

3.9 Cultural Resources

This section describes OEA's analysis of potential impacts on cultural resources that could result from construction and operation of the proposed rail line. The primary laws that govern the Board's consideration of cultural resources for the proposed rail line are NEPA and the National Historic Preservation Act (NHPA) (54 U.S.C. § 300101 *et seq.*). The Board is coordinating compliance with NEPA and Section 106 of NHPA (54 U.S.C. § 306108). The regulations that implement Section 106 encourage agencies to do so to prevent redundant reviews.

Board authorization of construction and operation of a proposed rail line is an undertaking under the Section 106 regulations of NHPA (36 C.F.R. Part 800). Therefore, in determining whether to authorize such construction and operation, the Board is required to take into account the potential effects of authorization on historic properties. Historic properties under Section 106 are cultural resources that are listed in or eligible for listing in the National Register of Historic Places (National Register), as defined by the regulations for implementing Section 106 (36 C.F.R. Part 60). Historic properties can include buildings, prehistoric and historic archaeological sites, districts, objects, and structures, as well as traditional cultural properties and landscapes (both tribal and historic). The term historic property includes properties of religious or cultural significance to tribes. The NEPA term *cultural resources* as used in this chapter is interchangeable with the Section 106 term *historic properties*.

The subsections that follow describe the study area, data sources and methods used to analyze the impacts, the affected environment, and the impacts of the Action Alternatives on cultural resources.

3.9.1 Analysis Methods

This subsection identifies the study area, data sources, and analysis methods OEA used to assess impacts on cultural resources.

3.9.1.1 Study Area

OEA defined the study area for cultural resources as the area that could be affected by the proposed rail line (40 C.F.R. § 1502.15). Section 106 uses the term area of potential effects (APE) instead of the term study area and defines the APE as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties." The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by an undertaking (36 C.F.R. § 800.16(d)). In this section, the term APE refers to the study area for cultural resources.

In delineating the APE for each of the three Action Alternatives, OEA relied on the terms *rail line footprint*, *temporary footprint*, and *project footprint* defined in Chapter 2, *Proposed Action and Alternatives*.¹ This cultural section incorporates those definitions. The project footprint is

¹ The *rail line footprint* includes the area of the railbed, as well as the full width of the area cleared and cut or filled. The rail line footprint would also include other physical structures installed as part of the proposed rail line, such as fence lines, communications towers, siding tracks, relocated roads, and power distribution lines. The rail line footprint is the area where rail line operations and maintenance would occur. The width of the rail line footprint

conservative, meaning that it may overstate the areas of permanent and temporary disturbance during construction and operation of the proposed rail line.

As described in Section 3.9.3.1, *Impacts Common to All Action Alternatives*, OEA considered the types of activities associated with construction and operation of the proposed rail line, the potential for those activities to result in adverse effects, and the types of historic properties that the proposed construction and operation could affect. As described in more detail in OEA's historic properties technical memorandum (Appendix N, *Historic Properties Technical Memorandum*), OEA defined the APE to include potential impacts on resources located below ground (including resources located on the surface of the ground) and above ground, as follows.

- Below-ground resources.** OEA defined the below-ground portion of the APE to include the project footprint, plus an additional 50-foot buffer. In some areas, it is not possible to add the additional 50-foot buffer to the project footprint because of topographical constraints, such as cliffs. Due to the irregular size and shape of the project footprint, it is not possible to provide a uniform width for the below-ground portion of the APE. OEA anticipates that physical impacts on historic properties could occur within this portion of the APE.
- Above-ground resources.** OEA also defined the APE to include the average width of the project footprint (240 feet), plus an additional 1,500-foot buffer on each side of centerline to conservatively estimate potential impacts. This 1,500-foot buffer is large enough to include potential impacts related to noise, vibration, hydrology, visual resources, and air quality. The above-ground portion of the APE, therefore, extends to 1,740 feet on each side of the centerline for a total width of 3,480 feet. The above-ground portion of the APE encompasses the below-ground portion of the APE. Although OEA does not anticipate physical changes to historic properties within this portion of the APE, changes to their settings are possible.

Table 3.9-1 details the area of the APE for the three Action Alternatives. Appendix N, *Historic Properties Technical Memorandum*, displays the APE.

Table 3.9-1. Area of Potential Effects by Action Alternative

Area of Potential Effects	Resources Affected	Type of impacts	Action Alternative (acres)		
			Indian Canyon	Wells Draw	Whitmore Park
Below-ground portion (includes project footprint plus 50-foot buffer)	All types of resources	Physical impacts	5,010.8	9,297.6	5,814.7
Above-ground portion (1,500-foot buffer beyond below-ground portion)	Above-ground resources only	Impacts on setting	29,001.3	33,422.1	30,996.4
Total			34,012.1	42,719.7	36,811.0

would vary depending on site-specific conditions, such as topography, soil slope stability, and other geotechnical conditions. The area would be permanently disturbed. The *temporary footprint* is the area that would be temporarily disturbed during construction, including areas for temporary material laydown, staging, and logistics. The temporary footprint would be reclaimed and revegetated following construction. The *project footprint* is the combined area of the rail line footprint and temporary footprint, both of which would be disturbed during construction, comprise where construction and operations of the proposed rail line would occur.

3.9.1.2 Data Sources

OEA reviewed a wide variety of background documents and data for this project. The following reports and studies were particularly useful in identifying cultural resources recorded in the APE and determining the potential impacts on these cultural resources that could result from construction and operation of the proposed rail line.

- *Selective Reconnaissance-Level Survey of Archaeological Resources Along Potential Route Alternatives for the Uinta Basin Railway Project in Utah, Carbon, Duchesne, and Uintah Counties, Utah* (Coalition 2020a). These documents are referred to collectively in this section as the Coalition's Technical Reports.
- *Selective Reconnaissance-Level Survey of Historic Architectural Resources Along Proponent Routes for the Uinta Basin Railway Project in Utah, Carbon, Duchesne, and Uintah Counties, Utah* (Coalition 2020b).
- *Badlands ATV Trail Connections* (Knox and Isaacs 2017a).
- Indian Canyon Trail/Indian Canyon Road Utah Archaeology Site Form (Knox and Isaacs 2017b).
- Letter from Elizabeth Hora, Utah State Historic Preservation Office (SHPO), to Kristy Groves, Ashley National Forest, concurring with determination of eligibility for Indian Canyon Trail/Indian Canyon Road, October 2017 (Hora pers. comm.).
- Prehistoric Temporary Campsites in the Uinta Basin, National Register of Historic Places Multiple Property Documentation Form (SWCA Environmental Consultants 2017a).
- Irrigation in the Uinta Basin, 1869 to 1972, National Register of Historic Places Multiple Property Documentation Form (SWCA Environmental Consultants 2017b).
- Shepherding and Sheep Camps in the Uinta Basin, 1879 to 1972, National Register of Historic Places Multiple Property Documentation Form (SWCA Environmental Consultants 2017c).
- *A Cultural Resources Survey of Ames US-6 Cultural Survey project, Utah County, Utah* (Karpinski 2008a).
- IMACS Site Form, Historic Highway 6 (Karpinski 2008b); includes State Historic Preservation Office stamp indicating concurrence with determination of eligibility.

3.9.1.3 Analysis Methods

OEA used the following methods to analyze cultural resources in the APE.

- **OEA coordinated NEPA and NHPA review.** The Board coordinated the Section 106 and NEPA reviews. Appendix N, *Historic Properties Technical Memorandum*, details OEA's approach for fulfilling its responsibilities under Section 106.
- **OEA conducted a Phased Identification approach.** Pursuant to 36 C.F.R. § 800.4(b)(2), OEA applied a Phased Identification approach to satisfy its obligations under Section 106. A Phased Identification is appropriate "where alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted" (36 C.F.R. § 800.4(b)(2)). Use of the Phased Identification process is appropriate in the review of the Coalition's proposed operation and construction because 1) OEA is analyzing three Action Alternatives; 2) the Action

Alternatives consist of corridors between 81 and 103 miles long; 3) the APE consists of large land areas; and 4) access to land for field investigation was restricted.²

The Phased Identification approach allows federal agencies to “defer final identification and evaluation of historic properties” through the use of a Programmatic Agreement (PA) (36 C.F.R. § 800.13 (b)). It requires that OEA establish the “likely presence of historic properties within the area of potential effects for each alternative ... through background research, consultation, and an appropriate level of field investigation, taking into account the number of alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO and or Tribal Historic Preservation Office (THPO), and any other consulting parties.” Appendix O, *Draft Programmatic Agreement*, includes the Draft PA. OEA is requesting comments on the Draft PA from Section 106 consulting parties, other interested stakeholders, and the public.

- **OEA established the likely presence of historic properties.** OEA is carrying out the Phased Identification in two phases. Phase 1 is ongoing as the Board considers the three Action Alternatives assessed in this Draft EIS. It involves establishing the likely presence of historic properties. During this phase, OEA is taking the following actions (Appendix N, *Historic Properties Technical Memorandum*, describes these actions in greater detail).
 - Reviewing and incorporating the Coalition’s background research and its reconnaissance level survey and inventory. Details regarding the portions of the APE that the Coalition has surveyed and inventoried are provided in Appendix N, *Historic Properties Technical Memorandum*.
 - Reviewing and incorporating background research from other sources listed above.
 - Developing an APE for each of the three Action Alternatives.
 - Conducting consultation with Section 106 consulting parties.
 - Making preliminary determinations of eligibility and conducting preliminary effects analysis.
 - Developing a PA pursuant to 36 C.F.R. § 800.14(b)(1)(ii).

OEA would proceed to Phase 2 if the Board authorizes an Action Alternative. OEA’s actions during Phase 2 would include completing the identification and evaluation of historic properties within the APE for the authorized Action Alternative, conducting a robust assessment of effects, and resolving adverse effects in accordance with the terms of the PA. Appendix O, *Draft Programmatic Agreement*, describes Phase 2 actions in greater detail.

- **OEA reviewed and verified the Coalition’s field investigations and literature search.** During the period May through October 2019, the Coalition conducted literature searches and carried out cultural resources field investigations in accordance with an OEA-approved methodology and reported its results in technical reports that OEA reviewed and approved (Coalition 2020a, 2020b). Those technical reports are publicly available online on the Board-sponsored project website (www.uintabasinrailwayeis.com) and are incorporated by reference in this Draft EIS. Consistent with OEA’s Phased Identification approach, field investigations established the presence of historic properties in the APE and the likely presence of additional

² Appendix N, *Historic Properties Technical Memorandum*, identifies the amount of land within the APE that was accessible during field surveys.

historic properties in the APE. Appendix N, *Historic Properties Technical Memorandum*, provides additional information about the field investigations including the acreage of land surveyed within the APE of each Action Alternative.

- **OEA initiated NHPA consultation with an extensive group of potential consulting parties.** In addition to public outreach and stakeholder engagement under NEPA (Chapter 5, *Consultation and Coordination*), OEA initiated NHPA consultation with an extensive group of potential consulting parties. These parties included federal agencies, the Advisory Council on Historic Preservation (ACHP), the SHPO, the Ute Indian Tribe of the Uintah and Ouray Reservation, other federally recognized Indian tribes that may have affiliation with or interest in the region, state agencies, counties, the Coalition, and other parties with knowledge of and interest in historic properties in the APE. OEA conducted extensive consultation with parties that accepted consulting party status, including hosting monthly consulting party teleconferences. OEA also solicited comments from consulting parties on OEA's Phased Identification approach, OEA's preliminary identification and National Register eligibility evaluation efforts, OEA's preliminary assessment of effects, and the content of the Draft PA. OEA intends to continue consultation with all consulting parties regarding Appendix O, *Draft Programmatic Agreement*, until it is finalized and the Board determines whether to authorize an alternative. Appendix N, *Historic Properties Technical Memorandum*, provides a detailed record of consultation.
- **OEA conducted government-to-government consultation with the Ute Indian Tribe.** During consultation, the Ute Indian Tribe indicated its preference for providing information regarding cultural resources on Tribal trust lands directly to OEA through government-to-government consultation rather than permitting the Coalition or OEA access to these lands for the purpose of identification and evaluation during Phase 1 of the Phased Identification process. For purposes of the Phased Identification process and the EIS analysis, the Ute Indian Tribe shared preliminary information regarding tribal cultural resources with OEA. OEA will continue consultation with the Ute Indian Tribe under the terms of the *Draft Programmatic Agreement* (Appendix O), which includes provisions for identifying, evaluating, and assessing effects on properties of religious and cultural significance to the tribe.
- **OEA preliminarily identified historic properties.** Based on the literature search performed by the Coalition, the Coalition's field investigation, information provided by the SHPO, Ute Indian Tribe, and Forest Service, and National Register listings, OEA preliminarily identified 30 historic properties in the APE. OEA requested SHPO concurrence with its eligibility determinations. As of the date of the issuance of this Draft EIS, SHPO's response is pending.
- **OEA preliminarily analyzed effects on historic properties.** Consistent with the Phased Identification approach, OEA analyzed effects on the National Register-eligible historic properties. OEA presented the results of its Section 106 analysis in a Historic Properties Technical Memorandum and requested SHPO concurrence.³ (OEA's analysis of potential impacts on cultural resources in this Draft EIS follows the same methodology as the Appendix N, *Historic Properties Technical Memorandum*).

For the purpose of its preliminary analysis of effects, OEA assumed that construction of the proposed rail line would result in a physical impact on any National Register-eligible

³ As of the date of the issuance of this Draft EIS, SHPO's response regarding concurrence is pending.

archaeological sites located on the ground surface or below ground that are located in the below-ground portion of the APE. Depending on the final design of the proposed rail line and the final construction plan, archaeological sites within the rail line footprint would likely be removed or destroyed, and sites within the temporary footprint could be destroyed or damaged by construction activities.

For built historic resources and archaeological sites above the ground surface (such as rock art sites), OEA defined a preliminary historic property boundary and compared the location of the boundary to the APE. For the purpose of this Draft EIS, OEA defined the historic property boundaries as contiguous with the legal boundary of the real estate parcel on which the resource is located, except as follows:

- For properties located within the jurisdiction of the Bureau of Land Management where real estate parcels do not exist, OEA created a historic boundary by drawing a polygon around the resource to identify its footprint and then applied a 200-foot buffer around that footprint.
- For surface archaeological sites, OEA used the site boundary recorded on the associated inventory form.
- For above-ground archaeological sites, OEA applied a 200-foot buffer around the site boundary recorded on the inventory form.
- For National Register-listed properties, OEA used the boundary description described on the National Register Registration Form.

If OEA found that any part of a historic property boundary is present within the below-ground portion of the APE (the project footprint plus a 50-foot buffer), OEA concluded that construction of the proposed rail line could result in a physical impact on the historic property. In general, OEA expects that physical impacts on historic properties would adversely impact those properties because it would change the characteristics that make them historically significant.

For above-ground historic properties where any part of the historic property boundary is located within the APE but entirely outside of the below-ground portion of the APE, OEA concluded that construction and operation of the proposed rail line would not result in a physical impact but would result in a change to the property's setting. Depending on the characteristics of a particular historic property, a change in setting might or might not be an adverse effect. If the setting of a historic property contributes to the historical significance of the property, then changing the setting may adversely affect the property, even if the property is not physically altered.

This section reports which known historic properties in the APE would experience a physical impact and which resources would experience a change in setting if the Coalition were to construct and operate the proposed rail line. In accordance with the Phased Identification approach, final assessment of effects would occur consistent with the PA if the Board were to authorize an Action Alternative. If the Board were to authorize one of the Action Alternatives, OEA would work with the Coalition and the other Section 106 consulting parties to avoid, minimize, or mitigate adverse effects on historic properties within the APE in accordance with the terms of the PA.

3.9.2 Affected Environment

This subsection identifies the existing environmental conditions related to cultural resources in the APE. The existing environmental conditions are also described in detail in the Coalition's *Selective Reconnaissance-Level Survey of Archaeological Resources* (Coalition 2020a) and *Selective Reconnaissance-Level Survey of Historic Architectural Resources* (Coalition 2020b).

3.9.2.1 Context

As discussed in more detail in Appendix N, *Historic Properties Technical Memorandum*, the Basin has a complex history of human settlement dating back to the Paleoarchaic period. Archaeological evidence shows a steady increase of the land's use by people who remained mobile until the sedentary Fremont tradition became recognizable in the area around 500 A.D. This shift in settlement pattern was accompanied by other changes, including growing reliance on agriculture, semi-permanent architecture, and the introduction of ceramic technology.

Spanish contact with the Basin in 1776 began a long history of Native American dispossession and more intensive Euro-American settlement. The creation of the Uintah Valley Reservation in 1861 formalized Native American removal from the Basin's lands, which some local tribes met with political and physical resistance. Despite this unrest, various Euro-American parties used the land through the 19th century, including the United States Army, miners, ranchers, and members of the Church of Jesus Christ of Latter-Day Saints.

At the turn of the 20th century, the federal government passed laws to reduce the Uintah Valley Reservation's size, which spurred another wave of Euro-American settlement, defined by agriculture and resource extraction. Advances in irrigation and transportation infrastructure made the land more arable and accessible, giving ranchers, miners, and homesteaders better access to marketplaces. The extraction of various metals, natural gas, and oil became important local industries. After declining sharply during the Great Depression, these industries strengthened during World War II and the post-war era and remain important to the local economy today.

3.9.2.2 Ethnography

Ethnography is the study of the culture of a specific group of people and describes how that group uses natural resources and what it considers important in the physical landscape. OEA conducted a literature review of previous studies, books, and other materials regarding the ethnography of the Ute Indian Tribe of the Uintah and Ouray Reservation and analyzed each document for information relating to the Basin. Appendix N, *Historic Properties Technical Memorandum*, presents the results of OEA's research on the ethnography of the Ute Indian Tribe.

Tribal members maintain a holistic worldview, which defines their relationship to the land. They believe a spiritual connection flows between people, animals, plants, water, air, and the landscape itself. This network makes humans responsible for the earth and the many forms of life it sustains. This worldview informed the Ute approach to life as hunter-gatherers with a deep knowledge of their ecosystem and its change between seasons. Although reservation life imposed by Euro-Americans has constricted their relationship to their surroundings, their traditional and spiritual uses for plants, animals, and landscape features persists.

3.9.2.3 Types of Identified Cultural Resources

During Phase 1 of the NHPA Phased Identification process, OEA identified 28 specific historic properties in the APE for the three Action Alternatives that are either listed in or eligible for listing in the National Register and 20 ineligible properties,⁴ which include previously identified and newly identified properties. OEA expects to identify additional National Register-eligible examples of these property types, and likely other property types, during Phase 2 of its NHPA compliance effort.

Tribal Resources

Based on government-to-government consultation between OEA and the Ute Indian Tribe, sensitive tribal cultural resources are present in the APE outside of the project footprint. To protect confidentiality, OEA is not reporting the number, locations, or characteristics of these resources.

Archaeological Resources

Precontact and historic period archaeological evidence is present throughout the Basin. OEA has preliminarily identified one National Register-eligible prehistoric archaeological site the APE of the three Action Alternatives, which consists of a rock art and artifact scatter site (Table 3.9-2).

Table 3.9-2. Archaeological Resources

Resource Identification No.	Trinomial	Resource Description
015	42DC4128	Rock art and artifact scatter

Agricultural Resources

Starting in the 19th century, the Basin supported extensive agricultural uses, particularly sheep and cattle ranching. OEA identified nine National Register-eligible resources in the APE of the three Action Alternatives, including cairns, corrals, and a loafing shed, that represent this historical context (Table 3.9-3). Ranchers used cairns as landmarks to navigate the wide-open terrain that livestock herding demanded. They housed and penned livestock in corrals and sheds.

Table 3.9-3. Agricultural Resources

Resource Identification No.	Trinomial or Parcel No.	Resource Description
017	No Parcel No. 3 BLM	Cairn
020	No Parcel No. 7 BLM	Cairn
021	No Parcel No. 6 BLM	Cairn
002	2A-0313-0000/42CB1898	Corral
018	No Parcel No. 4 BLM	Corral
019	No Parcel No. 8 BLM	Corral
022	2A-0312-0001	Corral
024	330840001	Corral
025	00-0010-7882	Loafing shed

⁴ Several segments of Emma Park Road and Indian Canyon Road are present in the APE. For clarity, OEA counted different segments of the same road as parts of the same resource. Therefore, although Indian Canyon Road has two Resource IDs (004 and 005), OEA counts them together as one resource. Similarly, Emma Park Road has two Resource IDs (026 and 027), which OEA counts as one resource.

Transportation Resources

Settlement and economic development of the Basin are closely tied to transportation links. OEA preliminarily identified seven National Register-eligible transportation resources in the APE of the three Action Alternatives, including several segments of roads and a railroad, and bridges (Table 3.9-4).

Table 3.9-4. Transportation Resources

Resource Identification No.	Trinomial or Parcel No.	Resource Description
028	330970002	Bridge
029	330970001	Bridge
030	00-0009-9154	Bridge
007	42UT1370	Denver and Rio Grande Railroad segment
026	42CB1871	Emma Park Road segment
027	42UT1085	Emma Park Road segment
004	42DC328	Indian Canyon Road segments
005	42DC3802	Indian Canyon Road segments
006	42UT1124	U.S. Highway 6

Residential Resources

OEA identified eight residential National Register-eligible historic properties in the APE, including homesteads, cabins, and vernacular dwellings (Table 3.9-5). Built by homesteaders and settlers, these early 20th century residential resources convey the region's early settlement themes and are becoming increasingly rare.

Table 3.9-5. Residential Resources

Resource Identification No.	Trinomial or Parcel No.	Resource Description
003	00-0009-9329 (24191)	Cabin
010	2A-0425-0000	Cabin
012	00-0009-9287	Cabin
014	150310001B	Cabin
023	2A-0344-0000	Cabin
013	170720004	Homestead
011	00-0001-0373	National-Folk-Style dwelling
016	00-0010-7965	National-Folk-Style dwelling

Land Management Resource

The Forest Service constructed the National Register-listed Indian Canyon Ranger Station in 1914 to house the resident forest ranger responsible for monitoring Ashley National Forest and implementing Forest Service management plans (Table 3.9-6). This property was listed in the National Register in 1999 under Criteria A and C.

Table 3.9-6. Land Management Resources

Resource Identification No.	Trinomial or Parcel No.	Resource Description
001	42465/42DC348	Indian Canyon Ranger Station

Water-Related Resources

Because it is a relatively arid region, settlement and economic development in the Basin depended on reliable access to water. OEA identified two National Register-eligible water-related resources in the APE of one of the three Action Alternatives (Table 3.9-7).

Table 3.9-7. Water-Related Resources

Resource Identification No.	Trinomial or Parcel No.	Resource Description
008	42UN2787	Myton Canal
009	28063	Smith's Well

Yet-to-be-Identified Resources

During Phase 2, OEA expects to identify additional property types in the APE, particularly archaeological and tribal cultural resources. These property types could include, but are not limited to, home sites; sheep camps; mining-related sites; rock shelters; camps; ranches; pipelines, and artifact, lithic, and trash scatters. If these or other property types are identified during Phase 2, OEA would evaluate the properties' eligibility for listing in the National Register in accordance with the terms of the PA and in consultation with the Section 106 consulting parties.

3.9.3 Environmental Consequences

Construction and operation of the proposed rail line would result in impacts on cultural resources. This subsection first presents the potential impacts that would be the same for all three Action Alternatives and then compares the potential impacts that would be different for each Action Alternative. For comparison purposes, this subsection also describes cultural resources under the No-Action Alternative.

As stated previously, OEA assumed that construction of the proposed rail line would impact all National Register-listed or eligible historic properties in the below-ground portion of the APE (the project footprint plus a 50-foot buffer). OEA concluded that a physical impact would occur if any portion of a historic property's boundary is present in the below-ground portion of the APE. A change in setting would occur if a historic property boundary is within the APE but entirely outside of the below-ground portion of the APE. In accordance with the Phased Identification approach, final assessment of effects would occur consistent with the PA if the Board were to authorize an Action Alternative.

3.9.3.1 Impacts Common to All Action Alternatives

This subsection discusses potential impacts on cultural resources that would be the same across the three Action Alternatives.

Construction

Construction of any of the Action Alternatives would require clearing, grading, and operation of heavy equipment that could affect cultural resources above, at, or below the ground surface. Above-ground resources located within the APE but outside the below-ground portion of the APE could experience changes to their setting as a result of construction. Table 3.9-8 shows construction impacts based on historic property type. With the exception of temporary noise, dust, or vibration impacts during construction, all impacts described below would be permanent.

Table 3.9-8. Construction Impacts by Property Type

Construction Activity	Type of Impact	Potentially Affected Property Types
Clearing rail line footprint for staging and construction grading, cuts, excavating earth and rock on previously undisturbed land Excavating footings for structures including communications towers, bridges, and tunnels	Physical destruction of or damage to all or part of the property	All types that are in the path of construction or staging
<ul style="list-style-type: none"> • Railbed construction and staging • Construction of access roads 	Alteration of a property that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 C.F.R. Part 68) and applicable guidelines	All types that can be altered by compression or spreading of fill including but not limited to districts and linear features that need to be rerouted (e.g., roads, trails)
<ul style="list-style-type: none"> • Rerouting irrigation or drainage 	Alteration of a property that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 C.F.R. Part 68) and applicable guidelines	All types in the path of rerouting, e.g., water-related features
<ul style="list-style-type: none"> • Clearing the rail line footprint for construction • Existing road relocation 	Removal of the property from its historic location	All historic properties in the path of construction or staging that can be moved/relocated
<ul style="list-style-type: none"> • Existing road relocation 	Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance	Properties whose setting contributes to its significance
<ul style="list-style-type: none"> • Pile driving or heavy construction equipment that generates temporary noise or vibration • Fugitive dust 	Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features	All types sensitive to temporary visual, noise, vibration, or atmospheric elements
<ul style="list-style-type: none"> • Property acquisition, lease, or easement 	Transfer, lease or sale out of Federal ownership or control	All types on federally managed lands, e.g., BLM and Forest Service

Operations

Operation of any of the Action Alternatives, including train movement and maintenance activities, could result in limited physical effects on the historic properties themselves and could affect the setting of above-ground historic properties. Table 3.9-9 shows potential operations impacts based on historic property type. These impacts would be permanent.

Table 3.9-9. Operations Impacts by Property Type

Consequences from Operation Activities	Type of Impact	Potentially Affected Property Types
<ul style="list-style-type: none"> Changes in water flow from culverts and other drainage structures may lead to erosion or flooding 	Physical destruction of or damage to all or part of the property	All property types that could be damaged by erosion or flooding.
<ul style="list-style-type: none"> Atmospheric elements (engine emissions, dust) Long-term railroad noise and vibration 	Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features	All property types sensitive to visual, noise, vibration, or atmospheric elements
<ul style="list-style-type: none"> Change in land use that results in abandonment 	Neglect of a property that causes its deterioration	Ranches, buildings or structures if their continued use becomes no longer practical
<ul style="list-style-type: none"> Access limitation that results in abandonment 	Neglect of a property that causes its deterioration	Ranches, buildings or structures if their continued use becomes no longer practical

3.9.3.2 Impact Comparison between Action Alternatives

This subsection compares the potential impacts on cultural resources between the three Action Alternatives. Consistent with the Phased Identification approach, this analysis is preliminary. Final identification and evaluation of historic properties, assessment of effects, and resolution of adverse effects would occur in accordance with the terms of the PA. Table 3.9-10 shows a comparison of cultural resources impacts between the Action Alternatives.

Construction

Construction of the proposed rail line would physically alter and potentially destroy cultural resources located within the below-ground portion of the APE (the project footprint plus a 50-foot buffer). Construction activities would also result in visual and noise impacts on cultural resources within the APE but outside the below-ground portion. Cultural resources within the APE that would not be physically changed would experience changes in setting that would continue during rail operations. In addition to the specific cultural resources discussed in this section, it is likely that additional unidentified cultural resources are present in the below-ground portion of the APE that would be physically altered or destroyed during construction. To ensure that effects on unidentified cultural resources are properly assessed and resolved, the Coalition will comply with the terms and conditions of the PA that OEA is developing in consultation with the Section 106 consulting parties (VM-42, VM-43).

Table 3.9-10. Cultural Resources Impact Comparison between Action Alternatives

Resource Description	Resource ID	Location within APE	Type of Change (. Physical vs. Setting) by Action Alternative ^a		
			Indian Canyon Alternative	Wells Draw Alternative	Whitmore Park Alternative
Indian Canyon Ranger Station	001	1,500-foot buffer	Setting	N/A	Setting
Corral	002	Project footprint	Physical	Physical	N/A
Cabin	003	Project footprint	Physical	N/A	Physical
Indian Canyon Road segments	004 and 005	Project footprint	Physical	Physical	Physical
U.S. Highway 6	006	1,500-foot buffer	Setting	Setting	Setting
Denver and Rio Grande Railway segments	007	Project footprint	Physical	Physical	Physical
Myton Canal	008	Project footprint	N/A	Physical	N/A
Smith's Well	009	1,500-foot buffer	N/A	Setting	N/A
Cabin	010	Project footprint	N/A	N/A	Physical
National-Folk-Style dwelling	011	Project footprint	Physical	N/A	Physical
Cabin	012	Project footprint	Physical	N/A	Physical
Homestead	013	1,500-foot buffer	N/A	Setting	N/A
Cabin	014	Project footprint	N/A	Physical	N/A
Rock art and artifact scatter	015	Project footprint	N/A	Physical	N/A
National-Folk-Style dwelling	016	Project footprint	Physical	N/A	Physical
Cairn	017	1,500-foot buffer	N/A	Setting	N/A
Corral	018	1,500-foot buffer	N/A	Setting	N/A
Corral	019	1,500-foot buffer	N/A	Setting	N/A
Cairn	020	Project footprint	N/A	Physical	N/A
Cairn	021	1,500-foot buffer	N/A	Setting	N/A
Corral	022	Project footprint	Physical	Physical	N/A
Cabin	023	1,500-foot buffer	N/A	N/A	Setting
Corral	024	Project footprint	Physical	Physical	Physical
Loafing shed	025	Project footprint	Physical	N/A	Physical
Emma Park Road segments	026 and 027	Project footprint	Physical	Physical	Physical

Resource Description	Resource ID	Location within APE	Type of Change (. Physical vs. Setting) by Action Alternative ^a		
			Indian Canyon Alternative	Wells Draw Alternative	Whitmore Park Alternative
Bridge	028	Project footprint	Physical	Physical	Physical
Bridge	029	Project footprint	Physical	Physical	Physical
Bridge	030	Project footprint	Physical	N/A	Physical
Resources Physically Impacted			14	12	13
Resources Impacted by Change in Setting			2	7	3
Total			16	19	16

Notes:

^a N/A = not within APE

The APE for the Indian Canyon Alternative includes 16 known historic properties, as well as sensitive tribal cultural resources. Of the known resources in the APE for the Indian Canyon Alternative, 14 are located within the project footprint and could be physically altered or destroyed during construction. These 14 resources include three corrals (002, 022, and 024), two road segments (004/005 and 026/027), a segment of railroad (007), three bridges (028, 029, and 030), two National-Folk-Style dwellings (011 and 016), two cabins (003 and 012), and one loafing shed (025). Indian Canyon Road, a linear resource located in the APE for the Indian Canyon Alternative, would experience a physical impact. It is a historic transportation route that passed from Duchesne toward Helper parallel to present-day U.S. Highway 191 (US 191). This roadway's alignment follows an older trail network that dates back to the Precontact period, and the extant segments played an important role in the regional economy for pedestrian, wagon, and later automobile traffic from the turn of the 20th century until US 191 replaced the route in the 1970s.

The APE for the Wells Draw Alternative includes 19 known historic properties. 12 of the known cultural resources in the APE for the Wells Draw Alternative are located within the project footprint and could be physically altered or destroyed during construction. These 12 cultural resources include one rock art and archeological artifact scatter site (015), one cairn (020), three corrals (002, 022, and 024), road segments (004/005 and 026/027), a segment of railroad (007), two bridges (028 and 029), one cabin (014), and segments of the Myton Canal (008). A rock art site from the Formative period located on a sandstone boulder in the APE for this alternative would experience physical impact. Consisting of a petroglyph and an artifact scatter, the site is likely associated with Fremont culture, is distinctive and well preserved, and has the potential to yield information on prehistoric human behavior in the area, including activity related to subsistence and cultural production. The APE for the Whitmore Park Alternative includes 16 known historic properties, as well as sensitive tribal cultural resources. Of the known resources in the APE for the Whitmore Park Alternative, 13 are located within the project footprint and could be physically altered or destroyed during construction. These 13 resources include road segments (004/005 and 026/027), a segment of railroad (007), three bridges (028, 029, and 030), one corral (024), two National-Folk-Style dwellings (011 and 016), three cabins (002, 010, 012), and one loafing shed (025). In the APE for this alternative, newly recorded segments of the previously recorded Denver and Rio Grande Western Railroad would experience a physical impact. The railroad ran southwest of Emma Park along U.S. Highway 6 (US 6) and the Price River. These segments of the railroad dating back to 1883 played a role in the Euro-American history of the Basin in the late 19th and early 20th centuries and contributed to significant trends in national transportation and commerce during this period of general westward expansion and settlement.

Operations

During rail operations, cultural resources in the APE would be impacted by changes in setting, including permanent visual changes and noise from passing trains. Operation of the Indian Canyon Alternative would affect sensitive tribal resources and two known historic properties within the APE, including a segment of US 6 (006) and the Indian Canyon Ranger Station (001). The setting of the Indian Canyon Ranger Station, a National-Register-listed complex of buildings including a one-story residence, would change. Constructed by the Forest Service in 1914 and located in Indian Canyon adjacent to present-day US 191, the property embodies the role the Forest Service played in land management in the Basin during the early 20th century. Operation of the Wells Draw Alternative would affect eight known historic properties, including three cairns (017, 020, and 021), two corrals (018 and 019), a segment of US 6 (006), a homestead (013), and Smith's Well (009).

Constructed in circa 1890, Smith's Well would undergo changes to its setting. A previously recorded water-related resource, the well is significant for its role as an early waystation along Nine Mile Road between Fort Duchesne and Nine Mile Canyon along an otherwise arid transportation route. Operation of the Whitmore Park Alternative would affect three known historic properties and sensitive tribal resources within the APE, including a segment of US 6 (006), one cabin (023), and the Indian Canyon Ranger Station (001). US 6, a previously recorded linear transportation resource undergoing changes to its setting, is a segment of a historic roadway constructed in the 1910s that ran from the eastern United States to California and played a significant role in goods movement and settlement patterns in the immediate area and greater region.

3.9.3.3 No Action Alternative

Under the No-Action Alternative, the Coalition would not construct and operate the proposed rail line and there would be no impacts on cultural resources.

3.9.4 Mitigation and Unavoidable Environmental Effects

Construction and operation of any of the Action Alternatives would result in impacts on cultural resources. Following the Section 106 regulations, OEA is adopting a phased approach for identifying historic properties and assessing effects within the APE. OEA is developing a PA in consultation with the SHPO, the Ute Indian Tribe, and other Section 106 consulting parties that will set forth how identification of historic properties and the assessment of effects would proceed if the Board were to authorize an Action Alternative, and how adverse effects on historic properties would be resolved. OEA is requesting comments from the Section 106 consulting parties, other interested stakeholders, and the public on the Draft PA appended to this Draft EIS (Appendix O, *Draft Programmatic Agreement*). Based on the preliminary analysis conducted to date, OEA concludes that the three Action Alternatives would impact similar numbers of identified cultural resources. Depending on the Action Alternative, these resources include tribal cultural resources, archeological sites, historic agricultural properties, historic transportation corridors, historic residences, historic land management buildings, and historic water-related features.

Because the APE has not been surveyed comprehensively, OEA concludes that additional cultural resources, such as previously unidentified archeological sites, are likely to be present in the APE and could be impacted by construction and operation of the proposed rail line. Construction and operation of any of the Action Alternatives would likely result in impacts on cultural resources that have not yet been identified. To ensure that any adverse effects on cultural resources are appropriately avoided, minimized, or mitigated, the Coalition will comply with the terms of the PA being developed through Section 106 consultation (VM-42, VM-43).