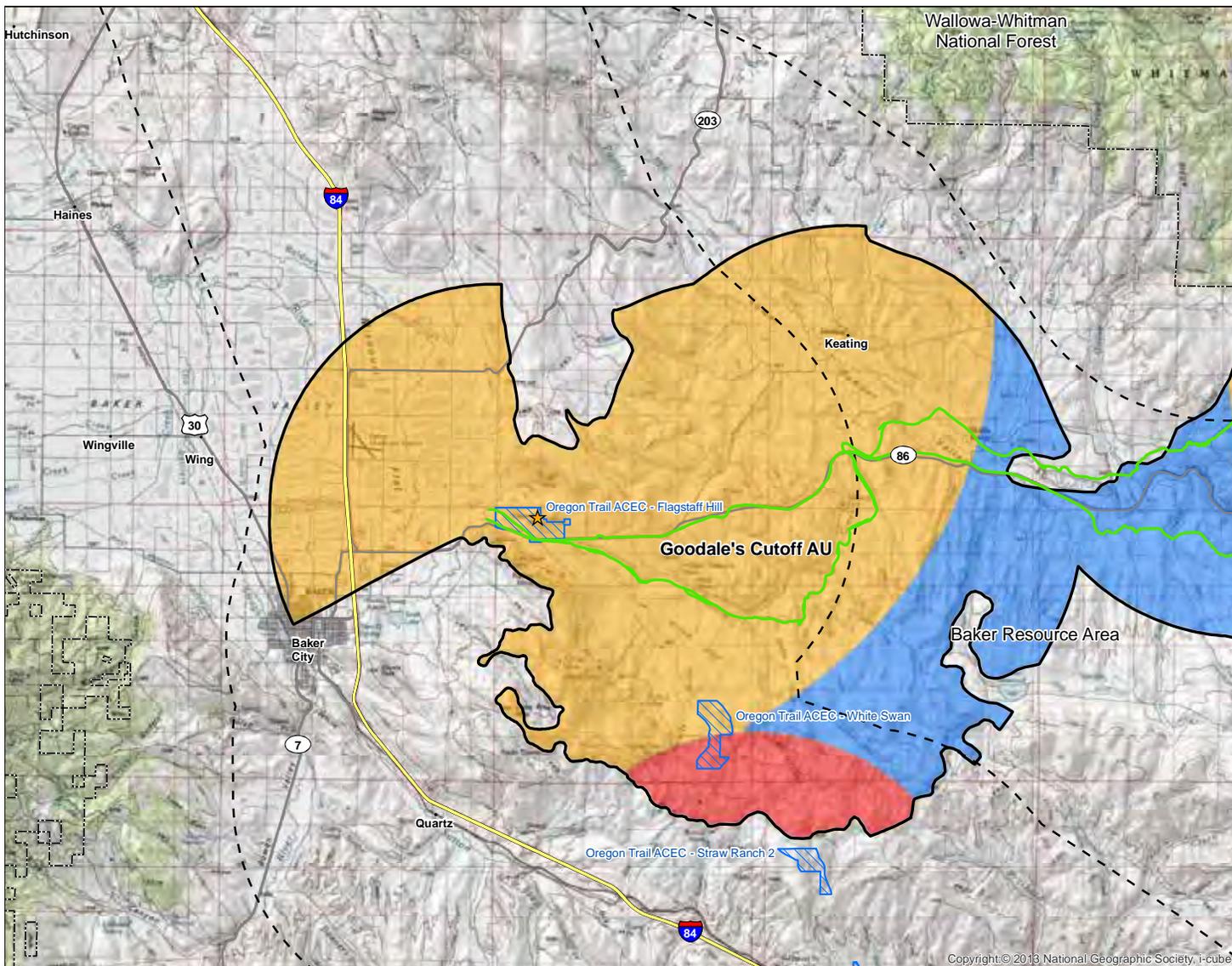
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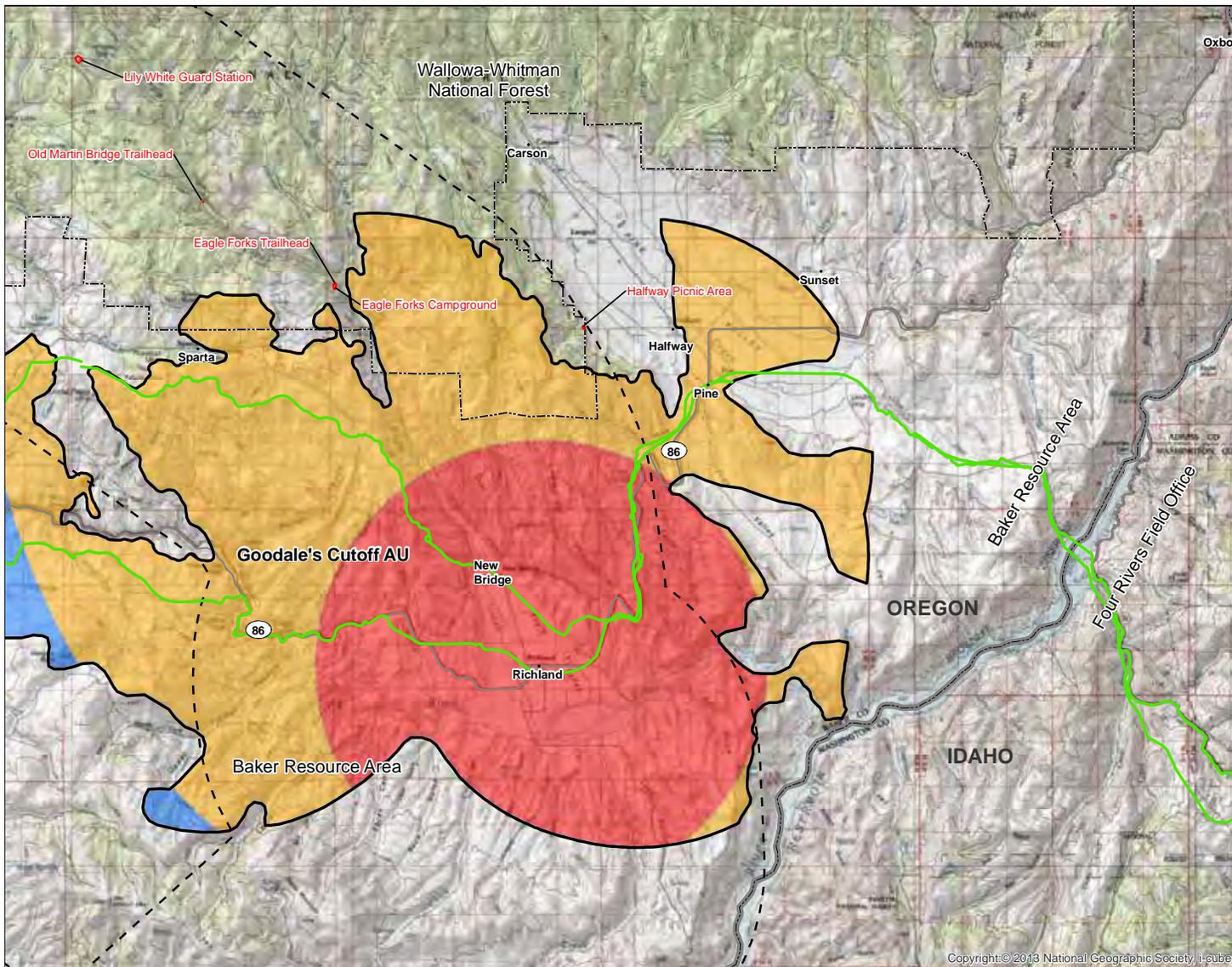
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- Recreation Area

VRI Visual Distance Zone

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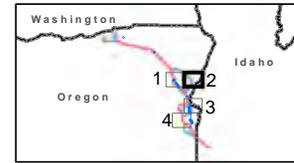
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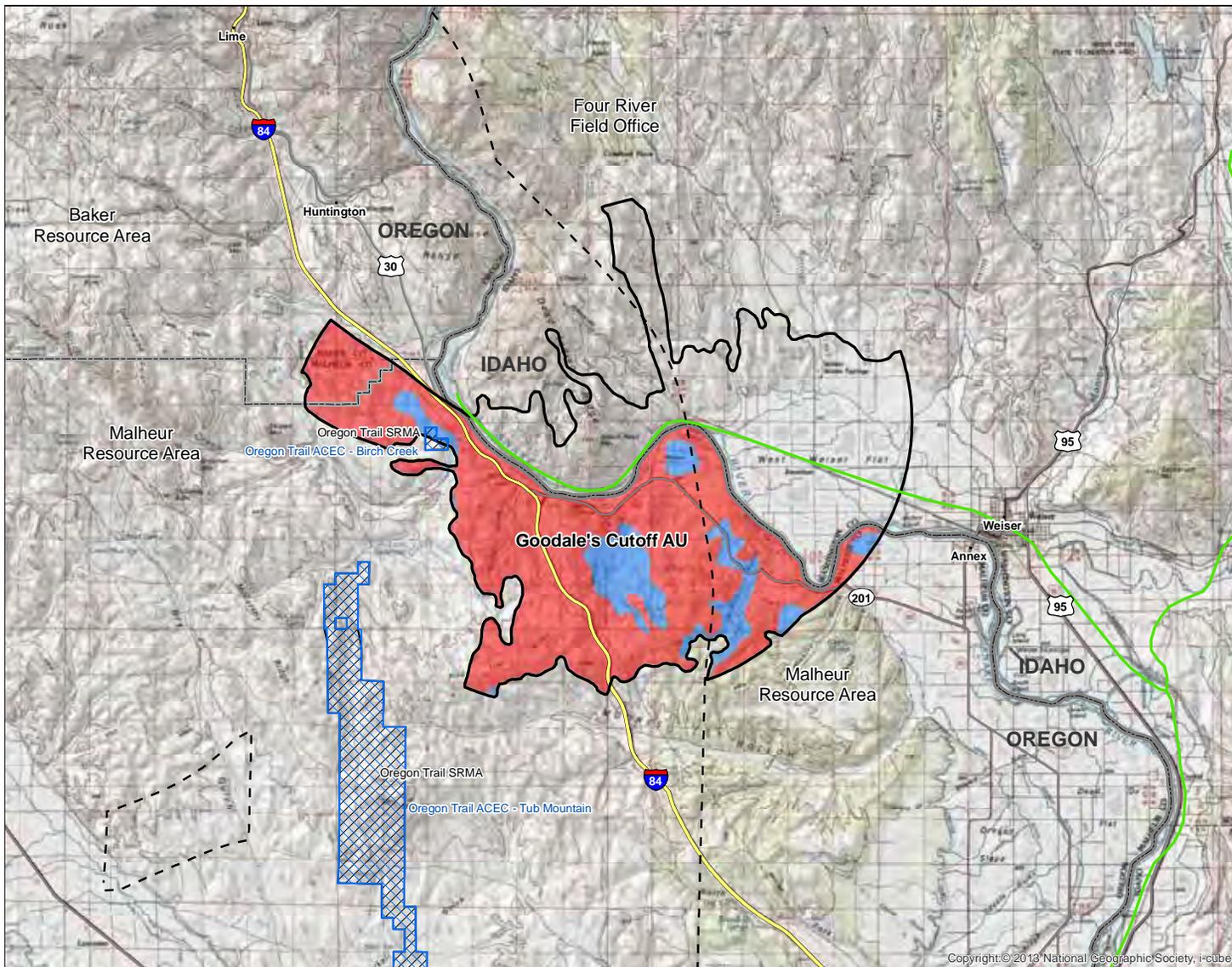
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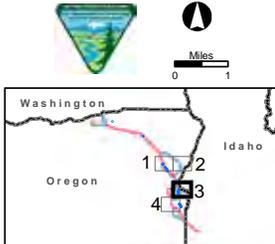


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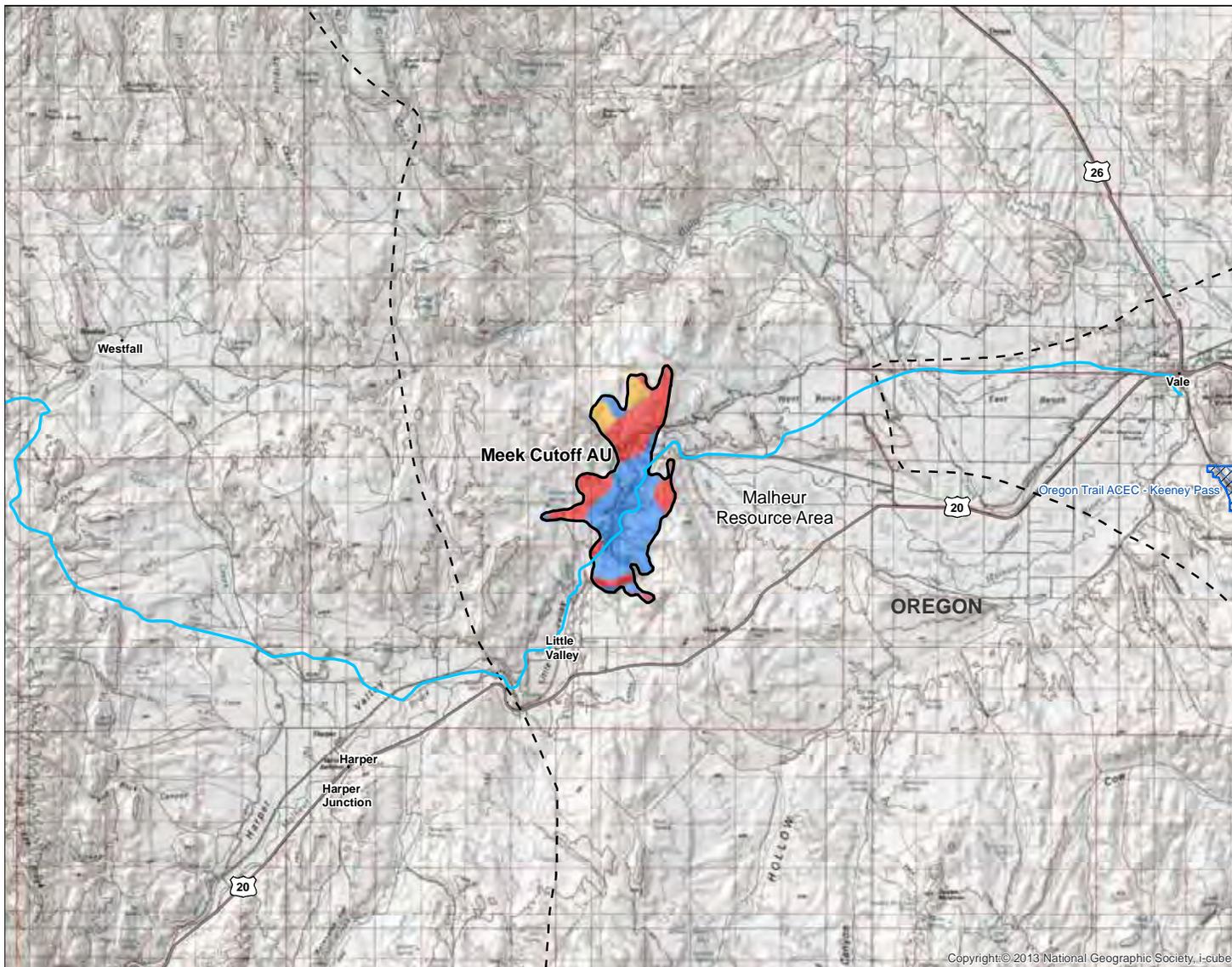
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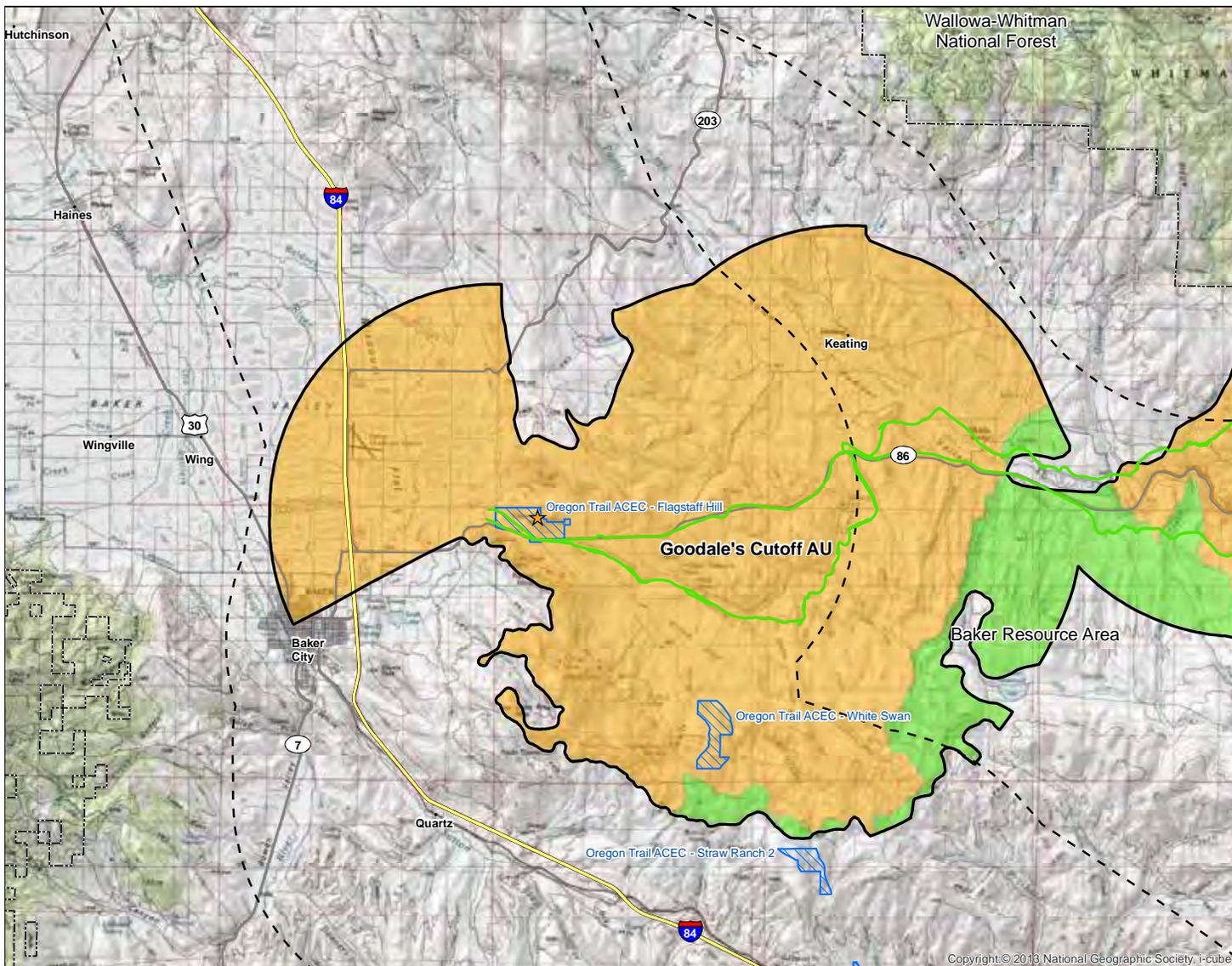
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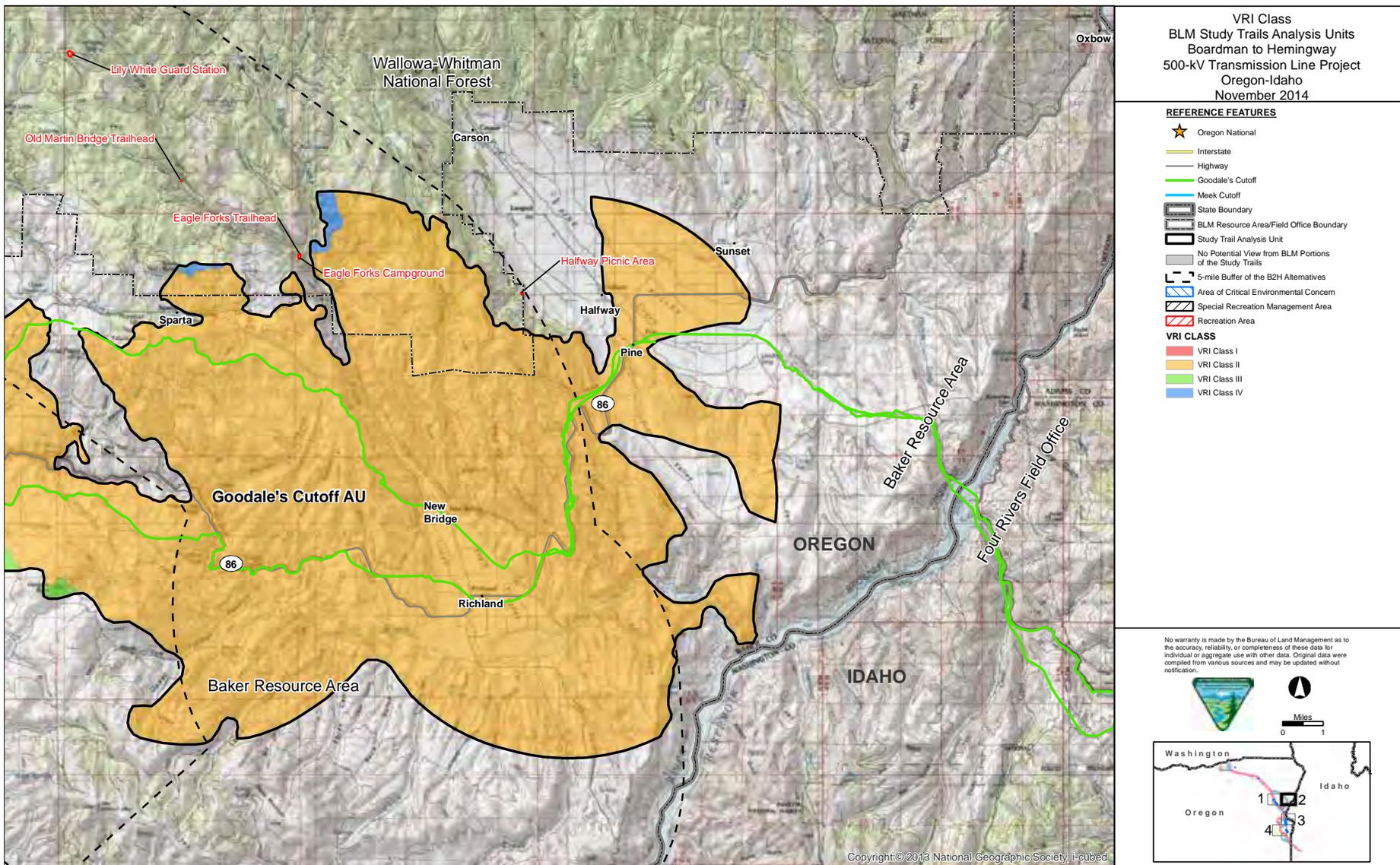
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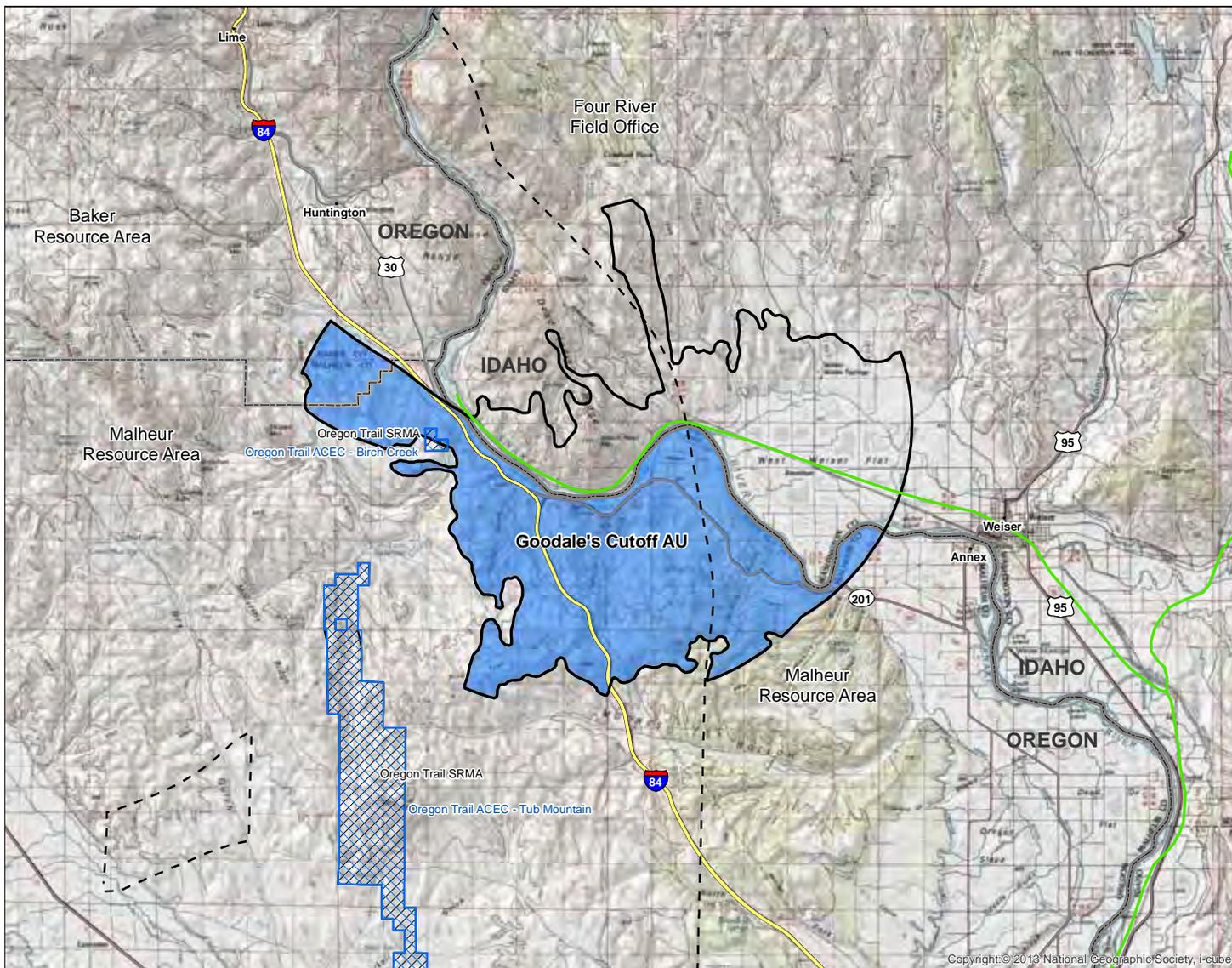
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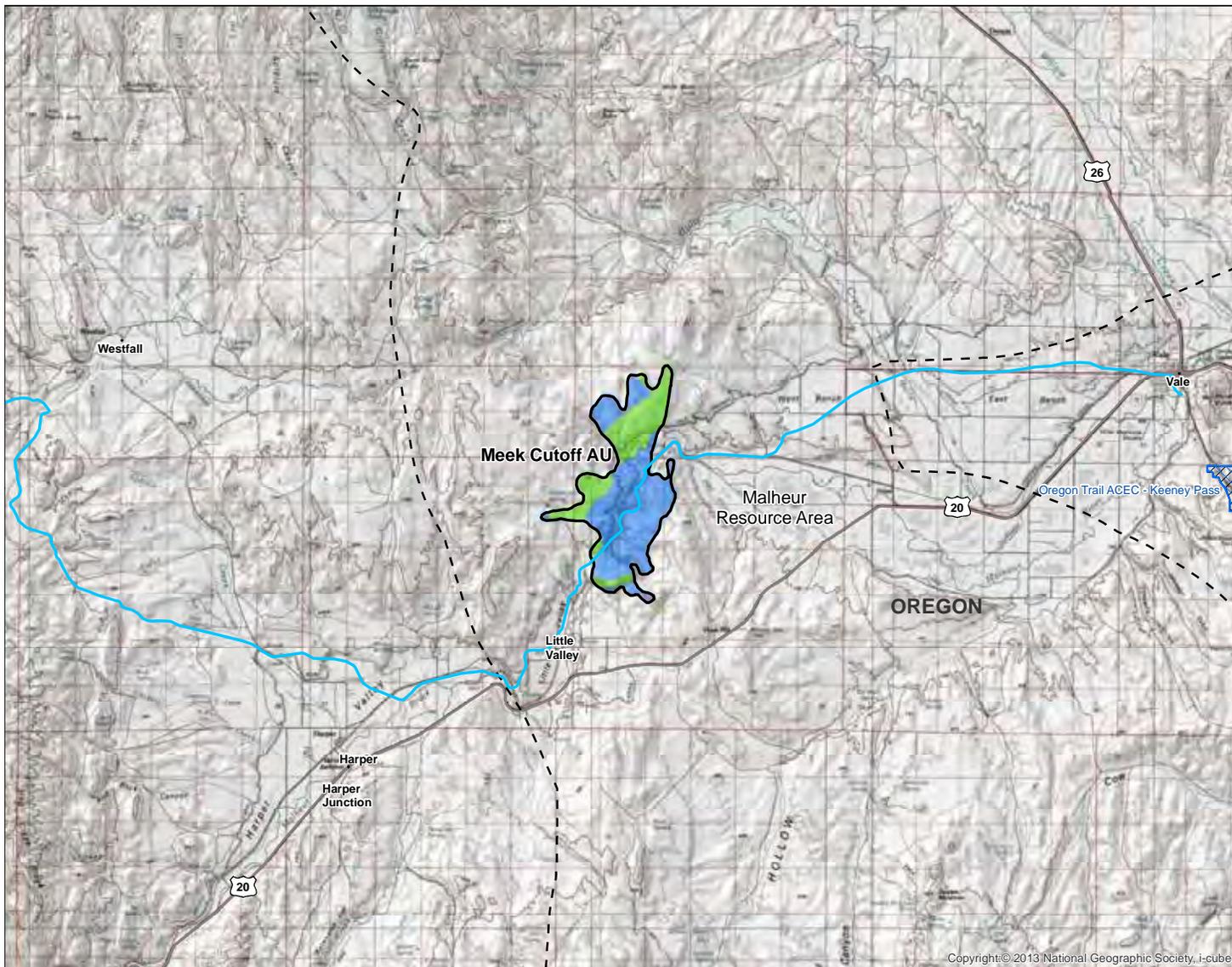
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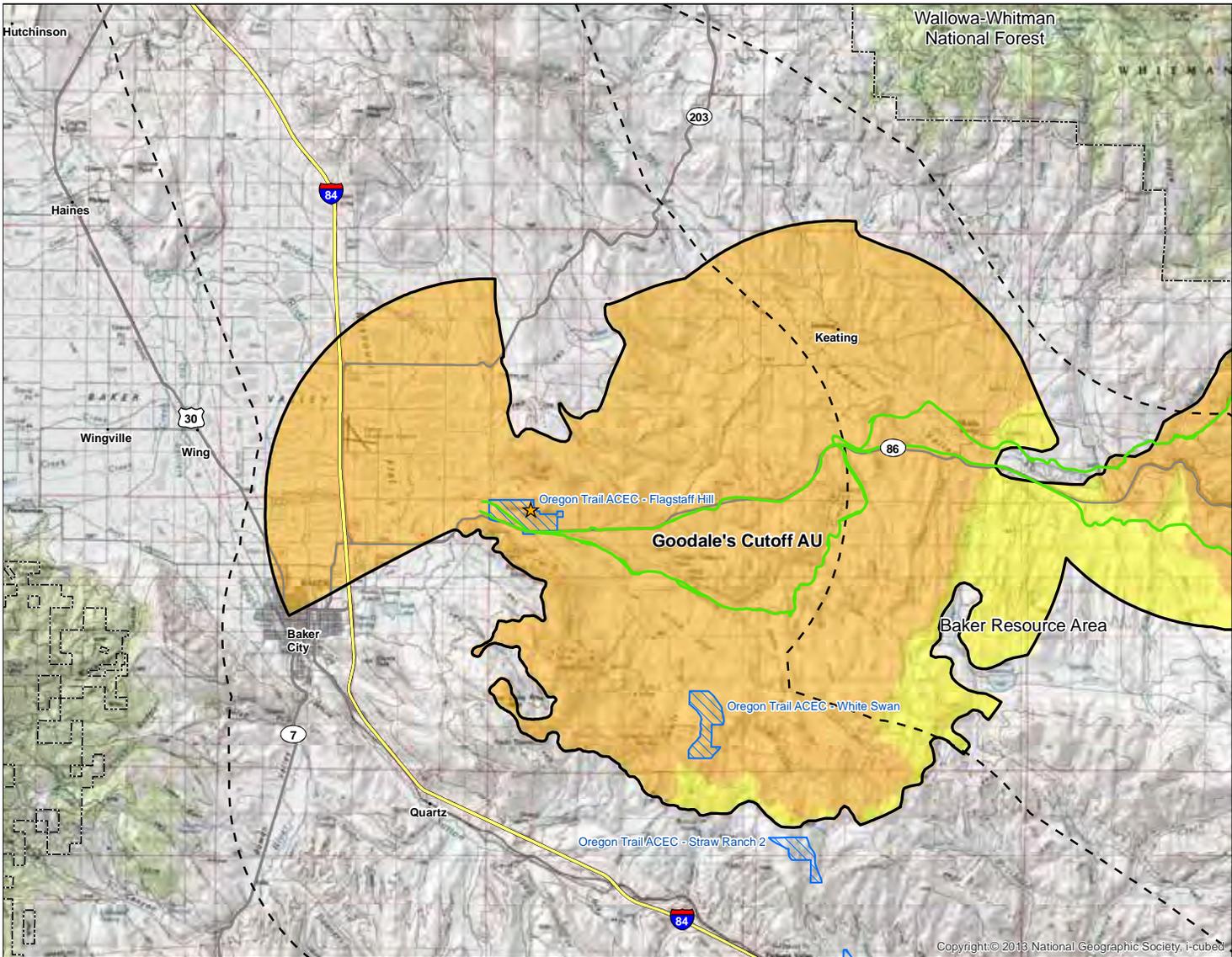
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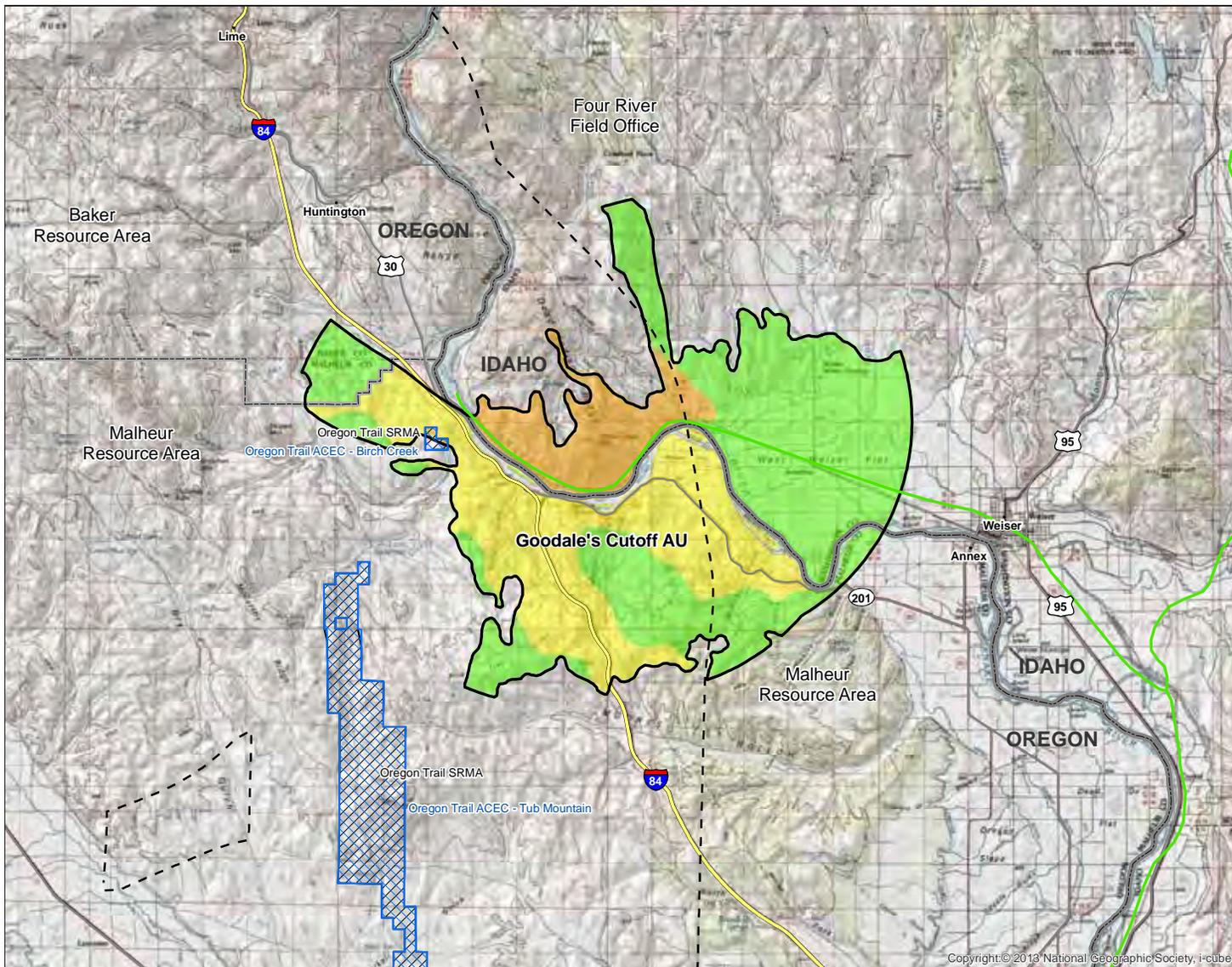
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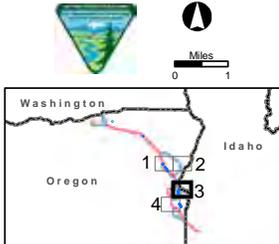
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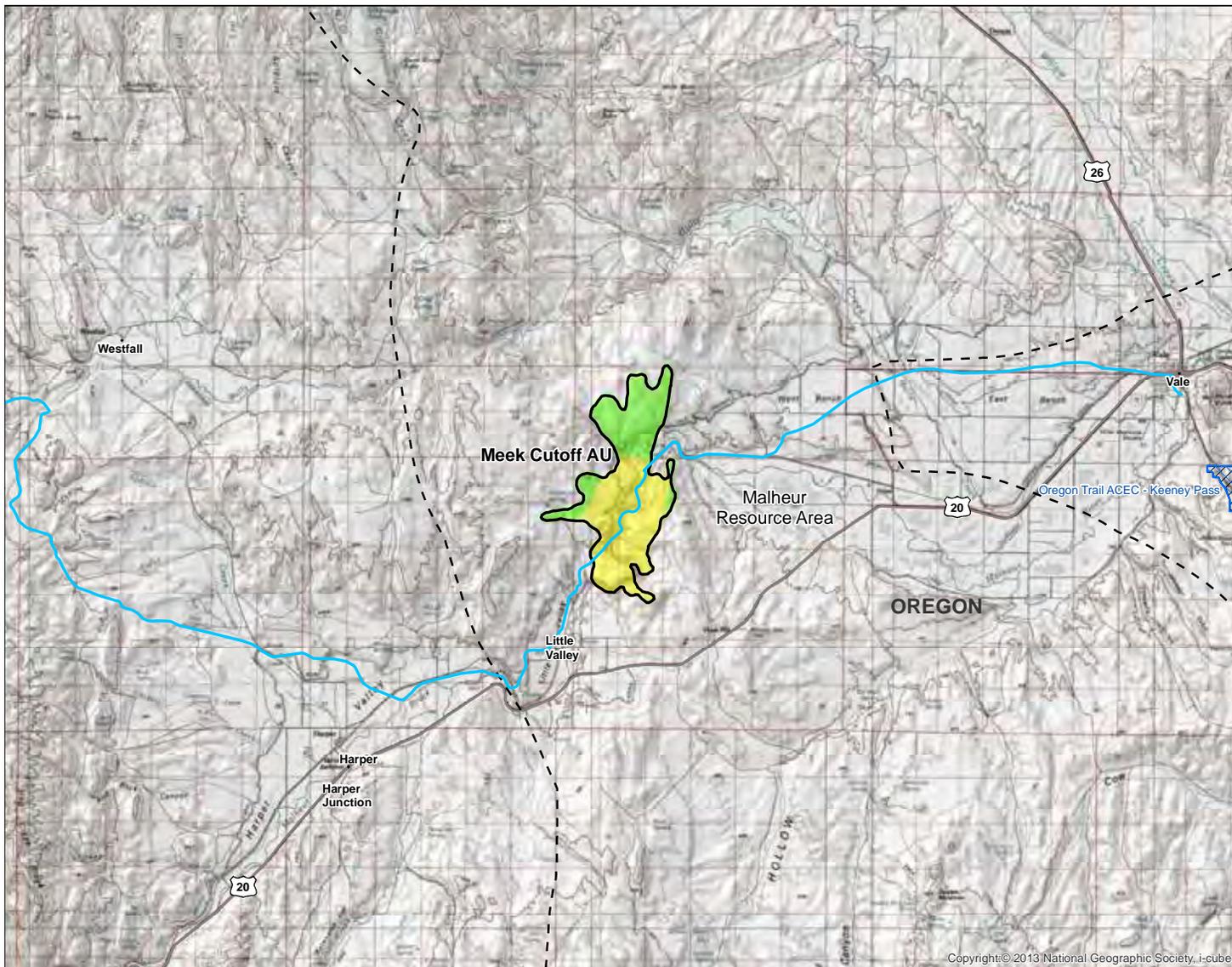
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**ATTACHMENT S-9
DRAFT ODOE HISTORIC PROPERTY MANAGEMENT PLAN (WITH
INADVERTENT DISCOVERY PLAN)**

BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT HISTORIC PROPERTIES MANAGEMENT PLAN

**Case File Numbers:
IDI-PLACEHOLDER, Idaho
OR-PLACEHOLDER, Oregon**

Prepared by:



*Idaho Power Company
1221 West Idaho Street
Boise, ID 83702*

June 2016

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39 Through criminal Investigations on Private and Public, State-Owned Lands In
40 Oregon

ABBREVIATIONS AND ACRONYMS

1		
2	ACHP	Advisory Council on Historic Preservation
3	APE	Area of Potential Effect
4	BA	Bachelor of Arts
5	BLM	Bureau of Land Management
6	BS	Bachelor of Science
7	CCEM	Construction Contractor's Environmental Manager
8	CFR	Code of Federal Regulations
9	CIC	Compliance Inspection Contractor
10	CRM	Cultural Resources Monitor
11	CRS	Cultural Resources Specialist
12	CRT	Cultural Resource Team
13	EFSC	Energy Facility Siting Council
14	HPMP	Historic Properties Management Plan
15	IDP	Inadvertent Discovery Plan
16	ILS	Intensive Level Survey
17	IPC	Idaho Power Company
18	kV	kilovolt
19	LCIS	Legislative Commission on Indian Services
20	m	meter
21	MA	Masters of Arts
22	MP	Monitoring Plan
23	MS	Masters of Science
24	NEPA	National Environmental Policy Act
25	NHPA	National Historic Preservation Act of 1966
26	NHT	National Historic Trail
27	NRHP	National Register of Historic Places
28	O&M	operation and maintenance
29	OAR	Oregon Administrative Rules
30	ODOE	Oregon Department of Energy
31	ORS	Oregon Revised Statute
32	PA	Programmatic Agreement
33	Project	Boardman to Hemingway Transmission Line Project
34	pASC	Preliminary Application for Site Certificate
35	RLS	Reconnaissance Level Survey
36	SHPO	State Historic Preservation Office
37	THPO	Tribal Historic Preservation Office
38	U.S.C.	United States Code
39	USFS	U.S. Department of Agriculture Forest Service
40	VCR	Visual Contrast Rating

1.0 INTRODUCTION

This Historic Properties Management Plan (HPMP) provides measures that will be implemented to address the avoidance, minimization of impacts, and mitigation of possible impacts for properties listed on, or would likely be listed on the National Register of Historic Places (NRHP), and that would be adversely affected during construction, reclamation of temporary disturbance areas, or operation and maintenance (O&M) of the Boardman to Hemingway Transmission Line Project (Project). This HPMP is a requirement of the Oregon Administrative Rule (OAR) 345-021-0010(1)(s) and demonstrates that the Project will comply with the Oregon Energy Facility Siting Council's (EFSC or Council) Historic, Cultural, and Archaeological Resources Standard, Oregon Administrative Rule (OAR) 345-022-0090, by showing that the construction and operation of the Project, taking into account mitigation, are not likely to result in significant adverse impacts to: historic, cultural, or archaeological resources that are listed or likely eligible for listing on the National Register of Historic Places (NRHP); archaeological objects, as defined in Oregon Revised Statute (ORS) 358.905(1)(a); or, archaeological sites, as defined in ORS 358.905(1)(c).

It is noted that the Bureau of Land Management (BLM) is the lead agency overseeing the National Environmental Policy Act (NEPA) process, and a Programmatic Agreement (PA) (Attachment S-7 of the Amended Preliminary Application for Site Certificate [pASC]) has been prepared for this Project (BLM 2016). A separate HPMP is being prepared in consultation with the BLM, the Idaho and Oregon State Historic Preservation Offices (SHPO), Advisory Council on Historic Preservation (ACHP) and other Concurring Parties (includes Oregon Department of Energy [ODOE]) of the PA, per the PA, Sections IV, B and VII, A–H. Although the PA can support the EFSC process, which ODOE serves as technical staff, the PA does not supersede the EFSC site certificate process and cannot be fully relied upon to determine compliance with EFSC's Historic, Cultural and Archaeological Standard defined in OAR 345-022-0090. Therefore, this HPMP was prepared to comply with the EFSC certification process and OAR 345-021-0010(1)(s) for Project areas within Oregon state and privately owned land.

1.1 Purposes of HPMP

The purposes of this Project-wide HPMP are to:

- Provide a summary and overview of the Project itself, the Area of Potential Effect (APE), including a discussion of proposed facilities, location of facilities, and project location maps;
- Provide a summary of laws and regulations that define the research, evaluation, and reporting procedures to be followed for the Project under the EFSC certification process;
- Provide a brief summary of previous and Project-related cultural resources studies conducted in the Project area and vicinity and a review of the findings;
- Summarize methods for determination and documentation of effects that have been used on this Project and will be used in the event of additional discoveries;
- Document the measures that Idaho Power Company (IPC) has already taken or will take to avoid and minimize impacts to properties likely eligible for or eligible for or listed on the NRHP, and the Proponents' goals for managing and protecting NRHP-eligible properties within the Project area;
- Provide management guidelines for certain categories of adversely affected historic properties;
- Present a Monitoring Plan (Section 7) including guidelines for how avoidance and minimization measures will be employed in the field during construction, reclamation,

1 and O&M; how the effectiveness of these methods will be documented; procedures for
2 halting construction, including agency notification in the event of unanticipated
3 discoveries during construction, and under what circumstances cultural resources
4 monitors will be present where previously undetected cultural resources may be found;

- 5 • Present an Inadvertent Discovery Plan (IDP; Section 8), which specifies the procedures
6 to follow in the event that cultural resources are found during construction, reclamation,
7 and O&M, which were not detected during the various surveys conducted prior to
8 ground-disturbing activities; and
- 9 • Be implemented and adhered to during construction, reclamation, and O&M, per OAR
10 345-021-0010(1)(s)(iii)(E) and OAR 345-022-0090(1).¹

11 The intent of this HPMP is to specify the general terms of avoidance and monitoring, and to
12 present a framework for mitigation planning.

13 IPC will submit this HPMP to ODOE for a 30-day review and comment period. The ODOE will
14 incorporate comments as appropriate and submit to IPC. IPC will respond to comments as
15 appropriate within 20 days of receipt. The ODOE will provided a decision of approval of the
16 revised Plan(s) within 14 days.

17 **1.2 Laws and Regulations**

18 The following section briefly discusses the federal and state laws and regulations applicable to
19 the Project in regard to cultural resources.

20 **1.2.1 EFSC Administrative Rules**

21 *1.2.1.1 Site Certificate Application Requirements*

22 OAR 345-021-0010(1)(s) provides IPC must include information in Exhibit S or confidential
23 submissions of the following information regarding historic, cultural, and archeological
24 resources:

25 *(A) Historic and cultural resources within the analysis area that have been listed, or*
26 *would likely be eligible for listing, on the National Register of Historic Places.*

27 *(B) For private lands, archaeological objects, as defined in ORS 358.905(1)(a), and*
28 *archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.*

29 *(C) For public lands, archaeological sites, as defined in ORS 358.905(1)(c), within the*
30 *analysis area.*

31 *(D) The significant potential impacts, if any, of the construction, operation and retirement*
32 *of the proposed facility on the resources described in paragraphs (A), (B) and (C) and a*
33 *plan for protection of those resources that includes at least the following:*

34 *(i) A description of any discovery measures, such as surveys, inventories, and*
35 *limited subsurface testing work, recommended by the State Historic Preservation*
36 *Officer or the National Park Service of the U.S. Department of Interior for the*
37 *purpose of locating, identifying and assessing the significance of resources listed*
38 *in paragraphs (A), (B) and (C).*

39 *(ii) The results of the discovery measures described in subparagraph (i), together*
40 *with an explanation by the applicant of any variations from the survey, inventory,*
41 *or testing recommended.*

¹ Subsections (2) and (3) of the Historic, Cultural, and Archaeological Resources Standard apply to power generation facilities and special criteria facilities, respectively. Because the Project does not include a power generation or special criteria facility, subsections (2) and (3) of OAR 345-022-0090 do not apply to the Project.

1 (iii) A list of measures to prevent destruction of the resources identified during
2 surveys, inventories and subsurface testing referred to in subparagraph (i) or
3 discovered during construction.

4 (E) The applicant's proposed monitoring program, if any, for impacts to historic, cultural
5 and archaeological resources during construction and operation of the proposed facility.

6 **1.2.2 General Standards for Siting Facilities**

7 Subsection (1) of the Historic, Cultural, and Archaeological Resources Standard at OAR 345-
8 022-0090(1)² provides that IPC must demonstrate that the construction and operation of the
9 Project, taking into account mitigation, are not likely to result in significant adverse impacts to:

10 (a) *Historic, cultural or archaeological resources that have been listed on, or would likely*
11 *be listed on the National Register of Historic Places;*

12 (b) *For a facility on private land, archaeological objects, as defined in ORS*
13 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

14 (c) *For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*

15 **1.2.3 Applicable Oregon Revised Statutes**

16 1.2.3.1 State of Oregon

17 The Amended Project Order provides IPC should incorporate analysis of compliance with the
18 following statutes related to historic, cultural, and archaeological resources: ORS 97.745,
19 ORS 358.920, ORS 390.010, and ORS 390.235.

20 ***Indian Graves and Protected Objects***

21 ORS 97.745 provides protection for Indian graves and protected objects, including cairns,
22 burials, human remains, funerary objects, sacred objects, and objects of cultural patrimony of
23 any native Indian. It describes acts prohibited in relation to the above resources, the applicability
24 of the statute, and the notification procedures for when suspected Indian human remains are
25 discovered. The statute states:

26 (1) *Except as provided in ORS 97.750, no person shall willfully remove, mutilate, deface,*
27 *injure or destroy any cairn, burial, human remains, funerary object, sacred object or*
28 *object of cultural patrimony of any native Indian. Persons disturbing native Indian cairns*
29 *or burials through inadvertence, including by construction, mining, logging or agricultural*
30 *activity, shall at their own expense reinter the human remains or funerary object under*
31 *the supervision of the appropriate Indian tribe.*

32 (2) *Except as authorized by the appropriate Indian tribe, no person shall:*

33 (a) *Possess any native Indian artifacts, human remains or funerary object having*
34 *been taken from a native Indian cairn or burial in a manner other than that*
35 *authorized under ORS 97.750.*

36 (b) *Publicly display or exhibit any native Indian human remains, funerary object,*
37 *sacred object or object of cultural patrimony.*

38 (c) *Sell any native Indian artifacts, human remains or funerary object having been*
39 *taken from a native Indian cairn or burial or sell any sacred object or object of*
40 *cultural patrimony.*

² Subsections (2) and (3) of the Historic, Cultural, and Archaeological Resources Standard apply to power generation facilities and special criteria facilities, respectively. Because the Project does not include a power generation or special criteria facility, subsections (2) and (3) of OAR 345-022-0090 do not apply to the Project.

1 (3) *This section does not apply to:*

2 (a) *The possession or sale of native Indian artifacts discovered in or taken from*
3 *locations other than native Indian cairns or burials; or*

4 (b) *Actions taken in the performance of official law enforcement duties.*

5 (4) *Any discovered human remains suspected to be native Indian shall be reported to*
6 *the state police, the State Historic Preservation Officer, the appropriate Indian tribe and*
7 *the Commission on Indian Services.*

8 **Archaeological Objects and Sites**

9 ORS 358.920 identifies prohibited acts on public and private lands in Oregon, relative to
10 archaeological resources. It states that disturbances to archaeological sites or objects on public
11 or private lands must be completed under a permit issued under ORS 390.235 and provides
12 direction for disposition of those archaeological materials and any human remains and
13 associated funerary objects. The section is not applicable to the disturbance of Native American
14 cairns, which is covered by the provisions of ORS 97.740 to 97.760. The statute states:

15 (1)(a) *A person may not excavate, injure, destroy or alter an archaeological site or object*
16 *or remove an archaeological object located on public or private lands in Oregon unless*
17 *that activity is authorized by a permit issued under ORS 390.235.*

18 (b) *Collection of an arrowhead from the surface of public or private land is*
19 *permitted if collection can be accomplished without the use of any tool.*

20 (c) *It is prima facie evidence of a violation of this section if:*

21 (A) *A person possesses the objects described in paragraph (a) of this*
22 *subsection;*

23 (B) *A person possesses any tool that could be used to remove such*
24 *objects from the ground; and*

25 (C) *A person does not possess a permit required under ORS 390.235.*

26 (2) *A person may not sell, purchase, trade, barter or exchange or offer to sell, purchase,*
27 *trade, barter or exchange any archaeological object that has been removed from an*
28 *archaeological site on public land or obtained from private land within the State of*
29 *Oregon without the written permission of the landowner.*

30 (3)(a) *A person may not sell, trade, barter or exchange or offer to sell, trade, barter or*
31 *exchange any archaeological object unless the person furnishes the purchaser a*
32 *certificate of origin to accompany the object that is being sold or offered. The certificate*
33 *shall include:*

34 (A) *For objects obtained from public land:*

35 (i) *A statement that the object was originally acquired before*
36 *October 15, 1983.*

37 (ii) *The location from which the object was obtained and a brief*
38 *cumulative description of how the object had come into the*
39 *possession of the current owner in accordance with the provisions*
40 *of ORS 358.905 to 358.961 and 390.235.*

41 (iii) *A statement that the object is not human remains, a funerary*
42 *object, sacred object or object of cultural patrimony.*

1 (B) For objects obtained from private land:

2 (i) A statement that the object is not human remains, a funerary
3 object, sacred object or object of cultural patrimony.

4 (ii) A copy of the written permission of the landowner to acquire
5 the object.

6 (b) As used in this subsection, "certificate of origin" means a signed and
7 notarized statement that meets the requirements of paragraph (a) of this
8 subsection.

9 (4)(a) If the archaeological object was acquired after October 15, 1983, from public
10 lands, any object not described in paragraph (b) of this subsection is under the
11 stewardship of the state and shall be delivered to the Oregon State Museum of
12 Anthropology. The museum shall work with the appropriate Indian tribe and other
13 interested parties to develop appropriate curatorial facilities for artifacts and other
14 material records, photographs and documents relating to the cultural or historic
15 properties in this state. Generally, artifacts shall be curated as close to the community of
16 their origin as their proper care allows. If it is not feasible to curate artifacts within this
17 state, the museum may after consultation with the appropriate Indian tribe or tribes enter
18 into agreements with organizations outside this state to provide curatorial services; and

19 (b) If the object is human remains, a funerary object, a sacred object or an object
20 of cultural patrimony, it shall be dealt with according to ORS 97.740, 97.745 and
21 97.750.

22 (5) A person may not excavate an archaeological site on privately owned property
23 unless that person has the property owner's written permission.

24 (6) If human remains are encountered during excavations of an archaeological site on
25 privately owned property, the person shall stop all excavations and report the find to the
26 landowner, the state police, the State Historic Preservation Officer and the Commission
27 on Indian Services. All funerary objects relating to the burial shall be delivered as
28 required by ORS 358.940.

29 (7) This section does not apply to a person who disturbs an Indian cairn or burial. Any
30 person who disturbs an Indian cairn or burial for any reason shall comply with the
31 provisions of ORS 97.740 to 97.760.

32 (8) Violation of the provisions of this section is a Class B misdemeanor.
33

34 **Archaeological Sites and Historical Material**

35 ORS 390.235 sets forth the permit requirements and rules for excavation or removal of
36 archaeological or historical materials as follows:

37 (1)(a) A person may not excavate or alter an archaeological site on public lands, make
38 an exploratory excavation on public lands to determine the presence of an
39 archaeological site or remove from public lands any material of an archaeological,
40 historical, prehistorical or anthropological nature without first obtaining a permit issued
41 by the State Parks and Recreation Department.

42 (b) If a person who obtains a permit under this section intends to curate or
43 arrange for alternate curation of an archaeological object that is uncovered
44 during an archaeological investigation, the person must submit evidence to the
45 State Historic Preservation Officer that the Oregon State Museum of

1 Anthropology and the appropriate Indian tribe have approved the applicant's
2 curatorial facilities.

3 (c) No permit shall be effective without the approval of the state agency or local
4 governing body charged with management of the public land on which the
5 excavation is to be made, and without the approval of the appropriate Indian
6 tribe.

7 (d) The State Parks and Recreation Director, with the advice of the Oregon
8 Indian tribes and Executive Officer of the Commission on Indian Services, shall
9 adopt rules governing the issuance of permits.

10 (e) Disputes under paragraphs (b) and (c) of this subsection shall be resolved in
11 accordance with ORS 390.240.

12 (f) Before issuing a permit, the State Parks and Recreation Director shall consult
13 with:

14 (A) The landowning or land managing agency; and

15 (B) If the archaeological site in question is associated with a prehistoric or
16 historic native Indian culture:

17 (i) The Commission on Indian Services; and

18 (ii) The most appropriate Indian tribe.

19 (2) The State Parks and Recreation Department may issue a permit under subsection
20 (1) of this section under the following circumstances:

21 (a) To a person conducting an excavation, examination or gathering of such
22 material for the benefit of a recognized scientific or educational institution with a
23 view to promoting the knowledge of archaeology or anthropology;

24 (b) To a qualified archaeologist to salvage such material from unavoidable
25 destruction; or

26 (c) To a qualified archaeologist sponsored by a recognized institution of higher
27 learning, private firm or an Indian tribe as defined in ORS 97.740.

28 (3) Any archaeological materials, with the exception of Indian human remains, funerary
29 objects, sacred objects and objects of cultural patrimony, recovered by a person granted
30 a permit under subsection (2) of this section shall be under the stewardship of the State
31 of Oregon to be curated by the Oregon State Museum of Anthropology unless:

32 (a) The Oregon State Museum of Anthropology with the approval from the
33 appropriate Indian tribe approves the alternate curatorial facilities selected by the
34 permittee;

35 (b) The materials are made available for nondestructive research by scholars;
36 and

37 (c)(A) The material is retained by a recognized scientific, educational or Indian
38 tribal institution for whose benefit a permit was issued under subsection (2)(a) of
39 this section;

40 (B) The governing board of a public university listed in ORS 352.002, with the
41 concurrence of the appropriate Indian tribe, grants approval for material to be

1 *curated by an educational facility other than the institution that collected the*
2 *material pursuant to a permit issued under subsection (2)(a) of this section; or*

3 *(C) The sponsoring institution or firm under subsection (2)(c) of this section*
4 *furnishes the Oregon State Museum of Anthropology with a complete catalog*
5 *of the material within six months after the material is collected.*

6 *(4) The Oregon State Museum of Anthropology shall have the authority to transfer*
7 *permanent possessory rights in subject material to an appropriate Indian tribe.*

8 *(5) Except for sites containing human remains, funerary objects and objects of cultural*
9 *patrimony as defined in ORS 358.905, or objects associated with a prehistoric Indian*
10 *tribal culture, the permit required by subsection (1) of this section or by ORS 358.920*
11 *shall not be required for forestry operations on private lands for which notice has been*
12 *filed with the State Forester under ORS 527.670.*

13 *(6) As used in this section:*

14 *(a) "Private firm" means any legal entity that:*

15 *(A) Has as a member of its staff a qualified archaeologist; or*

16 *(B) Contracts with a qualified archaeologist who acts as a consultant to*
17 *the entity and provides the entity with archaeological expertise.*

18 *(b) "Qualified archaeologist" means a person who has the following qualifications:*

19 *(A) A post-graduate degree in archaeology, anthropology, history,*
20 *classics or other germane discipline with a specialization in archaeology,*
21 *or a documented equivalency of such a degree;*

22 *(B) Twelve weeks of supervised experience in basic archaeological field*
23 *research, including both survey and excavation and four weeks of*
24 *laboratory analysis or curating; and*

25 *(C) Has designed and executed an archaeological study, as evidenced by*
26 *a Master of Arts or Master of Science thesis, or report equivalent in scope*
27 *and quality, dealing with archaeological field research.*

28 *(7) Violation of the provisions of subsection (1)(a) of this section is a Class B*
29 *misdemeanor.*

30 Any subsurface archaeological excavation (as applicable) on non-federal public lands, inclusive
31 of any state, county, or municipal lands, will be conducted under a State of Oregon
32 Archaeological Excavation Permit per ORS 390.235(1)(a) and OAR 736-051-0080 to -0090.

33 **1.3 Additional Regulatory Context**

34 A substantial portion of the Project is located on private lands (72 percent or 203.7 miles);
35 however, the Project also crosses significant stretches of land managed by the BLM and the
36 U.S. Department of Agriculture, Forest Service (USFS) (24 percent or 69.2 miles across BLM-
37 managed land and 2 percent or 5.9 miles on National Forest System lands. BLM is the lead
38 federal agency responsible for completing the NEPA environmental analysis, which will address,
39 among other things, cultural, historical, and archeological impacts of the Project and compliance
40 with the National Historic Preservation Act (NHPA).

41 **1.3.1 National Historic Preservation Act**

42 Section 106 of the NHPA, 16 United States Code (U.S.C.) § 470f, provides as follows:

1 *The head of any Federal agency . . . having authority to license any undertaking shall,*
2 *prior to the approval of the expenditure of any Federal funds on the undertaking or prior*
3 *to the issuance of any license, as the case may be, take into account the effect of the*
4 *undertaking on any district, site, building, structure, or object that is included in or eligible*
5 *for inclusion in the National Register. The head of any such Federal agency shall afford*
6 *the Advisory Council on Historic Preservation established under part B of this*
7 *subchapter a reasonable opportunity to comment with regard to such undertaking.*

8 The ACHP has issued regulations implementing Section 106 at 36 Code of Federal Regulations
9 (CFR) Part 800, "Protection of Historic Properties."

10 **1.4 Organization of the HPMP**

11 Section 1 of this HPMP is the introduction. Section 2 is the Project and Project Analysis
12 Area/Site Boundary description. Section 3 outlines the sequence of Project-related tasks.
13 Section 4 presents the previous research and site types within the Project analysis area.
14 Section 5 discusses methods for determination of eligibility and assessment of effects. Section 6
15 outlines avoidance and proposed mitigation. Section 7 is the general Monitoring Plan. Section 8
16 is the IDP, and Section 9 is a list of references cited in this HPMP.

2.0 PROJECT AND AREA OF POTENTIAL EFFECTS DESCRIPTION

This section provides a brief Project description and defines the APE.

2.1 Project Description

IPC is proposing to construct and operate an approximately 295-mile-long single-circuit 500-kilovolt (kV) transmission line between Boardman, Oregon and the Hemingway Substation located near Melba, Idaho (Project). The proposed transmission line will be constructed on federal, state, and private land in portions of two states and six counties: Morrow, Umatilla, Union, Baker, and Malheur Counties, Oregon, and Owyhee County, Idaho.

The Project requires a site certificate from the EFSC, as well as approval from federal land management agencies (for portions of the project on federal land). IPC submitted a Notice of Intent to the ODOE on July 15, 2010, to file an application for a site certificate for the Project. On February 27, 2013, IPC submitted a pASC to ODOE, and amended the application in May of 2013 to include BLM alternatives not previously included in the pASC. An amended Project Order was provided by the Council on December 22, 2014.

2.2 Analysis Area

Pursuant to the Amended Project Order, the analysis area for the historic, cultural, and archaeological resources standard is the Site Boundary, which is defined in OAR 345-001-0010(55) as “the perimeter of the site of a proposed energy facility, its related or supporting facilities, all temporary laydown and staging areas, and all corridors and micro-siting corridors proposed by the applicant.” The Site Boundary for the Project includes the following related and supporting facilities in Oregon:

- The Proposed Route, consisting of 271.7 miles of new 500-kV transmission line, removal of 13.3 miles of existing 69-kV transmission line, relocation of 0.6 mile of a 230-kV transmission line, and relocation of 5.6 miles of an existing 138-kV transmission line onto new double-circuit structures with an existing 69-kV transmission line.
- One alternate route (Double Mountain Alternative), consisting of approximately 7.4 miles that could replace a portion of the Proposed Route.
- One proposed 20-acre station (Longhorn Station).
- Nine communication station sites of less than 1 acre each and one alternative communication station site.
- Permanent access roads, including 234 miles of new roads and 121.4 miles of existing roads associated with the Proposed Route, and 10.5 miles of new roads and 5 miles of existing roads associated with the Double Mountain Alternative (see Exhibit B, Attachment B-5 – Road Classification Guide and Access Management Plan).
- Thirty-three temporary multi-use areas and 338 pulling and tensioning sites of which 9 will have light-duty fly yards within the pulling and tensioning sites.

The features of the Project are fully described in Exhibit B and the Site Boundary for each Project feature is described in Exhibit C, Table C-16. The location of the Project (Site Boundary) is outlined in Exhibit C.

3.0 SEQUENCE OF PROJECT-RELATED TASKS

There are a series of tasks that will be completed to ensure that archaeological sites and objects (as defined in OAR 345-022-0091(1)(b)), likely eligible for or listed on the NRHP, and historic properties, are avoided or Project impacts minimized or mitigated to less than significant. These tasks are identified as those that must take place before construction, during construction, and after construction during reclamation and O&M, as applicable.

3.1 Pre-Construction Tasks

Pre-construction tasks include the following:

- Completion, submittal, and approval of the HPMP.
- The Construction Contractor's Cultural Resource Team (CRT) will be selected (see Section 7.1).
- The Construction Contractor shall provide the CRT and ODOE with maps and/or drawings of the Project APE.
- The CRT will ensure avoidance measures (e.g., sensitive resource flagging, complete avoidance) are in place where needed (see Section 7, Monitoring Plan).
- Completion of mitigation (as applicable).

The Construction Contractor will develop and implement a cultural resource training program as part of the overall environmental training program for all Project construction staff and those who will access the Project site boundary.

3.2 Construction Phase Tasks

Construction phase tasks to be completed by the Construction Contractor's CRT include, but are not limited to, the following:

- Provide ongoing environmental training for newly hired construction staff. The training may be a previously recorded video and may not require additional CRT support, unless requested. The CRT will ensure on-site construction personnel are in compliance and have the appropriate required training sticker displayed on their hard hats.
- Construction Monitoring task as described in Section 7.
- Conduct testing or data recovery or other types of mitigation for an inadvertent discovery as described in Section 7, as applicable.

Additional construction phase tasks may also include Site Certificate amendment. The CRT will consult and provide support, as needed, for any Project amendment as discussed below.

During construction, the need for changes to Project construction procedures or approved mitigation measures or other stipulations, and/or Project changes such as route realignments, new or changed existing access roads, or additional work areas not previously analyzed in the Site Certification, may arise. Under these or similar circumstances, an amendment to the Site Certificate will need to be filed and approved by EFSC, to stay in compliance with all conditions of Site Certification. The ODOE will consult with the SHPO, as appropriate.

3.3 Post-Construction Phase Tasks

Post-construction phase tasks to be completed by the Construction Contractor's CRT include completing test investigation or data recovery analysis, preparing artifacts for curation (as applicable), transferring these materials to the approved curation facility or appropriate land owner (if requested), and preparing the final reports. The CRT will also prepare and finalize the mitigation and monitoring report.

3.3.1 Operation and Maintenance Phase

O&M activities include transmission line patrols, climbing inspections, structure and wire maintenance, insulator washing (as needed), inspection and maintenance of stations and communication facilities, access road repairs, vegetation management activities to maintain conductor to vegetation clearances, and keeping structures clear of vegetation. Normal operation of the Project would not involve any new ground disturbance outside of the Project analysis area or APE, and therefore no impacts to previously known archaeological sites or objects (as defined in as defined in OAR 345-022-0091(1)(b)), resources likely eligible to the NRHP or historic properties would be expected. The IDP in Section 8 of this HPMP will be followed during O&M activities to ensure the continued protection of historic properties. The IDP contains procedures that reference construction personnel specific to the construction phase of the Project; however, the general practices contained within the IDP will be followed by IPC's personnel or contractor(s). IPC's O&M staff and contractor(s) will notify the applicable land-managing agency personnel of any discovery and afford said discovery with the applicable protections. As noted in Section 1.0, the HPMP and appendices will be incorporated as part of Exhibit S.

IPC's O&M staff and contractor(s) will undergo environmental training (includes a cultural resource section), be responsible for coordinating activities with the applicable land-managing agency, and avoid, minimize, or mitigate impacts to archaeological sites or objects (as defined in as defined in OAR 345-022-0091(1)(b)), resources likely eligible to the NRHP or NRHP-eligible historic properties from O&M activities in accordance with the applicable procedures outlined in this HPMP and in consultation with ODOE (as necessary) and SHPO. The ODOE will continue to coordinate and consult with IPC's O&M staff and SHPO, as needed.

3.4 Reclamation Phase

Once construction is completed, various reclamation treatments will be applied to reclaim Project temporary use areas to a condition agreed upon by the landowner, tenant, or land-managing agency. A Reclamation Plan containing the specifics of site reclamation will be included in the ASC. Reclamation activities may require 4x4 trucks, 2-ton trucks, bulldozers, motor graders, dump trucks, front-end loaders, and water trucks. Reclamation treatments that involve ground-disturbing activities within previously undisturbed soils may have the potential to affect archaeological sites or objects (as defined in as defined in OAR 345-022-0091(1)(b)), resources likely eligible to the NRHP or historic properties. Table 3-1, below, shows typical activities but is not a comprehensive list. Site-specific measures will be provided by the Reclamation Plan included in the Final ASC. Such reclamation activities may require monitoring and avoidance measures by the CRT. The HPMP will be adhered to during the Reclamation Phase.

1 **Table 3-1. Examples of Reclamation Activities**

Reclamation Activity	Description of Activity	Possible Equipment	Monitoring Requirements
Management of Waste Materials	Cleanup of debris from construction area, such as scrap metals, oil, wood, etc.	4x4 trucks, dump trucks, front-end loaders	None.
Earthworks	Re-establishment of slope and surface stability and recontouring.	4x4 trucks, dump trucks, front-end loaders, motor graders, bulldozers	Monitoring if new ground disturbance is anticipated and/or if the work takes place near the boundary of a known archaeological object or site likely eligible or eligible historic property.
Topsoil Replacement	Reclamation to preconstruction/disturbance: replacement of soils, recontouring, etc.	4x4 trucks, front loader, motor grader	Monitoring if new ground disturbance is anticipated and/or if the work takes place near the boundary of a known archaeological object or site likely eligible or eligible historic property.
Seeding	Planting new seeds of indigenous native species.	4x4 trucks	None. No ground disturbance within undisturbed soils.
Alternative Seeding	Seeding of annual grasses or forbs.	4x4 trucks	None. No ground disturbance within undisturbed soils.
Vertical Mulch Replacement	Vegetation previously cleared will be replaced back onto site.	4x4 trucks, front loader, motor grader	None. No ground disturbance within undisturbed soils.
Visual Composition	Enhancement restoration to mitigate visual impacts. Plan to be developed.	4x4 trucks, front loader, motor grader	May require monitoring if activity is near a known archaeological object or site likely eligible or eligible historic property.

2 **3.5 Operation and Maintenance Activities**

3 Routine O&M activities will be conducted within the Project analysis area as defined in the
 4 Project Order. They will range from routine equipment inspections (no new ground disturbance
 5 outside of the Project’s permitted area as defined by site certification) performed by relatively
 6 small crews to ground-disturbing activities such as pole replacement or access road
 7 maintenance performed by larger crews with heavy equipment. Activities that result in new

- 1 ground disturbance have the most potential to affect historic properties. Table 3-2 below lists
- 2 some of the typical routine O&M activities; additional detail is contained in Exhibit B of the ASC.

3 **Table 3-2. Operation and Maintenance Activities**

Operation and Maintenance Activity	Description of Activity	Schedule, Crew, Equipment	Monitoring Requirements
Transmission Line Maintenance	Ground and aerial inspections of transmission line and nearby vegetation to determine if repairs are necessary.	Semi-annually/Crew of 3 to 4, aerial inspection uses helicopter, ground crew uses 4x4 trucks or all-terrain vehicles.	None.
Hardware Maintenance Repairs	Repair or replacement of individual components (no new ground disturbance outside of right-of-way [ROW]).	Schedule depends on inspection results; crew may use 4x4 trucks, material truck (flatbed), bucket trucks (low reach), boom trucks (high reach), or personal lift.	None.
Access Road and Work Repair	Grading or repair of existing maintenance access roads and work areas, spot repair of sites subject to flooding or scouring.	Schedule depends on inspections or response to emergency; crews may use a grader, backhoe, four-wheel-drive pickup truck, and a tracked-loader, or bulldozer.	Monitoring if new ground disturbance is anticipated and/or if the work takes place near the boundary of a known archaeological object or site likely eligible or eligible historic property.
Vegetation Management	Within the ROW under the wires and to 10 feet outside outermost conductor, vegetation maintained under 5 feet tall. From this zone to the edge of the ROW, vegetation maintained up to 25 feet in height or as needed to ensure safe operations.	Schedule depends on inspections; crew size varies, and vegetation will be removed using chain saws, weed trimmers, rakes, shovels, mowers, and brush hooks. Clearing efforts in heavy growth areas will use a Hydro-Ax or similar equipment.	Monitoring if new ground disturbance is anticipated and/or if the work takes place near the boundary of a known archaeological object or site likely eligible or eligible historic property.
Station and Communication Station Maintenance	Equipment testing, monitoring and repair, emergency and routine procedures for service continuity and preventive maintenance of remote surveillance system.	Scheduled once monthly or as needed; crew of 2-4 persons, use light utility truck.	None.

Operation and Maintenance Activity	Description of Activity	Schedule, Crew, Equipment	Monitoring Requirements
Emergency Response	Activities necessary to repair natural hazard, fire, or human-caused damages to line.	Equipment is similar to conducting routine maintenance, with use of similar equipment to complete repairs (e.g., helicopters for quick response)	Monitoring if new ground disturbance is anticipated and/or if the work takes place near the boundary of a known archaeological object or site likely eligible or eligible historic property.
Fire Protection	All federal, state, and county laws, ordinances, rules, and regulations pertaining to fire prevention and suppression will be strictly adhered to.	Typical practices include brush clearing prior to work, stationing a water truck at the job site to keep the ground and vegetation moist in extreme fire conditions, enforcing red flag warnings, providing “fire behavior” training to all pertinent personnel, and keeping vehicles on or within designated roads or work areas.	Monitoring if new ground disturbance is anticipated and/or if the work takes place near the boundary of a known archaeological object or site likely eligible or eligible historic property.

1 **4.0 PREVIOUS RESEARCH AND CULTURAL RESOURCE TYPES**
 2 **IDENTIFIED WITHIN THE PROJECT AREA**

3 This section discusses the identification of resources and briefly discusses previous literature
 4 review, pedestrian field surveys, and research conducted for the Project. It also identifies
 5 cultural resource types within the Project area.

6 **4.1 Identification and Evaluation of Historic Properties**

7 This HPMP is based on the results of cultural resource inventories consisting of background
 8 records and literature research, and a pedestrian survey for the Project. The effort to complete
 9 IPC’s cultural resources inventory is guided by four main goals aimed at ensuring compliance
 10 with the EFSC standards. These goals include (1) identification of historic, cultural, and
 11 archaeological resources within the Site Boundary; (2) interpretation of those identified
 12 resources within a regional context; (3) evaluation of identified resources for protection under
 13 the EFSC standard; and (4) assessment of potential Project impacts on protected resources.

14 **4.1.1 Archival Research and Results**

15 The cultural resources study was initiated by a Class I record search and literature review
 16 conducted at the Oregon SHPO, the Confederated Tribes of the Umatilla Indian Reservation,
 17 Tribal Historic Preservation Office (THPO), the USFS, and appropriate BLM offices, to identify
 18 previous cultural resource surveys and previously recorded archaeological sites and objects
 19 within the Site Boundary. The Class I literature review presented in the technical report
 20 (confidential Attachment S-6) for the Project provides an in-depth discussion of the
 21 environmental and cultural contexts of the analysis areas, including an overview of prehistory,
 22 ethnography, and history.

23 Record searches at federal, tribal, and state agencies in Oregon were conducted multiple times
 24 between January 2011 and March 2013. The record searches focused on collecting information
 25 regarding previously recorded cultural resources within 2 miles of the Proposed Route
 26 centerline, for a study area width of 4 miles. The search gathered information on previously
 27 recorded cultural resources, archaeological objects and sites, likely NRHP-eligible or –listed
 28 properties, historic cemeteries, historic trails, and previously surveyed areas.

29 Table 4-1, below, summarizes the record search results for the Project analysis area.

30 **Table 4-1. Literature Review Results for the Project Site Boundary**

State	Previous Inventories	Total Sites	Pre-contact	Historic	Multicomponent	Culturally Undetermined
Oregon	156	568	311	208	33	16

31 **4.1.2 Field Survey Methods and Results**

32 Upon completion of the literature review, an archaeological survey was initiated within the Site
 33 Boundary. The archaeological survey is being conducted in two phases. Phase 1 has been
 34 completed, and consisted of an intensive pedestrian inventory of the entire Site Boundary to
 35 which IPC has right of entry. Any additional surveys required to complete an inventory of 100
 36 percent of the selected route, as well as any necessary subsurface inventory or evaluation
 37 efforts, will be conducted during Phase 2. Phase I consisted of a series of cultural resource
 38 pedestrian field surveys were conducted in an effort to identify areas of archaeological
 39 sensitivity; identify visible archaeological objects, sites or other indicators of the presence or
 40 absence of sites; identification and documentation of the extent of prior significant ground
 41 disturbance; identification of potential archaeological issues requiring consideration during

1 Project planning; and the determination, when possible, of sites that meet established criteria of
 2 eligibility for the NRHP. IPC’s team of archaeological consultants, Tetra Tech, conducted five
 3 pedestrian survey sessions of accessible private and public land between the spring of 2011
 4 and the fall of 2014. All survey efforts are and will be carried out according to the methods and
 5 standards required by the Oregon SHPO *Guidelines for Conducting Field Archaeology in*
 6 *Oregon* (Oregon SHPO 2007). On state and private lands, statutes and regulations may apply,
 7 including but not limited to ORS 97.740-760 (Indian Graves and Protected Objects), ORS
 8 358.905-955 (Archaeological Objects and Sites), and ORS 390.235. All inventory methods on
 9 federal land follow those prescribed by BLM and USFS protocols. Individuals conducting
 10 archaeological field investigations meet professional qualifications as defined in ORS
 11 390.235(6)(b) as well as *Archaeology and Historic Preservation: Secretary of the Interior’s*
 12 *Standards and Guidelines*, “Professional Qualifications Standards” (48 [190] *Federal Register*
 13 44738-44739 [9-29-83, Part IV]).

14 Per Oregon SHPO guidelines, the analysis area was examined with intensive surface inventory
 15 using pedestrian transect intervals of 65 feet (20 meters [m]) or less. The survey area for the
 16 Proposed Route and Double Mountain Alternative covers 250 feet (75 m) on either side of the
 17 centerline for the 500-foot-wide (150-m) Site Boundary. The survey corridor for new access
 18 roads or unsurfaced roads requiring reconstruction or widening is 100 feet (30 m) on either side
 19 of the centerline. The survey convention for ancillary features, such as laydown areas and the
 20 communication facilities, includes a buffer of 150 feet (45 m) around the footprint of the
 21 proposed activity.

22 A Cultural Resources Technical Report documenting Phase I (described above) survey results
 23 has been prepared and is included as confidential Attachment S-6 filed with ODOE as a
 24 separate, confidential document, in accordance with ORS 192.501(11). This report summarizes
 25 the results of the Class I literature review and the Class III archaeological survey, and
 26 documents identification of areas of archaeological sensitivity; identification of visible
 27 archaeological sites or other indicators of the presence or absence of sites; identification and
 28 documentation of the extent of prior significant ground disturbance; identification of potential
 29 archaeological issues requiring consideration during Project planning; and the determination,
 30 when possible, of sites that meet established criteria of eligibility for the NRHP.

31 Table 4-2 provides a list of historic and cultural resources, including archaeological sites,
 32 currently determined or recommended eligible for the NRHP (per OAR 345-021-0010(1)(s) and
 33 OAR 345-022-0090) identified within the analysis area. Table 4-3 provides a list of isolated finds
 34 identified within the analysis area for the BLM-Preferred Routes and IPC’s 2012 proposed
 35 routes for the Project (routes are identified in the amended Project Order and pASC). Table 4-4
 36 summarizes the site and IF types that have been identified in the analysis area.

37 **Table 4-2. Cultural Resources Identified within the Analysis Area**

State	Total Sites	NRHP Eligible	NRHP Not Eligible	Unevaluated ¹
Oregon				
Pre-Contact	43	16	6	21
Historic	104	31	60	13
Multicomponent	9	6	0	3
Undetermined	1	0	0	1
Total	157	53	66	38

¹ Note that Oregon SHPO will not concur with eligibility recommendation until sites have been boundary probed. Idaho BLM permits do not allow shovel probes or any other subsurface testing; therefore, many Idaho sites remain unevaluated. Sites treated as eligible until determined otherwise.

1 **Table 4-3. Archaeological Isolated Finds Identified within the Analysis Area**

State	Total Isolated Finds
Oregon	
Pre-contact	83
Historic	32
Multicomponent	4
Total	119

2 Note that isolated finds (IFs) are typically considered not eligible for listing on the NRHP. Exceptions are made under
 3 unusual circumstances, such as when the archaeological record is lacking in data or the IF is considered rare or
 4 unusual and may be associated with rare or unusual events.

5 **Table 4-4. Archaeological Isolated Finds Identified within the Analysis Area**

Resource Type	#	Resource Type	#
Pre-Contact Sites		Historic Sites (Continued)	
Cairn(s)	2	Structure	1
Lithic Scatter	8	Survey Marker	1
Lithic/Tool Scatter	22	Survey Marker & Refuse	1
Quarry	5	Trail Segment	4
Temporary Camp	1	Trail Segment & Utility Line	1
Multicomponent Sites		Utility Line	2
Lithic Scatter & Refuse Scatter	2	Utility Line & Water Conveyance	1
Lithic/Tool Scatter & Refuse Scatter	1	Water Conveyance	23
Lithic/Tool Scatter, Ranching Complex, Water Conveyance	1	Water Conveyance & Bridge	1
Possible Rock Art, Utility Line, and Water Conveyance	1	Undetermined Sites	
Quarry & Refuse Scatter	1	Rock Circle	1
Quarry, Water Conveyance, & Refuse Scatter	1	Pre-Contact IFs	
Temporary Camp & Water Conveyance	1	Biface(s)	1
Temporary Camp, Lithic/Tool Scatter, Refuse Scatter, and Ranching	1	Core	7
Historic Sites		Debitage	41
Agriculture	1	Debitage & Tool(s)	16
Bridge	1	Hammerstone	1
Homestead	3	Preform	2
Homestead/Ranching	1	Projectile Point	9
Logging/Railroad	1	Utilized Flake	6
Mining	10	Multicomponent IFs	
Railroad	3	Debitage & Refuse	2
Railroad & Utility Line	1	Debitage, Tool(s), & Refuse	2
Ranching	5	Historic IFs	
Refuse Scatter	26	Agriculture	1
Road	6	Refuse	31

6 Note: This table lists archaeological sites and isolated finds present within the Site Boundary, as identified
 7 during field surveys, excluding previously recorded resources that were not re-located during field studies.

8 **4.2 Ethnographic Studies**

9 In an effort to identify and protect Tribal contemporary and ongoing use of culturally significant
 10 areas and/or sites, the Confederated Tribes of the Umatilla Indian Reservation was contracted

1 by the BLM to conduct an ethnographic study for the Project area and adjacent lands
 2 traditionally occupied and used by the tribes. In addition, the Sho-Pai contracted with
 3 anthropologist Deward Walker, Jr., Ph.D. to conduct an ethnographic study, and the Burns
 4 Paiute are also in the process of negotiating their own ethnographic study. To date, the
 5 ethnographic studies have not been completed.

6 **4.3 Above Ground Resources and Historic Trails Study**

7 A study of visual impacts to the above ground resources (e.g. structures, districts, objects) and
 8 National Historic Trails (NHT), non-NHTs, and trail-related historic properties was conducted for
 9 the Project analysis area (includes direct and visual effects APE as defined in the PA). As part
 10 of this study, a Reconnaissance Level Survey (RLS) (Phase I) report was prepared and finalized
 11 in September 2015 (confidential Attachment S-7). The report includes a description of the
 12 analysis area, existing historic resource data, survey objectives, field investigation methods,
 13 RLS data, recommendations, and references. The Intensive Level Survey (ILS) (Phase 2) will
 14 analyze those properties from the RLS that have sufficient integrity and for which an NRHP
 15 criterion might apply and that have the potential to be affected by the Project. It is anticipated
 16 that fieldwork for the ILS will be completed following the issuance of the Record of Decision and
 17 prior to Project construction. The final ILS report will include the fieldwork and research
 18 conducted during the RLS and ILS. The report will include the background information compiled
 19 for the inventory plan, a revised historic context, recommendations concerning resource
 20 eligibility for the NRHP, as well as recommendations for avoidance, effect minimization, and
 21 mitigation measures to reduce impacts (if possible) to below significant adverse levels
 22 consistent with the EFSC Standard for Historic, Cultural and Archaeological Resources
 23 (OAR 345-022-0900). It is anticipated that this report will be completed following the issuance of
 24 the site certificate and prior to Project construction. Table 4-5 summarizes the resources
 25 identified by the RLS fieldwork within the Site Boundary and the indirect analysis area. Fifteen of
 26 the resources are within the Site Boundary of the Proposed Route. None of the resources are
 27 within the Site Boundary of the Double Mountain Alternative.

28 **Table 4-5. Aboveground Resource Types Identified by the RLS**

Resource Type	Count ¹	In Site Boundary ²	Resource Type	Count ¹	In Site Boundary ²
Building	606	1	Quarry/Workshop	3	0
Cabin	5	0	Railroad	3	3
Cabin & Rock Wall	1	0	Rock Alignment	13	0
Cairn(s)	11	0	Rock Alignment & Lithic Scatter	2	0
Cairn(s) & Rock Alignment	2	0	Rock Art	3	0
Cairn(s), Rock Alignment, & Lithic Scatter	1	0	Rock Feature	9	0
Cemetery	2	0	Rock Pile & Lithic Scatter	2	0
Historic District	2	0	Rock Shelter	4	0
Historic Structure Complex	1	0	Site	31	1
Homestead	1	0	Spring	1	0
House Pits	2	0	Structure	6	0
Hunting Blind	2	0	Survey District	1	1
Lewis and Clark Trail	1	0	Trail	1	0

Resource Type	Count ¹	In Site Boundary ²
Logging/Railroad	2	1
Midden	2	0
Midden, Lithic Scatter	1	0
Mining	1	0
Object	10	0
Pre-Contact Camp	1	0
Quarry	2	0
Quarry/Lithic Scatter	9	0

Resource Type	Count ¹	In Site Boundary ²
Trail - Oregon Trail Monument	2	0
Trail - Oregon Trail Segment	5	2
Trail - Oregon Trail, Meek's Cutoff Segment	2	2
Transportation	1	0
Unidentified Goal 5 Resource	4	0
Utility Line	1	1
Water Conveyance	5	3

1 ¹ The “count” includes aboveground resources present within the Site Boundary *and* the RLS indirect
 2 analysis area, as identified during RLS field surveys. Numbers *do not* reflect aboveground resources
 3 directly within the Site Boundary.

4 ² All resources within the Site Boundary are within the Proposed Route. No resources identified by the
 5 RLS are within the Site Boundary of the Double Mountain Alternative.

6 4.4 Definition of Cultural Resources Site Types

7 The following is a summary of the different cultural resource object and site types found in
 8 Oregon.

9 4.4.1 Pre-contact Resources

10 Pre-contact resources found in the Project analysis area include the following:

Isolated Find Type	Definition
Biface(s)	A stone tool that has been culturally and bifacially (along ventral and dorsal) modified but are not complete enough for identify as formal tools.
Cairn(s)	A pile of stones marking a location.
Core(s)	A scarred nucleus artifact that results from the practice of lithic reduction.
Debitage	Material produced during the process of lithic reduction and the production of chipped stone tools.
Debitage and Biface	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a stone tool that has been culturally and bifacially (along ventral and dorsal) modified but are not complete enough for identify as formal tools.
Debitage and Core	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a scarred nucleus artifact that results from the practice of lithic reduction.
Debitage and Core and Tested Cobble	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a scarred nucleus artifact that results from the practice of lithic reduction, and a cobble that exhibits percussion breaks or flake removal scars.
Debitage and Core and Utilized Flake	A combination of material produced during the process of lithic reduction and the production of chipped stone tools, a scarred nucleus artifact that results from the practice of lithic reduction, and a flake modified for use in slicing or cutting.
Debitage and Preform	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a well thinned biface that does not have well-shaped or retouched lateral margins.

Isolated Find Type	Definition
Debitage and Projectile Point	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a finished biface with lateral edges that converge to a point and have been modified at the proximal end to facilitate hafting.
Debitage and Tested Cobble	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and, and a cobble that exhibits percussion breaks or flake removal scars.
Debitage & Tool(s)	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and the stone tools themselves.
Debitage and Utilized Flake	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a flake modified for use in slicing or cutting.
Flake Blank	A flake that is irregular in outline and varies in thickness and size.
Groundstone	Large stones that display smoothed or ground, flattened surfaces resulting from the processing of plant and animal foods.
Hammerstone	Cobbles or cobble fragments that exhibit battered and pitted edges resulting from use as a percussor.
Lithic Scraper	A flake which displays regularized edge retouch to produce a uniform and continuous edge.
Lithic Tool	A manufactured lithic artifact which had an intended design and purpose.
Preform	A well thinned biface that does not have well-shaped or retouched lateral margins.
Projectile Point(s)	A finished biface with lateral edges that converge to a point and have been modified at the proximal end to facilitate hafting.
Refuse	Localized historic trash.
Tool	A manufactured artifact which had an intended design and purpose.
Utilized/Modified Flake	A flake with flake scars resulting from use that extend less than 2 mm from the tool edge.

Standard Site Type	Definition
Cairn(s)	A pile or a set of piled stones marking a location.
Cemetery	An area set apart for or containing graves, tombs, or funeral urns.
Homestead	The location of an abandoned residence including the land and associated structures.
Homestead/Ranching	The location of an abandoned residence including the land and associated structures and artifacts and features associated with the practice of animal rearing or husbandry.
Lithic Scatter	A scatter of material produced during the process of lithic reduction and the production of chipped stone tools.
Lithic Scatter and Cairn(s)	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and a pile or a set of piled stones marking a location.
Lithic Scatter and Quarry	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and lithic procurement area.
Open Camp	A precontact site containing a scatter of material produced during the process of lithic reduction and the production of chipped stone tools, manufactured lithic artifact(s) which had an intended design and purpose, and temporary or permanent features located in the open land.
Other-Pre-contact	A pre-contact feature or artifact not conforming to the previously determined schema.
Quarry	Lithic procurement area.
Rock Alignment(s)	A pattern or alignment of at least one course of continuous or intermittent stones in a linear, circular, or semicircular design.

Standard Site Type	Definition
Temporary Camp	A small isolated lithic scatter or lithic and tool scatter absent of features but containing more than 9 artifacts.
Trail	A defined beaten path used for travel and transport through rough country.

1 **4.4.2 Historic Resources**

2 Historic resources identified within the Project analysis area include the following:

Isolated Find Type	Definition
Agriculture	Farming or ranch related artifact(s)
Cairn(s)	A pile of stones marking a location.
Claim Marker	Post, sign, or stacked rocks located on, and designating, a mining claim.
Mining	Associated with the process or industry of obtaining coal or other minerals from a mine.
Refuse	Localized historic trash.

Linear Site Type	Definition
Bridge	A structure carrying a road, path, railroad, or canal across a river, ravine, road, railroad, or other obstacle.
Logging/Railroad	Associated with timber harvesting and/or a track or set of tracks made of steel rails along which passenger and freight trains run.
Other	Anything not specifically defined.
Railroad	A track or set of tracks made of steel rails along which passenger and freight trains run.
Ranching	Associated with the practice of animal rearing or husbandry.
Road	An established pathway leading from one place to another.
Rock Alignment	A pattern or alignment of at least one course of continuous or intermittent stones in a linear, circular, or semicircular design.
Trail Segment	A section of a defined beaten path used for travel and transport through rough country.
Trail Segment and Utility Line	A section of a defined beaten path used for travel and transport through rough country and overhead electric or telephone lines and poles.
Utility Line	Overhead electric or telephone lines and poles.
Utility Line and Water Conveyance	A combination of an overhead electric or telephone line and poles, and a series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches.
Water Conveyance	A series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches.
Water Conveyance and Bridge	A series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches and a structure carrying a road, path, railroad, or canal across a river, ravine, road, railroad, or other obstacle.
Water Conveyance and Railroad	A series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches and a track or set of tracks made of steel rails along which passenger and freight trains run.

Standard Site Type	Definition
Agriculture	Farming or ranch related artifact(s) or features.
Cairn(s)	A pile or a set of piled stones marking a location.
Cemetery	An area set apart for or containing graves, tombs, or funeral urns.
Homestead	The location of an abandoned residence including the land and associated structures.

Standard Site Type	Definition
Homestead/Ranching	The location of an abandoned residence including the land and associated structures and artifacts and features associated with the practice of animal rearing or husbandry.
Mining	Associated with the process or industry of obtaining coal or other minerals from a mine.
Other-Historic	A historic feature or artifact not conforming to the previously determined schema.
Ranching	Associated with the practice of animal rearing or husbandry.
Refuse Scatter	Localized historic trash.
Refuse Scatter and Cowboy Camp	Localized historic trash and historic open camp.
Refuse Scatter and Mining	Localized historic trash and artifacts and features associated with the process or industry of obtaining coal or other minerals from a mine
Refuse Scatter and Ranching	Localized historic trash and artifacts and features associated with the practice of animal rearing or husbandry.
Refuse Scatter and Structure	Localized historic trash and a human made structure.
Refuse Scatter and Trail Segment	Localized historic trash and a section of a defined beaten path used for travel and transport through rough country.
Road	An established pathway leading from one place to another.
Road and Bridge	An established pathway leading from one place to another and a structure carrying a road, path, railroad, or canal across a river, ravine, road, railroad, or other obstacle.
Rock Alignment(s)	A pattern or alignment of at least one course of continuous or intermittent stones in a linear, circular, or semicircular design.
Structure	Any above ground constructed historic feature retaining enough of its physical integrity to be determined more than a foundation or ruin.
Survey Marker	U.S. Geological Survey (USGS) survey marker.
Survey Marker and Refuse Scatter	Localized historic trash and a USGS survey marker.
Survey Marker and Water Conveyance	USGS survey marker and a series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches.
Trail	A defined beaten path used for travel and transport through rough country.
Utility Line	Overhead electric or telephone lines and poles.
Water Conveyance	A series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches.
Water Conveyance and Railroad	A series of linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches and a track or set of tracks made of steel rails along which passenger and freight trains run.

1 **4.4.3 Multicomponent Resources**

2 Multicomponent resources identified within the Project analysis area include the following:

Isolated Find Type	Definition
Debitage and Preform and Refuse	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and a well thinned biface that does not have well-shaped or retouched lateral margins, and localized historic refuse.
Debitage and Refuse	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and localized historic trash.

Debitage and Tested Cobble and Refuse	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and, a cobble that exhibits percussion breaks or flake removal scars, and localized historic trash.
Debitage and Tested Cobble and Refuse	A combination of material produced during the process of lithic reduction and the production of chipped stone tools and, a cobble that exhibits percussion breaks or flake removal scars, and localized historic trash.

Standard Site Type	Definition
Lithic and Tool Scatter and Mining	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools, manufactured lithic artifact(s) which had an intended design and purpose, and artifacts or features associated with the process or industry of obtaining coal or other minerals from a mine.
Lithic and Tool Scatter and Ranching	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and manufactured lithic artifact(s) which had an intended design and purpose, and artifacts or features associated with the practice of animal rearing or husbandry.
Lithic and Tool Scatter and Refuse Scatter	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools, manufactured lithic artifact(s) which had an intended design and purpose, and localized historic trash.
Lithic and Tool Scatter with Cairn(s)	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and manufactured lithic artifact(s) which had an intended design and purpose, and a pile or a set of piled stones marking a location.
Lithic Scatter and Cairn(s)	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and a pile or a set of piled stones marking a location.
Lithic Scatter and Mining	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and artifacts or features associated with the process or industry of obtaining coal or other minerals from a mine.
Lithic Scatter and Refuse Scatter	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and localized historic trash.
Lithic Scatter and Refuse Scatter and USGS Marker	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools, localized historic trash, and a USGS survey marker.
Lithic Scatter and Survey Marker	A combination of a scatter of material produced during the process of lithic reduction and the production of chipped stone tools and a USGS survey marker.
Open Camp and Survey Marker	A precontact site containing a scatter of material produced during the process of lithic reduction and the production of chipped stone tools, manufactured lithic artifact(s) which had an intended design and purpose, temporary or permanent features located in the open land, and a USGS survey marker.
Other-Multicomponent	Any combination of historic and pre-contact features or artifacts not conforming to the previously determined schema.
Temporary Camp and Ranching	A small isolated lithic scatter or lithic and tool scatter absent of features but containing more than 9 pre-contact artifacts and historic ranching related artifacts and/or features.
Temporary Camp and Refuse Scatter	A small isolated lithic scatter or lithic and tool scatter absent of features but containing more than 9 pre-contact artifacts and historic refuse.
Temporary Camp and Water Conveyance	A small isolated lithic scatter or lithic and tool scatter absent of features but containing more than 9 pre-contact artifacts and a series of historic linear segments and associated features that assures the transport of water from the main intake structure or main pumping station to the field ditches.

1 **5.0 METHODS FOR DETERMINATION OF ELIGIBILITY AND EFFECTS**

2 This section discusses the methods to be used to determine eligibility and Project effects to
3 resources identified in the Cultural Resource Technical Report (Attachment S-6 of Exhibit S).
4 These same methods will be used if previously unidentified archaeological resources are
5 discovered within the Site Boundary.

6 **5.1 Determination of Eligibility**

7 The Cultural Resource Technical Reports (Exhibit S) submitted to date by IPC's team of
8 archaeologists contain recommendations for eligibility, which will be reviewed and accepted or
9 modified by SHPO (see Table 4-2). For each property that is within the Site Boundary, the
10 SHPO will determine likely NRHP eligibility based on the recommendations. It should be noted
11 that the BLM will then seek consensus determinations and concurrence of eligibility with the
12 SHPO for all properties whether on federal, state, tribal, or private lands (PA Sections II, III, and
13 IV). IPC will treat all unevaluated sites as though they are eligible and will try to avoid all
14 unevaluated sites. If avoidance is not feasible, site eligibility will be evaluated and subsurface
15 testing may be required to determine the significance of the site.

16 The Construction Contractor's CRT will include recommendations of eligibility for cultural
17 resources identified within the Site Boundary after the initial Cultural Resource Technical
18 Reports have been approved.

19 **5.2 Determination of Effects**

20 Each historic property is evaluated to determine if the Project will have a significant impact on
21 the resource. An impact occurs if there is a potential to alter the site's attributes that contribute
22 to its NRHP eligibility status. The SHPO will determine if a cultural resource is likely eligible or
23 not likely eligible to the NRHP. As noted here, the BLM, in consultation with the Concurring
24 Parties of the PA, will make determinations of effect consistent with 36 CFR 800.4(d) and
25 identify any adverse effects for each historic property within the Site Boundary in accordance
26 with the criteria established at 36 CFR 800.5(a)(1) and (2)(i)-(vii), and will provide said parties
27 with the results of the finding following 36 CFR 800.11(e)(4)-(6) (PA, Section IV.A).

28 In addition, the BLM utilizes the Visual Contrast Rating (also referred to as VCR) system
29 assessment to determine the indirect visual effects of the proposed Project on historic
30 properties. In addition, BLM will, in consultation with the Concurring Parties of the PA, broadly
31 assess cumulative effects under Section 106 in order to identify reasonably foreseeable,
32 potentially adverse effects as a result of the proposed Project (PA, Section IV.A).

33 Mitigation is only necessary if NRHP-eligibility is determined and final through the Section 106
34 process. These final determinations of effects to historic properties will serve as the basis for
35 IPC's development of specific avoidance, minimization, or mitigation measures presented for
36 review and approval.

6.0 AVOIDANCE AND PROPOSED MITIGATION PLAN

Cultural resources (e.g., objects, sites, structures, historic districts, etc.) identified as NRHP-eligible (historic properties) will be avoided and/or protected. If impacts are unavoidable efforts will be aimed at reducing or compensating for unnecessary impacts. Sites or portions of sites that are found to be significant to the NRHP and that cannot be avoided or protected will require mitigation to reduce impacts to less than significant. Mitigation is only necessary if NRHP-eligibility is determined and final through the Section 106 process. It should be noted, that the EFSC process may require mitigation for archaeological sites or objects on private land, even if the resource is not NRHP-eligible. The appropriate mitigation measures depends on a number of factors, including the applicable criteria for NRHP eligibility. Therefore, mitigation measures for significant impacts to a site-specific properties will be addressed in the appropriate site specific mitigation (Appendix A – Site-Specific Mitigation). This section provides a framework for minimizing and mitigating significant impacts to NRHP-eligible properties, Section 6.1 discusses avoidance, Section 6.2 discusses general mitigation measures, and Section 6.3 discusses potential measures for specific site types identified within the Project Site Boundary/Analysis Areas.

6.1 Avoidance

IPC has designed the Project to avoid NRHP-eligible or listed historic properties to the extent feasible. Cultural resources were identified within or near the Project area early in Project planning through literature reviews and Project-specific surveys. The Project design has been altered where feasible to avoid effects to known significant cultural resources, and IPC is committed to a similar process for future alternative routes. For example, if a proposed access road would affect a pre-contact site, the road was redesigned to avoid the site boundaries. IPC made numerous revisions to the proposed transmission line routes and access roads to avoid effects to known historic properties. Because property eligibility has not yet been determined for all sites, IPC will treat all sites as though they are eligible and will try to avoid all unevaluated sites.

Site-specific treatment and mitigation plans will be developed in consultation with the ODOE, SHPO, and appropriate tribe(s), and approved by SHPO, for historic properties that cannot be avoided as to reduce the impacts to less than significant (see Appendix A).

In many cases, direct effects to historic properties were avoided by relocating a Project facility, but the proposed facility may be installed near the historic property. In order to avoid physical damage to the historic property, the site and a buffer will be marked for avoidance by flagging, fencing, or staking. The buffer will be established on a site-by-site basis determined ODOE and SHPO. In some cases with large sites or complexes of sites, or districts/landscapes, only that part of the site near the construction activities will need to be marked for avoidance.

Construction monitoring to ensure successful site avoidance as planned and to watch for subsurface discoveries during grading, blading, excavation, and other initial mechanical ground-disturbing activities, will be conducted as detailed in the Monitoring Plan (see Section 7).

During Project construction, reclamation, and O&M activities, it is possible that surface and/or subsurface resources, not identified during pedestrian surveys, could be discovered. Section 8, the IDP, details the required response to such a discovery.

6.2 General Mitigation Measures for Historic Properties

Based on the results of the archaeological and above ground resource surveys and avoidance efforts, it is unlikely that significant impacts to NRHP-eligible and listed historic properties can be

1 entirely avoided by this Project. Even if the Project could be redesigned to avoid all direct effects
 2 through ground disturbance, the substantial change in the setting of some important resources
 3 where setting is an aspect of integrity, including NHTs, cannot be entirely avoided and has
 4 already been identified in the survey reports. In addition, there may be resources that due to
 5 their critical location or size cannot be entirely avoided.

6 **6.2.1 Data Recovery as Mitigation for Direct Adverse Effects to Historic**
 7 **Properties**

8 The Project has been designed to avoid direct effects to trails eligible for or listed on the NRHP,
 9 to trail-related resources, and to historic buildings, including fences, corrals, and outbuildings.
 10 Mitigation measures for significant impacts to a site-specific properties will be addressed in the
 11 appropriate site-specific mitigation (Appendix A).

12 NRHP-eligible historic properties that would likely be directly adversely affected by the Project
 13 are pre-contact or historic era resources whose surface or subsurface features or artifacts
 14 cannot be entirely avoided. After all reasonable avoidance and minimization measures have
 15 been implemented and an adverse effect is still probable, mitigation may include data recovery.
 16 For sites determined eligible under 36 CFR 60.4(a, b, c, or d), management for direct impacts
 17 may consist of excavation, research, and analysis, as summarized in Table 6-1.

18 **Table 6-1. Data Recovery Methods for Unavoidable Direct Impacts**

Historic Property Category	Example Site Types (not a complete list)	Data Recovery steps for impacts to sites without a subsurface component (i.e. surficial sites)	Data Recovery Steps for impacts to sites with subsurface features or artifacts
Pre-contact	Surface lithic and ceramic scatters, campsites, hearth and features, quarry, rock alignments, petroglyphs	Data Recovery that includes: <ul style="list-style-type: none"> • Surface Collection or in-field artifact analysis and recording • Detailed Surface mapping • Geomorphological studies • Photo documentation • Curation 	Data Recovery that includes: <ul style="list-style-type: none"> • Surface Collection or in-field artifact analysis and recording • Detailed Surface mapping • Geomorphological studies • Controlled scientific excavation • Laboratory analysis • Photo documentation • Curation
Historic Era	Trash scatters, mining sites, homesteads	Data Recovery that includes: <ul style="list-style-type: none"> • Recording • Surface Collection or in-field artifact analysis • Detailed surface mapping • Photo documentation 	Data Recovery that includes: <ul style="list-style-type: none"> • Recording • Surface Collection or in-field artifact analysis • Detailed surface mapping • Controlled scientific excavation • Laboratory analysis • Photo documentation

19 When data recovery through excavation is the only feasible mitigation, a data recovery plan,
 20 which makes provisions for adequately recovering scientific information from and about the
 21 resource, will be prepared. Planning for data recovery excavation to mitigate the loss of
 22 substantial and significant archaeological site(s) will be guided by data gathered during the test
 23 investigations and by the research design. Such data recovery activities as management for

1 unavoidable direct impacts would be confined to the analysis area on federal lands and to the
 2 acquired easement on non-federal public lands and private lands. IPC’s consultants will develop
 3 a data recovery plan in consultation with the ODOE, SHPO, and appropriate tribe(s) (as
 4 applicable). The appropriate state permits will be acquired to conduct all field work.

5 The data recovery plan will also include excavation, analysis, collection, and cataloging methods.
 6 Once data recovery and analysis are completed, the results will be provided in a report prepared
 7 by the Cultural Resources Specialist (CRS; see Section 4.5 for reporting and review).

8 In addition to data recovery, off-site mitigation may also be proposed and approved. Typical off-
 9 site mitigation measures can include methods listed for indirect effects in Table 6-2 and those
 10 additional measures listed in Section 6.2.2, below.

11 **6.2.2 Mitigation for Indirect Effects to Historic Properties**

12 NRHP eligible historic properties that are indirectly affected by the construction, reclamation, or
 13 O&M of the Project may be mitigated by the following (but not limited to): historic
 14 documentation, photographic documentation both modern and historic, collection of oral
 15 histories, or architectural, landscape, or engineering documentation. Mitigation measures for
 16 significant impacts to a site-specific properties will be addressed in the appropriate site-specific
 17 mitigation (Appendix A). Table 6-2 lists management methods for unavoidable indirect effects to
 18 historic properties. Actual management will be determined through consultation with the ODOE,
 19 SHPO, and appropriate tribe(s), as applicable.

20 **Table 6-2. Management Methods for Adverse Indirect Effects**

Historic Property Category	Example Site Types (not a complete list)	Management Methods for Adverse Indirect Effects
Trails (NHT, stage trails, freight roads, etc.)	Stations Corrals Trail traces Burial Burial Inscriptions	<ul style="list-style-type: none"> • Recording—including HABS/HAER/HALS • Additional literature or archival review (e.g. historic maps, local papers). • remote sensing • Purchase of conservation easement or other land protection where trail traces exist • Historic Trails Restoration within and outside Project area • Signage and interpretive plans for adversely affected historic trail segments near Project area
Historic Structures	Farms and ranch sites, buildings, utility lines, water conveyance systems, mining, bridges, etc.	<ul style="list-style-type: none"> • Photo documentation and scale drawings • HABS/HAER/HALS documentation • Additional archival and literature review • Restoration of historic structure • Relocation of historic structure
Traditional Cultural Properties	Types could include ceremonial areas, vision quest or gathering areas	<ul style="list-style-type: none"> • Tribal ceremonies/education • Additional literature/archival review • Ethnographic documentation • Oral histories

HABS – Historic American Building Survey; HAER – Historic American Engineering Record; HALS – Historic American Landscape Survey

6.3 Mitigation Measures for Specific Site Types Identified within the Site Boundary

Based on the cultural resource studies for the Project, the following site types have been identified within the Site Boundary. If avoidance is not feasible, minimization and mitigation measures will be implemented and the following is a general framework for such strategies per site type. Site specific treatment plans will be guided by the Oregon SHPO's Guidelines for Conducting Field Archaeology in Oregon (2013) and developed in consultation with IPC, CRT, ODOE, SHPO, and appropriate THPO and tribe(s) as applicable. Table 6-3 list potential minimization and mitigation measures for direct effects to specific site types. The mitigation measures noted in this table would be deployed for impacts to historic properties in a manner consistent with the PA in Exhibit S, Attachment S-5.

Table 6-3. Framework for Potential Minimization and Mitigation for Direct Impacts to Specific Archaeological Site Types Identified within the Analysis Area

Site Type	# of resources	Potential Minimization/Mitigation (direct effects)
Pre-Contact		
Lithic Scatter	8	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Lithic/Tool Scatter	22	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Quarry	5	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Temporary Camp	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Multicomponent Sites		
Lithic Scatter & Refuse Scatter	2	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).

Site Type	# of resources	Potential Minimization/Mitigation (direct effects)
Lithic/Tool Scatter & Refuse Scatter	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Lithic/Tool Scatter, Ranching Complex, Water Conveyance	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Possible Rock Art, Utility Line, and Water Conveyance	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Quarry & Refuse Scatter	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Quarry, Water Conveyance, & Refuse Scatter	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Temporary Camp & Water Conveyance	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Temporary Camp, Lithic/Tool Scatter, Refuse Scatter, and Ranching	1	Data recovery (controlled excavation), or in place preservation/protection (capping with clean fill). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Historic Sites		
Agriculture	1	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Bridge	1	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Homestead	3	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).

Site Type	# of resources	Potential Minimization/Mitigation (direct effects)
Homestead/Ranching	1	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Logging/Railroad	1	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Mining	10	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Railroad	3	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Railroad & Utility Line	1	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Ranching	5	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Refuse Scatter	26	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Road	6	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Structure	1	Recordation, HABS/HAER/HALS documentation, repair, rehabilitation, or restoration (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Survey Marker	1	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Survey Marker & Refuse	1	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Trail Segment	4	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.), rehabilitation of off-site trail segment.

Site Type	# of resources	Potential Minimization/Mitigation (direct effects)
Trail Segment & Utility Line	1	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g. website, kiosk, etc.), rehabilitation of off-site NHT trail segment.
Utility Line	2	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Utility Line & Water Conveyance	1	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Water Conveyance	23	Recordation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).
Water Conveyance & Bridge	1	Recordation, HABS/HAER/HALS documentation. Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g. website, kiosk, etc.).
Undetermined Sites		
Rock Circle	1	Recordation, data recovery (if applicable). Off-Site: publish research focus article or professional society presentation, or public education and outreach (e.g., website, kiosk, etc.).

1

2 Even with the use of Best Management Practices, project features, and avoidance and effect
 3 minimization measures, unavoidable direct, indirect, and cumulative effects may remain for
 4 resources that would be likely eligible or listed in the NRHP under 36 CFR 60.4 under Criteria a,
 5 b, or c. These impacts would be treated differently from direct effects and would require other
 6 types of mitigation measures. These measures would include historic documentation,
 7 photographic documentation, collection of oral histories, and/or architectural, landscape, or
 8 engineering documentation. Table 6-4 provides a list of property types, the number of those
 9 types within the analysis area, the number of the types that are likely eligible, eligible, or listed in
 10 the NRHP, and the types of proposed mitigation measures for remaining impacts. The mitigation
 11 measures noted in this table would be deployed for impacts to historic properties in a manner
 12 consistent with the PA in Exhibit S, Attachment S-5. The mitigation measures selected for
 13 specific impacts on specific resources will be selected in consultation with the Oregon SHPO
 14 and ODOE, and appropriate THPO and tribe(s), as applicable.

1 **Table 6-4. Framework for Potential Minimization and Mitigation for Indirect and**
 2 **Direct Impacts to Specific Aboveground Site Types Identified within the Analysis**
 3 **Area**

Built Environment Resource Type	# of resources¹	Potential Minimization/ Mitigation (indirect and direct impacts)
Trails (Oregon NHT, Lewis and Clark NHT, stage trails, freight roads, etc.)	11	Recordation in HABS, HAER/HALS; metal detector surveys, additional historical research, information pamphlets, trail segment management plans; conservation easements; land acquisition; National Register nomination
Historic Buildings (Store, bank, Cabins, Homestead, etc.)	614	Recordation in HABS, HAER/HALS; restoration of historic building; relocation of historic building; oral histories
Historic Structures (Railroad, mining, resources, bridge, utility lines, water conveyance, etc.)	16	Recordation in HABS, HAER/HALS; restoration of historic structure; relocation of historic structure; oral histories
Historic Districts (residential, commercial, industrial, agricultural)	3	Historic district design guidelines for utilities, repair and maintenance guidelines, print publication, video media publication (website/podcast/video)
Archaeological resources with above ground features (Cemeteries, cairns, rock alignments, house pits, hunting blinds, middens, camp, quarry, rock art, rock shelter	116	Ethnographic documentation; resource management plan; recordation in HABS/HAER/HALS (if appropriate); partnership and funding for public archaeology projects; print publication, video media publication (website/podcast/video)
Traditional Cultural Properties (Ceremonial areas, vision quest, or gathering areas, etc.)	Contingent upon consultation	Ethnographic documentation; resource management plan; recordation; oral histories

¹ The number of resources includes all resources that were identified as of September 2015. During the intensive level survey, the number of resources subject to mitigation due to Project impacts will likely be less as additional information is collected to verify eligibility for the NRHP and as Project effects are analyzed for those sites that are likely to be eligible for the NRHP.

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1 **7.0 MONITORING PLAN**

2 This Monitoring Plan (MP) specifically addresses monitoring for cultural resources (including,
3 but not limited to, archaeological objects and sites likely NRHP-eligible or listed historic
4 properties during construction of the Project. This MP provides details regarding roles and
5 responsibilities of various personnel in the field. OAR 345-021-0010(1)(s)(E) requires the
6 development of this MP as part of the HPMP for implementation during construction, operations,
7 and maintenance.

8 The purpose of this MP is to specify:

- 9 • How avoidance of known resources will be ensured and documented during
10 construction,
- 11 • How monitors will interact with other environmental compliance staff and construction
12 personnel, and
- 13 • How monitors will employ the IDP.

14 This MP, as part of the Project-wide HPMP, will be supplemented with a set of confidential
15 Project maps (Appendix B – Confidential Project Maps) that will illustrate site-specific resource
16 avoidance details, including monitoring of areas determined to have a high probability for buried
17 cultural deposits. This MP subsection presents the roles and responsibilities of the CRT as well
18 as specifies the monitoring procedures to be followed during construction activities.

19 **7.1 Cultural Resources Team**

20 The CRT is a part of the Construction Contractor's environmental inspection team and will
21 report to and coordinate with the Construction Contractor's Environmental Manager (CCEM).

22 The Construction Contractor's CRT will conduct cultural resource field monitoring, ensure
23 compliance with requirements within the HPMP and implement treatment, as applicable. Such
24 activities will be inspected and coordinated by the ODOE.

25 The following sections describe the qualifications, roles, and responsibilities of each member of
26 the CRT.

27 **7.1.1 Cultural Resources Specialist (Principal Investigator)**

28 **Qualifications**—The CRS must have a Ph.D. or Master of Science (MS) or Master of Arts (MA)
29 meet, and meet the Secretary of the Interior's Professional Qualifications Standards for
30 archaeology, history, or architectural history as published in Title 36 CFR 61, and in addition
31 must have:

- 32 • At least 5 years of archaeological resource mitigation and field experience; and
- 33 • At least 3 years of experience in a decision-making capacity regarding cultural resources
34 on construction projects, and the appropriate training and experience to knowledgably
35 make recommendations regarding the significance of cultural resources.

36 In addition, before construction begins, the CRS must hold current appropriate state BLM
37 Cultural Use Permit and Field Authorizations, USFS permit, and any other federal and state
38 permits that are required for conducting cultural resources activities on such lands managed by
39 state and federal agencies.

40 The CCEM will provide written documentation, such as a resume, on the qualifications of the
41 CRS to the SHPO, ODOE, Compliance Inspection Contractor (CIC), and IPC's Environmental
42 Manager(s) no less than 75 days prior to the start of ground disturbance. At least 15 days prior

1 to ground disturbance, the CRS will provide a letter to the CIC naming Cultural Resource
2 Monitors (CRMs), including sufficient alternates to account for absences, for the Project
3 demonstrating that the identified CRMs meet the minimum qualifications for cultural resource
4 monitoring.

5 **Responsibilities**—The CRS will be the primary point of contact for the CRT. The CRS will
6 coordinate directly with the ODOE and CCEM and with the CIC. The CIC will act as the conduit
7 to the ODOE. The CRS will be responsible for cultural resource-related notifications to the
8 ODOE and CCEM, who will be responsible for notifying IPC. The CRS will be responsible for
9 the analysis and the overall quality of the monitoring reports and discovery reports, if any. The
10 CRS is responsible for the planning, execution, completion, and quality of the cultural resources
11 monitoring tasks undertaken just prior to and during the Project construction.

12 The CRS will be responsible for obtaining construction plans and schedules from the
13 Construction Contractor and for tasking field personnel to monitor construction and evaluate or
14 conduct data recovery (e.g., excavations) for any archaeological sites discovered during
15 construction.

16 The CRS will direct the preparations for and execution of day-to-day construction monitoring
17 activities, which will include the following actions:

- 18 • Present the cultural resources section of the environmental training program (an
19 employee training program for all construction personnel prior to ground-disturbing
20 activities. Cultural resource training, developed in consultation with the ODOE, BLM and
21 Concurring Parties of the PA will include the proper procedures to follow in the event that
22 cultural resources are encountered during Project ground disturbance. The
23 environmental training program may include an approved video, training pamphlets, or
24 other media resources.
- 25 • Direct the CRM(s) regarding where and when to monitor Project construction activities.
- 26 • Review the CRM's daily monitoring log(s).
- 27 • Prepare a monthly summary report during active construction on the progress or status
28 of cultural resources-related activities and submit to the CIC, who will submit the report
29 to the ODOE. The summary will include any new archaeological site forms for any finds
30 identified under the monitoring program (see Appendix C, Oregon state isolate form).
- 31 • Notify the CCEM, the CIC, and the ODOE by telephone or email of unanticipated
32 discoveries of any cultural resources within 24 hours of becoming aware of the situation.
- 33 • Notify the CCEM, the CIC, and ODOE by telephone or email of any incidents of
34 noncompliance related to cultural resources within 24 hours of becoming aware of the
35 situation, and recommend corrective action to resolve the problem or achieve
36 compliance.
- 37 • Obtain additional technical specialists or additional monitors, if warranted or required.
- 38 • Oversee the implementation and/or implement the IDP (Section 8).
- 39 • Oversee the completion of site forms and other appropriate documentation of
40 discoveries by members of the CRT.
- 41 • If a site is determined eligible for the NRHP, the CRS will consult with the ODOE and the
42 CCEM. The CCEM will be responsible for coordinating with IPC's Environmental
43 Manager(s). The CRS will develop a treatment plan for the historic property if it is not
44 covered by the HPMP. The ODOE will be responsible for coordinating with SHPO.
- 45 • Determine the scope, methods, and techniques to be used for test investigations or data
46 recovery and analysis of artifacts and other materials, as applicable.

- 1 • Oversee the completion of any required test excavations or data recovery excavations,
2 and any curation.
- 3 • Oversee the completion of field analysis, curation, and reports of tests excavations, data
4 recovery excavations, and ensure that the reports meet PA requirements and the
5 appropriate SHPO standards for completeness and quality.
- 6 • Oversee the completion of the final mitigation and monitoring report, post-construction.

7 **7.1.2 Cultural Resource Monitors**

8 A Lead CRM will be assigned by the CRS to direct daily monitoring activities of the CRMs.
9 CRMs will conduct the daily archaeological construction monitoring as specified in the HPMP.
10 Preference will be given to monitors that are familiar with the types of historic and pre-contact
11 resources in the area. The qualifications and responsibilities of the CRM are as follows.

12 **Qualifications**—The Lead CRM will have an MS or MA degree in anthropology, archaeology,
13 historic archaeology, or a related field; at least 2 years of experience conducting archaeological
14 fieldwork under direction of a professional archaeologist with at least 3 months of archaeological
15 construction field and monitoring experience in the region. The CRMs will have a Bachelor of
16 Science (BS) or Bachelor of Arts (BA) degree, be under the direct supervision of a Secretary of
17 the Interior qualified Lead CRM and CRS, and have at least 2 years of experience conducting
18 archaeological fieldwork under direction of a professional archaeologist with at least 3 months of
19 archaeological construction field and monitoring experience in the region.

20 **Responsibilities**—The Lead CRM will be present full time at the Project construction site, as
21 directed by the CRS, to oversee and direct the daily monitoring task of the CRMs. The CRMs
22 will watch ground-disturbing construction activities and inspect cleared ground and excavation
23 areas for signs of previously undiscovered archaeological resources during construction as
24 indicated in the HPMP or until monitoring reduction has been approved by the ODOE.

25 Prior to the start of construction or beginning of monitoring duties, all CRM staff will be trained in
26 the consistent and accurate identification and recording of historic trails (e.g., Oregon National
27 Historic Trail) and other local resource types within the Project region (see Section 4.4). The
28 training location and training staff have not been determined at this time.

29 The CRM will provide daily documentation of construction activity and any findings. The monitor
30 will prepare a daily monitoring log, briefly describing the field conditions, construction progress
31 and activities, non-compliance activities, and record any finds of archaeological material.

32 The CRM will be responsible for implementing the requirements outlined in the environmental
33 training program, HPMP, and IDP. If the CRM or other construction personnel discover
34 archaeological finds during construction, the CRM will have authority to halt construction in the
35 vicinity of the find and will notify the CRS.

36 **7.2 Potential Additional Cultural Support Staff**

37 If the CRS and/or CRM(s) are needed in other areas where construction is continuing and
38 ongoing, and/or in an effort to complete the work within a scheduled amount of time, it may be
39 necessary for the contractor to acquire additional field staff in the event of an unexpected data
40 recovery effort or site-specific treatment. The following additional staff may be acquired, so as to
41 not remove CRMs from their monitoring duties. All archaeological field crews will work under the
42 supervision of the CRS.

1 **7.2.1 Field Director**

2 **Qualifications**—The Field Director will have an MA in anthropology, archaeology, historic
3 archaeology, or a related field, and meet the requirements of the appropriate Oregon state
4 permit for Qualified Archaeologists. Additionally, the Field Director should have at least 1 year of
5 experience directing field work with at least 4 months of experience with comparable cultural
6 resource types and in similar cultural contexts and environmental settings.

7 **Responsibilities**—The Field Director, under the supervision of the CRS, will be responsible for
8 the day-to-day activities of the testing and data recovery investigations, including management
9 of field personnel and coordination of crews. The Field Director will also be responsible for
10 compiling and ensuring the quality of the field data on a daily basis. Additionally, the Field
11 Director will coordinate the work of sub-consultants or other contractors participating in the
12 archaeological field investigations, and will be responsible for implementing the requirements of
13 the environmental training, including daily safety briefings.

14 **7.2.2 Crew Chiefs**

15 **Qualifications**—The Crew Chief(s) will have a BS or BA degree in anthropology, archaeology,
16 historic archaeology, or a related field and at least 1 year of experience as an archaeological
17 crew chief with at least 4 months of experience with comparable cultural resources in similar
18 cultural contexts and environmental settings.

19 **Responsibilities**—The Crew Chief(s), in consultation with the Field Director, will be responsible
20 for implementing the field strategies at individual sites. The Crew Chief will direct the field crew,
21 lay out excavations, and compile collections and field documentation on a daily basis.
22 Additionally, the Crew Chief will be responsible for implementing on-site safety procedures
23 and/or environmental training.

24 **7.2.3 Field Crew**

25 **Qualifications**—The field crew for any field recording or excavation activities will have a BS or
26 BA degree in anthropology, archaeology, historic archaeology, or a related field, and field school
27 experience.

28 **Responsibilities**—Field crew members will conduct surface examinations and hand
29 excavations, and monitor mechanical test investigation excavations. Each crew member will
30 operate under the direct supervision of the Crew Chief and will conduct basic documentation of
31 field operations, including the completion of excavation-level records, bag labeling, and trench
32 monitoring forms.

33 **7.2.4 Laboratory Director**

34 **Qualifications**—The Laboratory Director will have a BS or BA degree in anthropology,
35 archaeology, historic archaeology, or a related field and field school experience.

36 **Responsibilities**—The Laboratory Director will be responsible for directing all phases of
37 laboratory processing of the data recovery collections, including check-in, cleaning, sorting,
38 cataloguing, analyzing, distributing special samples, and preparing for curation. The Laboratory
39 Director will coordinate closely with the CRS to ensure that the appropriate data are
40 documented and compiled.

41 **7.3 Monitoring and Avoidance Procedures**

42 This section describes the monitoring procedures that will apply Project-wide. The objectives of
43 monitoring are to ensure and document avoidance of archaeological objects and sites likely
44 eligible or listed to the NRHP during Project construction, to identify at the time of discovery any

1 archaeological materials exposed during ground disturbance, and to protect such resources
2 from damage while recommendations of likely NRHP-eligibility are reviewed and approved by
3 the SHPO (in consultation with ODOE and other appropriate parties).

4 **7.3.1 Cultural Resource Construction Monitoring**

5 Cultural resource monitoring for the Project will be conducted Project-wide, unless otherwise
6 specified by the ODOE or SHPO. For the purposes of this HPMP, archaeological construction
7 monitoring is defined as on-the-ground, close-up observation by a CRS or CRM, meeting the
8 qualifications prescribed in Section 7.1, Cultural Resources Team.

9 The CRS and/or CRM will be present during mechanical scraping, grading, excavating, and
10 other ground disturbing activities (as applicable). Cultural resource monitoring will not be
11 required once all surface and subsurface ground disturbance in a construction area is
12 completed or if equipment or vehicles are traveling over previously disturbed surfaces. Routine
13 travel on existing or disturbed roads or across disturbed transmission structure pads will not be
14 monitored for cultural resources. However, additional blading or excavating at a depth beyond
15 the previously disturbed area will be monitored for cultural resources, even within previously
16 graded or bladed areas. A CRM will be required when sensitive resources barriers are installed
17 to protect NRHP eligible or listed resources and archaeological objects and sites, as applicable.
18 The CRM will ensure that the barrier is erected in the proper place. The barriers or sensitive
19 resource signage will be removed once construction is completed in that area.

20 The CRM will maintain daily monitoring logs (Appendix D – Monitoring Log) of Project-related
21 construction monitoring activities. Logs will reflect the daily monitoring activities and will include:

- 22 • Date, time of work, and amount of time spent at a construction monitoring location;
- 23 • Area of work (defined by segment, tower structure number, and or milepost);
- 24 • Type of work, equipment present, and name of construction crew being monitored
- 25 • Construction activities being performed (e.g. grading, excavation, etc.);
- 26 • Documentation of successful resource avoidance;
- 27 • Activities for which there are cultural resource problems, non-compliances, or other
28 concerns;
- 29 • Identification of an unanticipated discovery, steps taken to protect the discovery, and
30 documentation of notifications (name, agency, time, and notes); and/or
- 31 • Color digital photographs (as appropriate) to document construction and monitoring
32 activities and submitted as attachments to the daily log.

33 CRMs will prepare and provide their monitoring logs daily to the CRS. The CRS will prepare and
34 provide monthly summary reports on the progress or status of cultural resources-related
35 activities during active construction. The monthly reports will summarize construction progress,
36 monitoring (monitor name, dates worked, finds, issues, etc.), and status of cultural resource-
37 related issues. These reports will also include the appropriate state archaeological isolate or site
38 forms for finds identified under the monitoring program (see Section 8). The CRS will submit the
39 reports to the ODOE to ensure compliance with Site Certificate.

40 The CRS will direct the preparation and distribution of a Cultural Monitoring Results report, or
41 any other outstanding report actions (e.g., mitigation) under the HPMP, no later than 3 years
42 after the completion of the relevant Project work element. All reports will be submitted to the
43 ODOE and SHPO. For additional survey reporting and review times during construction, please
44 see Section 7.4.1, Construction Change Management below.

1 **7.3.2 Change in Full-Time Monitoring Status**

2 If the CRS determines that full-time monitoring is not necessary in certain construction locations
3 and that monitoring will be conducted on an “as needed” intermittent schedule, the CRS will
4 provide in writing (via email) to the ODOE, who will coordinate with SHPO (at least 24 hours
5 prior to implementing any change) explaining the decision to reduce the level of monitoring. The
6 ODOE will provide written approval to the CRS and CIC via email within 10 days of receiving
7 notice to reduce monitoring.

8 **7.3.3 Inadvertent Discoveries**

9 If a discovery is made, the notification procedures found in the IDP (see Section 8) shall be
10 followed on non-federal public lands and private lands in Oregon.

11 If requested by a Native American group/tribe, the ODOE will send the appropriate Native
12 American representative a notification (via letter or email) following the discovery of Native
13 American cultural materials other than those considered isolates (unless otherwise specified).

14 The CRS and the CRM(s) will have the authority to temporarily halt construction operations
15 within a 200-foot radius of a find or exposed resource to determine if historic properties are
16 present and if they will be adversely affected by continuing construction operations. The CRS or
17 CRM will be responsible for delineating the area within which construction will halt using
18 flagging tape, rope, or some other means as necessary.

19 **7.3.4 Flagging, Fencing, and Signage Measures**

20 For Project construction activities, the CRM will flag, fence or provide signage for previously
21 recorded and newly identified culturally sensitive areas that are within 200 feet of Project
22 construction, to ensure such resources are avoided and that ground-disturbing construction
23 activities do not impact flagged site boundaries or inadvertent discoveries. “Environmentally
24 Sensitive Area” signage will be used for culturally and biologically sensitive areas during
25 construction. The signage will be posted around (with a buffer) the cultural resource sensitive
26 area by the cultural resource monitor one day prior (as practical) to construction in the area (to
27 avoid drawing attention to the area prior to construction).

28 The CRS and/or a CRM will field check and maintain signage and ensure that it remains in
29 place while construction activities in the vicinity are active. The CRS or CRM will remove the
30 flagging and/or signs following the completion of Project-related construction activities in the
31 vicinity.

32 **7.3.5 Monitoring Locations and Schedule**

33 The CRS and/or Lead CRM and CRM(s) will observe ground disturbance as specified in Section
34 7.3.1, Cultural Resource Construction Monitoring. The CRS will obtain a construction schedule
35 from the Construction Contractor at least 2 weeks prior to the start of ground-disturbing activities
36 to ensure proper CRM staffing and confirm monitoring locations. The CRS and/or Lead CRM
37 will then establish a schedule for the CRM(s) to follow and a protocol for communication with the
38 CIC and the CCEM, who will confer with the CRS on any changes to construction dates. Daily
39 updates or changes to the construction schedule will be provided by the Construction Contractor
40 to the CRS and the CIC, as appropriate.

41 **7.4 Construction Compliance**

42 The CRS and Lead CRM will coordinate with the CIC to monitor and report problem areas and
43 any non-compliance issues to the ODOE. The CRS will then notify the CCEM, who will notify
44 IPC’s Environmental Manager(s).

1 Non-compliance procedures will be specified in the Conditions of Site Certification and will be
2 followed. If the non-compliance includes unauthorized or unmonitored ground disturbance,
3 cultural resource surveys to determine presence of or damage to cultural resources will be
4 required, effects determinations and mitigation also completed if indicated, and a written notice
5 from the SHPO and ODOE received, before construction will be allowed to continue in the non-
6 compliance area.

7 **7.4.1 Construction Change Management-Site Certificate Amendment**

8 During construction, operation, and/or maintenance of the Project, unforeseen or unavoidable
9 site conditions can result in the need for changes from approved mitigation measures and
10 construction and O&M procedures. Additionally, the need for route realignments, extra
11 workspaces, or access roads outside of the previously approved construction work areas may
12 arise (e.g., to avoid an inadvertent discovery), resulting in the need to prepare an amendment to
13 the Site Certificate (see Section 3.2). The CIC will consult with the CRS for any amendment(s)
14 requested by the Construction Contractor to ensure cultural resource compliance. All applicable
15 procedures as specified in the HPMP and Conditions of Site Certification will be followed.

16 If a new area outside the previously surveyed analysis area is proposed for ground disturbance,
17 a survey for cultural resources must be conducted and a report documenting presence or lack of
18 surface resources submitted as part of the amendment approval process. If cultural resources
19 are found, NRHP eligibility and effects determinations as well as any applicable mitigation must
20 be completed before ground disturbance can be permitted. Mitigation is only necessary if
21 NRHP-eligibility recommendations are determined by SHPO and are final.

22 The SHPO will make every effort to expedite review of reports generated from construction
23 change management. If the inventory results in no cultural resources identified, IPC will submit
24 copies of the draft inventory report to the ODOE and SHPO for a 10-day review and comment
25 period. If the SHPO accepts the findings of the report, the ODOE can assume concurrence and
26 issue the amendment or other applicable authorization to proceed with construction. If not, the
27 report will be revised by IPC's CRS and resubmitted to the SHPO within 10 days. If the
28 inventory report results in no historic properties identified, IPC will submit to the SHPO for a 10-
29 day review and comment period. If changes are necessary, IPC's CRS will provide them to the
30 SHPO within 10 days of receipt. If the SHPO does not respond, the ODOE will assume
31 concurrence and issue the amendment or applicable authorization to proceed with construction
32 in writing (via email).

33 If likely eligible or NRHP-eligible resources are identified, the CRS will submit a draft report
34 including summaries of potential effects to any historic properties to the SHPO for a 30-day
35 review and comment period. IPC will have 15 days to respond to any SHPO comments. If the
36 SHPO does not respond with comments in 15 days, the ODOE can assume concurrence and
37 issue the amendment or other applicable authorization to proceed with construction in writing
38 (via email).

8.0 INADVERTENT DISCOVERY PLAN

This section provides guidance on the process that will be followed if previously undocumented cultural material or human remains are discovered during construction and operation of the Project. Inadvertent discovery procedures as presented below are designed to ensure compliance with ORS 358.905-955, archaeological sites and objects; ORS 390.235, Permits and Conditions for Excavation and Removal of Archaeological or Historical Material; Rules; Criminal Penalty and its associated OAR 736-051-0080 to 0090; and ORS Chapter 91.740 to 97.760, Indian Graves and Protected Objects; Treatment of Native American Human Remains Discovered Inadvertently or Through Criminal Investigations on Private and Public and State-Owned Lands In Oregon created by the Government to Government Cultural Resources Cluster Group formed under Executive Order 96-30.

8.1 Inadvertent Discovery Procedures

This section provides detailed guidance for Project personnel to follow if cultural resource materials are inadvertently discovered. The procedures differ depending on whether unanticipated cultural materials (Section 8.1.1) or human remains (Section 8.1.2) are encountered on non-federal public lands and private lands in Oregon. Key contacts are provided in Section 8.2.

8.1.1 Inadvertent Discovery of Cultural Materials

In the case of an inadvertent discovery, the following procedures will be followed and all notification will occur within 24 hours:

- The CRS or CRM(s) will have the authority to halt construction operations within a 200-foot radius of a find or exposed resource to access the find and determine whether the find is likely significant and would be affected by continuing construction operations, or if the find is non-cultural. Construction activities can continue outside the established 200-foot radius exclusion zone/no-work zone.
- The CRM will inspect the area for additional resources. The CRM will use flagging tape, rope, or some other means necessary to delineate the area of the find within which construction will halt (this may also include off-site dirt or rock spoil from that area).
- The CRM will immediately notify the CRS (if not present) of the discovery, and provide the CRS with the GPS coordinates, photographs, and description of the observed cultural material.
- If an inadvertent discovery is identified by construction personnel, and a CRS or CRM is not present, the individual that identified the find must halt construction in the area of the find and contact the CRS immediately.
- The CRS will notify the ODOE, Oregon SHPO State Archaeologist or Assistant State Archaeologist, CCEM, IPC, the BLM Cultural Resource Lead, and the CIC of the discovery. The BLM Authorizing Officer will contact the appropriate BLM Cultural Resource Lead, as applicable. IPC will contact the appropriate Landowner.
- ODOE will coordinate and consult with the SHPO State Archaeologist or Assistant State Archaeologist, Landowner, appropriate tribe(s) as appropriate.
- The CCEM will be responsible to notify and coordinate with the Proponents' Environmental Manager(s) of the find and of the stop work activity, as applicable.
- The CRS will prepare a preliminary summary report containing detailed information regarding the observed cultural material, type (e.g., isolate or site), period, Geographic

- 1 Information System coordinates, legal description and location map, photographs, and
2 recommendations regarding likely NRHP eligibility.
- 3 • The SHPO, in consultation with the ODOE, BLM Cultural Resource Lead, Landowner,
4 THPO, and Native American tribe(s) (as appropriate), will determine the likely NRHP
5 eligibility, the Project effects on the discovery, and the treatment of the discovery, based
6 on the recommendations contained in the summary report provided by the CRS.
 - 7 – If the discovery cannot be avoided, and more data are required to make a
8 determination of eligibility, IPC will direct the CRS to prepare and submit a testing
9 plan to the SHPO, ODOE, BLM Cultural Resource Lead, Landowner, THPO, and
10 appropriate Native American tribe(s) for review. Upon SHPO and Landowner
11 approval (and as applicable- approval of the appropriate Native American tribe(s)),
12 IPC's CRS will execute the testing plan. Any excavation will be conducted under a
13 state archaeological permit granted under ORS 390.235.
 - 14 – If the discovery is determined likely eligible or eligible to the NRHP and the Project
15 will have a significant impact, IPC will direct the CRS to prepare a treatment plan for
16 review and approval by the SHPO (in consultation with ODOE and the parties noted
17 above), in an effort to reduce impacts to less than significant. The treatment plan will
18 include (but not limited to) a research design, methods, analysis, disposition of any
19 collected artifacts and curation (as applicable), and a schedule for completing work
20 and report submittals.
 - 21 – Once the treatment plan is approved by the SHPO in writing (via email), IPC can
22 direct the CRS to execute the treatment plan. Any excavation (testing/data recovery)
23 on non-federal public lands will be conducted under a state archaeological permit
24 granted by the State Parks and Recreation Department under ORS 390.235
25 (includes approval by state agency and the appropriate Native American tribe(s)) and
26 OAR 736-051-0080, and on private land under OAR 736-051-0090 (includes ORS
27 390.235, and landowner's written permission).
 - 28 – Within one week of completion of mitigation, IPC will submit a preliminary report
29 containing the results of the mitigation. A final mitigation report will be prepared and
30 submitted to SHPO (and other applicable parties) within the timeframe as specified in
31 the treatment plan.
 - 32 • If the site boundaries can be determined and the discovery can be avoided by Project
33 construction activities, and the discovery will not be and has not been affected by the
34 Project, the CRS will provide this information to the SHPO and ODOE and a determination
35 of eligibility will not be necessary. The site will be treated as eligible to the NRHP and the
36 SHPO, in consultation with the ODOE, BLM Cultural Resource Lead, THPO, and Native
37 American tribe(s) (as applicable), will contact IPC by telephone and in writing (via email)
38 indicating that construction may resume.
 - 39 • If the SHPO, in consultation with the ODOE, BLM Cultural Resource Lead, THPO, and
40 Native American tribe(s) (as applicable), determines the discovery is not NRHP-eligible,
41 the SHPO will contact IPC by telephone and in writing (via email) indicating that
42 construction may resume. No further consultation will be necessary.
 - 43 • The ODOE and SHPO recognize that stopping construction can have a significant
44 negative effect on the project schedule and costs and will act as expeditiously as possible
45 to minimize delays.
 - 46 • No archaeological testing/excavation will occur and no artifacts will be collected without
47 the SHPO (in consultation with ODOE and above noted parties) approval and
48 appropriate state permit(s) requirements.

8.1.2 Inadvertent Discovery of Human Remains

In Oregon, the treatment of human remains discovered on non-federal public lands and private lands will follow the protocol developed by the State of Oregon's Tribal/State Agency Government to Government Cultural Resource Cluster Group in 2006 (updated August 2014): *Treatment of Native American Human Remains Discovered Inadvertently or Through criminal Investigations on Private and Public, State-Owned Lands In Oregon* (see Appendix E). Native American ancestral remains, funerary objects, sacred objects and objects of cultural patrimony associated with Oregon Tribes are protected under Oregon state law, including criminal penalties (ORS 97.740-.994 and 358.905-.961)

If human remains (includes physical remains-bones, teeth, hair, ashes, or mummified or otherwise preserved soft issues of a human), burial, funerary objects, sacred objects, or objects of cultural patrimony are inadvertently discovered during Project construction, **ALL** human remains and associated burial associated material will be treated with dignity and respect, and the following procedures will apply:

PROTOCOL FOR THE IDENTIFICATION OF HUMAN REMAINS:

- **STOP CONSTRUCTION ACTIVITES**

- Immediately halt construction within 200 feet radius of the remains.
- Ensure the area is protected from additional disturbance with flagging, fencing, or by posting a CRM or other project personnel.
- Ensure that the remains will be treated respectfully, and are not touched, moved, photographed, discussed on social media sources (e.g. Instagram, Facebook, Twitter, etc.), or further disturbed.
- Stop Construction will remain in effect and construction will not proceed within a 200 feet radius around the discovery until the appropriate approvals are obtained.

- **NOTIFICATION:** Immediately notify the Oregon State Police and the CRS (if not on site). The CRS will immediately notify the SHPO, Legislative Commission on Indian Services (LCIS), ODOE, Landowner, IPC, and the BLM via telephone and in writing. The LCIS will determine the appropriate Native American tribe(s) to notify. Once identified by the CIS, the appropriate Native American tribe(s) will be notified immediately by the LCIS. See Section 8.2 below for contact information.

- For any human remains discovered on Oregon State or Oregon private lands, ORS Section 97.740 through 97.760 will apply. Oregon laws (ORS 146.090 and .095) outline the types of deaths that require investigation and the accompanying responsibilities for that investigation. The law enforcement official, district medical examiner, and the district attorney for the county where the death occurs are responsible for deaths requiring investigation. Deaths that require investigation include those occurring under suspicious or unknown circumstances.

- If the human remains **are not clearly modern**, then there is a high potential that the remains are Native American and therefore ORS 97.745(4) applies, which requires immediate notification of State Police, SHPO, LCIS, and appropriate Native American Tribe(s) (as noted above).

- As noted above, human remains will be protected and secured from further disturbance. The human remains and associated objects should not be disturbed, manipulated, or transported from the original location until a plan is developed in consultation with the above named parties. These actions will help ensure compliance with Oregon state law that prohibits any person willfully removing human remains and/or objects of cultural significance from its original location, as defined in ORS 97.745.

- 1 • If the human remains are found to be Native American, the State Police, SHPO, ODOE,
2 Landowner, LCIS, CRS, and appropriate Native American Tribe(s) will consult and
3 implement a culturally sensitive plan for reburial.
- 4 • If the human remains are found not to be of Native American decent, historic in nature,
5 and are not part of a crime investigation, IPC will consult with the SHPO, ODOE, BLM,
6 CRS, and Landowner to develop and implement a plan for removal and reburial.
- 7 • For all human remains, reburial plans (and any type of excavation) will be follow Oregon
8 state laws and will be developed and approved by the appropriate parties, and reburial
9 plan(s) will be specific to each inadvertent discovery of human remains.
 - 10 – Per ORS 97.750, excavation by a professional archaeologist of a Native American
11 cairn or burial [human remains] and associated material shall be initiated only after
12 prior written notification to the SHPO and State Police, as defined in ORS 358.905,
13 and with the prior written consent of the appropriate Indian (Native American) tribe(s)
14 in the vicinity of the intended action. Failure of a tribe(s) to respond to a request for
15 permission [to excavate] within 30 days of its mailing shall be deemed consent.
 - 16 – Per ORS 97.750 and 97.745, and as noted above, the LCIS will designate the
17 appropriate tribe(s).

18 **8.2 Key Contacts**

19 Phone numbers for the key contacts in the event of an unanticipated discovery are provided in
20 Table 8-1.

21 **Table 8-1. Key Project Contacts**

Organization	Name	Role	Phone Numbers	Email
Oregon State Police	Chris Allori	Sergeant: identification of human remains	503-731-4717 (o) 503-708-6461 (c) 503-731-3030 (d)	TBA
ODOE	TBA	Lead state agency for non-federal public lands and private lands	TBA	TBA
Oregon SHPO	Dennis Griffin	State Archaeologist	503-986-0674 (o) 503-881-5038 (c)	Dennis.griffin@state.or.us
Oregon SHPO	John Pouley	Assistant Archaeologist	503-986-0675 (o) 503-480-9164 (c)	John.pouley@state.or.us
LCIS	Karen Quigley	Executive Director: provides the name of the appropriate Native American Tribe(s)	503-986-1067 (o)	karen.m.quigley@state.or.us
IPC	Shane Baker	Senior Archaeologist	208-388-2925 (o)	sbaker@idahopower.com
IPC	Dave Valentine	Project Archaeologist	208-388-2855 (o)	dvalentine@idahopower.com
BLM Authorized Officer	TBA	TBA	TBA	TBA

Organization	Name	Role	Phone Numbers	Email
BLM Cultural Resources Lead	Jenna Gaston	Archaeologist	208-373-3894	jpgaston@blm.gov
Project CRS	TBA	TBA	TBA	TBA
Project CCEM	TBA	TBA	TBA	TBA
THPO	Carey Miller	Confederated Tribes of the Umatilla Indian Reservation	541-429-7234 (o)	careymiller@CTUIR.org

*Note: c=cell, o=office, d=dispatch

1 **9.0 REFERENCES CITED**

2 Anderson, S., and E. King

3 2016 Boardman to Hemingway Transmission Line Project Draft Cultural Resource Technical
4 Report, Morrow, Umatilla, Union, Baker, and Malheur Counties, Oregon. Prepared by
5 Tetra Tech, Inc. Golden, Co. Prepared for Idaho Power Company and BLM Oregon
6 Vale District Office, Contract No. CM-3901.

7 BLM (Bureau of Land Management)

8 2016 Boardman to Hemingway Programmatic Agreement. On file at the Oregon and Idaho
9 BLM state offices.

10 Tetra Tech

11 2013 Visual Assessment of Historic Properties Study Plan. Report on file at the Oregon and
12 Idaho BLM state offices.

APPENDIX A
SITE-SPECIFIC MITIGATION (PLACEHOLDER)

APPENDIX B
CONFIDENTIAL PROJECT MAPS

APPENDIX C
OREGON STATE ISOLATE FORM (BLANK)

OREGON STATE CULTURAL RESOURCE ISOLATE FORM

ADMINISTRATIVE DATA

CR_ISOLATE NUMBER:
OWNER:

COUNTY:

LOCATIONAL DATA

LEGAL DESCRIPTION: ___1/4 ___1/4 ___1/4 of SECTION ___ TOWNSHIP ___ RANGE ___
DLC ___ UTM **ZONE:** **EASTING:** **NORTHING:** GPS (Y/N):
USGS QUAD(S) NAME: SERIES: DATE:

ENVIRONMENTAL DATA

ELEVATION: SLOPE: ASPECT:
ITEM DESCRIPTION (Narrative, drawings, sketch map, photo):

Collected? Yes ___ No ___

Recorder:

Date:

ATTACH USGS TOPOGRAPHIC MAP:

**APPENDIX D
MONITORING LOG**

<div style="border: 1px solid black; padding: 2px;"> Report # _____ </div>	<h2 style="margin: 0;">Boardman to Hemingway Transmission Line Cultural Resource Monitor Daily Report</h2>	Date ____ / ____ / ____
--	---	-------------------------

Cultural Resource Monitor: _____ Project Segment: _____ Location (GPS): _____ Construction Company: _____ Equipment Used/Operator Name: _____ Current Weather : _____ Ground Conditions: _____	Check all that apply: No Culture Resource findings: <input type="checkbox"/> Inadvertent Discovery: <input type="checkbox"/> Non-Compliance Issue: <input type="checkbox"/> Incident Reports: <input type="checkbox"/> (attached form as appropriate) Variances: <input type="checkbox"/> (attach to variance form)
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Areas Inspected

Location: _____	Time : _____	Activity : _____
Location: _____	Time : _____	Activity : _____
Location: _____	Time : _____	Activity : _____
Location: _____	Time : _____	Activity : _____
Location: _____	Time : _____	Activity : _____
Location: _____	Time : _____	Activity : _____

Item	Yes	No	N/A	Comments (if no then location)
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Monitors and Sensitive Resources

Monitoring near existing Archaeological site (exclusion area)? If yes, list site number and approximate distance from construction activity in comment section.				
All exclusion areas marked and avoided?				
Inadvertent discoveries of cultural resources? If yes, explain and document identified cultural material type and steps taken on continuation sheet.				
Impacts to existing cultural resource sensitive area(s)? If yes, Non-compliance, explain and document steps taken on continuation sheet.				
Native American Monitor present, as applicable?				

Photographs

Filename:	Filename:
Direction:	Direction:
Description:	Description:
Filename:	Filename:
Direction:	Direction:
Description:	Description:

APPENDIX E
TREATMENT OF NATIVE AMERICAN HUMAN REMAINS DISCOVERED
INADVERTENTLY OR THROUGH CRIMINAL INVESTIGATIONS ON
PRIVATE AND PUBLIC, STATE-OWNED LANDS IN OREGON

Treatment of Native American Human Remains Discovered Inadvertently or Through Criminal Investigations on Private and Public, State-Owned Lands in Oregon

Native American burial sites are not simply artifacts of the tribe's cultural past, but are considered sacred and represent a continuing connection with their ancestors. Native American ancestral remains, funerary objects, sacred objects and objects of cultural patrimony associated with Oregon Tribes are protected under state law, including criminal penalties (ORS 97.740-.994 and 358.905-.961). The laws recognize and codify the Tribes' rights in the decision-making process regarding ancestral remains and associated objects. Therefore both the discovered ancestral remains and their associated objects should be treated in a sensitive and respectful manner by all parties involved.

Identification of Human Remains

- Oregon laws (ORS 146.090 & .095) outline the types of deaths that require investigation and the accompanying responsibilities for that investigation. The law enforcement official, district medical examiner, and the district attorney for the county where the death occurs are responsible for deaths requiring investigation. Deaths that require investigation include those *occurring under suspicious or unknown circumstances*.
- If human remains that are inadvertently discovered or discovered through criminal investigations **are not clearly modern**, then there is high probability that the remains are Native American and therefore ORS 97.745(4) applies, which requires immediate notification with State Police, State Historic Preservation Office, Commission on Indian Services, and all appropriate Native American Tribes. To determine who the "appropriate Native American Tribe" is, the responsible parties should contact the Legislative Commission on Indian Services (CIS). To determine whether the human remains are Native American, the responsible parties should contact the appropriate Native American Tribes at the initial discovery. It should be noted that there may be more than one appropriate Native American Tribe to be contacted.
- If the human remains are possibly Native American then the area should be secured from further disturbance. The human remains and associated objects **should not be disturbed, manipulated, or transported from the original location until a plan is developed in consultation with the above named parties**. These actions will help ensure compliance with Oregon state law that prohibits any person willfully removing human remains and/or objects of cultural significance from its original location (ORS 97.745).
- All parties involved and the appropriate Native American Tribes shall implement a culturally sensitive plan for reburial.

Notification

- State law [ORS 97.745 (4)] requires that any discovered human remains suspected to be Native American shall be reported to -
 1. State Police
 - Sgt. Chris Allori, Office (503) 731-4717, Cell (503) 708-6461, Dispatch (503) 731-3030

2. State Historic Preservation Office (SHPO)
 - Primary contact = Dennis Griffin, State Archaeologist, office phone (503) 986-0674, cell phone (503) 881-5038
3. Legislative Commission on Indian Services (LCIS)
 - Contact = Karen Quigley, Director, office phone (503) 986-1067. Karen will provide the list of appropriate Native American Tribes
4. All appropriate Native American Tribes provided by LCIS
 - Burns Paiute Tribe - Agnes Castronuevo (541) 573-8089
 - Confederated Tribes of Coos, Lower Umpqua and Siuslaw - Stacy Scott, M.A. (541) 888-7513, Cell (541) 297-5543
 - Confederated Tribes of Grand Ronde - David Harrelson (503) 879-1630
 - Confederated Tribes of Siletz - Robert Kentta (541) 444-8244
 - Confederated Tribes of the Umatilla Indian Reservation - Teara Farrow Ferman (541) 276-3447; secondary contact Catherine Dickson (541) 966-2338 or (541) 429-7231
 - Confederated Tribes of Warm Springs - Sally Bird (541) 553-3555
 - Coquille Indian Tribe – Bridgett Wheeler (541) 756-0904
 - Cow Creek Band of Umpqua Indians - Jessie Plueard (541) 677-5575 ext. 5577
 - Klamath Tribes - Perry Chocktoot, Culture & Heritage Director (541) 783-2219

CONFIDENTIAL ATTACHMENT S-10
INTENSIVE LEVEL SURVEY – VISUAL ASSESSMENT OF HISTORIC
PROPERTIES REPORT
