Office of Energy Projects

FERC/EIS-0310D **November 2021**

DELTA LATERAL PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Kern River Transmission Company Docket No. CP21-197-000

Abstract:

The staff of the Federal Energy Regulatory Commission (Commission) prepared a draft environmental impact statement (EIS) for the Delta Lateral Project, proposed by Kern River Gas Transportation Company (Kern River). Kern River proposes to construct and operate an approximately 35.8-mile-long, 24-inch-diameter pipeline; a delivery meter station; and appurtenant facilities, all located in Millard County, Utah. The U.S. Bureau of Land Management participated as a cooperating agency in the preparation of the draft EIS. Commission staff conclude that construction and operation of the project would not result in significant environmental impacts, with the exception of climate change impacts, where FERC staff is unable to determine significance. Comments on the draft EIS are due to the Commission on or before 5:00 pm Eastern Time on **December 27, 2021**.

Cooperating Agency:

U.S. Department of Interior,
Bureau of Land Management

Contact: Office of External Affairs, (866) 208-FERC

Federal Energy Regulatory Commission
Office of Energy Projects
888 First Street NE, Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 4
Kern River Gas Transmission Company
Delta Lateral Project
Docket No. CP21-197-000

TO THE INTERESTED PARTY:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental impact statement (EIS) for the Delta Lateral Project (Project) proposed by Kern River Gas Transmission Company (Kern River) in the above-referenced docket. Kern River requests authorization to construct an approximately 36-mile-long, 24-inch-diameter pipeline; a delivery meter station; and appurtenant facilities, all located in Millard County, Utah. The Project purpose is to provide firm transportation service of 140,000 dekatherms of natural gas per day from Opal, Wyoming to the Intermountain Power Project, an electrical generating facility in Delta, Utah. Prior to filing its application, Kern River participated in the Commission's Pre-filing Process for this Project under Docket No. PF20-4-000.

The draft EIS assesses the potential environmental effects of the construction and operation of the Project in accordance with the requirements of the National Environmental Policy Act (NEPA). As described in the draft EIS, the FERC staff concludes that approval of the Project would result in some adverse environmental impacts; however, with the exception of climate change impacts, these impacts would be reduced to less-than-significant levels because of the impact avoidance, minimization, and mitigation measures proposed by Kern River and those recommended by staff in the EIS. FERC staff is unable to determine the significance level of climate change impacts.

The U.S. Department of the Interior, Bureau of Land Management (BLM) participated as a cooperating agency in the preparation of the EIS. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participate in the NEPA analysis. A portion of the Project would be constructed on lands managed by the BLM Fillmore Field Office. Because the BLM must comply with the requirements of NEPA before issuing a right-of-way grant, BLM has elected to cooperate in this NEPA process and adopt the EIS per Title 40 of the Code of Federal Regulations, Section 1506.3.

The Project would consist of the following specific facilities:

- a 35.84-mile-long, 24-inch-diameter natural gas pipeline;

- a delivery meter station;
- two mainline taps with automated lateral inlet valve assemblies;
- an in-line inspection device launcher and receiver;
- an automated lateral block valve assembly; and
- ancillary facilities.

The Commission mailed copies of the *Notice of Availability* of the draft EIS to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; and newspapers and libraries in the Project area. The EIS is only available in electronic format. It may be viewed and downloaded from the FERC's website (www.ferc.gov), on the natural gas environmental documents page (https://www.ferc.gov/industries-data/natural-gas/environment/environmental-documents). In addition, the EIS may be accessed by using the eLibrary link on the FERC's website. Click on the eLibrary link (https://elibrary.ferc.gov/eLibrary/search), select "General Search" and enter the docket number in the "Docket Number" field (i.e., CP21-197). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnlineSupport@ferc.gov or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659.

The draft EIS is not a decision document. It presents Commission staff's independent analysis of the environmental issues for the Commission to consider when addressing the merits of all issues in this proceeding. Any person wishing to comment on the draft EIS may do so. Your comments should focus on the draft EIS's disclosure and discussion of potential environmental effects, including climate impacts due to downstream greenhouse gas emissions, and measures to avoid or lessen environmental impacts. To ensure consideration of your comments on the proposal in the final EIS, it is important that the Commission receive your comments on or before 5:00 pm Eastern Time on **December 27, 2021**.

For your convenience, there are three methods you can use to submit your comments to the Commission. The Commission encourages electronic filing of comments and has staff available to assist you at (866) 208-3676 or FercOnlineSupport@ferc.gov. Please carefully follow these instructions so that your comments are properly recorded.

1) You can file your comments electronically using the eComment feature on the Commission's website (www.ferc.gov) under the link to FERC Online. This is an easy method for submitting brief, text-only comments on a project;

2) You can file your comments electronically by using the eFiling feature on the Commission's website (www.ferc.gov) under the link to FERC Online. With eFiling, you can provide comments in a variety of formats by

attaching them as a file with your submission. New eFiling users must first create an account by clicking on "eRegister." If you are filing a comment on a particular project, please select "Comment on a Filing" as the filing type; or

3) You can file a paper copy of your comments by mailing them to the Commission. Be sure to reference the project docket number (CP21-197-000) on your letter. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, MD 20852.

Any person seeking to become a party to the proceeding must file a motion to intervene pursuant to Rule 214 of the Commission's Rules of Practice and Procedures (18 CFR Part 385.214). Motions to intervene are more fully described at https://www.ferc.gov/ferc-online/ferc-online/how-guides. Only intervenors have the right to seek rehearing or judicial review of the Commission's decision. The Commission grants affected landowners and others with environmental concerns intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding which no other party can adequately represent. **Simply filing environmental comments will not give you intervenor status, but you do not need intervenor status to have your comments considered.**

Questions?

Additional information about the Project is available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC website (www.ferc.gov) using the eLibrary link. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. Go to https://www.ferc.gov/ferc-online/overview to register for eSubscription.

Delta Lateral Project
Draft Environmental Impact Statement
TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

TECHNICAL ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
APE	area of potential effect
ATWS	additional temporary workspace
BCA	Bird Conservation Area
BGEPA	Bald and Golden Eagle Protection Act
BLM	U.S. Bureau of Land Management
BLM-FFO	Bureau of Land Management – Fillmore Field Office
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Commission	Federal Energy Regulatory Commission
Construction Spill Plan	Construction Spill Prevention and Response Procedures for Oil and Hazardous Materials
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
DOT	U.S. Department of Transportation
DWSP	drinking water source protection
EI	environmental inspector
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gas
GIS	geographic information system
GWP	global warming potential
HAP	hazardous air pollutant
HCA	high consequence area
HDD	horizontal directional drilling
HDD Plan	Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plan
IPA	Intermountain Power Agency
IPP	Intermountain Power Project
IR	inadvertent returns of drilling fluid to the ground surface
Kern River	Kern River Gas Transmission Company
MAOP	maximum allowable operating pressure
Memorandum	Memorandum of Understanding on Natural Gas Transportation Facilities between the Department of Transportation and the Federal Energy Regulatory Commission dated January 15, 1993
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NGA	Natural Gas Act

NO_2	nitrogen dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NSPS	New Source Performance Standards
NSR	New Source Review
OEP	Office of Energy Projects
ORV	off-road vehicle
PHMSA	Pipeline and Hazardous Materials Safety Administration
Plan	FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*
$PM_{2.5}$	particulate matter less than 2.5 microns
PM_{10}	particulate matter less than 10 microns
Procedures	FERC's *Wetland and Waterbody Construction and Mitigation Procedures*
Project	Delta Lateral Project
PSD	Prevention of Significant Deterioration
SHPO	State Historic Preservation Office
SITLA	Utah School and Institutional Trust Lands Administration
SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
tpy	tons per year
UDDW	Utah Department of Environmental Quality, Division of Drinking Water
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDWR	Utah Division of Wildlife Resources
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.G. Geological Survey

EXECUTIVE SUMMARY

The staff of the Federal Energy Regulatory Commission (FERC or Commission) prepared this draft Environmental Impact Statement (EIS) to assess the environmental impacts associated with construction and operation of facilities proposed by Kern River Gas Transmission Company (Kern River). The EIS was prepared in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA) and the Commission's implementing regulations under Title 18 of the Code of Federal Regulations, Part 380 (18 CFR 380).

On April 23, 2021, Kern River filed an application with FERC for the Delta Lateral Project in Docket No. CP21-197-000 pursuant to section 7(c) of the Natural Gas Act (NGA) and Parts 157 and 284 of the Commission's regulations. Kern River proposes to construct, own, operate, and maintain an interstate natural gas pipeline and ancillary facilities in Millard County, Utah that would provide natural gas transportation to the Intermountain Power Project electrical generating facility (IPP) near Delta, Utah, operated by the Intermountain Power Agency (IPA).

The purpose of the EIS is to inform FERC decision makers, the public, and the permitting agencies about the potential environmental impacts of the proposed Project and its alternatives and recommend mitigation measures that would reduce adverse impacts to the extent practicable. We[1] prepared our analysis based on information provided by Kern River and further developed from data requests; field investigations; scoping; literature research; and contacts with or comments from federal, state, and local agencies, Native American tribes, and individual members of the public.

FERC is the federal agency responsible for authorizing interstate natural gas transmission facilities under the NGA and is the lead federal agency for the preparation of this EIS in compliance with the requirements of NEPA. The U.S. Bureau of Land Management (BLM) is a cooperating agency for development of this EIS consistent with 40 CFR 1501.8. A cooperating agency has jurisdiction by law or has special expertise with respect to environmental resource issues associated with a proposed action and participates in the NEPA analysis with the lead agency.

PROPOSED DELTA LATERAL PROJECT

The Delta Lateral Project's purpose as stated by Kern River is to provide firm transportation service for 140,000 dekatherms of natural gas per day from Opal, Wyoming, to the IPP in Delta, Utah.

Kern River would construct an approximately 36-mile-long, 24-inch-diameter pipeline in Millard County, Utah; a delivery meter station located at the IPP; and appurtenant facilities, including a block valve, taps, and a launcher and receiver. Specifically, the Project would include construction of the following facilities in Millard County, Utah:

- a 35.84-mile-long, 24-inch-diameter natural gas pipeline;
- two mainline taps with automated lateral inlet valve assemblies;
- one in-line inspection device launcher;
- one in-line inspection device receiver;
- one automated lateral block valve assembly;
- one delivery meter station; and
- ancillary facilities.

[1] "We," "us," and "our" refer to the environmental and engineering staff of the FERC's Office of Energy Projects.

The Project would be installed within a 100-foot-wide construction right of way, except across wetlands where Kern River would use a 75-foot-wide construction corridor to minimize wetland impacts. In addition to the construction corridor, Kern River would utilize additional temporary workspace, 2 contractor yards, 2 pipe yards, and 17 temporary access roads during construction. During Project operation, Kern River would maintain a 50-foot-wide permanent right of way centered over the proposed pipeline along with 3 permanent access roads serving Project facilities.

PUBLIC INVOLVEMENT

On July 1, 2020, the Commission granted Kern River's request to use FERC's Pre-Filing Process in Docket No. PF20-4-000. The Pre-Filing Process is designed to encourage early involvement by citizens, governmental entities, non-governmental organizations, and other interested parties in the development of proposed natural gas transmission projects, prior to the filing of a formal application. During the Pre-Filing Process, we worked with Kern River and interested stakeholders, including federal and state agencies, to identify and resolve Project-related issues. We participated in regular conference calls with Kern River to discuss relevant Project issues, and we encouraged Kern River to communicate frequently with the public and resource agencies throughout the Pre-Filing Process.

Kern River conducted two public open house meetings, one each on October 27 and 28, 2020, in Holden, Utah, and Delta, Utah, respectively. FERC staff attended both open house meetings virtually. The open houses provided an opportunity for stakeholders to ask questions and express concerns. Each open house was publicized via local newspapers and through direct mail invitation to property owners, regulatory agencies, and public officials. Approximately 22 individuals attended the open houses. Affected landowners were provided with a landowner-specific aerial map that detailed the proposed construction plan for their parcels. Landowners were able to review this map with Kern River's land agents. Kern River also maintains a 24/7 toll-free number (1-833-659-0509) that stakeholders could use to contact Kern River.

On January 4, 2021, we issued in Docket No. PF20-4-000 a *Notice of Scoping Period Requesting Comments on Environmental Issues for the Planned Delta Lateral Project*. This notice was mailed to approximately 120 entities, including affected landowners (as defined in the Commission's regulations); federal, state, and local officials; Native American tribes; agency representatives; environmental and public interest groups; and local libraries and newspapers. This notice also initiated consultation for the Project under Section 106 of the National Historic Preservation Act. We received four comment letters during the scoping period. Written comments were filed to the docket by two federal agencies (U.S. Environmental Protection Agency [EPA] and BLM-FFO), one state agency (Utah's Public Lands Policy Coordination Office), and one organization (Teamsters National Pipeline Labor Management Cooperation Trust). The EPA commented on hydrostatic testing, pipeline metering facilities, wetlands, and dust control. The State of Utah commented on historic and cultural resources and the Teamsters identified general support for the Project.

On August 26, 2021, we issued in Docket No. CP21-179-000 the *Notice of Intent to prepare an Environmental Impact Statement for the Proposed Delta Lateral Project, Request for Comments on Environmental Issues, and a Schedule for Environmental Review.* This notice was mailed similar to the above. Written comments were filed to the docket by Sindy Smith, stating general support for the Project and recommending that Project be consistent with state and local planning efforts and by Joyce Barney who inquired about pipeline risks and hazards. The Office of the Governor of Utah, through Public Lands Policy Coordinating Office, commented expressing general support for the Project while providing specific comments on consistency with state and local plans, possible impacts to livestock grazing, fisheries, county roads, greenhouse gas emissions, operational restrictions on uses of land, and alternatives. EPA Region 8 requested that the EIS include a quantitative comparison of total greenhouse gas (GHG) annual emissions, estimate upstream and downstream GHG emissions, discuss GHG emissions in the context of national GHG

emission goals, and use the social cost of greenhouse gases methodology to assess climate impacts. The EPA also recommends that the EIS disclose impacts on environmental justice communities and provide outreach and engagement with low income and minority populations in proximity to the proposed Project.

PROJECT IMPACTS

We evaluated the potential impacts of construction and operation of the Project on geology; soils; water use and quality; wetlands; vegetation; wildlife; threatened, endangered, and special-status species; land use, recreation, and visual resources; environmental justice communities, cultural resources; air quality and noise; and reliability and safety. Where necessary, we recommend additional mitigation to minimize or avoid these impacts. Section 5.2 of the EIS contains a compilation of our recommendations.

Overall, construction of the Project would disturb about 540.5 acres of land and open water, and operation of the Project would require about 220 acres. Approximately 98 percent of the Project would be on rangeland. For the land not used permanently to operate the Project, Kern River would stabilize and restore the remaining land disturbed during construction and it would return to pre-construction uses. Kern River proposes to use a typical 100-foot-wide construction right-of-way and maintain a 50-foot-wide permanent right-of-way for the pipeline lateral.

Based on our analysis, scoping, and agency consultations, the major issues associated with the Project are impacts on soils, surface water, wetlands, vegetation, wildlife, air quality, and noise.

Soils

Construction of the Project could affect soil resources by increasing the potential for erosion, compaction, mixing of topsoil, and rutting. Based on the soil properties reviewed, none of the soils affected by the Project are considered highly susceptible to erosion by wind or water; however, the majority of the soils that would be affected by the Project have poor revegetation potential. Kern River has committed to segregating topsoil along the length of the pipeline and has developed a *Reclamation Plan* [2] in consultation with the BLM and the Utah School and Institutional Trust Lands Administration. The erosion potential of soils within the construction workspace is low because of the generally level topography of the area; in addition, Kern River would use erosion control and revegetation measures as described in its Stormwater Pollution Prevention Plan and *Reclamation Plan*.

Contamination from spills or leaks of fuels, lubricants, and coolant from construction equipment could also adversely affect soils. Kern River would implement mitigation measures included in its *Construction Spill Plan*, which would specify cleanup procedures to minimize the potential for soil contamination from such spills or leaks. With implementation of the proposed mitigation measures and plans, we conclude that impacts on soil resources would be adequately minimized.

Surface Water

A total of 45 waterbodies were identified within the Project construction workspace during Kern River's field surveys. A vast majority of these (39 of the 45) are ephemeral drainages (i.e., ditches for livestock). The remaining six waterbodies include two ephemeral waterways (Duggins Creek and the Central Utah Canal), two intermittent waterways (Church Spring Ditch and Whiskey Creek), and two perennial waterways (the Sevier River and Canal A).

The Project would be wholly located within the Lower Sevier Sub-basin, which is hydrologically isolated from waters of the United States, as defined by the U.S. Army Corps of Engineers (USACE) The

2 This plan can be found on the FERC eLibrary website using Accession Number 20210423-5124.

USACE has confirmed that the wetlands and waterbodies crossed by the Project are not waters of the United States regulated under sections 401 and 404 of the Clean Water Act or section 10 of the Rivers and Harbors Act.

Kern River proposes to cross the Sevier River and Canal A using horizontal directional drill (HDD) methods, and the Central Utah Canal using the conventional auger bore method, eliminating direct impacts to these areas. Only foot traffic and potentially minor hand-clearing of vegetation would occur along the surface of the subsurface crossings. HDDs and conventional bores generally avoid impacts to the bed and banks of waterbodies and prevent turbidity and sedimentation that could otherwise result when using open-cut crossing methods. Kern River proposes to cross the remaining waterbodies using standard upland construction techniques (i.e., open-cut) if the waterbody is not flowing at the time of construction. Construction at waterbodies that are dry at the time of crossing would proceed in accordance with section V.B.3.g of FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures).

Kern River would also construct the Project according to its *Construction Spill Plan* and FERC Procedures and in accordance with applicable permits to prevent or mitigate contamination in waterbody crossings. In the event of an inadvertent release of drilling fluid during the HDDs, Kern River would implement measures in its HDD Plan. Kern River proposes to obtain water from the Sevier River for use in the HDD drilling fluid. Kern River estimates 700,000 gallons of water would be necessary for the HDD. Water uptake and discharge would be conducted in accordance with FERC's Procedures.

With implementation of Kern River's project-specific plans and the proposed mitigation measures discussed in this EIS, we conclude that impacts on surface waters would be adequately minimized.

Wetlands

Project workspaces would cross 15 wetlands, all of which are palustrine emergent. Wetlands W-001 and W-002 are riparian wetlands that directly connect to the Sevier River near milepost 27.4. The remaining 13 wetlands that would be crossed by the Project are either isolated depressions or are associated with ephemeral drainages, and each only holds water for brief periods following precipitation events, characteristic of desert playas and common in the Great Basin.

All delineated wetlands, with the exception of W-001 and W-002 (which would be crossed using HDD methods), are largely unvegetated. The Project would cross approximately 0.2 mile of wetlands and would result in 1.7 acres of temporary impacts to wetlands due to construction. The primary impact of Project construction on wetlands would be the potential alteration of current or potential wetland vegetation due to the clearing, excavation, rutting, compaction, and mixing of topsoil and subsoil.

No permanent impacts on wetlands are expected as a result of the Project as all wetlands in the Project area are emergent, and no woody wetland vegetation would be removed within the construction right-of-way. Operation impacts (0.25 acre) are based on a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the right-of-way in an herbaceous state.

With the implementation of Kern River's project-specific plans, and the proposed mitigation measures discussed in this EIS, significant impacts on wetlands due to construction and operation of the Project are not anticipated.

Vegetation

Construction of the Project would affect approximately 520 acres of vegetation — 339.3 acres of desert scrub, 136.1 acres of grassland, 42.7 acres of shrub-steppe, 1.7 acres of wetland, and 0.4 acre of riparian vegetation types. Following construction, areas not needed for operations would be restored to

their original contours and revegetated in accordance with the *Reclamation Plan*, the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and Procedures, or landowner recommendations. Operation of the Project would affect approximately 218 acres of vegetation — aboveground facilitates would permanently convert 0.3 acre of desert scrub and 1.2 acres of shrub-steppe to industrial use, and operation of the pipeline would affect approximately 136 acres of desert scrub, 62 acres of grassland, 18.7 acres of shrub-steppe, 0.25 acre of wetlands, and 0.4 acre of riparian vegetation that would be maintained for the pipeline right-of-way.

Impacts on woody vegetation (i.e., sagebrush communities in shrub-steppe vegetation cover types) would take longer (5 or more years) to return to preconstruction conditions. Impacts to riparian vegetation would largely be avoided because Kern River proposes to use an HDD to cross the Sevier River and Canal A, where riparian vegetation is concentrated.

Kern River would conduct periodic routine vegetation maintenance along the permanent right-of-way, in accordance with FERC's Plan and Procedures. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands would not be conducted more frequently than every three years, with the exception of a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the 10-foot-wide corridor in an herbaceous state to allow for periodic corrosion and leak surveys. Kern River would not conduct any routine vegetation mowing or clearing in wetlands that are located between HDD or bore entry and exit points. In wetlands, a 10-foot-wide corridor centered on the pipeline would be cleared at a frequency necessary to maintain an herbaceous state.

Field surveys completed by Kern River in May and October 2020 documented cheatgrass and patches of other invasive and noxious weeds between approximately milepost 0.0 and milepost 10.0. Kern River would implement its *Noxious and Invasive Weeds Management Plan* to minimize the spread of invasive species, including equipment inspection and invasive species removal before equipment arrives on site and before equipment leaves the worksite. Kern River also would implement the measures in the Commission's Plan and Procedures, which require post-construction monitoring for the first and second growing seasons in uplands, and for 3 years in wetlands, to evaluate the success of revegetation.

With the implementation of Kern River's *Reclamation Plan, Construction Spill Plan, Noxious and Invasive Species Management Plan,* and the Commission's Plan and Procedures, we conclude that construction and operation of the Delta Lateral Project would not have a significant impact on vegetation.

Wildlife

Wildlife species in the Project area are characteristic of the communities that inhabit the vegetation habitats that occur in these areas. About 520 acres of wildlife habitat would be affected by construction of the Project, and 218 acres would be affected during operations. Overall, the greatest impacts would be on desert scrub habitat, followed by grasslands, shrub-steppe, riparian, and wetland habitats.

Construction activities, such as clearing of the right-of-way and workspaces, would reduce vegetation cover, causing a decrease in foraging, nesting, and cover habitat until vegetation is reestablished. Mobile species may be displaced temporarily during construction due to noise and human presence as well as temporary loss of habitat, and mortality of less mobile species, such as some small mammals, reptiles, or amphibians, may occur. Construction noise and human presence would result in temporary impacts and could include abandonment of nests and burrows, displacement, and avoidance of work areas. Impacts on wildlife within the Project right-of-way would be short in duration and limited to the period of construction. It is anticipated that displaced wildlife would use similar habitats, which are prevalent throughout the region of the Project.

Additionally, increased human presence and construction-related noise may displace reptiles and amphibians from the Project area, if present during construction. The HDD crossing at the Sevier River would produce noise from the HDD equipment, which may be operated 24 hours per day if necessary. If nighttime construction activities occur, Kern River indicated lighting may be necessary for the workspace. Lighting is likely to attract insects as well as other wildlife species. Increased presence of prey (insects) may attract nocturnal reptiles and amphibians, which may lead to increased risk of injury or mortality due to human presence and vehicle operations. Kern River has committed to only using artificial lighting if required to complete critical activities such as HDD pullbacks and tie-in activities. Any lighting used to extend activities started during the day will be turned off upon completion of the work activity as early in the nighttime hours as possible. Lighting will be equipped with shields and aimed downward to minimize impact on nocturnal wildlife, and light bulbs will be yellow or amber to minimize impacts on wildlife.

Following construction, workspaces outside the permanent right-of-way would be restored in accordance with FERC's Plan and Procedures. Impacts on upland and wetland habitats disturbed by construction, but not within the operational footprint of the Project, would be temporary and are expected to return to preconstruction vegetation cover within one or two growing seasons after construction is completed. Impacts to woody vegetation (i.e., sagebrush communities in shrub-steppe vegetation cover types) would take longer (5 years or more) to return to preconstruction vegetation cover. Routine vegetation maintenance would occur outside of the April 1 to July 31 migratory bird nesting avoidance window, unless the appropriate field surveys are conducted, and the necessary approvals are obtained.

Based on the vegetation types present, previously disturbed areas and siting the Project adjacent to existing rights-of-way, the presence of similar habitats adjacent to and in the vicinity of construction activities, and the implementation of best management practices, the *Reclamation Plan*, and our Plan and Procedures, we conclude that construction and operation of the Project would not have a significant impact on wildlife.

Environmental Justice

According to the U.S. Census Bureau information, no minority populations exist in the Project area. However, one census block group crossed by the pipeline lateral has a higher population of low-income residents than the county; and therefore, is considered an environmental justice community based on poverty level. Potential impacts on area residents may include traffic delays during construction, changes in the existing viewsheds during construction, and air emissions and noise during construction of the pipeline segment. The surrounding landscape is flat and open terrain with the closest residence being approximately 2.6 miles southwest of where the pipeline lateral crosses the low-income community. Impacts on visual and/or aesthetic resources from the presence of construction equipment are anticipated to be minor and temporary during construction.

Regarding Project impacts on traffic, the movement of construction personnel, equipment, and materials would result in short-term impacts on roadways, and Kern River would employ traffic control measures and schedule deliveries to minimize impacts on local traffic. With respect to air emissions, exhaust emissions and fugitive dust would result in short-term, localized impacts in the immediate vicinity of construction work areas. Kern River would use gasoline or diesel fuel for vehicles and equipment compliant with current federal regulations and operated with required emission control devices. Kern River would also reduce vehicle and equipment speed in construction work areas and on access roads to account for adverse weather conditions (e.g., high wind velocities, dry soil conditions, etc.).

Based on the modeling results and the mitigation measures proposed by Kern River, we conclude that air quality impacts from construction of pipeline lateral would not result in a significant impact on local or regional air quality for environmental justice communities. Regarding noise impacts, the closest defined

noise-sensitive areas (NSA) within the environmental justice community are at least 2.6 miles away from the proposed pipeline segment where noise-generating HDD activity would occur. We determine that the temporary nature of construction activities would not result in significant noise impacts on NSAs during construction.

The Project consists of modifications to existing natural gas facilities in an area that is generally distanced from nearby residences, commercial areas, schools, and churches; and no new employees would be hired to operate the modified facilities. Therefore, impacts on socioeconomics resources within the environmental justice communities (e.g., population, housing demand, or the provision of community services such as police, fire, or schools) would be minor and temporary, as there would be a negligible change from current conditions. Potential environmental justice concerns are similarly not present for other resource areas such as geology, wetlands, wildlife impacts, etc., due to the minimal overall impact the Project would have on these resources and the absence of any suggested connection between such resources and environmental justice communities.

We conclude that impacts on environmental justice communities would not be disproportionately high and adverse because impacts in the Project area would not be predominantly borne by environmental justice communities. Further, as described in section 4.11 of this EIS, impacts on environmental justice communities would be less than significant and mostly temporary.

Air Quality and Noise

Air Quality Regulatory Requirements

The Project would not result in the installation or operation of major sources of air pollutants. There would be no point sources of operational emissions, and only minor amounts of volatile organic compounds (VOC) and greenhouse gases (GHG) would be produced from venting and component leaks at the delivery meter station. Therefore, the Project is not subject to New Source Review or Title V (major source) operating permit program. The Project area is not classified as nonattainment or maintenance for any criteria pollutant; therefore, the General Conformity Rule (40 CFR 51.850 to 51.860 and 40 CFR 93.150 to 93.160) does not apply.

The reporting requirements for the petroleum and natural gas industry under Subpart W of 40 CFR 98 require petroleum and natural gas facilities that emit 25,000 metric tons or more of carbon dioxide equivalent (CO_2e) per year to report annual emissions of specified GHGs from various processes within the facilities. The Project would not be required to report because none of the Project's aboveground facilities would meet this reporting threshold.

Construction Impacts

Construction activities include installation of the lateral pipeline and associated aboveground facilities, including mainline taps with automated lateral inlet valve assemblies, in-line inspection device (pig) launcher and receiver, lateral automated block valve assembly, and the delivery meter station. Construction is expected to primarily take place from March 2023 to April 2024; however, the majority of construction would be completed between March and October 2023. Kern River proposes typical construction hours as Monday through Saturday from 7 a.m. to 7 p.m. However, certain conditions, discussed in section 2.3, may necessitate construction outside of these hours.

Dust emissions would result from earthmoving and heavy equipment use. These emissions would be generated from ground excavation, cut-and-fill operations, and use of access roads. Dust emissions would vary from day to day depending on the level of activity, the specific operations, and the prevailing

weather. Predominantly, these emissions would likely result from equipment traffic using existing unpaved access roads. Open burning would not be used during construction.

Emissions would also be produced from fuel combustion in construction equipment engines. Vehicles and equipment would use gasoline or diesel fuel compliant with current federal regulations and would be operated with required emission control devices. Gasoline used in vehicles and equipment would meet current Tier 3 standards. Equipment diesel fuel would meet current requirements for using ultra-low-sulfur (15 parts per million) diesel fuel specifications. Construction equipment would typically include bulldozers, graders, backhoes, front-end loaders, welding machines, trucks, pickups, and other miscellaneous equipment. Kern River would request contractors to use the lowest-emitting equipment available in the local area.

Kern River would minimize wind erosion and fugitive dust emissions during construction through implementation of a fugitive dust control plan. This plan would prescribe mitigation measures such as regularly watering dusty areas, limiting activity during high winds, and other similar mitigation measures, including:

- limiting vehicle on-road and off-road speed (off-road speed is 15 miles per hour) to reduce dust entrainment caused by vehicle movement;
- adhering to speeds as determined by the property owner on private lands and by Millard County, Utah Trust Lands Administration, or the BLM on land managing agency on public roads;
- limiting drop height of excavated soil;
- clean up of track-out of soils onto paved roads, typically within 48 hours;
- watering;
- chemical stabilization;
- wind breaks; or
- other equivalent methods or techniques approved by the environmental inspector.

Fugitive dust and air pollutants from the internal combustion engines of construction equipment would be limited to the immediate vicinity of the Project area and would be short term. Unnecessary idling of equipment would be limited to less than 5 minutes. As the construction spread moves along the right-of-way, emission sources would move in tandem. Emissions from construction are not expected to cause or significantly contribute to a violation of any applicable ambient air quality standard because the construction equipment would be operated on an as-needed basis, and these emissions would cease when construction is complete. Through the implementation of the work practices described above and given the short duration of the construction activities, the temporary emissions during construction of the Project would be minor, and the impact of these emissions would be localized. Therefore, we conclude that emissions generated during construction would not have significant impacts on local or regional air quality.

Operational Impacts

Potential emissions from operation of the delivery meter station would consist of VOC and GHG emissions from a small (approximately 300-gallon) condensate tank, minor instrument venting, and fugitive emissions from pipe components, such as connectors and valves at the delivery meter station. Fugitive emissions due to leaks may occur at the mainline tap/valve site at milepost 0.00 and the block valve at milepost 18.16. Emergency use blowdown valves would be located at milepost 0.00 and milepost 18.16; however, routine blowdown of the pipeline lateral is not expected. The pipeline lateral would be internally inspected every seven years. During the inspection, only the launcher (milepost 0.00) and receiver

(milepost 35.84) are blown down, which would result in the release of a small quantity of gas. No compression or other aboveground equipment such as dehydrators, generators, line heaters, or other combustion equipment are part of the Project and, therefore, there would be no GHG emissions from these other sources.

As a part of standard operations, Kern River monitors methane emissions and uses standardized methods to detect, monitor, and repair leaks for all facilities across its system. Kern River is a member in industry partnership groups, such as Our Nation's Energy Future Coalition Inc. (ONE Future)[3] and two voluntary programs administered by the EPA (the Natural Gas STAR[4] and Methane Challenge Programs[5]). Because of the minor quantity of operational emissions produced at the delivery meter station, mitigation is not required.

The Project would deliver natural gas to the IPP, which plans to convert the power plant from generating electricity using a coal-fired energy generation process to generating electricity using two combined-cycle, natural gas–fired power blocks. This would have a beneficial effect on air quality during operation. Specifically, the IPP would install two 420-MW combined-cycle turbines (840 MW total) designed to combust natural gas, hydrogen gas, or a mixture of these two fuels and then retire 1,900 megawatts (MW) of coal-fired generating facilities and associated coal handling facilities. According to Kern River,[6] the fuel switch from coal to natural gas would result in a projected net GHG emissions reduction of 4.17 million metric tons of CO2e annually when compared against the IPP's current emissions baseline.

We conclude that emissions generated during operation would not have significant negative impacts on local or regional air quality.

Construction Noise Impacts

The land along the right-of-way is primarily undeveloped rangeland. There are no NSA within 0.5 mile of the mainline tap at milepost 0.0, the automated block valve at milepost 18.2, the exit and entry location for the Sevier River HDD (milepost 27.0 and milepost 27.5), or the delivery meter station at milepost 35.8. There are no NSAs within 0.5 mile of the delivery meter station; therefore, construction noise at these locations would result in very minor and insignificant impacts, if any, on NSAs.

The HDD crossing at the Sevier River would produce noise from the HDD equipment, which may be operated on a 24-hour per day basis. However, no NSAs are within 0.5 mile of the entry or exit locations for the HDD. Therefore, noise produced during HDD activities would not affect an NSA.

Kern River identified the following NSAs along the right-of-way that could potentially be affected by noise during construction:

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3 Our Nation's Energy Future Coalition Inc. is a group of 38 natural gas companies working to voluntarily reduce methane emissions across the natural gas industry to one percent (or less) by 2025.

4 The Natural Gas STAR Program provides a framework for partner companies to implement methane reducing technologies and practices and document their voluntary emission reduction activities. By joining the Program, Partner companies commit to evaluate and implement methane emission reduction opportunities and communicate that information with other industry stakeholders and the Natural Gas STAR Program. Kern River joined the program in 2018.

5 Partners of the Methane Challenge Program voluntarily report methane emission reductions resulting from systematic and comprehensive operational improvements implemented by partner companies. Kern River joined the program in 2016.

6 Accession Number 20210602-5161.

- small office or house at animal feedlot, near milepost 0.1, 0.4 mile west of the Project;
- residence near milepost 7.0 approximately 240 feet east of the Project;
- small office or house at animal feedlot, near milepost 21.5, 0.4 mile east of the Project;
- golf course green near milepost 25.4, 0.1 mile east of the Project; and
- two residences near milepost 25.5, one 0.3 mile east of the Project, and the other 0.4 mile west of the Project.

The potential NSAs listed above could be affected by temporary, transient noise from construction equipment as the pipeline construction spread moves along the right-of-way near these NSAs. As the spread progresses, construction at any single point along the pipeline lateral, from initial surveying and clearing to backfilling and final grading, would last approximately 6 to 18 weeks. Noise would diminish and cease as the pipeline construction spread moves away from the NSA. As such, we conclude that construction noise impacts would be negligible.

Operational Noise Impacts

Operation of the Project pipeline lateral would not produce continuous noise since no continuous noise sources would be located along the pipeline's right-of-way. Routine blowdown of the lateral is not expected for the life of the pipeline. Operation of the delivery meter station may produce minor noise levels due to lateral pipeline inspections every seven years when the pig launcher/receiver is in use. No NSAs are within 0.5 mile of the delivery meter station; therefore, any minor noise produced by the delivery meter station would not affect an NSA.

Kern River would install a filter/separator at the delivery meter station to remove liquids and solids from the gas stream. During operation (periodic liquid transfer from sump to condensate tank) and maintenance (filter change-out), depressurizing the filter/separator is necessary. This may produce noise of short duration. No silencer would be installed on the filter/separator, and since the meter station is on the IPP site and no NSAs are within 0.5 mile of the delivery meter station, a noise analysis is not required.

Because of the lack of significant operational noise-producing sources from the Project and infrequent (once every seven years) pipeline lateral inspection activity, we conclude that existing ambient noise levels would not be affected in the local environment during operation of the Project.

ALTERNATIVES CONSIDERED

We assessed the no-action alternative, system alternatives, and other siting and design alternatives that could achieve the Projects' objectives. Alternatives were evaluated and compared to the Project to determine whether the alternatives were technically and economically feasible and practical; and offer a significant environmental advantage over the proposed Project. While the no-action alternative would avoid the environmental impacts identified in this EIS, adoption of this alternative would preclude meeting the Project's objective to provide firm natural gas transportation service for 140,000 dekatherms per day to IPA's IPP, near Delta, Utah.

If the Project is not approved and built, IPA, however, would still require firm natural gas transportation service to convert the IPP from its current coal-fired generation to two combined-cycle natural gas-fired power. This need could potentially be met by another natural gas project developed to meet IPP's requirement. Implementation of another natural gas pipeline project likely would result in impacts similar to or greater than those of the proposed Project.

Because of the distance from other natural gas pipelines to the Project area and the lack of available capacity on existing natural gas pipelines, other pipeline systems are not viable alternatives to the proposed Project nor do they provide any environmental advantage over the proposed action.

Kern River incorporated minor route variations into the Delta Lateral route as a result of environmental and engineering investigations, landowner comments, stakeholder outreach efforts, and potential issues identified by FERC staff. As a result of these routing considerations during early Project design and identified during the pre-filing process, route modifications to avoid or reduce environmental impacts were already proposed as part of Kern River's proposed action. No comments on alternative pipeline routes were received during scoping; thus, we have not evaluated alternative pipeline routes.

CONCLUSIONS

We conclude that, if constructed and operated in accordance with applicable laws and regulations, Kern River's proposed mitigation, and our recommendations presented in the EIS, the Project would result in some adverse environmental impact; however, with the exception of climate change impacts, those impacts would not be significant. FERC staff is unable to determine significance with regards to climate change impacts.

We recommend that should the Project be approved by the Commission, the recommendations that we have developed be attached as environmental conditions to any Certificate of Public Convenience and Necessity issued by the Commission. Our recommendations are presented in section 5.2 of the EIS.

1.0 INTRODUCTION

On April 23, 2021, Kern River Gas Transmission Company (Kern River) filed an application with the Commission (Docket No. CP21-197-000) pursuant to section 7(c) of the Natural Gas Act (NGA), as amended, and Part 157 of the Commission's regulations. Kern River is seeking authorization to construct an approximately 36-mile-long, 24-inch-diameter pipeline in Millard County, Utah; a delivery meter station located near Delta, Utah; and appurtenant facilities, including a block valve, taps, and a launcher and receiver. The Project would provide firm transportation service for 140,000 dekatherms of natural gas per day from Opal, Wyoming to the Intermountain Power Project (IPP), an electrical generating facility owned and operated by the Intermountain Power Agency (IPA). Prior to filing its application, Kern River participated in the Commission's Pre-Filing Process for the Project under Docket No. PF20-4-000.

The staff of the Federal Energy Regulatory Commission (Commission or FERC) prepared this Environmental Impact Statement (EIS) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (Title 40 of the Code of Federal Regulations Parts 1500–1508 (2020) [40 CFR 1055–1508]) and the Commission's implementing regulations under 18 CFR 380.

FERC is the lead federal agency for authorizing interstate natural gas transmission facilities under the NGA and the lead federal agency for preparation of this EIS. The U.S. Department of the Interior, Bureau of Land Management (BLM) elected to become a cooperating agency for preparation of this EIS because a portion of the Project would be constructed on lands managed by the BLM Fillmore Field Office (BLM-FFO).

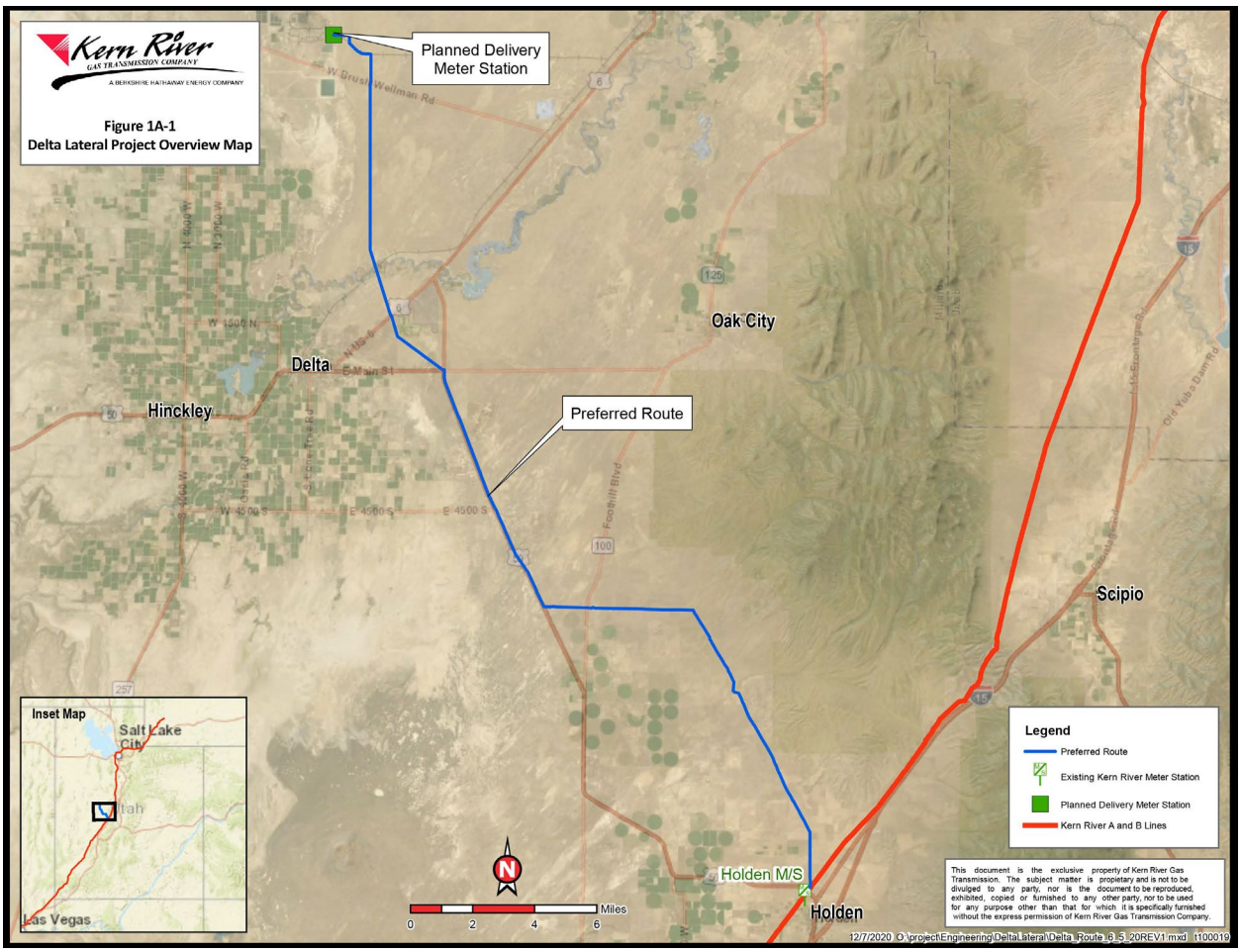
The EIS is an integral part of the Commission's decision-making process on whether to issue Kern River a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed facilities. We prepared this EIS to assess the environmental impacts that would likely occur as a result of construction of the Project. The Project would include construction of the following facilities in Millard County, Utah:

- a 35.84-mile-long, 24-inch-diameter natural gas pipeline;
- two mainline taps with automated lateral inlet valve assemblies;
- one in-line inspection device launcher;
- one in-line inspection device receiver;
- one automated lateral block valve assembly;
- one delivery meter station; and
- ancillary facilities.

See figure 1-1 for the Project location. Additionally, 17 temporary access roads, 3 permanent access roads, 2 contractor yards, and 2 pipe yards are proposed for use during construction of the Project.

Kern River has requested a Certificate in the first quarter of 2022. Kern River anticipates it would commence construction of the Project following the receipt of FERC authorization and all other applicable permits, authorizations, and approvals. Kern River proposes to begin construction in March 2023 and conclude in April 2024, for an in-service date on or before May 1, 2024; however, the majority of construction would be completed between March and October 2023. Areas disturbed during construction would be restored (e.g., recontoured and reseeded), weather permitting, by the end of October 2023.

Figure 1-1 Project Location



1.1 PROJECT PURPOSE AND NEED

According to Kern River, in November 2018, the IPA issued a request for proposals for natural gas facilities and firm transportation service for 140,000 dekatherms per day from Opal, Wyoming, to the IPP. Kern River participated in the request for proposal and IPA selected Kern River's proposal to construct the proposed Project and provide transportation service to the IPP. IPA would convert the IPP from generating electricity using its current coal-fired energy generation process to generating electricity using two combined-cycle, natural gas-fired power blocks. Kern River has executed a precedent agreement with IPA. Kern River would use its existing mainline capacity from Opal, Wyoming, to the location where Kern River's existing interstate natural gas pipeline system interconnects with the Project. Kern River proposes to construct the Project to meet IPA's firm forward-haul transportation requirements.

Kern River conducted an open season from January 23, 2020, through February 14, 2020, to solicit bids for additional capacity for the Project and notify Kern River's shippers that Kern River was accepting requests for permanent turnback capacity for the path described in the open season; however, Kern River did not receive any bids or turnback capacity requests.

Under section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on both economic issues, including need, and environmental impacts. Environmental impact analyses and mitigation development are important factors in the overall public interest determination.

1.2 PURPOSE AND SCOPE OF THIS EIS

The principal purposes in preparing this EIS are to:

- identify and assess potential impacts on the human environment that would result from implementation of the proposed action;
- identify and assess reasonable alternatives to the proposed action and/or specific mitigation measures that would avoid or minimize environmental impacts and adverse effects on the human environment; and
- encourage and facilitate involvement by the public and interested agencies in the environmental review process.

The topics addressed in this EIS include geology; soils; water use and quality; wetlands; vegetation; wildlife; threatened, endangered, and special status species; land use, recreation, and visual resources; cultural resources; air quality; noise; reliability and safety; and alternatives. This EIS describes the affected environment as it currently exists, discusses the potential environmental consequences of the proposed Project, and compares the Project's potential impact to that of identified alternatives. This EIS also presents our conclusions and recommended mitigation measures. We will recommend to the Commission that these recommended mitigation measures (indicated with bold type in the text and summarized in section 5.2 of this EIS) be included as conditions to any Certificate issued for the Project.

The Energy Policy Act of 2005 provides that the FERC shall act as the lead agency for coordinating all applicable authorizations related to jurisdictional natural gas facilities and for purposes of complying with NEPA. Based on its authority under the NGA, the FERC is the lead agency for preparation of this EIS in compliance with the requirements of NEPA, the CEQ regulations for implementing NEPA, and

FERC regulations implementing NEPA (Title 18 of the Code of Federal Regulations Part 380 [18 CFR 380]). As the lead federal agency for the Project, FERC is required to comply with applicable statutes; for this Project, that includes section 7 of the Endangered Species Act of 1973, as amended (ESA) and section 106 of the National Historic Preservation Act (NHPA). Both of these statutes have been taken into account in the preparation of this EIS. FERC will use this document to consider the environmental impacts that could result if it issues a Certificate to Kern River under section 7(c) of the NGA.

1.2.1 Federal Energy Regulatory Commission

FERC is the federal agency responsible for authorizing interstate pipeline facilities, LNG facilities on interstate pipeline systems, and LNG import and export terminals. The identification of environmental impacts related to the construction and operation of the Project, and the mitigation of those impacts, as disclosed in this EIS, would be components of the Commission's decision-making process. The Commission would issue its decision in an Order. If the Project is approved, the Order would specify that the pipeline and related facilities can be constructed and operated under the authority of section 7 of the NGA. The Commission may attach environmental conditions to the Order that would be enforceable actions to assure that the proper mitigation measures are implemented during construction and prior to the Project going into service.

We prepared this EIS to assess the environmental impacts that could result from constructing and operating the Project. This document was prepared in compliance with the requirements of NEPA, the CEQ's regulations implementing procedural provisions of NEPA in 40 CFR 1500-1508, and the FERC's regulations implementing NEPA in 18 CFR 380. As applicable, this EIS is also intended to fulfill the cooperating federal agencies' NEPA obligations (see section 1.2.2).

Other regulatory agencies also may include terms and conditions or stipulations as part of their permits or approvals. While there would be jurisdictional differences between the FERC's and other agencies' conditions, Kern River's environmental inspection program for the Project would address all environmental or construction-related conditions or other permit requirements placed on Kern River by all regulatory agencies.

1.2.2 Cooperating Agencies

The regulations that implement NEPA and establish the CEQ's regulations call on federal, state, and local government agencies to cooperate in the preparation of environmental documents (40 CFR 1501.6). A "cooperating agency" is another agency participating in the NEPA process that has jurisdiction by law over all or part of the project and/or one that has special expertise with respect to environmental issues. Cooperating agencies are intended to have a significant role in shaping plans and environmental analyses according to their particular jurisdiction and expertise. The review of the proposed Project herein was undertaken with the participation and assistance of the BLM as a cooperating agency under NEPA because it has specific permitting requirements and special expertise on environmental resources associated with the Project.[7]

The EIS provides a basis for coordinated federal decision-making in a single document, avoiding duplication among federal agencies in the NEPA environmental review process. In addition to the lead and cooperating agencies, other federal, state, and local agencies may use this EIS in approving or issuing permits for all or part of the proposed Project. Federal, state, and local permits, approvals, and consultations for the Project are discussed in section 1.5.

7 The BLM served as a cooperating agency in the preparation of this EIS.

U.S. Bureau of Land Management

The BLM is participating as a cooperating agency in preparing this EIS because a portion of the Project would be constructed on lands managed by the BLM-FFO. Kern River has applied for and must be granted a Mineral Leasing Act Right of Way Grant pursuant to section 28 of the Mineral Leasing Act, as amended (30 U.S.C 185). The BLM may adopt all or portions of the EIS to satisfy its requirements under NEPA and the Mineral Leasing Act in response to Kern River's application. Section 28 of the Mineral Leasing Act authorizes the BLM to issue a Right-of-Way Grant and Temporary Use Permits for the portions of the Project that would encroach on any federal lands in the Project area. This is a separate process from the FERC authorization. The proposed Project would be subject to valid prior existing rights-of-ways, which are shown on the BLM Master Title Plats and Geo Report. According to the BLM, existing Grant holders have been notified of the Project. However, Kern River is responsible for contacting and working with existing Grant holders to ensure the Project does not interfere with the use of their right-of-way.

Further, the BLM has determined that Project activities on federal lands would be in compliance with the House Range and Warm Springs Resource Management Plans (1987). The BLM would respond to Kern River's application under BLM regulations (43 CFR 2800) and other applicable federal laws.

1.3 PUBLIC REVIEW AND COMMENT

On July 1, 2020, the Commission granted Kern River's request to use FERC's Pre-Filing Process in Docket No. PF20-4-000. The Pre-Filing Process is designed to encourage early involvement by citizens, governmental entities, non-governmental organizations, and other interested parties in the development of proposed natural gas transmission projects, prior to the filing of a formal application. During the Pre-Filing Process, we worked with Kern River and interested stakeholders, including federal and state agencies, to identify and resolve Project-related issues. We participated in regular conference calls with Kern River to discuss relevant Project issues, and we encouraged Kern River to communicate frequently with the public and resource agencies throughout the Pre-Filing Process.

Kern River conducted two public open house meetings, one each on October 27 and 28, 2020, in Holden, Utah, and Delta, Utah, respectively. FERC staff attended both open house meetings virtually. The open houses provided an opportunity for stakeholders to ask questions and express concerns. Each open house was publicized via local newspapers and through direct mail invitation to property owners, regulatory agencies, and public officials. Approximately 22 individuals attended the open houses. Affected landowners were provided with a landowner-specific aerial map that detailed the proposed construction plan for their parcels. Landowners were able to review this map with Kern River's land agents. Kern River also maintains a 24/7 toll-free number (1-833-659-0509) that stakeholders could use to contact Kern River.

On January 4, 2021, we issued in Docket No. PF20-4-000 a *Notice of Scoping Period Requesting Comments on Environmental Issues for the Planned Delta Lateral Project*. This notice was mailed to approximately 120 entities, including affected landowners (as defined in the Commission's regulations); federal, state, and local officials; Native American tribes; agency representatives; environmental and public interest groups; and local libraries and newspapers. This notice also initiated consultation for the Project under section 106 of the National Historic Preservation Act. Comments received in response to the scoping notice are summarized below.

On August 26, 2021, we issued in Docket No. CP21-179-000 the *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Delta Lateral Project, Request for Comments on Environmental Issues, and Schedule for Environmental Review.* This notice was mailed to the same list as described above. Comments received in response to the notice of intent are summarized below.

This draft EIS was filed with the U.S. Environmental Protection Agency, and the Notice of Availability of the draft EIS is being mailed to federal, state, and local government agencies; elected officials; Native American tribes; affected landowners; local libraries and newspapers; intervenors in the

FERC's proceeding; and other interested parties (i.e., individuals who provided scoping comments or asked to be on the mailing list). The distribution list for the Notice of Availability of the draft EIS is provided in appendix A. A formal notice indicating that the draft EIS is available for review and comment will be published in the Federal Register. All comments received on the draft EIS related to environmental issues will be addressed in the final EIS.

1.3.1.1 Issues Identified During Scoping

We received 4 comment letters during the scoping period. Written comments were filed to the docket by the U.S. Environmental Protection Agency (EPA) (Accession Number 20210126-5059), the Utah's Public Lands Policy Coordination Office (Accession Number 20210203-5119), the Teamsters National Pipeline Labor Management Cooperation Trust (Accession Number 20210202-0042), and landowner Jayne Swapp (Accession Number 20210308-0008). Kern River provided responses to the EPA and State of Utah comments on February 17, 2021.[8] In addition, the Hopi Tribe submitted a copy of a letter requesting consultation that had previously been submitted to Kern River (Accession Number 20210219-0015). In addition to these comments filed to the docket, comments were received at Kern River's Project open house meetings and through Kern River's Project-dedicated email (DeltaLateral@kernrivergas.com) for stakeholders to contact Kern River directly.

We received 4 comment letters in response to the FERC Notice of Intent referenced above. Written comments were filed to the docket by Sindy Smith, stating general support for the Project and recommending that Project be consistent with state and local planning efforts and by Joyce Barney who inquired about pipeline risks and hazards (Accession Number 20210928-5005).[9] The Office of the Governor of Utah, through Public Lands Policy Coordinating Office (Accession Number 20210927-5185), commented expressing general support for the Project while providing specific comments on consistency with state and local plans, possible impacts to livestock grazing, fisheries, county roads, greenhouse gas emissions, operational restrictions on uses of land, and alternatives. EPA Region 8 provided a letter (Accession Number 20120928-5017) requesting that the EIS include a quantitative comparison of total greenhouse gas (GHG) annual emissions, estimate upstream and downstream GHG emissions, discuss GHG emissions in the context of national GHG emission goals, and use the social cost of greenhouse gases methodology to assess climate impacts. The EPA also recommends that the EIS disclose impacts on environmental justice communities and provide outreach and engagement with low income and minority populations in proximity to the proposed Project. These comments are addressed in the EIS as identified in table 1.3-1.

This EIS addresses the potential environmental impacts of Kern River's proposed Project and the concerns identified by the agencies that responded to the Notice of Scoping, the Notice of Intent, as well as concerns identified by commenters and other permitting or resource agencies, and our own independent evaluation of environmental resource impacts and other issues. The environmental comments received in response to our Notices are summarized below and are further addressed, as applicable, in the relevant sections of this EIS as summarized in table 1.3-1. Non-environmental comments, such as those declaring general support for the Project, or that focused on general energy policy concerns were noted but are considered outside the scope of the EIS.

[8] Accession Number 20210217-5105.

[9] Kern River provided a response to Ms. Barney on October 13, 2021 (Accession Number 20211019-5097).

TABLE 1.3-1

ENVIRONMENTAL ISSUES AND CONCERNS RAISED DURING PUBLIC SCOPING FOR THE PROJECT

Issue	EIS Section Addressing Issue
General Project Description	2.0
Pipeline pressure testing	2.3.3
Pipeline metering	2.1
Right-of-way width	2.1
Roadway crossings and access	2.3.2
Alternatives	3.0
No Action Alternative	3.1
System Alternatives	3.2
Soils	4.3
Vegetation	4.7
Water Resources, Wetlands, and Fisheries	4.4, 4.5, 4.6
Fish	4.6
Floodplains	4.4.3
Water rights	4.4.4
Wetland, riparian and waterbody impacts and mitigation	4.4.2, 4.5
Wildlife and Threatened and Endangered Species	4.8, 4.9
Reptile and mammal mitigation measures	4.8
Fish and Wildlife Habitat	4.6, 4.8, 4.9.2
Threatened, Endangered, Candidate or Special Status Plant Species	4.9
Section 7 consultation	4.9.1
Migratory birds	4.8.2
Dark kangaroo mouse	4.9.2
Kit fox	4.9.2
Environmental Justice Communities	4.11.3
Land Use, Visual Resources, and Recreation	4.10
Restrictions on future uses of the land	4.10.1
Livestock grazing	4.10.1
Off-highway vehicle use	4.10.3
Cultural Resources	4.12
Prehistoric archaeological sites	4.12.1
Historic roads	4.12.1
Air Quality	4.13
Dust suppression	4.13.1.6
Greenhouse Gas emissions	4.13.2
Pipeline Safety	4.14

1.4 NON-JURISDICTIONAL FACILITIES

Under section 7 of the NGA, FERC is required to consider, as part of a decision to authorize jurisdictional facilities, all facilities that are directly related to a proposed project where there is sufficient federal control and responsibility to warrant environmental analysis as part of the NEPA review. Some proposed projects have associated facilities that do not come under the jurisdiction of the Commission. These "non-jurisdictional" facilities may be integral to the need for the proposed facilities, or they may be merely associated as minor components of the jurisdictional facilities that would be constructed and operated as a result of authorization of the proposed facilities.

Kern River has identified the need to obtain electricity from the local electrical utility, Rocky Mountain Power, for the mainline tap at milepost 0.00 and at the lateral automated block valve assembly at milepost 18.2. Kern River would obtain electrical service by constructing underground conduits from the existing power facilities to the mainline tap and the block valve assembly. Additional discussion of these facilities is provided in section 2.3.4. The non-jurisdictional facilities associated with the Project are shown on the figures in appendix B.

The Project would provide natural gas to the Intermountain Power Project (IPP). The IPP currently includes a two-unit, 1800-megawatt coal-fueled generating station, two electric transmission systems, a microwave communication system, and a railcar service center. Most of the power generated by the IPP is carried 450 miles on a direct current line across Nevada to southern California where it is distributed to Pasadena, Glendale and several other cities served by the Los Angeles Department of Water and Power. Under California law, these power providers' future contracts must use fuel sources other than coal as part of that state's emission-reduction targets for greenhouse gases. The facility owner, Intermountain Power Agency (IPA), plans to convert the IPP from generating electricity using its current coal-fired energy generation process to generating electricity using two combined-cycle, natural-gas-fired power blocks. At 840 megawatts, the new gas-powered plant's capacity would be smaller than the current plant's output, and it would generate much less power than the 1,800 megawatts presently supplied to southern California.

IPA selected Kern River to construct the necessary facilities for the Project and provide natural gas transportation service to the IPP. Kern River has executed a firm transportation service agreement with IPA. Kern River would utilize its existing mainline capacity from Opal, Wyoming, to the location where Kern River's existing interstate natural gas pipeline system interconnects with the Project. Kern River would construct the Project to meet IPA's firm forward-haul transportation requirements.

IPP construction is forecasted to start in 2022 and continue through 2026. The IPP has a Clean Air Act Title IV and Title V permit, and on August 11, 2021 applied to the Utah Department of Environmental Quality, Division of Air Quality for a revision to its New Source Review Approval Order. IPP has also applied to Millard County for an amendment to its Conditional Use Permit. The repowering project would require 450 construction workers on average each year during that period and the rebuilt plant would employ 120 workers, less than the number who work at the IPP plant currently. The IPP repowering would result in annual tax receipts between $18 to 27 million. During construction, the IPP project would result in impacts on air quality, noise, housing, and traffic. In operation the IPP would have impacts on air quality and noise, water use, and traffic.

1.5 PERMITS, APPROVALS, AND REGULATORY REVIEWS

FERC has exclusive authority for siting interstate natural gas pipeline projects; however, other agencies also have responsibilities for other federal authorizations, such as the Clean Air Act (CAA), the Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act of 1899. As federal agencies, FERC and the BLM are required to comply with a number of regulatory statutes including, but not limited

to NEPA, section 7 of the ESA, Section 106 of the NHPA, and the Mineral Leasing Act (BLM only). Each of these statutes has been taken into account in the preparation of this draft EIS. The major permits, approvals, and consultations for the Project are identified in table 1.5-1.

Section 7 of the ESA states that any project authorized, funded, or conducted by any federal agency should not "…jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined…to be critical…" (16 USC 1536[a][2][1988]). The FERC is required to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitat occur in the vicinity of the proposed Project, and conduct consultations with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service, if necessary. Section 4.9.1 provides information on the status of this review.

The Migratory Bird Treaty Act of 1918 (MBTA) implements various treaties and conventions between the United States, Mexico, Canada, Japan, and Russia for the protection of migratory birds. Birds protected under the MBTA include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows, and others, including their body parts (e.g., feathers, plumes), nests, and eggs. The act makes it unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; possess, offer to or sell, barter, purchase, deliver, or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not, without a permit. The MBTA is discussed further in in section 4.8.2.

The Bald and Golden Eagle Protection Act of 1940, as amended (BGEPA) prohibits taking without a permit or taking with wanton disregard for the consequences of an activity any bald or golden eagle or their body parts, nests, chicks, or eggs, which includes collection, molestation, disturbance, or killing. The BGEPA protections include provisions not included in the MBTA, such as the protection of unoccupied nests and a prohibition on disturbing eagles. We discuss compliance with the BGEPA in sections 4.8.2 and 4.9.2.

Section 106 of the NHPA requires that FERC take into account the effects of its undertakings on properties listed, or eligible for listing, in the National Register of Historic Places (NRHP), including prehistoric or historic sites, districts, buildings, structures, objects, or properties of traditional religious or cultural importance, and to afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. Kern River, as a non-federal party, is assisting the FERC in meeting our obligations under section 106 by preparing the necessary information, analyses, and recommendations under Advisory Council regulations in 36 CFR 800. EIS section 4.12 provides information on the status of this review.

Kern River must comply with sections 401, 402, and 404 of the CWA. Water quality certification (section 401) has been delegated to the state agencies, with review by the EPA. Water used for hydrostatic testing that is point-source discharged into waterbodies would require a National Pollutant Discharge Elimination System permit (section 402) issued by the Utah Department of Environmental Quality (UDEQ) Division of Water Quality. The U.S. Army Corps of Engineers (USACE) has responsibility for determining compliance with all regulatory requirements associated with section 404 of the CWA. The EPA also independently reviews section 404 applications for wetland dredge-and-fill applications for the USACE and has section 404(c) veto power for wetland permits issued by the USACE. The section 404 permitting process regulates the discharge of dredged and fill material associated with the construction of pipelines across streams and in wetlands. The USACE has confirmed that the wetlands and waterbodies crossed by the Project are not waters of the United States regulated under sections 401 and 404 of the Clean Water Act or section 10 of the Rivers and Harbors Act. Our analysis of water resources and wetland impacts is provided in sections 4.4 and 4.5, respectively.

The CAA was enacted by Congress to protect the health and welfare of the public from the adverse effects of air pollution. The CAA is the basic federal statute governing air pollution. Federal and state air quality regulations established as a result of the CAA include, but are not limited to, Title V operating permit requirements and Prevention of Significant Deterioration (PSD) Review. The EPA is the federal agency responsible for regulating stationary sources of air pollutant emissions; however, the federal permitting process has been delegated to the UDEQ Division of Air Quality. Air quality impacts that could occur as a result of construction and operation of the Project are evaluated in EIS section 4.13.1.

Table 1.5-1 lists the major permits, consultations, and approvals for the Project. Kern River is responsible for obtaining all permits and approvals required to implement the Project, regardless of whether they appear in the table.

TABLE 1.5-1

Permits, Approvals, and Consultations for the Delta Lateral Project

Regulatory Agency	Permit, Approval, or Consultation	Status
Federal		
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity pursuant to section 7 of the NGA and 18 CFR 157	Request to use the Pre-Filing Process submitted June 23, 2020. Pre-filing request approved July 1, 2020. Application a Certificate of Public Convenience and Necessity filed April 23, 2021 - pending.
U.S. Bureau of Land Management	Right of Way Grant pursuant to section 28 of the Mineral Leasing Act, as amended (30 U.S.C 185).	The Standard Form 299 was submitted April 2020 and was updated and submitted in February 2021. Kern River submitted a Plan of Development to BLM on May 2021.
	Temporary Use Permit	The Standard Form 299 was submitted in February 2021 for a Temporary Use Permit.
	Sensitive Species Consultation	Ongoing. Consultation initiated May 2020. Habitat Assessment Addendum Report submitted to BLM September 9, 2021. Mitigation measures to be discussed between Kern River and BLM in November 2021.
U.S. Fish and Wildlife Service	Informal Section 7 ESA Consultation	No ESA species would be affected. No consultation necessary.
	MBTA Coordination	Consultation initiated June 2020.
	BGEPA Coordination	Consultation initiated June 2020.
U.S. Army Corps of Engineers Sacramento District	CWA Section 404 (Waters of the U.S.); Jurisdictional Determination	Approved Jurisdictional Determination issued March 12, 2021.
State (Utah)		
State of Utah School and Institutional Trust Lands Administration	Easement	Application for an easement was accepted for processing in February 2021. On September 21, 2021, SITLA provided draft easement and total compensation amount to Kern River.
Utah State Historic Preservation Office	Section 106 Consultation, NHPA	Initial consultation completed in February 2021. Additional surveys performed in July 2021. Addendum

TABLE 1.5-1

Permits, Approvals, and Consultations for the Delta Lateral Project

Regulatory Agency	Permit, Approval, or Consultation	Status
		report submitted to BLM and SITLA for review July 2021. BLM and SITLA completed review of the addendum report and had no comments. Final Addendum report submitted by BLM to SHPO September 2021. SHPO concurrence received September 2021.
Utah Department of Natural Resources--Division of Wildlife Resources	Informal Sensitive Species Consultation	Consultation completed in May 2021.
	Fish and Wildlife Coordination Act Consultation	Consultation initiated June 2020.
Utah Department of Environmental Quality--Division of Water Quality	CWA Section 401 Water Quality Certification	Wetlands and waterbodies crossed by the Project are not considered waters of the U.S. subject to section 401/404 of the CWA. Kern River is not proposing to discharge dredge or fill into waters of the U.S., a 401 Water Quality Certification is not required.
	CWA Section 402 Utah Pollutant Discharge Elimination System Storm Water Permit for Construction	Kern River anticipates submitting permit application July 2022.
	CWA Section 402 General Permit for Construction Dewatering and Hydrostatic Testing	Kern River proposes to dewater to well-vegetated upland areas and hydrostatic test water would be returned to the Intermountain Power Project for reuse or disposal. Therefore, a General Permit for Construction Dewatering and Hydrostatic Testing is not required.
Utah Department of Environmental Quality--Division of Air Quality	Consultation	Initial outreach conducted June 2020.
Utah Department of Environmental Quality--Division of Drinking Water	Consultation	Initial outreach conducted July 2020.
Utah Department of Natural Resources--Division of Water Rights	Water Rights Transfer	Anticipate submitting permit applicable July 2022.
	Stream Alteration Permit	Per correspondence with the Utah State Engineer's Office, no waterbodies crossed by the Project require a Stream Alteration Permit (Williamson, 2021).
Utah Department of Natural Resources--Division of Forestry, Fire, and State Lands	Consultation	Initial outreach conducted July 2020.
County/Local		
Millard County Planning Commission and Board of County Commissioners	C-2 Conditional Use Permit and Application	C-2 Conditional Use Permit approved by Millard County February 2021. Millard County and Kern River executed the conditional use permit July 29, 2021.

TABLE 1.5-1

Permits, Approvals, and Consultations for the Delta Lateral Project

Regulatory Agency	Permit, Approval, or Consultation	Status
Tribal Coordination		
Native American Tribes	Section 106 NHPA Consultation	Initial outreach conducted July 2020. Subsequent phone calls and consultation letters sent in February 2021 and May 2021.

2.0 DESCRIPTION OF THE PROPOSED ACTION

The Project would include construction of the following facilities in Millard County, Utah:

- a 35.84-mile-long, 24-inch-diameter natural gas pipeline;
- two mainline taps with automated lateral inlet valve assemblies;
- one in-line inspection device launcher;
- one in-line inspection device receiver;
- one automated lateral block valve assembly;
- one delivery meter station; and ancillary facilities.

This section describes the proposed pipeline system facilities, land requirements, construction procedures, schedule, environmental compliance and inspection monitoring, operation and maintenance procedures, and safety controls for the Project. Figure 1-1 shows the locations of Kern River's Project. Detailed maps of the pipeline facilities are in appendix B.

Additionally, 17 temporary access roads, 3 permanent access roads, 2 contractor yards, and 2 pipe yards are proposed for use during construction of the Project.

2.1 LAND REQUIREMENTS

Construction of the Project would disturb about 543.5 acres of land. The total acreage required for operation of all Project facilities is 222.7 acres. Land requirements for construction and operation of the Project are summarized in table 2.2-1, and typical right-of-way construction diagrams are included in appendix C. See section 4.10 for more detailed information regarding land uses affected by the Project.

TABLE 2.1-1

Land Use Requirements for the Delta Lateral Project

Facility	Land Affected During Construction (acres)	Land Affected During Operation (acres)
Pipeline Lateral		
Pipeline ROW **a/**	431.9	217.7
ATWS	23.6	0.0
Access Roads	62.1	2.4
Contractor Yards and Pipe Yards	22.9	0.0
Subtotal	**540.5**	**220.1**
Aboveground Facilities		
Two mainline taps with automated lateral inlet valve assemblies In-line Inspection Device Launcher **b/**	1.2	1.2
Lateral Automated Block Valve Assembly	0.2	0.2
Delivery Meter Station In-line Inspection Device Receiver **c/**	1.6	1.2
Subtotal	**3.0**	**2.6**
Project Total	**543.5**	**222.7**

a	Land required for the installation of cathodic protection is included in the pipeline right-of-way workspaces.
b	The in-line inspection device launcher is located within the mainline tap footprint.
c	The in-line inspection device receiver is location within the delivery meter station footprint.

Key:
ATWS = additional temporary workspace

Pipeline Facilities. The land disturbed by construction of the Project pipeline facilities would include the temporary construction right-of-way, permanent right-of-way, additional temporary workspace (ATWS), contractor yards, pipe yards, and temporary and permanent access roads.

Kern River would use a 100-foot-wide construction right-of-way, except across wetlands where Kern River would use a 75-foot-wide construction right-of-way. The permanent right-of-way would be 50 feet wide.

Varying widths and sizes of ATWS would be required adjacent to the temporary workspace in certain locations for specialized construction methods, such as horizontal directional drilling (HDD), wetland and waterbody crossing, and road crossings. In addition, two contractor yards and two pipe yards of different sizes would be used to facilitate construction of the Project. Contractor yards, pipe yards, temporary workspaces, and ATWS would be restored to preconstruction conditions to the extent practicable after construction.

Temporary access roads would be needed to access the construction right-of-way and ATWS. The proposed access roads generally originate at existing public roads. A total of 17 temporary access roads would be used during construction and would be restored to preconstruction conditions to the extent practicable. Three permanent access roads would be constructed to access the aboveground pipeline facilities.

Following construction, Kern River would retain a 50-foot-wide permanent right-of-way along the lateral. The permanent right-of-way would require 123.9 acres of land. All temporary construction workspace, including ATWS, would be reseeded and allowed to revert to preconstruction conditions in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) (see section 2.3).

Aboveground Facilities. Construction of the aboveground facilities would affect about 3.0 acres of land during construction and 2.6 acres during operation of the facilities as summarized in table 2.1-1 above.

Contractor Yards. Kern River is proposing to use two contractor yards and two pipe storage yards. These would temporarily impact 22.9 acres, and Kern River would restore the entire area of each yard after completion of construction (see table 4.10-1 for land use types). Appendix B includes the locations of the contractor yards.

2.2 CONSTRUCTION SCHEDULE

Kern River proposes to begin construction in March 2023 and conclude in April 2024, for an in-service date on or before May 1, 2024; however, Kern River anticipates that the majority of construction would be completed between March and October 2023. Areas disturbed during construction would be restored (e.g., recontoured and reseeded), weather permitting, by the end of October 2023. Kern River has indicated that in the event final restoration (i.e., final grading, reseeding, and installation of permanent erosion-control measures) is not completed by October 31, 2023, Kern River would abide by section V.A.1 of the Plan and file a winter construction plan with FERC at that time. Temporary erosion-control measures would remain in place, as needed, until revegetation is successful.

Construction would be carried out by a single spread consisting of approximately 200 construction workers. Construction crews typically would work 10 hours per day, 6 days per week. Kern River has indicated that construction would "generally" take place Monday through Saturday, from 7 a.m. to 7 p.m.; however, Kern River states that circumstances may arise where, for safety or technical reasons, Kern River is "unable" to halt construction at a precise time and work may extend into nighttime hours. In that event, Kern River would cease construction as soon as it could do so in a safe and responsible manner. If any work is needed on Sunday, it would take place from 7 a.m. to 7 p.m. Kern River does not anticipate nighttime construction would be required where noise sensitive areas (NSA) are present. Construction would generally not take place on federal holidays, but Kern River allows for that possibility.

2.3 CONSTRUCTION PROCEDURES

The Project would be designed, constructed, operated, and maintained in accordance with the U.S. Department of Transportation (DOT) regulations in 49 CFR 192 (2017), and other applicable federal and state regulations. During all phases of the Project, applicable Occupational Safety and Health Administration requirements would be followed (OSHA, 2020). The requirements set forth in applicable regulations and the conditions of the Certificate and other required permits would be provided to Kern River's employees and contractors engaged in the construction, maintenance and operation of the Project and would also be provided to Kern River's construction contractors and third-party inspectors. These employees and contractors have been, or would be, instructed to follow these requirements, as applicable, when planning, installing, and operating the facilities. In accordance with 49 CFR 192, the pipeline would be inspected for leakage as part of scheduled operations and maintenance. Kern River also would participate in the local One Call system. These standards are in accordance with the National Pipeline Safety Act of 1968, as amended.

Kern River would follow the FERC Plan and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures)[10] for the Project. Kern River would also implement the following construction and mitigation plans for the Project, which we have reviewed and find acceptable:

- Construction Spill Prevention and Response Procedures for Oil and Hazardous Materials (Construction Spill Plan);
- Fugitive Dust Control Plan;
- Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plan (HDD Plan);
- Noxious and Invasive Weeds Management Plan; [11]
- Unanticipated Discovery Plan for Cultural Resources and Human Remains; and
- Reclamation Plan.

Kern River would also develop a Stormwater Pollution Prevention Plan (SWPPP) that incorporates the requirements and certain best management practices (BMP) from relevant federal and state permits, as well as our Plan and Procedures.

Kern River would employ at least one environmental inspector (EI) for the Project. Kern River would conduct training for field construction and contractor personnel before and during installation of the Project. The training would focus on Project permit requirements; individual Project plan requirements,

[10] The FERC (or "our") Plan and Procedures are a set of construction and mitigation measures that were developed to minimize the potential environmental impacts of the construction of pipeline projects in general. The Plan can be viewed on FERC's website at http://www.ferc.gov/industries/gas/enviro/plan.pdf. The Procedures can be viewed on FERC's website at http://www.ferc.gov/industries/gas/enviro/procedures/pdf.

[11] See Accession Number 20210423-5124.

such as those listed in the SWPPP; FERC's Plan and Procedures; and the conditions of the FERC Certificate.

To ensure that all individuals working on the Project are familiar with the EI's authority and the environmental mitigation measures appropriate to their jobs, Kern River would conduct environmental training sessions in advance of and during construction. Kern River would be represented on the construction spread by a chief inspector for quality assurance and compliance with mitigation measures. The chief inspector would be assisted by a team of craft inspectors and one EI. The EI position would be a third-party, full-time, position with stop-work authority that reports directly to Kern River's environmental department. The EI's duties would be consistent with those contained in section II.B of FERC's Plan (Responsibilities of the EI), which include ensuring compliance with environmental conditions identified within the FERC Certificate, Kern River's environmental designs and specifications, and environmental conditions identified within other permits or authorizations. An appropriate number of copies of the construction drawing package would be distributed to Kern River's inspectors and to contractor supervisory personnel. If a contractor's performance is unsatisfactory, the terms of the contract would allow Kern River to stop work in progress and require the contractor to begin and complete remedial work.

2.3.1 Conventional Pipeline Construction Sequence

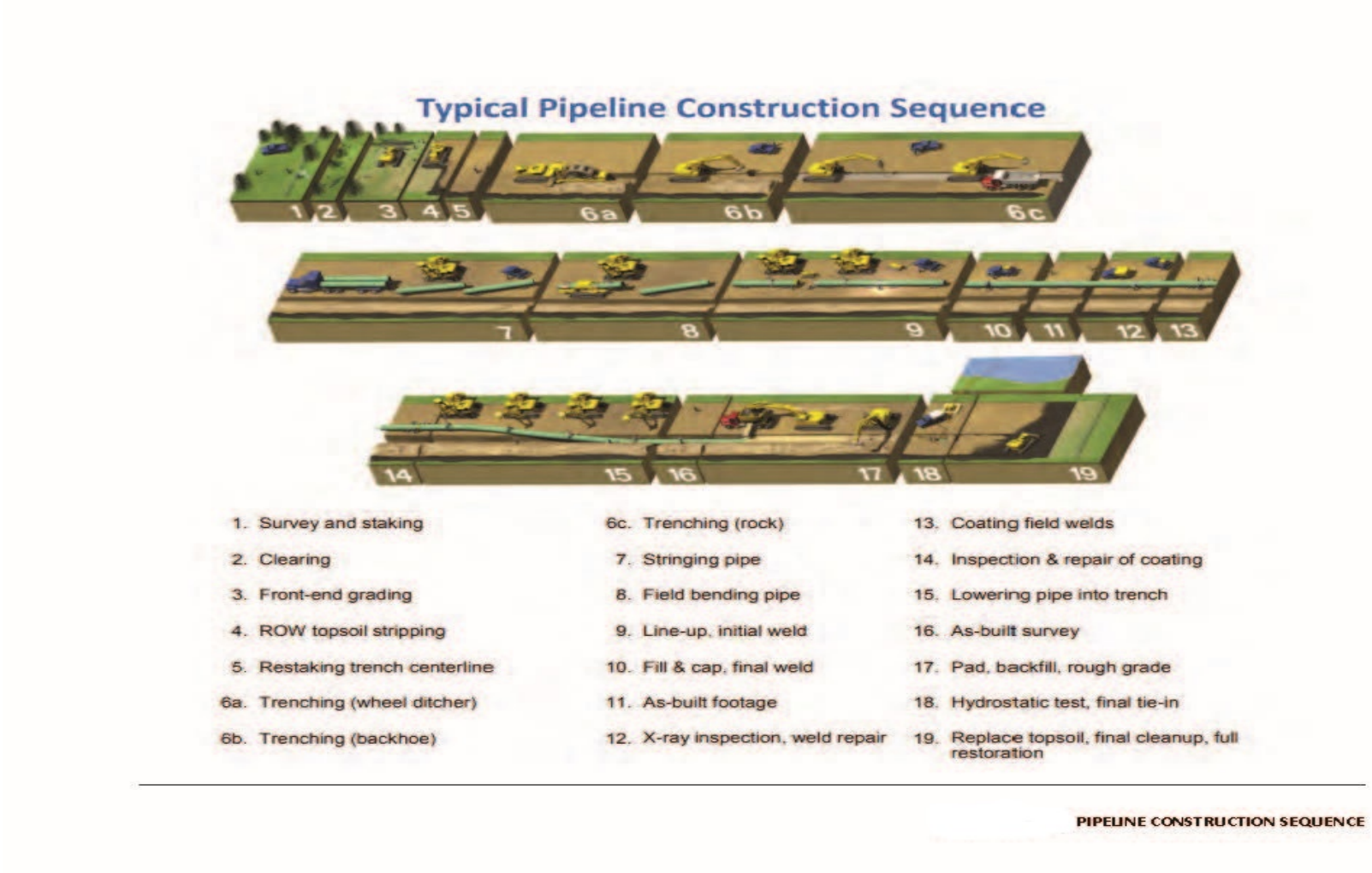
Construction of the pipeline lateral for the Project would incorporate conventional overland construction techniques and standard sequences of activities. This typically consists of a sequential process of surveying, clearing, grading, excavating, pipe stringing and bending, welding, lowering-in and backfilling, hydrostatic testing, cleanup, and restoration. Crews working on each stage of construction generally proceed along the pipeline right-of-way in one continuous operation. Figure 2-1 shows the typical pipeline construction sequence for installation of a new pipeline. The construction process would be planned to minimize the disturbance time on any given tract of land, subsequently minimizing exposure to potential erosion and the time that the land is temporarily taken out of normal use. The activities at any single point would last approximately 6 to 18 weeks.

2.3.1.1 Clearing and Grading

The preconstruction civil survey is the initial step to prepare the construction right-of-way for construction. Landowner permission is required to enter most affected parcels. Once survey permission is granted, Kern River would notify affected landowners prior to preconstruction survey activities.

Prior to construction, Kern River would survey and stake the outside limits of the construction right-of-way, temporary workspaces and ATWS, the centerline of the pipeline trench, highway crossings, sensitive environmental feature boundaries, access roads, and all known underground facilities. Kern River would ensure the state's One Call notification system (Blue Stakes of Utah 811) is contacted to allow utility companies with facilities in the Project area to locate and mark utility lines to prevent accidental damage during pipeline construction.

Figure 2-1 Pipeline Construction Sequence



The construction right-of-way would be cleared and graded as needed to provide a safe and efficient workspace for construction equipment. Kern River would stage large objects such as trees, rocks, brush and logs in designated areas along the right-of-way, and away from sensitive environmental areas, during construction. Trees, brush and logs may be hauled off for disposal at an approved location, mulched and spread onsite or set aside for beneficial reuse. Large rocks may be hauled off for disposal at an approved location or set aside for beneficial reuse. All large obstacles such as trees, rock, brush and logs that will not be retrieved for beneficial reuse by the landowners would be removed from the right-of-way and disposed of at a company-approved location. Timber, rock, and vegetative debris would be disposed of in accordance with FERC's Plan, applicable regulations, and landowner requests. Sensitive environmental areas, including wetlands and waterbodies, would not be used to stockpile timber, rock, or vegetation debris.

The construction right-of-way boundaries would be the limits of the temporary workspace and ATWS as shown on the alignment sheets and would be clearly staked or flagged. No disturbance would be allowed beyond the construction right-of-way limits. Kern River has indicated that the Project would not cross agricultural or residential areas. However, Kern River proposes to conduct full topsoil segregation along the entire route to support revegetation post-construction. Topsoil would not be removed from existing improved (e.g., graveled) farm roads. Topsoil would be removed to a maximum depth of 12 inches or the actual depth of the existing topsoil horizon. In compliance with FERC's Plan, conserved topsoil would be stockpiled along one side of the construction right-of-way, allowing the other side to be used for access, material transport and pipe assembly. Kern River would stabilize and protect the topsoil stockpiles in accordance with the FERC's Plan (section IV.B.6). Specifically, sediment barriers, mulch, or functional equivalents, where necessary, would be employed to stabilize, protect, and ensure segregation of the topsoil stockpiles. Kern River would water topsoil stockpiles to form a protective crust to ensure they remain stable. Construction equipment would not be permitted to travel over the topsoil piles.

Following clearing, Kern River would install soil erosion and sedimentation control measures along the construction right-of-way, access roads and ATWS in accordance with the Kern River's SWPPP and the FERC Plan. The SWPPP would describe general measures that Kern River would implement during Project construction to minimize erosion and off-site sedimentation during construction. These measures include the following:

- minimizing the quantity and duration of soil exposure;
- implementing dust mitigation measures;
- reducing the velocity of runoff water and redirecting runoff as appropriate;
- installing and maintaining erosion and sediment control measures;
- establishing vegetation following final grading in non-agricultural areas; and
- inspecting the construction right-of-way and maintaining erosion and sediment control as needed until final stabilization is achieved in non-agricultural land.

2.3.1.2 Trenching

Soil and bedrock would be removed to create a trench into which the pipeline would be placed. A rotary trenching machine, track-mounted excavator, or similar equipment would be used to dig the pipeline trench. When rock is encountered, tractor-mounted mechanical rippers or rock trenchers would be used to fracture the rock prior to excavation. Blasting is not anticipated to be required for the Project. Should it become necessary, Kern River would submit a blasting plan to FERC for review and approval, which details pre- and post-blast inspections; advanced public notification; and mitigation measures for building

foundations, groundwater wells, and springs. Excavated materials would be stockpiled along the right-of-way on the side of the trench away from the construction traffic.

The trench would be excavated to a depth that would provide sufficient cover over the pipeline in accordance with DOT standards in 49 CFR 192.327. Typically, the trench would range from 6 to 8 feet deep, depending on the substrate and resource being crossed. Excavations could be deeper in certain locations, such as at road and stream crossings or where foreign lines are located. Generally, the pipeline would be installed with a minimum of 3 feet of cover, except where consolidated rock prevents this depth of cover from being achieved. Additional cover would be provided at road and waterbody crossings. Additional cover (above DOT standards) may also be negotiated at a landowner's request to accommodate land use practices. Additional depth of cover generally requires a wider construction right-of-way to store the additional spoil.

2.3.1.3 Pipe Stringing, Bending, Welding, and Coating

After trenching, sections of pipe typically between 40 and 80 feet long (also referred to as "joints") would be transported to the right-of-way by truck and strung beside the trench in a continuous line. The pipe would be delivered to the job site with a protective coating of fusion-bonded epoxy or other approved coating that would inhibit corrosion by preventing moisture from coming into direct contact with the steel.

Individual sections of pipe would be bent to conform to the contours of the ground after the joints of pipe sections are strung alongside the trench. Workers would use a track-mounted, hydraulic pipe-bending machine to bend the pipe. Where multiple or complex bends are required, bending would be conducted at the pipe fabrication factory, and the pipe would be shipped to project areas pre-bent.

After the pipe joints are bent, they would be aligned, welded together into a long segment, and placed on temporary supports at the edge of the trench. Kern River would use welders who are qualified according to applicable standards in 49 CFR 192 Subpart E, American Petroleum Standard 1104, and other requirements.

Once the welds are made, a coating crew would coat the area around the weld before the pipeline is lowered into the trench. Prior to application, the coating crew would thoroughly clean the bare pipe areas with a power wire brush or sandblast machine to remove dirt, mill scale, and debris. The crew would then apply the coating and allow the coating to dry. The pipeline would be inspected electronically for faults or voids in the coating and would be visually inspected for scratches and other defects. Kern River would repair any damage to the coating that may have occurred before the pipeline is lowered into the trench.

2.3.1.4 Lowering-In and Backfilling

The trench would be inspected to be sure it is free of rocks and other debris that could damage the pipe or protective coating before the pipe would be lowered into the trench. Trench dewatering may be necessary to inspect the bottom of the trench in areas where water has accumulated. Trench water discharges would be directed to well-vegetated areas and away from waterbodies to minimize the potential for runoff and sedimentation. The pipeline would then be lowered into the trench by a series of side-boom tractors (tracked vehicles with hoists on one side and counterweights on the other), which would carefully lift the pipeline and place it on the bottom of the trench.

Trench breakers (stacked sand bags or polyurethane foam) would then be installed in the trench on slopes at specified intervals to prevent subsurface water movement along the pipeline. The trench would then be backfilled using the excavated material. At locations where topsoil had been separated from subsoil during the clearing process, subsoil would be returned to the trench first, followed by topsoil. An up to 1-foot-high crown of soil about the width of the trench may be left over the trench in non-agricultural areas

to compensate for settling. Appropriately spaced breaks may be left in the crown to prevent interference with stormwater runoff.

2.3.1.5 Hydrostatic Testing

Hydrostatic testing or inert gas strength testing would be conducted in accordance with 49 CFR 192 to verify the integrity of the pipeline and the piping components of the delivery meter station before the pipeline is placed into service. The pipe segments would be capped with manifolds, filled with water or gas, pressurized, and held for 1 to 8 hours. Any significant loss of pressure would indicate that a leak may have occurred and warrant further inspection and, where necessary, repair. Water may be reused for hydrostatic testing other lateral segments. Hydrostatic test water would be obtained in compliance with state regulations and existing water rights.

Kern River would obtain hydrostatic test water directly from IPP's water storage reservoir to perform the hydrostatic testing of the Project's facilities (see discussion in section 4.4.4). IPP's water storage reservoir is located on IPP property, approximately 1,110 feet south of milepost 35.84. Kern River proposes to pipe water from the reservoir, east along the western side of PAR-3, and north to the end of the pipeline lateral using aboveground 6- or 8-inch-diameter polyvinyl chloride pipe. The temporary pipe would be approximately 2,300 feet long and would be placed on the ground surface without grading or excavation. Kern River would not use any chemical additives in the hydrostatic test waters. The IPA has reviewed and approved the routing and installation of the temporary pipe. Upon completion of testing, water would be returned to IPP for reuse or discharged to a well-vegetated upland area.

2.3.1.6 Cleanup and Restoration

Following trenching, pipe lowering, and backfilling, Kern River would complete final cleanup in accordance with FERC's Plan and its Reclamation Plan. Kern River states that all measures requested by the BLM and the Utah School and Institutional Trust Lands Administration (SITLA) have been incorporated into the Reclamation Plan.

Cleanup would include restoring the slope, contour, grade, and drainage of the construction right-of-way as near as practicable to preconstruction conditions. The trench may be crowned to allow for anticipated settlement of the backfill. Additional temporary and permanent erosion and sediment control measures, which may include silt fencing or slope breakers, would be installed at this time and/or be maintained from during construction. Final erosion and sediment control measures would be installed in accordance with FERC's Plan, FERC's Procedures, and the Project's SWPPP.

Workspaces would be reseeded in accordance with individual landowner requirements or land management agency requirements. All construction equipment would be removed following final cleanup activities. Unless otherwise required by the landowner, Kern River would restore all disturbed areas as close as practicable to their preconstruction condition. Construction debris, trash, surplus materials, and temporary structures would be removed from the construction right-of-way and disposed of in accordance with applicable federal, state, and local regulations.

A cathodic protection system would be installed and maintained along the length of the pipeline. Kern River conducted a cathodic protection evaluation to determine the cathodic protection system requirements for the Project. Land requirements for the cathodic protection system are included in section 2.1. The cathodic protection system would be monitored and inspected periodically to ensure proper and adequate corrosion protection.

2.3.2 Special Pipeline Construction Procedures

In addition to the standard pipeline construction method discussed above, Kern River would implement special construction procedures where warranted by site-specific conditions, as discussed below.

Horizontal Directional Drill. Kern River proposes to cross the Sevier River, adjacent railroad tracks, and Canal A using a single HDD. The HDD crossing is currently designed to extend from milepost 27.0 to milepost 27.5 (approximately 2,923 feet) and would take approximately eight weeks to complete.

The HDD method considerably reduces impacts on sensitive resources by avoiding surface work and installing the pipeline at a substantial depth beneath the resources. A cross section drawing of the Sevier River HDD is provided in appendix D. HDD is a trenchless crossing method involving drilling a hole beneath a feature and installing a prefabricated pipe segment through the hole. The first step in an HDD is to directionally drill a small-diameter pilot hole from one side of the crossing to the other. The pilot hole is then enlarged by one or more reaming passes using successively larger reaming tools until the borehole is of sufficient diameter to allow for pullback of the prefabricated pipe.

ATWS would be required at the HDD entry to accommodate the drilling rig, drill pipe, drilling fluid systems, and other equipment. ATWS would also be needed at the HDD exit to accommodate equipment and for fabricating and stringing the segment of pipeline to be pulled back and installed in the HDD borehole. The prefabricated HDD pipeline segment would be inspected and hydrostatically tested in accordance with applicable Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations. During HDD operations, drilling fluid consisting primarily of water and bentonite clay is pumped under pressure through the inside of the drill pipe and flows back (returns) to the drill entry point along an annular space between the outside of the drill pipe and the drilled hole. The drilling fluid lubricates the drill bit, removes drill cuttings, and promotes hole stability.

Based on drilling conditions, it may be necessary to amend the properties of the drilling fluid to enhance drilling efficiency and borehole stability. Only non-petrochemical based, non-hazardous drilling fluid additives that are NSF International/American National Standards Institute 60-certified and compliant with permit requirements and environmental regulations would be used. Kern River would file a list of proposed drilling fluid additives and associated safety data sheets for FERC's approval prior to construction.

During normal HDD operations, circulation of the drilling fluid between the drill bit and the drilling rig is maintained. However, because the drilling fluid is pressurized, in certain conditions it can seep into the surrounding rocks and sediment. Formational drilling fluid losses typically occur when the drilling fluid flows through the pore spaces in the soil through which the HDD drilling profile passes or within fractures contained in the rock formation. Inadvertent returns of drilling fluid to the ground surface (IRs) are more likely to occur in more permeable soils or via fractures or fissures in bedrock.

Chances for an IR to occur are greatest near the drill entry and exit points where the drill path has the least amount of ground cover. Kern River's HDD Plan describes drilling and monitoring methods that would be implemented to further reduce the potential for IRs to occur and to minimize the loss of drilling fluid should circulation be reduced or lost. Should an IR occur, Kern River would implement measures to limit impacts on sensitive resources according to its HDD Plan.

Situations may arise that require that HDD construction activities to take place outside the normal work period of 7 a.m. to 7 p.m., Monday through Saturday. Drilling of the pilot hole and other pre-ream efforts would be typically shut down at the end of each workday; however, the pullback would be conducted in one continuous effort, which could extend beyond normal working hours. Kern River would start pullback activities at the start of the workday to reduce the potential for nighttime work. If Kern River determines the need to extend work past 7 p.m. at an HDD, Kern River would employ noise mitigation measures as described in section 4.13.3.

Kern River may dispose of excess drilling fluid in upland areas, including mine reclamation sites, landfills, and land spreading in upland agricultural areas with landowner approval. Consistent with section III.E of the FERC Plan, disposal of the drilling fluid must not result in adverse environmental impact and is subject to compliance with all applicable survey, landowner or land management agency approval, and

permit requirements. Prior to disposal, Kern River would complete laboratory testing of excess drilling fluid for inorganic and organic environmental contaminants to ensure that disposal would not result in adverse environmental impact or otherwise conflict with landowner or land management agency approvals or permit requirements.

Road and Railroad Crossings. Kern River would construct the pipeline across the three railroads and the four paved public roads using trenchless methods. One railroad would be crossed using HDD methods (described above); the remaining railroads and paved public roads would be crossed using conventional auger boring techniques. Roadway crossings would be uncased to avoid the possibility of inadvertent cathodic protection grounding conditions, unless otherwise required by applicable permits. The pipeline would be buried in accordance with permit requirements and would be designed to withstand anticipated external loading.

As part of the conventional auger bore method, the pipeline lateral would be installed by boring a hole under the road or railroad using specialized boring equipment. Boring is completed by excavating bell holes on each side of the road or railroad to a depth of approximately 10 feet and using an auger to bore a hole between the bell holes. If bore hole dewatering is necessary, Kern River would dewater per FERC's Plan and Procedures and in accordance with applicable permit conditions using appropriate BMPs. The methods implemented to minimize erosion and sedimentation associated with dewatering activities would be further detailed in Kern River's SWPPP. A dummy casing, which is slightly larger in diameter than the pipeline, would be installed immediately behind the cutting head, and an auger would be placed inside the pipe to remove the cuttings. When completed, the bored hole is slightly larger than the outside diameter of the pipeline to be installed. Once the bore is completed, the pipeline section is welded to the boring pipe and pulled into place, and the boring pipe and dummy casing are removed. Any voids between the pipeline and the subsoil would be filled with grout (a sand-cement mix).

Kern River does not anticipate 24-hour construction would be required for the conventional bore crossings of the railroad and public roads. Although not anticipated, 24-hour construction may become necessary on a case-by case basis if borehole stability issues arise or if the pipe becomes lodged during pullback activities.

Waterbody Crossings. Kern River's pipeline lateral would cross waterbodies using the HDD crossing method, the conventional auger bore method (both described above), and the open-cut crossing method. Kern River plans to install the pipeline lateral across 42 of the 45 waterbodies via the open-cut crossing method, 2 of the 45 waterbodies via HDD, and 1 of the 45 waterbodies via conventional auger bore. Crossings of waterbodies would be constructed in accordance with the measures specified in FERC's Procedures and Kern River's construction plans. For the open-cut crossing method, construction would proceed using standard upland construction techniques provided that the EI confirms that the waterbody is dry, and that water is unlikely to flow between initial disturbance and final stabilization of the waterbody. In the event of perceptible flow, Kern River would temporarily postpone crossing the waterbody until flow dissipated. If this is not possible, Kern River would complete open-cut of waterbodies by implementing the flume-crossing method and practices in section V.B.6 of FERC's Procedures. The flume-crossing method is a dry ditch crossing method. In the flume-crossing method, water flow is temporarily directed through one or more flume pipes placed over the excavation area. The use of the flume(s) allows trenching and pipeline installation under dry conditions without significant disruption of water flow, while also minimizing downstream turbidity.

Kern River inspection personnel would inspect all waterbody crossings during construction to document compliance with design criteria and permit conditions. Further details regarding waterbody crossing impacts and mitigation for this Project are discussed in section 4.4.2. If the HDD crossing is found to be infeasible, Kern River would be required to submit specific proposed alternate construction methods for review and approval by the Commission and other applicable agencies.

Wetland Crossings. Constructing the pipeline would require crossing 15 wetlands. Ten of the 15 wetlands would be crossed via the open-cut method and one of the 15 wetlands would be crossed via HDD. The remaining wetlands would not be crossed by the Project centerline but are located within Project workspaces. Crossing of wetlands would be completed in accordance with the measures specified in FERC's Procedures, applicable permit conditions, and Kern River's construction plans. For wetlands within the temporary construction right-of-way but not crossed by the pipeline, low-ground-weight equipment mats, terra mats, or timber riprap will be used if saturated soils are present at the time of construction to reduce rutting.

Wetlands crossed via HDD would require no removal of vegetation or surface disturbance from construction equipment. Foot traffic travel lanes would be used to follow the drill head and monitor for inadvertent releases of drilling fluid. Minimal hand-clearing of vegetation could occur within a 5-foot-wide traffic travel lane. Sediment barriers would be installed between the edges of the construction workspace and the wetland boundaries.

In wetlands where the pipeline would be installed via the open-cut method, the clearing of vegetation would be limited to a few shrubs (greasewood), which would be cut flush with the surface of the ground and removed from the wetland, except in locations immediately affected by the trench line. No trees are present in wetlands crossed by Project workspaces. Shrub and stump removal, grading, and excavation would be limited to the area immediately over the trench line. A limited amount of root and stump removal and grading may be conducted in other areas to ensure a safe working environment.

During clearing, sediment barriers, such as silt fence and staked straw bales, would be installed and maintained adjacent to wetlands and within ATWS, as necessary, to minimize the potential for sediment runoff. Sediment barriers would be installed across the full width of the construction right-of-way at the base of slopes adjacent to wetland boundaries. Silt fence or straw bales installed across the working side of the right-of-way may be removed during the day when vehicle traffic is present and would be replaced each night. Sediment barriers would also be installed within wetlands along the edge of the right-of-way, where necessary, to minimize the potential for sediment to run off the construction right-of-way and into wetland or other sensitive areas outside the construction work area. If trench dewatering is necessary in wetlands, the trench water would be discharged in stable, vegetated, upland areas or through a filter bag or siltation barrier. No heavily silt-laden water would be allowed to flow into a wetland.

Construction equipment working in wetlands would be limited to that essential for clearing the right-of-way, excavating the trench, fabricating, and installing the pipeline, backfilling the trench, and restoring the right-of-way. The method of pipeline construction used in wetlands depends largely on the stability of the soils at the time of construction. In areas of saturated soils or standing water, low ground-weight construction equipment and timber riprap, prefabricated equipment mats, or terra mats would be used to reduce rutting and the mixing of topsoil and subsoil.

Before backfilling, Kern River would install trench breakers where necessary to prevent the subsurface drainage of water from wetlands. Equipment mats, terra mats, and timber riprap would be removed from wetlands following backfilling. Further details regarding wetland impacts and mitigation for this Project are discussed in section 4.5.

Residential Areas. No residences, buildings, or structures are within 50 feet of the proposed Project, including aboveground facilities, temporary workspace, and ATWS.

Agricultural Areas. The Project does not cross agricultural areas.

Blasting. No blasting is anticipated in association with the Project. If an area of unrippable shallow bedrock is encountered and blasting becomes necessary, Kern River would develop written safety precautions and blasting procedures, which would be submitted to FERC for review and approval and follow any required permits.

2.3.3 Aboveground Facilities Construction

Construction of aboveground facilities would include general activities such as clearing and grading, construction of permanent access roads, foundation installation, erection of aboveground facilities, installation of piping equipment, testing of equipment, and timely cleanup and restoration of the Project areas. Construction activity and storage of construction material would be limited to the temporary workspaces and ATWS areas, and waste materials would be disposed of in a manner consistent with state and local regulations. Kern River expects excavation dewatering would not be required for any new concrete foundations for the Delta Lateral Project due to the low water table in the areas where concrete foundations will be installed.

Prior to placing the Project facilities in service, all controls and safety equipment and systems, such as, relief valves, gas detection, and other protection equipment would be tested. Pressure testing would be conducted on piping, in accordance with the requirements of DOT Pipeline Safety Regulations (49 CFR 192), Kern River's testing specifications and applicable permits. Testing would follow all applicable federal requirements.

2.3.4 Non-jurisdictional Facilities

As discussed in section 1.4, above, Kern River has identified the need for electricity at the mainline tap site at milepost 0.0 and at the lateral automated block valve assembly at milepost 18.2. The local electrical utility in the area is Rocky Mountain Power, which has existing power facilities within approximately 1,600 feet of the mainline tap site and within 800 feet of the lateral automated block valve assembly. The power requirement for both locations is single phase, 120/240 volts, and 100 to 200 amps. Kern River applied for an electrical power drop at milepost 0.00 and milepost 18.16 from Rocky Mountain Power. Kern River would use a 15-foot-wide easement and install underground conduit from the existing power facilities to the mainline tap site and the lateral automated block valve assembly.

Installation of the underground conduit would require a 100-foot-wide temporary workspace. Construction of the underground conduit would result in temporary impacts associated with clearing the temporary workspace. Installation of the underground electric conduit would impact rangeland with desert scrub groundcover. During project reclamation, Kern River would reseed the area with BLM-approved seed mix in accordance with the Reclamation Plan upon completion of construction, unless otherwise directed by private landowners.

Following construction, disturbed areas would be restored as described above and we do not anticipate significant impacts associated with the operation of the underground conduit.

2.4 ENVIRONMENTAL COMPLIANCE

The FERC may impose conditions on any Certificate granted for the Project. These conditions could include requirements and mitigation measures identified in this EIS to minimize environmental impacts associated with the Project (see section 5.2). We will recommend to the Commission that these requirements and mitigation measures be included as conditions to any approving Certificate or Authorization issued for the Project. Once a Project is authorized, FERC staff would monitor compliance by conducting on-site inspections, reviewing post-authorization filings, weekly, monthly and semi-annual reports depending on the project phase. Further, Kern River would be required to implement the construction procedures and mitigation measures it has proposed in its filings with the FERC, unless specifically modified by other Certificate conditions.

Other regulatory agencies also may include terms and conditions or stipulations as part of their permits or approvals. While there would be jurisdictional differences between the FERC's and other

agencies' conditions, the environmental inspection program for the Project would address all environmental or construction-related conditions or other permit requirements placed on the Project by all regulatory agencies.

Kern River would employ at least one full-time EI for the Project. The EIs' responsibilities include ensuring the environmental obligations, conditions, and other requirements of permits and authorizations for the Project is met. Kern River's EI would inspect all construction and mitigation activities to ensure environmental compliance. EIs may also oversee cultural resource and/or biological monitors that monitor and evaluate construction impacts on resources as specified in this EIS.

The FERC staff would also conduct field inspections during construction. Other federal and state agencies may also conduct oversight of inspection to the extent determined necessary by the individual agency. After construction is completed, the FERC staff would continue to conduct oversight inspection and monitoring during operation of the Project to ensure successful restoration.

2.5 OPERATION AND MAINTENANCE PROCEDURES

The Project would be designed, constructed, tested, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192, FERC directives in 18 CFR 380.15, and maintenance requirements in FERC's Plan and Procedures. All Project facilities would be marked and identified in accordance with applicable regulations.

The pipeline lateral would be patrolled on a routine basis, which would provide information on possible leaks, third-party construction activities, erosion, encroachment, and other potential problems that may affect the safety and operation of the pipeline. Cathodic protection facilities installed along the pipeline would be regularly monitored and inspected periodically to ensure proper and adequate corrosion protection.

Routine vegetation maintenance along the permanent right-of-way may be conducted periodically, in accordance with FERC's Plan and Procedures. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands would not be conducted more frequently than every three years, with the exception of a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the 10-foot-wide corridor in an herbaceous state to allow for periodic corrosion and leak surveys. Kern River would not conduct any routine vegetation mowing or clearing in wetlands that are located between HDD or bore entry and exit points. In wetlands, a 10-foot-wide corridor centered on the pipeline would be cleared at a frequency necessary to maintain an herbaceous state. Routine vegetation maintenance would occur outside of the April 1 to July 31 migratory bird nesting avoidance window, unless the appropriate field surveys are conducted, and the necessary approvals are obtained.

Kern River would also perform regular operation and maintenance activities on equipment at the aboveground facilities associated with the Project. These activities would include, but are not limited to, calibration, inspection, and scheduled routine maintenance.

3.0 ALTERNATIVES

In accordance with NEPA and Commission policy, we evaluated alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no-action alternative, system alternatives, route alternatives and variations, and aboveground facility design alternatives. Site alternatives were not assessed for the delivery meter station because it would be located on IPP property at IPA's request, and we did not note any resource concerns that would lead us to seek alternative siting for the meter station.

The evaluation criteria used for developing and reviewing alternatives were:

- ability to meet the Projects' stated objective;
- technical and economic feasibility and practicality; and
- significant environmental advantage over the proposed action.

Through environmental comparison and application of our professional judgment, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g., publicly available data, geographic information system data, aerial imagery) and assume the same general workspace requirements.

We reviewed alternatives against the evaluation criteria in the sequence presented above. The first consideration for including an alternative in our analysis is whether or not it could satisfy the stated purpose of the Project. An alternative that cannot achieve the purpose for the Project cannot be considered as an acceptable replacement for the Project. The second evaluation criteria is feasibility and practicality. Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of a new, unique, or experimental construction method may not be technically practical because the required technology is not available or is unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render a project economically impractical.

Alternatives that would not meet the Project objective or were not feasible were not brought forward to the next level of review (i.e., the third evaluation criterion). Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts to another location, potentially affecting a new set of landowners.

Our analysis that follows is based on information provided by Kern River, a review of publicly available information and scoping comments, and our independent research.

Comments on alternatives were received from the Office of the Governor of Utah, through the Public Lands Policy Coordinating Committee. In its comments, the Public Lands Policy Coordinating Committee stated that the Project is necessary for the repowering of the IPP and that it opposes the No-Action Alternative, and indicated that it does not appear that there is existing pipeline infrastructure necessary to provide natural gas to the IPP unless the Delta Lateral Project is completed.

3.1 NO-ACTION ALTERNATIVE

Under the no-action alternative, the environmental impacts associated with the Project and analyzed in this EIS would not occur. Kern River would not construct any component of the Project and, consequently, would be unable to meet the stated purpose and need of the Project to provide firm natural gas transportation service for 140,000 dekatherms per day to the IPP. IPA, however, would still require firm natural gas transportation service to convert the IPP from its current coal-fired generation to a combined-cycle natural gas-fired power. Until such time as a natural gas supply is provided, the IPP would continue to operate as a coal-fired power generation facility. As such, adopting the no-action alternative would result in the continued use of coal-fired power (and the resulting emissions) at the IPP. We conclude that the no-action alternative is not a viable alternative because it does not satisfy the purpose and need for the Project, and we do not recommend it.

3.2 SYSTEM ALTERNATIVES

System alternatives generally use existing, modified, or proposed pipeline systems to meet the purpose and need of a proposed project. Questar Pipeline Company and Kern River Gas Transmission operate interstate natural gas transmission systems in the Project area, but each would require major pipeline connections to provide natural gas to the IPP. Magnum Gas Storage, LLC (Magnum) plans to develop two natural gas storage caverns adjacent to the IPP site to provide gas storage and transportation services; however, the Magnum facility would be constructed at a future date and would require its own pipeline interconnection to either the Questar or Kern River systems. No other existing interstate and intrastate natural gas pipelines operating within Utah were considered as possible system alternatives to the Project.

3.2.1 MAGNUM GAS STORAGE ALTERNATIVE

On October 21, 2020, Magnum filed comments proposing that Kern River adopt Magnum Gas Storage's conceptually developed, yet unconstructed, pipeline route, which was certificated by the Commission for a separate, unrelated project[12]. By way of background, on March 17, 2011, the Commission, in Docket No. CP10-22-000 issued a Certificate Order granting Magnum a Certificate of Public Convenience and Necessity to construct the Magnum Gas Storage Project facilities, which would include natural gas storage caverns and associated wells and gas compression and dehydration facilities in Millard County, Utah, adjacent to the IPP site. The Magnum Gas Storage Project, if eventually constructed, would include a 36-inch-diameter Header Pipeline that would interconnect with pipelines operated by Questar Pipeline Company and Kern River at the Goshen Interconnect near Goshen, Utah and would traverse 61.6 miles through Utah and Juab counties to the Magnum Gas Storage Site in Millard County. Magnum's approved project also involves the construction of a new compressor station at the Goshen Interconnect. Figure 3-1 illustrates the Magnum Gas Storage Project and associated Header Pipeline.

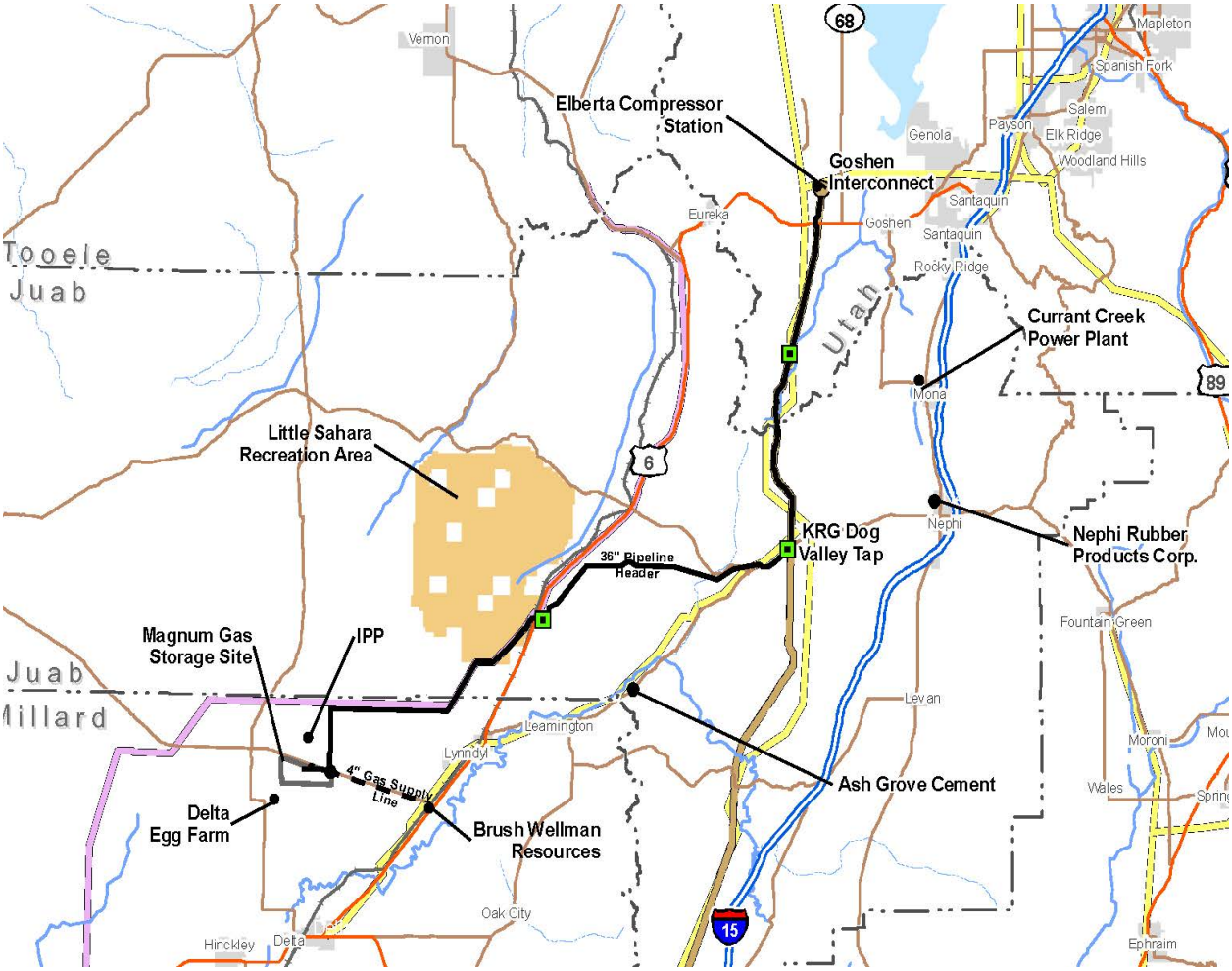
In August 17, 2020, Magnum requested that the Commission grant a four-and one-half-year extension of time, until May 17, 2025, to construct and place into service its facilities due to delays in project development. On September 15, 2020, the Commission granted Magnum an extension of time until May 2025 to construct its facilities.

Magnum states that its Header Pipeline would have the capacity to deliver Kern River's volumes to the IPP and asserts that the Header Pipeline would have a substantially lower environmental impact than the proposed Project. If this were a situation where Magnum's pipeline was already constructed, or under construction, or construction could reasonably be considered imminent, we could assume those impacts to have already occurred, and use that as a basis for comparison with Kern River's proposed pipeline. That is, the comparison would have been between use of Magnum's completed and operational system pipeline

[12] See Accession Number 20201021-5023.

vs. needing to construct the new Kern River pipeline. However, Magnum states that it has experienced permitting delays for the related state-jurisdictional facilities, changes in the overall project scope, and changing market conditions. In effect, there is no timetable for when, or even if, Magnum will eventually construct its pipeline. Thus, our analysis here of the Magnum systems alternative assumes that either alternative would require construction. As such, our analysis indicates that Magnum's 61.6-mile-long header pipeline would result in the disturbance of approximately 901 acres of land and would require 378 acres of land for operation. Further, the Header Pipeline would require long term occupation of 250 acres of land managed by the BLM. In contrast, Kern River's 35.8-mile-long Project would temporarily disturb 544 acres and permanently occupy 223 acres of land, including 45 acres of land managed by the BLM. Table 3-1 shows additional points of comparison of the proposed Project to the Header Pipeline, using information provided by Kern River and Magnum[13].

Figure 3-1 Magnum Gas Storage Project



[13] See Magnum Storage Project Environmental Assessment at Accession Number 20101123-4001

TABLE 3-1

Table 3-1 Comparison of Magnum and Kern River Pipeline Proposals

Impacts	Header Pipeline[a]	Delta Lateral
Length (miles)	61.6 miles	35.8 miles
Construction Disturbance[b]	1,229 acres	544 acres
Land Used for Operation	377 acres	223 acres
Federal Lands Affected (permanent)	250 acres	45 acres
New Compressor Station Required	Yes	No
Wetlands	None Identified	15
Waterbodies	84	45
Residences within 50 Feet	0	0
Federally-listed Species	*No Effect*	*No Effect*
Section 106 NHPA Consultation	Ongoing	Complete

[a] Data from CP11-40 Magnum Storage Project Environmental Assessment

[b] Includes contractor yards, ATWS, and access roads

Based on our review of the available information, the Magnum's header pipeline would *appear* to meet the Project objective, and we have no reason to conclude it would not be technically and economically feasible. Accordingly, we have applied our third criterion (reviewing the alternative with regard to potential environmental advantages). Based on the estimated resource impacts of Kern River's Project and Magnum's header pipeline summarized in table 3-1, we conclude that Kern River's proposed Project would potentially present an environmental advantage because it would involve considerably less new construction than Magnum's header pipeline. Specifically, it could result in a substantially smaller environmental acreage footprint (less than half) and would likely impact considerably less federal land and waterbodies.

We acknowledge that Magnum's project has a Certificate from the Commission and may eventually be constructed regardless of whether Kern River's Project is ever built. However, estimating when or whether construction of Magnum's facilities would occur in a time frame enable to meet Kern River's proposed Project objectives is speculative. Our comparison of Kern River's Project and the Magnum Alternative set forth in table 3-1 attempts only to estimate relative environmental impacts, and does not consider the procedures and timelines in which the Header Pipeline may receive all permits and approvals from permitting agencies, and be constructed if market conditions permit. We have concluded through our evaluation in Section 4 of this draft EIS that Kern River's proposed action is environmentally acceptable and would not result in significant environmental impacts (with the exception of climate change, for which we are unable to reach a conclusion regarding significance). Further, a direct comparison between Kern River's proposed action and the Magnum pipeline facilities offered as a systems alternative demonstrate that Kern River's proposal is environmentally preferable. Accordingly, and because we can not at this time make any assumptions about the eventual construction of the Magnum facilities, we are not recommending the Magnum System Alternative.

3.3 ALTERNATIVE PIPELINE ROUTES

We note that during initial and early Project development, Kern River incorporated minor route variations into the Delta Lateral route as a result of environmental and engineering investigations, stakeholder outreach efforts, and potential issues identified by FERC staff. As a result of these routing considerations during early Project design and identified during the pre-filing process,[14] route modifications to avoid or reduce environmental impacts were eventually proposed as part of the project in Kern River's April 23, 2021 Section 7(c) application. We did not receive any comments or specific recommendations regarding alternative pipeline routes during scoping; and our review of resource impacts did not discover any significant impacts that would be addressed by alternate routing. Thus, we did not evaluate alternative pipeline routes.

3.4 ALTERNATIVES CONCLUSIONS

We considered alternatives to Kern River's proposal, and conclude that no system, route, or other alternative would provide a significant environmental advantage over the Project as proposed. Therefore, we conclude that the proposed Project, with our recommended mitigation measures, is the preferred alternative to meet the Project objectives.

[14] See Accession Number 20201113-5202.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section of the draft EIS provides our analysis of impacts on the affected environment as it currently exists and the environmental consequences of construction and operation of the Project. The section is organized by the following major resource topics: geology; soils; water resources; wetlands; vegetation; wildlife and aquatic resources; special status species; land use, recreation, special interest areas, and visual resources; socioeconomics and environmental justice; cultural resources; air quality and noise; and reliability and safety.

The environmental consequences of constructing and operating the Project would vary in duration and significance. Four levels of impact duration were considered: temporary, short term, long term, and permanent. Temporary impacts generally occur during construction with the resource returning to pre-construction condition almost immediately afterward. Short-term impacts could continue for up to 3 years following construction. Impacts were considered long term if the resource would require more than 3 years to recover. A permanent impact could occur as a result of any activity that modifies a resource to the extent that it would not return to pre-construction conditions during the life of the Project.

We considered an impact to be significant if it would result in a substantial adverse change in the physical environment. Kern River, as part of its proposal, developed certain mitigation measures to reduce the impact of the Project. In some cases, we determined that additional mitigation measures could further reduce the Project's impacts. Our additional mitigation measures appear as bulleted, boldfaced paragraphs in the text of this EIS and are also included in section 5.2. We are recommending to the Commission that these measures be included as specific conditions in any Certificate the Commission may issue to Kern River for the Project.

The conclusions in the EIS are based on our analysis of environmental impacts and the following assumptions:

- Kern River would comply with all applicable laws and regulations.
- The proposed facilities would be constructed as described in Kern River's various application materials and filed supplements, as summarized in section 2.0 of the EIS.
- Kern River would implement the mitigation measures included in its application and supplemental filings to the FERC and BLM, and in other applicable permits and approvals.
- Kern River would comply with our recommended mitigation measures that become conditions in any Commission authorization.

4.1 BASELINE ENVIRONMENTAL TRENDS AND PLANNED ACTIVITIES

The Project is in a rural area of western Utah, approximately 3 miles northeast of the City of Delta, which has a population of approximately 3,500 residents. The original inhabitants of the region were members of the Paiute Tribe, and the area was within the cultural use range of other regional tribes. The earliest known exploration of the Project area occurred in the late 18th century by Spanish explorers in search of a route between New Mexico and California. Extensive use of the Old Spanish Trail, along with associated routes through the interior deserts of the Great Basin, continued through the 1830s and 1840s. The Project does not cross the Old Spanish Trail. Simultaneously, activities associated with the Euro-American fur trade, exploration, and overland migration occurred throughout the Intermountain West. Expeditions to scientifically map and describe the Great Basin occurred through the 1840s. Shortly after exploration of Utah Valley, Mormon pioneers traveled the Oregon Trail to the Great Salt Lake Valley

(Holzapfel, 1999). Transportation routes south and west from the Salt Lake Valley were rapidly developed. One of the first overland groups to travel through Millard County occurred in 1849, leading miners to California. Numerous additional parties and Mormon pioneers traveled through the area, and by 1851, Fillmore, Utah, was incorporated. Fillmore would serve as the Utah Territory capital from 1851 until 1856 (Lyman and Newell, 1999).

The initial settlement of the Project area began in the late 1840s with the establishment of Fort Utah on the banks of the Provo River in Utah County (Holzapfel, 1999). Within a few years, other settlements followed in Utah and Millard Counties (Lyman and Newell, 1999). As soon as new settlements were established, satellite farming communities formed, and agriculture and ranching became the basis for the economy in the region (Holzapfel, 1999; Wilson, 1999). Ranching and agriculture continued to play an important role in the local economy of the region when commercial developments occurred related to the development of mining and transportation in the region.

Millard County lies on the west side of Utah, within the Sevier Desert. This area lies within the eastern portion of the Great Basin Ecoregion and is characterized as basin-range topography with by numerous north-south oriented mountain ranges that are separated from adjacent broad valleys by normal faults. The climate is temperate, with moisture regimes ranging from arid at lower elevations to subhumid in the foothills. During the growing season, precipitation ranges from less than 4 inches to about 5 inches.

Today, Millard County is sparsely populated, with a population density of approximately 1.9 persons per square mile. The largest industries in the county include utilities; retail trade; and agriculture, forestry, fishing, and hunting.

The Project crosses land managed by the BLM and SITLA, as well as private land. The Project crosses a small portion of the BLM and SITLA-managed Sheeprock-Tintic off-road vehicle (ORV) area, a designated Recreation Management Area. ORV use is limited to existing and/or designated roads and trails. The Project also crosses land administered under SITLA Active Special Use Lease Agreements, which are leases for agricultural, commercial, governmental, industrial, renewable energy facility, residential, and telecommunication purposes (SITLA, 2020a). The majority of SITLA land crossed by the Project is permitted for grazing, and the land use in this region is largely rangeland. The Project area is predominantly characterized by desert shrub vegetation. The Project would terminate at milepost 35.84 at the IPP, which was constructed in the 1980s. Parcels in the vicinity of the IPP are developed with other industrial and commercial land uses, and additional industrial development is planned in this area.

Planned development in the Project area may influence the environmental baseline in which the Project would be constructed. Four energy projects are proposed in the vicinity of the end of the pipeline lateral:

- Beginning in 2022, the IPA plans to upgrade the IPP with M501JAC gas turbines, heat recovery steam generators, and steam turbines in each of the plant's combined-cycle units. The existing coal facilities would then be retired and removed. The IPP Project would occur within the existing power plant facilities and would result in temporary impacts on noise, air quality, traffic, and socioeconomics. IPA estimates that the upgrade project would be complete in 2025.
- The Advanced Clean Energy Storage Project would provide storage of wind and solar power in the form of hydrogen or compressed air in salt caverns and is proposed to be completed by 2025. This project would result in impacts on groundwater, vegetation and wildlife, noise, air quality, and socioeconomics in the Project area.
- The Magnum Gas Storage Project, which has been approved by FERC but not yet constructed, would include construction and operation of a natural gas storage facility, with related facilities including a 61.6-mile-long, 36-inch-diameter natural gas header pipeline. The construction schedule for this project is undetermined. This project, if constructed,

would result in temporary impacts on soils, geology, vegetation and wildlife, and the noise environment and long-term impacts on vegetation and wildlife; land use, recreation, and aesthetics; air quality; and socioeconomics in the Project area.

- The ECG Utah Solar 1 Project, expected to be complete by 2024, includes construction of a 300-megawatt (MW) solar facility that would transmit power to the IPP. This project would result in temporary impacts on soils; vegetation and wildlife; land use, recreation, and aesthetics; noise; air quality; and socioeconomics and permanent impacts on vegetation and wildlife and land use.

The environmental resources that would be affected by the proposed Project are discussed in the sections below.

4.2 GEOLOGY

4.2.1 Geologic Setting

The Project is in the Sevier Basin portion of the Great Basin physiographic region of the Basin and Range physiographic province. The Basin and Range physiographic province is characterized by numerous north-south oriented mountain ranges separated from adjacent broad valleys (basins) by normal faults (Hintze and Davis, 2003). Basins between the mountain ranges of the province are filled with sedimentary and volcanic deposits from the nearby mountains. Intrabasin sediments range from hundreds to thousands of feet in thickness (Hintze and Davis, 2003). Topography in the Project area ranges from approximately 4,600 feet to 5,200 feet above mean sea level.

Surficial geologic units in the Project area consist of Quaternary alluvium (unconsolidated gravel, sand, silt, and clay deposited in streams) and colluvium (unconsolidated gravel, sand, silt, and clay mobilized by surface runoff and gravity and deposited at the base of a slope); the Salt Lake formation (valley-filling alluvial, lacustrine, and volcanic materials); and Lake Bonneville deposits (mostly clay). The unconsolidated deposits were determined to overlie rock of claystone, limestone, sandstone, evaporite, and volcanic composition (Hintze and Davis, 2003). Based on the average depth of sediments in the valley, bedrock is not anticipated to be encountered within Project excavations.

4.2.2 Mineral Resources

No active, historic, or proposed surface and subsurface mines, quarries, or oil and natural gas fields were identified within 0.25 mile of any Project area (U.S. Geological Survey [USGS], 2020a; Utah Geological Survey, n.d.; Utah Department of Natural Resources Division of Oil, Gas, and Mining, 2021). Therefore, we conclude that the Project would not impact availability of or access to mineral resources.

4.2.3 Geologic Hazards

Geologic hazards are natural, physical conditions that can result in damage to land and structures or injury to people. Such hazards typically are seismic-related, including earthquakes, surface faulting, and soil liquefaction. Geologic hazards discussed below also include landslides, ground subsidence (including karst terrain), and flood hazards, and the feasibility of utilizing the HDD method based on geologic conditions present in the Project area.

Kern River reviewed desktop sources and conducted a geohazard assessment to evaluate geologic hazards near the Project. [15]

[15] Their results are presented in the Delta Lateral Geohazard Evaluation, available in Resource Report 6, appendix 6B (Accession Number 20201218-5016).

Seismic Hazard. USGS National Seismic Hazard Probability Mapping shows that for the Project area, within a 50-year period, there is a 2 percent probability of an earthquake with an effective peak ground acceleration of 20 to 30 percent gravity (g); and a 10 percent probability of an earthquake with an effective peak ground acceleration of 7 to 15 percent g being exceeded (USGS, 2018). For reference, a peak ground acceleration of 10 percent g (0.1g) is generally considered the minimum threshold for damage to older structures or structures not constructed to resist earthquakes. These ground accelerations would be expected to correlate with approximate intensities between IV and VII on the Modified Mercalli Intensity (MMI) scale, associated with up to "moderate" damage potential for aboveground structures. However, at these intensities, damage is negligible in buildings of good design and construction. In general, modern electric arc welded steel pipelines have not sustained damage during seismic events except due to permanent ground deformation or traveling ground-wave propagation greater than or equal to an MMI of VIII (O'Rourke and Palmer, 1996). The main risk to pipelines and aboveground facilities would be a fault that displaces laterally during an earthquake. Project facilities are not underlain by this type of feature (USGS, 2020b).

Within 10 miles of the Project area, 128 earthquakes have been recorded, ranging up to a Richter scale magnitude of 2.8. The closest was a 1.67 Richter scale magnitude earthquake that occurred approximately 3.7 miles from milepost 35.3 in 2005 (USGS, 2021). Per the USGS, damage does not usually occur until earthquake magnitude reaches somewhere above 4 or 5.

Based on the magnitude of recent and historic seismic activity and the distance of earthquake epicenters from Project areas, as well as the absence of active faults underlying the Project area, we conclude that the Project is not likely to be significantly impacted by future seismicity.

Liquefaction Potential. Soil liquefaction is a phenomenon associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy (i.e., behave like a viscous liquid). All three conditions (non-cohesive soils, near surface saturation, and seismicity) are necessary for soil liquefaction to occur. Fine-grained, cohesive soils are anticipated to be present along the majority of the pipeline lateral and groundwater is expected to be relatively deep (greater than 20 feet below grade) except near the Sevier River. Based on an absence of near-surface saturation or loose soils, the site-specific hazard from soil liquefaction is low except near the Sevier River. The Sevier River would be crossed using HDD techniques, and the pipeline would be installed at depths of between 4 and 80 feet in areas with elevated soil liquefaction potential, which would mitigate the potential for near surface liquefaction to affect the pipeline.

Landslide Susceptibility. Based on review of the Landslide Susceptibility Map of Utah (Utah Geological Survey, 2007) and USGS topographic mapping, the slope of terrain does not exceed 15 percent in Project areas, and landslide hazard is low, except in two isolated areas. For approximately 359 feet at the Sevier River, between mileposts 27.1 and 27.4, slopes range between 15 and 54 percent. For approximately 123 feet at milepost 27.4, slopes are approximately 29 percent. Because this area (i.e., the area of the pipeline lateral with slopes greater than 15 percent) would be crossed using HDD techniques, the Project would not impact steep slopes and would not be impacted by landslides.

Ground Subsidence. Ground subsidence, involving the localized or regional lowering of the ground surface, may be caused by karst dissolution, sediment compaction, oil and natural gas extraction, underground mines, and groundwater overpumping. As described above, there are no subsurface mines or oil and gas wells within 0.25 mile of the Project area.

The bedrock geology of the Project area includes rock of limestone and evaporite composition. Kern River's geologic hazard evaluation included a review of publicly available data including the Utah surficial geology map, Utah geologic map, Utah well logs, and Federal Emergency Management Agency (FEMA) Flood Mapping, aerial imagery, and geotechnical data obtained from other, nearby (within 6 miles) projects and did not identify karst features (e.g., sinkholes, sinking streams, springs) within the Project area (Terracon, 2020a). Based on a lack of karst features in the Project area, as well as the depth at which limestone and evaporitic deposits are expected to occur (hundreds to thousands of feet below ground feet

below grade), we conclude that the Project would not impact karst terrain or contribute to karst development.

Land subsidence due to groundwater pumping can occur when groundwater is extracted from local aquifers faster than it is recharged. Kern River identified agricultural land use within approximately 400 feet of milepost 14; within approximately 1,900 feet of milepost 1; and approximately within 3 miles of mileposts 1 through 15 and mileposts 19 through 32. These areas are likely dependent on groundwater pumping to supplement irrigation water provided by the Sevier River. Although published accounts of land subsidence in the area were not found, the Project would be designed to account for loads generated by low-magnitude regional subsidence of the ground surface that could potentially result from the over-pumping of local aquifers over the life of the Project (Terracon, 2020a). Therefore, we conclude that the Project would not be significantly impacted by regional subsidence.

Flood Hazards. The Project could be impacted by flash flooding due to its proximity to streams, rivers, and other nearby waterbodies. Natural Resources Conservation Service (NRCS) flood frequency maps indicate flooding is possible near the Sevier River (Terracon, 2020a). The Project does not cross FEMA-mapped floodplains; therefore, new aboveground facilities would not impact floodplain storage capacity.

The pipeline would be buried, and the surface restored to preconstruction contours to the extent practicable. The pipeline would be installed at a depth sufficient to provide a minimum of 36 inches of cover after grading, reducing the threat of scour to expose the pipeline. The only two perennial waterbodies crossed by the Project would be crossed via the HDD method, and the pipe would be buried 40 and 58 feet below the base of each waterbody, minimizing the threat of exposure of the pipeline due to scour.

4.2.4 Geotechnical Investigation

Length of an HDD alignment, pipeline diameter, and subsurface material are factors in the technical feasibility of an HDD installation. Subsurface conditions that can affect the feasibility of an HDD include excessive rock strength and abrasiveness, unconsolidated gravel and boulder materials, poor bedrock quality, solution cavities, and artesian conditions. It is also possible for HDD pipe installations to fail, primarily due to encountering unexpected geologic conditions such as transitioning from coarse unconsolidated materials into bedrock or if the pipe were to become lodged in the hole during pullback operations.

The HDD crossing of the Sevier River (including adjacent railroad tracks and an irrigation canal) would be approximately 2,923 feet long. Kern River completed four geotechnical borings ranging from 100 to 167 feet below existing site grade to characterize the subsurface geology along the proposed alignment. The borings encountered layers of sandy silt, silty sand with occasional clay layers, lean clay, fat clay, silt, and minor gravel. Bedrock was not encountered.

Kern River also completed a hydrofracture risk assessment for the proposed HDD and determined the required bore pressure to facilitate installation would be below the allowable bore pressure, except near the HDD entry and exit pits (Terracon, 2020b). This condition is common near entry and exit pits and elevates the likelihood of an IR in these areas. Based on the information obtained during the field investigation, assumed installation parameters, and subsequent design analysis, Kern River's preliminary HDD design has the potential to experience a surface IR in the vicinity of Station No. 10+61.9, below the Sevier River.

Kern River states it would develop strategies to increase the factor of safety against hydraulic fracturing of the HDD, including increasing the annular space during the pilot hole, decreasing drilling fluid density and/or fluid pump rate, and employing additives to maintain tunnel stability, performing the installation with multiple bores to decrease the length per bore (intersect method), or lowering the alignment at the crossing of the river. These measures have been incorporated into Kern River's HDD Plan.

Additionally, Kern River would monitor HDD drilling operations, as described in its HDD Plan, to prevent and respond any loss of circulation and/or IR.

Drilling operations would be stopped immediately at the first sign of an IR, and Kern River would implement response and cleanup efforts specific to the location of the release (e.g., upland, waterbodies, wetlands). Further, drilling fluids would consist of fresh water (obtained from the Sevier River) and a high yield bentonite clay. A list of any additional proposed additives (and their respective safety data sheets) would be supplied to FERC for review prior to construction.

Disposal sites for excess drilling fluid would be limited to upland areas, including mine reclamation site landfills, and could also include landspreading in upland agricultural areas with landowner approval. Drilling fluid would be tested for the presence of any hazardous material prior to disposal to ensure that disposal would not result in adverse environmental impact or otherwise conflict with landowner or land management agency approvals or permit requirements.

We conclude that subsurface conditions identified by the geotechnical studies completed to date would not render the proposed HDD infeasible. Therefore, and with Kern River's implementation of its HDD Plan, we conclude that impacts from HDD construction and potential inadvertent returns of drilling fluid to the ground surface would not be significant.

4.2.5 Paleontological Resources

Paleontological resources are the fossilized remains of prehistoric plants and animals, as well as the impressions left in rock or other materials. The BLM currently uses the Paleontological Resources Preservation Subtitle of the Omnibus Public Lands Act of 2009 as the legislative authority for its paleontological resource policies. This Act applies to land managed by the BLM, Bureau of Reclamation, USFWS, the National Park Service, and the U.S. Department of Agriculture Forest Service (BLM, n.d.[a]). The Project crosses approximately 7.37 miles of BLM managed land.

SITLA was created to manage the state's 3.4 million acres of trust lands for future generations. Title R850 of the Utah Administrative Code codifies SITLA; however, the code does not include any rules specific to preservation of paleontological resources. The Project crosses 9.89 miles of SITLA land.

Portions of Millard County contain fossil assemblages of Middle and Late Cambrian, Early Ordovician, and Mississippian geologic ages; however, these sedimentary rock fossil-bearing units are not exposed in the Project area. The entire Project area consists of unconsolidated Quaternary (geologically recent) age deposits that are expected to be greater than 100 feet thick. These unconsolidated deposits are not anticipated to contain paleontologically significant fossil beds (Hintze and Davis, 2003).

An analysis of Canyon Range and Flagstaff formations (sedimentary bedrock units) paleontological data was undertaken by Paleo Solutions in October 2020 for the Project. The purpose of this study was to evaluate the Project area for potential for adverse impacts on previously recorded or currently undiscovered scientifically important paleontological resources within the Project area and to provide recommendations. According to the BLM's Potential Fossil Yield Classification System, which indicates the potential occurrence of fossils in a geologic unit, the Canyon Range and Flagstaff formations have values of 2 (low potential) and 3 (moderate potential), respectively. Record searches of the Utah Geological Survey fossil locality database and the public online Paleobiology Database yielded no previously recorded fossil localities within Millard County nor mapped geologic units in the Project area. Based on the low to moderate paleontological potential of the geologic units mapped within the analysis area and the lack of previously documented fossil localities, the BLM did not recommend paleontological resource surveys or construction monitoring (Paleo Solutions, 2020; McDonald, 2020).

In the event that paleontological resources are encountered during construction, the construction contractor would notify Kern River's EI. The EI would temporarily suspend construction activities in the immediate area of the paleontological finding while a qualified paleontologist is consulted. The on-site EI would

coordinate with Kern River to determine the appropriate actions if the find is determined to be a significant paleontological resource. Kern River would also notify the appropriate officials with an account of the discovery and actions would be taken. Notifications would include contacting the BLM when the discovery occurs on federal lands, SITLA when the discovery occurs on trust lands and FERC. Upon discovery of potential paleontological resources during Project construction, Kern River would follow applicable laws, regulations, procedures, and recommendations from the BLM and would follow procedural guidelines for the management and mitigation of adverse impacts on paleontological resources as outlined in BLM Handbook 8720-1 (BLM, 1998) and IM 2009-011 (BLM, 2008). Therefore, we conclude there would be no significant impacts on paleontological resources.

4.3 SOILS

4.3.1 Existing Soil Resources

Kern River obtained the information for soil characteristics from the U.S. Department of Agriculture, NRCS, Soil Survey Geographic database, and the Web Soil Survey (NRCS, 2019). Soils were evaluated for characteristics that could affect construction or increase the potential for soil impacts during construction, restoration, and/or operation. These characteristics include prime farmland designation, compaction potential, erodibility by wind and water, revegetation potential, and depth to bedrock. A description of these soil characteristics within the Project area, including impacts and mitigation measures, is provided below. Project area soils are generally classified as well-drained silt loams and sandy loams. Project area soils do not have a shallow depth to bedrock. Soils are also not highly erodible by water. Approximately half of Project area soils are highly erodible by wind (210.6 acres) and have poor revegetation potential (260.4 acres). Few Project area soils (22.0 acres) are classified as highly compaction prone. Approximately 97.2 acres of Project area soils are stony/rocky.

4.3.2 Prime Farmland

The U.S. Department of Agriculture defines prime farmland as land that has the best combination of physical and chemical characteristics for growing food, feed, forage, fiber, and oilseed crops. Unique farmland is land that is used to produce specific high-value food and fiber crops. In addition, soils may be considered of statewide or local importance if those soils are capable of producing a high yield of crops when managed according to accepted farming methods.

About 107.6 acres (20 percent) of the soils impacted by construction are designated as prime farmland or farmland of statewide importance; however, none are in active agricultural use. The Project would also not result in the conversion of prime farmland to industrial use. Therefore, with Kern River's implementation of topsoil conservation measures in the FERC Plan, and because Kern River would conduct full topsoil segregation along the entire route, we conclude that impacts on prime farmland and farmland of statewide importance would be temporary and not significant.

4.3.1 Compaction Potential

Soil compaction can occur by the repeated movement of heavy machinery across soils with the potential for compaction, particularly soils with high shrink-swell potential and poor drainage characteristics (e.g., soils with high clay content). To avoid or minimize soil compaction, Kern River would implement measures described in the FERC Plan and Procedures. For example, in unsaturated wetlands topsoil would be segregated to avoid topsoil mixing. Additionally, in locations of saturated soils or standing water, where topsoil has not been segregated, low-ground-weight construction equipment, timber riprap, and prefabricated equipment mats or terra mats would be used. Kern River would also restrict or delay construction activities in wet weather or frozen soils, as necessary, to avoid excessive compaction. Soils underlying permanent aboveground facility foundations would be permanently affected by compaction; however, resulting impacts on subsurface hydrology would be highly localized and minor. Therefore, we conclude that soil compaction and rutting resulting from Project activities would be minimized and that resulting impacts would not be significant.

4.3.2 Soil Erosion and Revegetation Potential

Soil erosion is the wearing away of physical soil properties by wind and water and could result in a loss of soil structure, organic matter, and nutrients. Soil erosion potential is affected by numerous factors including soil texture, soil structure, organic matter content, and permeability, and is influenced by slope and the intensity of the exposure to erosive forces. Clearing, grading, and equipment movement can also accelerate the erosion process and, without adequate protection, result in discharge of sediment to waterbodies and wetlands.

Kern River would install erosion and sediment control devices along construction workspaces in accordance with the FERC Plan and Procedures and its SWPPP. The SWPPP incorporates requirements from the Plan and Procedures, as well as site-specific erosion control information. Temporary erosion control measures would be installed immediately following initial ground disturbance. BMPs in Kern River's Fugitive Dust Control Plan, such as routine wetting of the construction workspaces as necessary, would also be implemented to minimize wind erosion. Kern River would inspect temporary erosion control devices on a regular basis and after each rainfall event of 0.5 inch or greater to ensure proper function. Temporary erosion control devices would be maintained until Project areas are successfully revegetated or permanently stabilized with gravel surfacing.

In accordance with the FERC Plan, Kern River would reseed areas, as necessary, to properly revegetate disturbed areas during operation of the Project and would apply standard soil amendments to offset nutrient loss and maximize plant establishment. BLM- and SITLA-approved seed mixtures would be used during restoration of the pipeline right-of-way. Kern River has also proposed to conduct full topsoil segregation along the entire route to support post-construction revegetation. Kern River would monitor the right-of-way and identify any revegetation problems that might arise due to unforeseen circumstances during operation of the pipeline. Given Kern River's proposed mitigation measures and because disturbed areas would be restored, returned to pre-construction land use, or otherwise stabilized, permanent impacts due to soil erosion or poor revegetation are not anticipated.

4.3.3 Soil Contamination

Kern River conducted a search of the EPA's Facility Registry Service database (EPA, 2020a) and the UDEQ, Division of Environmental Response and Remediation database (UDEQ, 2020a), to identify facilities and environmental incident locations within 0.25 mile of the Project that have actual, or the potential for, soil contamination. Based on this review, the Project would not cross sites with known existing soil contamination.

Project-related soil contamination resulting from spills or leaks of fuels, lubricants, and coolant from construction equipment would be minimized by Kern River's adherence to its Construction Spill Plan, which specifies measures and cleanup procedures in the event of spills or leaks of hazardous materials. Should a spill occur, Kern River and its contractors would follow the Construction Spill Plan to contain the spill of any material that may contaminate soils and to ensure that the spill area is cleaned up and the materials are disposed of in an appropriate manner. Kern River would monitor excavations during construction for evidence of potential contamination, as identified by evidence of subsoil discoloration, odor, sheen, or other indicators. If contaminated soil is encountered, Kern River would develop a site-specific plan detailing how to handle and dispose of contamination in accordance with applicable regulations. Measures in the site-specific plan may include:

- stop work in the vicinity of the suspected contamination if continuing to excavate in a suspected/contaminated site could pose a threat to the health and safety of the worker(s);
- restrict access to the suspected area;
- immediately notify the EI;
- conduct a site assessment to confirm the soil in question is contaminated; and
- initiate measures to avoid the spread of contaminants until the nature of the contamination is verified and appropriate plans are developed. Measures to avoid potential contamination spread would vary depending on the situation. Some measures that may be implemented are:
    - if potentially contaminated soil has been excavated and stockpiled, it may be transferred to an area covered by impervious plastic and impervious plastic placed over this new stockpile;
    - covering the excavated soil with an impervious membrane to isolate it from weather events;
    - storing the excavated soil away from any waterbodies and wetlands; and
    - concurrent with installation of containment measures, characterization of the potential contaminant would begin. This would likely include sampling the soils, as well as groundwater, if present, in the excavated area. Tests and/or laboratory analysis would be selected based on field observations.

Given the characteristics of Project area soils and the impact minimization and mitigation measures that would be implemented through adherence to the Plan and Procedures, and Construction Spill Plan, we conclude that impacts on soils would not be significant.

4.4 WATER RESOURCES

4.4.1 Groundwater Resources

The Project crosses the Basin and Range Aquifer System which the USGS identifies throughout western Utah and Millard County (USGS, 2003). The portion of the Basin and Range Aquifer System that would be crossed by the Project is within the Sevier Desert and Pahvant Valley and is composed entirely of basin fill. The depth to water below ground surface in the Project vicinity ranges from 0 feet below ground surface in groundwater discharge areas west of Delta, Utah, to greater than 230 feet below ground surface in groundwater recharge areas near Holden, Utah, as evidenced in annual USGS monitoring well measurements taken between 2010 and 2020 from nine wells located within 2 miles of the Project (USGS, 2020b; Snyder, 1998).

Groundwater in the vicinity of the Project is primarily extracted for commercial irrigation and human consumption in and around Delta City and the communities of Holden, Utah, and McCornick, Utah (USGS, 1995). The Project crosses some of the highest quality groundwater found in the Sevier Desert between Delta City and Lyndyll (Snyder, 1998). Yields from this aquifer generally range from 10 to 300 gallons per minute. Water levels fluctuate seasonally in the central Sevier River Valley. Water levels increase through seepage of water from streams and decrease when water is diverted from streams for irrigation (Young and Carpenter, 1965).

A sole source aquifer is defined by the EPA as an aquifer that supplies greater than 50 percent of the drinking water for an area, and for which there are no alternative water sources that could reasonably be expected to replace the water supplied by the aquifer should it become contaminated (EPA, 2018). The Project would not impact EPA-designated sole source aquifers; the nearest sole source aquifer is approximately 200 miles north of the Project (EPA, 2020b).

Wellhead protection areas are determined by the Utah Department of Environmental Quality, Division of Drinking Water (UDDW), which identifies Drinking Water Source Protection (DWSP) zones for groundwater resources on the UDEQ's Environmental Interactive Map. Kern River reviewed the Environmental Interactive Map and consulted with the UDEQ regarding DWSP zones and determined that no DWSP zones are crossed by the Project or are located within Millard County (UDEQ, 2020b).

Kern River identified water supply wells and springs within 150 feet of construction workspaces using the following sources and methods:

- the Utah Department of Natural Resources, Division of Water Rights well drilling geographic information system (GIS) database;
- the UDEQ, UDDW GIS database on the UDEQ's Environmental Interactive Map; and
- environmental surveys and direct communication with landowners.

No water supply wells or springs were identified; however, during environmental surveys, Kern River identified one watering trough at milepost 1.5 within the proposed Project workspace and confirmed its presence through communication with the landowner. The landowner indicated that the watering trough is not in use. However, the landowner indicated they obtain water for livestock from a drainage ditch (D-041) located along their property line. Therefore, Kern River modified the proposed alignment by moving the pipeline 50 feet west so that the pipeline would run adjacent to (rather than through) the drainage ditch for approximately 0.6 mile. The pipeline crosses the drainage ditch at a single point near milepost 0.94.

Kern River would provide a temporary watering trough outside of the construction right-of-way for this landowner's livestock use during construction. Kern River has obtained landowner concurrence for the temporary trough. In addition, Kern River would install temporary fencing around the existing trough during construction to protect it from damage and would utilize culverts and the best management

practices described in its SWPPP to minimize impacts on water quality or water yield of D-041 during construction and operation.

Kern River identified two sites with a potential for contaminated groundwater within 0.25 mile of the Project: Delta Valley Farms and the DJS Mirage site. Pipe yard PYD-2 is located on undeveloped land immediately adjacent to the Delta Valley Farms site. Delta Valley Farms was a cheese plant that is no longer operational. Delta Valley Farms was cited by the EPA for failure to monitor drinking water as a public water supply and for violations related to total coliform colony forming units and sulfates as early as 1995 (EPA, 2020c). No Project excavation would occur at PYD-2; therefore, contaminated groundwater, if present, would not be intercepted by the Project.

Pipe yard PYD-1 is located approximately 0.13 mile southwest of the DJS Mirage site. The DJS Mirage site is identified in the Facility Registry Service database as an underground storage tank site (EPA, 2015a). Given the distance from the DJS Mirage site and because no Project excavation would occur at PYD-1, the Project would not intercept any contamination associated with this site.

Construction and Operation Impacts and Mitigation. Surface drainage and groundwater recharge patterns could be temporarily altered by clearing, grading, trenching, dewatering, and soil stockpiling activities, potentially causing minor fluctuations in groundwater levels and/or increased turbidity, particularly in shallow surficial aquifers. We expect the resulting changes in water levels and/or turbidity in these aquifers to be localized and temporary because water levels quickly re-establish equilibrium and turbidity levels rapidly subside. The addition of impervious surfaces at aboveground facilities may affect overland flow patterns and subsurface hydrology. However, these effects would be highly localized and minor.

The pipeline lateral would be installed at a depth sufficient to provide 36 inches of cover after grading, which is well above the principal aquifer, which ranges from 1,000 to 5,000 feet throughout Utah and up to 10,000 feet in a handful of deep basins (USGS, 1995). The principal aquifer is hydraulically separated from surficial aquifers. The pipeline lateral would also be constructed using new steel pipe free of chemicals, lubricants, and additives to prevent long-term leaching of these materials into the soil or groundwater.

Kern River has adopted the construction standards set forth in our Plan and Procedures. Kern River would also adhere to BMPs included in the Project-specific HDD Plan. Some of the principal BMPs that Kern River would follow to protect groundwater in the Project area include the following:

- prohibiting overnight parking, refueling, and the storage of hazardous chemicals within 200 feet of wells and springs;
- installing secondary containment around stationary equipment with leak potential;
- inspecting equipment regularly and allowing refueling and maintenance only in designated areas;
- installing trench plugs to mitigate groundwater diversion along the pipeline;
- limiting the use of drilling fluid additives (between mileposts 27.0 -- 27.5) to those that are American National Standards Institute/NSF International 60-certified; and
- monitoring downhole annular pressure and drilling fluid circulation during HDD drilling activities.

The Project's impacts on groundwater resources would be largely temporary and minor due to the limited vertical extent of excavations and other ground disturbances and the relatively short duration of construction. Minor, permanent impacts on subsurface hydrology from the installation of new, impermeable surface associated with aboveground facilities are anticipated. Kern River's commitment to implement the BMPs in the HDD Plan, and the Project-specific Construction Spill Plan, as well as the

FERC Plan and Procedures, would mitigate impacts on groundwater resources. Therefore, we conclude that impacts on groundwater would be minor and not significant.

4.4.2 Surface Water Resources

The Project is wholly located within the Lower Sevier Sub-basin and crosses ten watershed subregions within the basin (i.e., hydrologic unit codes) as defined by the USGS (2014a). Table 4.4-1 provides a summary of the watersheds that would be crossed by the Project.

TABLE 4.4-1
Watersheds Crossed by the Delta Lateral Project

From Milepost	To Milepost	Watershed Name	HUC 12 Code
0.0	2.8	Oak Spring	160300051408
2.8	6.1	Lower Eightmile Creek	160300051410
6.1	7.1	Upper Eightmile Creek	160300051409
7.1	12.2	Whiskey Creek	160300051502
12.2	18.5	Clay Spring Wash	160300051507
18.5	18.7	Pahvant Valley	160300051506
18.7	19.3	Oak Creek Sinks	160300051505
19.3	26.4	Pahvant Valley	160300051506
26.4	28.2	Gunnison Bend Reservoir-Sevier River	160300051204
28.2	35.8	N/A - Unnamed	160300050803

Source: USGS, 2014a
Key:
HUC = hydrologic unit code

The UDDW identifies DWSP zones for surface water resources on the UDEQ's Environmental Interactive Map. Kern River used this database and determined that no surface water protection zones or other watershed protection areas would be crossed by the Project and that all public drinking water in Millard County is supplied by groundwater wells and springs (UDEQ, 2020b).

Kern River completed field surveys in May 2020 and October 2020 and May 2021 to delineate all surface water resources within the Project construction workspace. Waterbodies are classified as perennial, intermittent, or ephemeral. Perennial waterbodies flow or contain standing water year-round and are typically capable of supporting populations of fish and macroinvertebrates. Intermittent waterbodies flow or contain standing water seasonally and are typically dry for a portion of the year. Ephemeral waterbodies generally contain water only in response to precipitation or spring snowmelt. A total of 45 waterbodies were identified within the Project construction workspace during field surveys (see Waterbody Crossings table in appendix E). A vast majority of these, 39 of the 45 total waterbodies, are ephemeral drainage features. These drainage features were delineated to characterize the hydrology in the Project area and to document any potential hydrologic connection, or lack of connection, between delineated wetlands and other waters. In addition to the ephemeral drainage features, two ephemeral waterways (Duggins Creek and the Central Utah Canal), two intermittent waterways (Church Spring Ditch and Whiskey Creek), and two perennial waterways (the Sevier River and Canal A) were also delineated within the Project construction workspace.

Kern River submitted its Project Aquatic Resources Delineation Report and Request for an Approved Jurisdictional Determination to the USACE Sacramento District on August 28, 2020. The

USACE confirmed in its Jurisdictional Determination, in a letter dated March 11, 2021, that the wetlands and waterbodies crossed by the Project are not "Waters of the United States" regulated under sections 401 and 404 of the Clean Water Act (CWA) or section 10 of the Rivers and Harbors Act. The Project would be wholly located within the Lower Sevier Sub-basin, which is hydrologically isolated from waters of the United States.

Kern River proposes to cross the Sevier River (S-002) and Canal A (S-003) using HDD methods, eliminating direct impacts on these waterbodies. Only foot traffic and potentially minor hand-clearing of vegetation would take place along the surface of the HDD crossing. Kern River proposes to cross the historic Central Utah Canal (S-004) at milepost 13.2 using the conventional auger bore method, eliminating direct impacts on the canal. Only foot traffic and potentially minor hand-clearing of vegetation would take place along the surface of these crossings .Kern River stated that a 5-foot-wide area would be hand-cleared between the HDD/auger bore entries and the exit pits. Routine vegetation maintenance for pipeline operations would not be conducted between the entry and exit pits

Kern River proposes to cross the remaining waterbodies using standard upland construction techniques (i.e., open-cut) if the waterbody is not flowing at the time of crossing. Such construction would proceed in accordance with section V.B.3.g of FERC's Procedures, provided the EI confirms that the waterbody is unlikely to flow between initial disturbance and the completion of recontouring and reseeding. In the event of perceptible flow, Kern River would temporarily postpone construction at the waterbody until flow dissipated. If this is not possible (i.e., flow is persistent), Kern River would complete open-cut of waterbodies by implementing the flume-crossing method and practices in section V.B.6 of FERC's Procedures. This would include installing erosion-control devices and downstream sediment barriers, establishing refueling setbacks, placing spoil piles 10 feet from the water's edge, and returning the stream to preconstruction contours.

The CWA requires that each state review, establish, and revise water quality standards for the surface waters within the state. States develop monitoring and mitigation programs to ensure that water standards are attained as designated. Waters that fail to meet their designated beneficial use(s) are considered impaired and are listed under a state's Section 303(d) list of impaired waters. In addition to the Section 303(d) list of impaired waterbodies, sensitive waterbodies include waters that have been specifically designated by the state as high quality or exceptional value waterbodies, wild and scenic rivers, and waters supporting fisheries of special concern.

The Project would not cross any waters included in the National Wild and Scenic Rivers System or the National Rivers Inventory (National Park Service, n.d.).

The Project would cross one waterbody, the Sevier River, which is listed as impaired per the criteria and requirements set forth in the CWA. The Sevier River is a 305(b) and 303(d) listed Category 5 waterbody for total dissolved solids (Utah Automated Geographic Reference Center [UAGRC], 2018; UDEQ, 2018).

The Project would cross two waterbodies, the Sevier River and its adjacent Canal A, that have been identified as potentially supporting habitat for species of concern in Utah. The BLM and Utah Division of Wildlife Resources (UDWR) have indicated that the southern leatherside chub (*Lepidomeda aliciae*) has the potential to occur in both waterbodies (Mellon, 2020). Potential impacts on this species are discussed in section 4.9.2.

Kern River proposes to cross the Sevier River and Canal A using a single HDD between mileposts 27.0 and 27.5. The HDD crossing methodology would reduce the potential for surface impacts, thus preventing or minimizing sediment release and impacts to species of concern. There is, however, a potential for inadvertent returns, which is discussed in section 4.2.4.

Construction and Operation Impacts and Mitigation. Construction activities associated with the Project that have the potential to impact surface water include waterbody crossings, hydrostatic test

water discharges, vegetation clearing and grading on stream banks, and spills or leaks of hazardous liquids. These construction activities could result in temporary modification of aquatic habitats through indirect impacts such as increased erosion, sedimentation and/or turbidity.

Waterbody crossings would be completed in accordance with applicable permit conditions and the measures specified in FERC's Procedures. FERC's Procedures include BMPs intended to clearly identify Project workspaces, reduce ground disturbance, minimize erosion, and limit runoff. Kern River would also construct the Project according to its Construction Spill Plan and in accordance with applicable permits to prevent or mitigate contamination in waterbody crossings. Some of the principal BMPs that Kern River would follow to protect surface waters in the Project area include:

- prohibiting refueling and the storage of hazardous materials within 100 feet of a waterbody and installing signage that clearly indicates these setbacks prior to construction;
- installing erosion-control devices such as haybales and silt fence to prevent the release of sediment into nearby waterbodies during storm events; and
- controlling the discharge of silt-laden water associated with trench dewatering activities and discharging this water to well-vegetated upland areas.

As mentioned above, Kern River proposes to cross two waterbodies using HDD (Sevier River and Canal A) and one waterbody using a single conventional bore (Central Utah Canal). HDDs and conventional bores would generally avoid impacts to the bed and banks of waterbodies and prevent turbidity and sedimentation that could otherwise occur when using open-cut crossing methods. Based on the results of geotechnical investigations and the planned depth of the conventional bore (5 feet below the canal), it highly unlikely that the drill would breach the bed of the Central Utah Canal. Additionally, the canal is no longer in use and water would likely not be flowing through the canal during construction. Due to the depth of groundwater in the area, it is not anticipated that dewatering of the bore pits would be necessary. Storage of spoil material would be in accordance with the FERC's Plan and Procedures and includes sediment barriers or functional equivalents, where necessary.

Kern River proposes to obtain water from the Sevier River for use in the HDD drilling fluid. Kern River estimates 700,000 gallons of water would be necessary for the HDD. Water uptake and discharge would be conducted in accordance with FERC's Procedures. Therefore, we find that impacts on the Sevier River would be minimized to the extent practicable.

Kern River would implement BMPs and stage inadvertent return containment materials prior to the start of HDD and each conventional bore. In the event of an inadvertent release of drilling fluid, Kern River would implement measures per its HDD Plan to include:

- Immediately on discovery, drilling operations will be suspended, and containment measures will be implemented by the contractor. Documentation of any containment measure employed will be completed by the environmental inspector.
- The HDD contractor or EI will notify the Construction Inspector, Kern River's Environmental Management Team, and Kern River's Land and Right of Way department. Upon receiving a notification, Kern River will complete external notifications per sections 3.3.3 and 3.3.4 of the HDD Plan.
- The EI will document the location, approximate area impacted, approximate volume and actual or potential inadvertent release impacts to aquatic or sensitive resources.
- The EI will monitor and document both the release and the effectiveness of the containment measures. Periods of contractor downtime and the contractor's drilling fluid pumping rates also will be documented in case it should become necessary to estimate inadvertent release

volumes. Drilling operations will be allowed to resume when the return is contained and while clean up, removal, and disposal activities continue at the inadvertent release location.

Additional BMPs associated with the HDD are outlined in Kern River's HDD Plan. We have reviewed Kern River's HDD Plan and find that impacts on waterbodies due to an inadvertent release would be minimized to the extent practicable.

With implementation of the mitigation measures identified for each proposed activity described above including Kern River's use of HDD and conventional auger bore crossing methods to avoid impacts on certain surface waters, FERC's Plan and Procedures, Kern River's HDD Plan, and the Project-specific Construction Spill Plan, we conclude that impacts on surface waters would be temporary to short-term and not significant.

4.4.3 Floodplains

Kern River reviewed FEMA flood hazard maps, and based on available data, determined that the Project is not within a FEMA 100-year or 500-year mapped floodplain and, as such, there are no significant flood risks in the Project area. Because the Project is not within a mapped floodplain, no flood storage capacity would be displaced as a result of the Project (FEMA, 2020).

4.4.4 Anticipated Water Withdrawals

Kern River would conduct hydrostatic testing of all pipeline components according to DOT Regulation 49 CFR 192 to verify the integrity of the pipeline prior to operation. The Utah Department of Natural Resources, Division of Water Rights administers the appropriation and distribution of the state's water resources as authorized in Title 73 of the Utah Code. Kern River would obtain a temporary Water Rights Transfer from the Division of Water Rights for use of water needed for the Project. Kern River would obtain water necessary for hydrostatic testing directly from the IPA water storage reservoir.

Kern River would also require water for HDD and dust control during construction. Water for dust control would be obtained from approved municipal sources in Holden, Utah, or Delta, Utah. Water withdrawal for dust control would be conducted according to FERC's Procedures. Table 4.4-2 lists the approximate volumes of water needed.

Kern River proposes to obtain water from the Sevier River for HDD drilling fluid water. During the HDD, Kern River would add bentonite and other additives as needed to the water obtained from the Sevier River, and fluids would be mixed and maintained within a holding tank. The HDD entry and exit pits would collect drilling fluid released in the containment pit at the end of the pilot hole phase. Through the reaming and pullback stages, drilling fluid from the pits would be recycled during HDD operations. Upon completion of the successful HDD, the HDD drilling fluid would be disposed of.

TABLE 4.4-2

Water Withdrawals by the Delta Lateral Project

Activity	Water Source	Estimated Volume (gallons)
Hydrostatic Testing	IPA	4,215,300
HDD	Sevier River	700,000
Dust Control	Municipal Sources	2,000,000
	Total	6,915,300

Construction and Operation Impacts and Mitigation. Chemical additives would not be added to the hydrostatic test water, and the pipeline would be constructed with new steel pipe free of lubricants and other chemicals. Following testing, Kern River would depressurize each test section and return the hydrostatic test water to IPP for reuse or discharged to a well-vegetated upland area.

We conclude that impacts on water quality resulting from the discharge of water used for hydrostatic testing, dust control, and HDD operation would be negligible.

4.5 WETLANDS

Kern River performed wetland delineations in accordance with the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *the Arid West Supplement to the 1987 Corps of Engineers Wetland Delineation Manual* (USACE, 2008) in May 2020 and October 2020 for all Project workspaces, with the exception of the southern 2 miles of TAR-15. In May 2021, Kern River performed additional field-based habitat surveys to include the southern 2 miles of TAR-15. Delineated wetlands are summarized in table 4.5.1-1.

Table 4.5.1-1
Wetlands Crossed by the Delta Lateral Project

Approx. Milepost	Wetland ID	Cowardin Class	Wetland Setting	Crossing Length (feet) a/	Acreage Affected by Construction b/	Acreage Affected by Operation c/	Crossing Method (Contingency)
15.0	W-017	PEM	Isolated	N/A	<0.01	0.00	N/A
15.7	W-016	PEM	Isolated	82	0.18	0.03	Open-cut
15.9	W-015	PEM	Isolated	75	0.13	0.01	Open-cut
16.1	W-014	PEM	Isolated	315	0.32	0.07	Open-cut
16.6	W-013	PEM	Isolated	35	0.06	0.01	Open-cut
16.6	We-008a	PEM	Isolated	N/A	0.03	0.00	N/A
16.7	W-012	PEM	Isolated	55	0.10	0.01	Open-cut
17.0	W-010	PEM	Drainage	N/A	0.02	0.00	N/A
17.2	W-009	PEM	Isolated	107	0.16	0.02	Open-cut
17.3	W-008	PEM	Isolated	95	0.14	0.02	Open-cut
17.6	W-007	PEM	Isolated	168	0.26	0.04	Open-cut
18.7	W-005	PEM	Drainage	141	0.19	0.03	Open-cut
19.0	W-003	PEM	Isolated	54	0.11	0.01	Open-cut
27.3	W-002	PEM	Sevier River	N/A	0.00	0.00	N/A
27.4	W-001	PEM	Sevier River	0	0.00	0.00	HDD (Redrill) d/
			Total	**1,127**	**1.70**	**0.25**	**-**

a Crossing Length = the total linear feet of pipeline within the wetland boundaries. N/A indicates wetlands that are not crossed by the centerline but may be crossed by the Project workspaces.

b Acreage affected by construction includes wetlands within all temporary and permanent workspaces associated with the Project.

c No wetlands would be filled or permanently lost as a result of pipeline construction. Impacts on emergent wetlands would be temporary because these areas would be restored as near as practicable to preconstruction conditions. Operation impacts are based on a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the right-of-way in an herbaceous state.

d Only foot traffic and, potentially, minor hand-clearing of vegetation would occur along the surface of the HDD crossing for placement of instrumentation used for HDD route tracking and for inadvertent return monitoring. Minor hand-clearing of vegetation may be required. Minor impacts associated with hand-clearing of vegetation are not included.

Key:
PEM = palustrine emergent

Project workspaces would cross 15 wetlands, all of which are palustrine emergent. Palustrine emergent wetlands have vegetation standing in up to 3 feet of water; dominated by erect, rooted herbaceous freshwater hydrophytic vegetation (Cowardin et al., 1979).

Wetlands W-001 and W-002 are riparian wetlands that directly connect to the Sevier River near milepost 27.4. Primary indicators of wetland hydrology were observed at W-001 and W-002, and groundwater was observed within 12 inches of the surface. Kern River proposes to cross W-001 and W-002 via HDD between milepost 27.0 and milepost 27.5. The HDD crossing methodology would eliminate surface impacts on these wetlands.

The remaining 13 wetlands that would be crossed by the Project are located between milepost 15.0 and milepost 19.0, where the Project is adjacent to Highway 50. These wetlands are either isolated depressions or associated with ephemeral drainages, and each only holds water for brief periods following precipitation events, characteristic of desert playas and common in the Great Basin. These 13 wetlands were found to be dry at the time of survey, largely unvegetated, and situated above a shallow clay restrictive layer. Eight of these 13 wetlands (W-005, W-007, W-008, W-009, W-010, W-014, W-016, and W-017) contained individuals of greasewood (*Sarcobatus vermiculatus*), an upland plant. As evidenced by the presence of salt crust, soils within these wetlands are alkaline and likely prohibit growth of wetland vegetation; however, greasewood is a species capable of growing in alkaline and saline soils.

Due to the largely unvegetated nature of wetlands W-003 through W-017, presence of a shallow restrictive layer and alkaline soils, Kern River determined that vegetation and soils met the USACE criteria for problematic vegetation and soils for all wetlands crossed by the Project, other than W-001 and W-002. As such, the wetlands were delineated according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) due to their geomorphic position, presence of significant surface cracking, and drastic change in vegetation community at the edge of the wetlands (USACE, 2008). The USACE confirmed in its Jurisdictional Determination in a letter dated March 11, 2021, that none of the wetlands crossed by the Project are defined as waters of the United States and therefore, are not regulated under sections 401 and 404 of the CWA or section 10 of the Rivers and Harbors Act.

Wetlands crossed by the centerline would be crossed via the open-cut method. For wetlands within the temporary construction right-of-way but not crossed by the pipeline, low-ground-weight equipment mats, terra mats, or timber riprap would be used if saturated soils are present at the time of construction to reduce rutting.

Construction and Operation Impacts and Mitigation. The Project would cross 0.2 mile of wetlands and would result in 1.7 acres of temporary impacts on wetlands due to construction. All delineated wetlands, with the exception of W-001 and W-002 (which would be crossed using HDD methods), are largely unvegetated. The primary impact of Project construction on wetlands would be the potential alteration of current or potential wetland vegetation due to the clearing, excavation, rutting, compaction, and mixing of topsoil and subsoil. Construction could also affect water quality within wetlands due to sediment loading or inadvertent spills of fuel or chemicals. Temporary construction impacts on wetlands could include the loss of vegetation; soil disturbance associated with grading, trenching, and stump removal; and changes in the hydrological profile. Additionally, using HDD methods to cross W-001 and W-002 could result in an inadvertent release. Such a release could adversely affect wetland vegetation and soils. To reduce the potential for an inadvertent release and to minimize any impacts should one occur, Kern River would implement measures described in the HDD Plan. Following construction, affected lands would be restored, and previous land uses could resume.

No permanent impacts on wetlands are expected as a result of the Project as all wetlands in the Project area are palustrine emergent, and no wetland woody wetland vegetation would be removed within the construction right-of-way. Operation impacts (0.25 acre) are based on a 10-foot-wide corridor centered

on the pipeline that would be cleared at a frequency necessary to maintain the right-of-way in an herbaceous state.

Impacts on wetlands would be greatest during and immediately following construction. The majority of these effects would be short-term in nature and would cease when, or shortly after, the wetlands are restored and revegetated. Following revegetation, the wetland would eventually transition back into a community similar to that of the pre-construction state. Because all of the crossed wetlands are emergent wetlands, the herbaceous vegetation would regenerate quickly (typically within 1 to 3 years).

Kern River has committed to adhere to our Plan and Procedures, and in accordance with all Project permits. Additionally, Kern River's Construction Spill Plan includes restrictions and mitigation measures to limit potential impacts associated with the accidental release of toxic substances, such as fuels and lubricants. Principal BMPs that Kern River would follow to protect wetlands in the Project area include:

- prohibiting refueling and the storage of hazardous materials within 100 feet of a wetland, and installing signage that clearly indicates these setbacks prior to construction;
- using a maximum 75-foot-wide construction workspace to cross wetlands via the open-cut method;
- limiting construction equipment working in wetlands to that essential for clearing the construction right-of-way, excavating the trench, fabricating and installing the pipeline, backfilling the trench, and restoring the construction right-of-way;
- installing temporary erosion and sediment control devices near wetlands before or immediately following construction and ensuring they remain in working order until the area is successfully restored;
- installing trench plugs at the entrance and exit of the pipeline through the wetland as necessary to ensure that the wetland is not drained along the pipeline;
- restoring each wetland to preconstruction contours; and
- controlling the discharge of silt-laden water associated with trench dewatering activities and discharging this water to well-vegetated upland areas.

Based on Kern River's proposed crossing methods and BMPs listed above, we conclude that impacts on wetlands would not be significant.

4.6 FISHERIES AND AQUATIC RESOURCES

The Project crosses two perennial waterbodies that contain fish populations, the Sevier River and Canal A (see table 4.6-1). The remaining ephemeral and intermittent waterbodies crossed by the Project did not contain water at the time of surveys, nor did they show signs of recent flow. The only ephemeral and intermittent waterbodies hydraulically connected to waterbodies capable of sustaining aquatic life are those with a direct connection to the Sevier River (S-001, S-001A, D-001, D-002, D-003); however, these features are not expected to sustain aquatic life because they typically receive water from overland sheet flow rather than upstream channels. No other ephemeral or intermittent waterbodies crossed by the Project are expected to sustain aquatic life because these features drain into open fields and/or have discontinuous flow. Furthermore, based on conversations with the BLM, no other waterbodies other than the Sevier River and Canal A are expected to support fish populations.

No essential fish habitat occurs within or near the Project area. A list of waterbodies that would be crossed during construction of the Project and the proposed methods of crossing each waterbody are provided in section 4.4.2. One BLM conservation agreement species, which is also a UDWR wildlife species of concern potentially occurs in the Sevier River and Canal A: the southern leatherside chub (*Lepidomeda aliciae*). Further discussion of the southern leatherside chub is provided in section 4.9.2.

Table 4.6-1
Locations and Names of Waterbodies with Fisheries Resources

Milepost	Waterbody ID and Name	Classification	BLM Recommended Restrictions
27.2	S-003 a/ (Canal A)	Warmwater fishery	None b/
27.3	S-002 (Sevier River)	Warmwater fishery	None b/

Sources: UDEQ, 2020c; Johnson et al., 1995; Mellon, 2021a.

a Man-made water feature

b The crossing window for these waterbodies is April 1 to June 30. However, this crossing window would not apply because Kern River proposes to use HDD methods to cross these waterbodies and no in-water work would occur (Mellon, 2021).

Construction and Operation Impacts and Mitigation Measures.

Potential impacts on the aquatic species within the Sevier River and Canal A would be avoided through use of HDD methods to bore beneath the bed of the Sevier River and Canal A. The BLM stated that Kern River should place a screen over water intake hoses to mitigate potential entrapment of fish species, including the southern leatherside chub (Mellon, 2021a). Kern River has agreed to adhere to the BLM recommendation and continues to coordinate with the BLM to determine an appropriate screen size.

Inadvertent release of drilling fluid or a spill of fuel or equipment-related fluids could impact water quality and, consequentially, impact fisheries. To minimize the potential for an inadvertent release of drilling fluid to impact fisheries, Kern River would implement its HDD Plan. The UDWR and BLM reviewed the HDD Plan for the Project and agreed that procedures included in the event of an inadvertent return are reasonable and appropriate (Kinross, 2021a; Mellon 2021b). Kern River's HDD Plan includes procedures for monitoring, detection, isolation, stopping, and restoring inadvertent releases, and would make all necessary agency notifications. During construction, Kern River would ensure its contractors have sufficient spill containment material and supplies needed to contain any inadvertent release of drilling fluid that occurs near a waterbody.

Based on Kern River's proposed HDD and BMPs listed above, we conclude that the Project would not have a significant impact on fisheries or aquatic resources.

4.7 VEGETATION

The Project is fully within the North American Deserts Level 1 Ecoregion, the Cold Deserts Level 2 Ecoregion and the Central Basin and Range Level 3 Ecoregion (CEC, 1997). At Level 4 of North American Ecoregions, the Project crosses two finer-scale Ecoregions: Shadscale-Dominated Saline Basins and Sagebrush Basins and Slopes (CEC, 1997). Vegetation types crossed by the Project are based on the results of field surveys conducted by Kern River in May and October 2020, and May 2021. Major vegetation cover types crossed by the Project include desert scrub, grasslands, shrub-steppe, wetland, and riparian communities. Descriptions of these vegetation types are provided below and in table 4.6-1.

- Desert Scrub – desert shrub and forb dominated, including greasewood (*Sarcobatus vermiculatus*), broom snake weed (*Gutierrezia sarothrae*), big sagebrush (*Artemesia tridentada*), rabbitbrush (*Ericamerica nauseosa*), tumble mustard (*Sisimbrium altissima*), and cheatgrass (*Bromus tectorum*).
- Grasslands – composed of irrigated and non-irrigated pasturelands dominated by intermediate wheatgrass (*Thinopyrum intermedium*), cereal rye (*Secale cereal*), and cheatgrass.
- Shrub-steppe – shrub-dominated habitat composed of 25 to 75 percent big sagebrush and rabbitbrush.
- Wetlands – vegetation in wetlands W-001 and W-002 included Russian olive (*Elaeagnus angustifolia*), desert saltgrass (*Distichlis spicata*), and common spikerush (*Eleocharis palustris*). Vegetation in wetlands W-005, W-007, W-008, W-009, W-010, W-014, W-016, and W-017 included a few greasewood individuals. The remaining wetlands (W-003, W-012, We-008a, W-013 and W-015) did not contain vegetation.
- Riparian – riparian vegetation is composed of desert saltgrass, Russian olive, tamarisk, cottonwood, common spike-rush (*Eleocharis palustris*), and Siberian elm (*Ulmus pumilla*).

TABLE 4.6-1

Vegetation Impacts from Construction and Operation of the Project

Project Component	Desert Scrub (acres)		Grasslands (acres)		Shrub-steppe (acres)		Wetlands c/ (acres)		Riparian d/ (acres)	
	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op
Pipeline Lateral a/, b/										
Pipeline Lateral	339.0	135.7	136.1	62.0	41.5	18.7	1.7	0.25	0.4	0.4
Aboveground Facilities b/										
Mainline Taps with Automated Lateral Inlet Valve Assemblies and In-line Inspection Device Launcher	0.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0
Lateral Automated Block Valve Assembly	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delivery Meter Station and In-line Inspection Device Receiver	0.1	>0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**339.3**	**135.9**	**136.1**	**62.0**	**42.7**	**19.9**	**1.7**	**0.25**	**0.4**	**0.4**

a Impact acreages represent all vegetation impacts associated with the pipeline lateral (e.g., cathodic protection system, additional temporary workspaces [including contractor yards], and access roads).

b This table does not include industrial/commercial land, or open water, as these areas are not vegetated.

c Wetland operations impacts are based on a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the right-of-way in an herbaceous state.

d Acreage reflects riparian vegetation within the right-of-way. Because this area would be crossed using HDD methods, impacts would be largely avoided.

f Minor impacts associated with hand-clearing of vegetation between the HDD entry and exit pits are not included.

Key:
Con = Construction
Op = Operation

Kern River reviewed information available from the BLM's National Invasive Species Information Management System database and Millard County. Millard County documents 24 noxious and invasive species within the county (Millard County, 2020; BLM, 2020a). Based on results of Kern River's field surveys completed in May and October 2020, and May 2021, cheatgrass and patches of other invasive and noxious weeds were documented between approximately milepost 0.0 and milepost 10.0. These patches were composed of field bindweed (*Convolvulus arvensis*), saltcedar (*Tamarix* sp.), musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), and scotch thistle (*Onopordum acanthium*).

Comments received from the BLM on January 25, 2021, indicate that there are no known noxious and invasive species within the Project right-of-way; however, the BLM indicated there are infestations along proposed Project access roads. Kern River observed the presence of invasive species along access roads PAR-1, TAR-14, and TAR-15 during surveys in May and October 2020. The BLM recommends that all construction equipment be cleaned and free from debris prior to entering and leaving Project workspaces. Kern River would implement these measures, as well as additional preventive measures included in the Noxious and Invasive Species Management Plan to minimize the establishment and spread of noxious weeds during construction.

Kern River consulted with the BLM and the UDWR to determine the presence of sensitive or protected vegetation within the Project area. Federally and state-listed threatened and endangered plants were identified as potentially occurring in the Project area and are discussed in section 4.9.

Construction and Operation Impacts and Mitigation Measures. The majority of impacts on vegetation would be short term because disturbed areas would be expected to return to preconstruction vegetation cover within one to three growing seasons after restoration is complete. Impacts on woody vegetation (i.e., sagebrush communities in shrub-steppe vegetation cover types) would take longer (5 years) to successfully revegetate (Pyke et al., 2020). Impacts on riparian vegetation would largely be avoided because Kern River proposes to HDD the Sevier River and Canal A, where riparian vegetation is concentrated.

Kern River sited the Project adjacent to existing roadways for approximately 17.8 miles, where anthropogenic impacts regularly occur. Siting the pipeline adjacent to existing roadways, where vegetation is generally of poor quality, minimizes impacts on vegetation crossed by the Project.

To minimize impacts on vegetation during clearing, Kern River would clearly mark the limits of the construction right-of-way and ATWS to ensure that unapproved impacts on adjacent vegetation (outside of the marked construction right-of-way and ATWS) do not occur. Kern River would minimize grading to the extent that is practical and safe for construction purposes. By clearly marking the construction right-of-way and ATWS and by minimizing grading to the extent practicable, Kern River would minimize disturbances to sod and root layers, reducing the potential for noxious and invasive weed species to become established or spread. The use of temporary erosion-control measures during construction would also minimize sediment transport, thereby maintaining the soil integrity in impacted areas and contributing to the overall success of revegetation efforts.

Vegetation between the entry and exit points of the HDD and conventional bore is generally riparian desert scrub. The area along the surface of the HDD crossing would be limited to foot traffic along a 5-foot-wide corridor, which is required to place instrumentation used for HDD route tracking and to monitor for inadvertent return. Minor hand-clearing of vegetation, may be required in upland areas where the brush may impede safe travel and placement of instrumentation in the HDD area. Similarly, only foot traffic would occur along the surface of the bore. Minor hand-clearing of vegetation, consisting primarily of sagebrush may be required in upland areas where the brush may impede safe travel in the bore area.

Following the lowering-in and backfilling of the pipeline, Kern River would commence cleanup operations as soon as practicable to minimize the total time an area remains disturbed. Other mitigation measures employed during cleanup, which would contribute to the overall success of revegetation while minimizing vegetation impacts, include removing excess rock and construction debris, restoring preconstruction contours, performing decompaction as necessary, imprinting in highly erodible soils as necessary, reinstalling and maintaining appropriate temporary erosion-control measures, and reseeding disturbed areas as specified in the Reclamation Plan. The Reclamation Plan specifies appropriate seedbed preparation and soil amendments, as well as fertilization and seeding mixtures, rates, and methods for the various habitats or physical parameters. Kern River would monitor the success of revegetation efforts in all areas disturbed by construction of the Project as outlined in the Reclamation Plan.

Kern River would also adhere to our Plan and Procedures, as well as its Construction Spill Plan, and Noxious and Invasive Species Management Plan. The BLM provided comments on the Noxious and Invasive Species Management Plan, as discussed above. We have reviewed Kern River's Construction Spill Plan and Kern River's Noxious and Invasive Species Management Plan and find them acceptable. Implementation of the measures in these plans would minimize impacts no vegetation resulting from the Project.

Routine vegetation maintenance along the permanent right-of-way would be conducted periodically, in accordance with FERC's Plan and Procedures. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands would not be conducted more frequently than every three years, with the exception of a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the 10-foot-wide corridor in an herbaceous state to allow for periodic corrosion and leak surveys. Kern River would not conduct any routine vegetation mowing or clearing in wetlands that are located between HDD or bore entry and exit points. In wetlands, a 10-foot-wide corridor centered on the pipeline would be cleared at a frequency necessary to maintain an herbaceous state.

In conclusion, construction and operation of the Project would result in short- and long-term impacts on vegetation. Additionally, with the implementation of restoration methods outlined in our Plan and Procedures as well as Kern River's Construction Spill Plan, Reclamation Plan, and Noxious and Invasive Species Management Plan, we conclude that impacts on vegetation would not be significant.

4.8 WILDLIFE

4.8.1 General Wildlife Resources and Habitat

Because vegetation type is an important component of wildlife habitat and often determines wildlife species distribution, the vegetation community types described in section 4.7 have been used to define wildlife within the Project area. The Project area is primarily comprised of desert scrub habitat. This habitat provides nesting, breeding, burrowing, and foraging habitat for a variety of wildlife species, such as common garter snake, gopher snake, Great Basin rattlesnake, night snake, ring-necked snake, striped whipsnake, terrestrial garter snake, common sagebrush lizard, common side-blotched lizard, desert horned lizard, long-nosed leopard lizard, tiger whiptail, mule deer, coyote, badger, desert cottontail, and red fox, as well as various mouse, shrew, and bat species (UDWR, n.d.). Additionally, a wide variety of birds use desert scrub habitat for nesting opportunities. Further discussion of migratory birds that may occur in the Project area is provided in section 4.8.2.

Shrub-steppe habitat is also common in the Project area. Similar to desert shrub, this habitat type provides nesting, breeding, burrowing, and foraging opportunities for a similar variety of wildlife species as listed above. The primary difference between these vegetation types is the higher percentage of woody shrubs present.

Grasslands are limited primarily to the southern portion of the Project area. Ground nesting birds use this habitat for breeding and nesting; examples include killdeer, horned lark, and long-billed curlew. Species similar to those identified for desert scrub would also be expected to use this habitat for foraging and hunting opportunities.

Some habitats are considered sensitive and have additional regulatory protections. Based on UDWR big game range data, the Project crosses approximately 70 acres of substantial value winter habitat for mule deer. This is defined by the UDWR as habitat used by mule deer but is not vital for the population's survival, meaning degradation or lack of substantial value habitat would not result in species decline (UDWR, n.d.).

Construction and Operation Impacts and Mitigation Measures.

Construction activities, such as clearing of the right-of-way and workspaces, would reduce vegetation cover, causing a decrease in foraging, nesting, and cover habitat until vegetation is reestablished. Mobile species may be displaced temporarily during construction due to noise and human presence as well as temporary loss of habitat, and mortality of less mobile species, such as some small mammals, reptiles, or amphibians, may occur. Construction noise and human presence would result in temporary impacts and could include abandonment of nests and burrows, displacement, and avoidance of work areas. Impacts on wildlife within the Project right-of-way would be short in duration and limited to the period of construction. It is anticipated that displaced wildlife would use similar habitats, which are prevalent throughout the region of the Project.

Additionally, increased human presence and construction-related noise may displace reptiles and amphibians from the Project area, if present during construction. The HDD crossing at the Sevier River would produce noise from the HDD equipment, which may be operated 24 hours per day if necessary. Other construction activities that have the potential to extend beyond the typical Monday through Saturday, 7 a.m. to 7 p.m. schedule outlined in section 2.2 include hot tapping of the pipeline, completing tie-ins, pressure testing, commissioning, and other time-sensitive construction activities. If nighttime construction activities occur, Kern River indicated lighting may be necessary for the workspace. Lighting is likely to attract insects as well as other wildlife species. Increased presence of prey (insects) may attract nocturnal reptiles and amphibians, which may lead to increased risk of injury or mortality due to human presence and vehicle operations. Kern River has committed to only using artificial lighting if required to complete critical activities such as HDD pullbacks and tie-in activities. Any lighting used to extend activities started during

the day would be turned off upon completion of the work activity as early in the nighttime hours as possible. Lighting would be equipped with shields and aimed downward to minimize impact on nocturnal wildlife, and light bulbs would be yellow or amber to minimize impacts on wildlife.

During construction, when trenches are left open, sides would be sloped to allow wildlife to escape, or ramps would be provided. Open trenches would be inspected daily for trapped wildlife. If present, wildlife would be removed prior to construction activities beginning each day.

Construction of the Project would overlap with mule deer substantial value winter habitat from milepost 6.42 to milepost 7.00 and milepost 7.06 to milepost 12.07. The UDWR recommends that no surface activity occurs within the substantial value winter habitat between December 1 and April 15. The UDWR recommended that if surface activity cannot be avoided within substantial value winter habitat during this timeframe, Kern River should not begin construction until 30 minutes after sunrise and should stop construction at least 30 minutes before sunset. Kern River did not adopt this restriction, but further consulted with the UDWR and proposes to employ a biological monitor during early or late Project activity in substantial value mule deer winter habitat (Bezzant, 2021). The role and responsibilities of the biological monitor are the subject of ongoing consultation between Kern River, BLM, and UDWR.

Construction of the Project would also coincide with mule deer fawning, which generally occurs from May through July (NRCS, 2005). During this time, Kern River expects mule deer to avoid active construction areas, potentially adversely affecting mule deer if comparable habitat were not available; for example, increased energy expenditure due to escape from disturbance; use of suboptimal habitats lacking adequate level of food, shelter, or escape cover; and use of habitats that increase risk of predation. However, because the Project area represents only a small percentage of the available mule deer habitat within the broader Project region, and comparable habitat is abundant nearby, we conclude that construction is not expected to significantly impact mule deer.

Kern River sited the pipeline lateral along existing roadways for approximately 50 percent of the route, where regular anthropogenic impacts occur. Because of this, some immediately adjacent habitats are less valuable to wildlife species. Kern River coordinated with the BLM and SITLA to develop a Reclamation Plan to restore native habitats and wildlife habitats disturbed during construction. The BLM provided recommended seed mixes, reclamation treatments for sensitive plant species, and performance standards for inclusion in the Reclamation Plan. SITLA reviewed the Reclamation Plan and did not have comments.

Following construction, workspaces outside the permanent right-of-way would revert or be restored in accordance with FERC's Plan and Procedures. Impacts on upland and wetland habitats disturbed by construction, but not within the operational footprint of the Project, would be temporary and are expected to return to preconstruction vegetation cover within one or two growing seasons after construction is completed. Impacts on woody vegetation (i.e., sagebrush communities in shrub-steppe vegetation cover types) would take longer (approximately 5 years) to return to preconstruction conditions (Pyke et al., 2020). Routine vegetation maintenance would occur outside of the April 1 to July 31 migratory bird nesting avoidance window, unless the appropriate field surveys are conducted and the necessary approvals are obtained. Based on the vegetation types present, previously disturbed areas and siting the Project adjacent to existing rights-of-way, the presence of similar habitats adjacent to and in the vicinity of construction activities, and the implementation of BMPs, the Reclamation Plan, and our Plan and Procedures, we conclude that construction and operation of the Project would not have a significant impact on wildlife.

4.8.2 Migratory Birds

Migratory birds are protected under the Migratory Bird Treaty Act (16 USC 703-711), which generally prohibits the taking of any migratory bird, or a part, nest, or eggs of any such bird. Bald and golden eagles are also protected under the BGEPA (16 USC Part 668-668d).

Executive Order 13186 (66 Federal Register 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse effects on migratory birds through enhanced collaboration with the USFWS. Executive Order 13186 states that emphasis should be placed on species of concern, priority habitats, and key risk factors and that particular focus should be given to addressing population-level impacts. On March 30, 2011, the USFWS and the Commission entered into a Memorandum of Understanding that focuses on avoiding or minimizing adverse effects on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the two agencies.

Bird Conservation Regions are geographically based subsets of the larger Birds of Conservation Concern list. The Project crosses the Delta Bird Conservation Area (BCA). BCAs are identified for their presumed high-quality habitat for migratory birds. Managed by the BLM, the Delta BCA is a large area encompassing approximately 233,050 acres and is associated with the Sevier River (E & E, 2020). The Project crosses this BCA from approximately milepost 24.0 to milepost 28.0. There are no regulatory requirements associated with BCAs.

Numerous migratory bird species pass through the Project area at various times of the year. The Project area is used for foraging, breeding, and nesting opportunities, as well as migratory stopover habitat. Based on review of the USFWS Birds of Conservation Concern and Utah Partners in Flight priority lists, species habitat preferences, and the known range of each species, the species shown in table 4.8-1 have the potential to occur in the Project area. Further, brewer's sparrow, ferruginous hawk, golden eagle, long-billed curlew, and sage sparrow were observed incidentally during Kern River's field-based surveys. Additional discussion of the golden eagle is in section 4.9.2.

TABLE 4.8-1

Migratory Birds and Birds of Conservation Concern Potentially Occurring in the Project Area

Common Name (*scientific name)*	Status	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat	Likelihood of Occurrence
American avocet (*Recurvirostra americana*)	UPIF	Wetland	Playa	Migrant	Low
American white pelican (*Pelecanus erythrorhynchos*)	UPIF	Water	Wetland	Migrant	Low
Bald eagle (*Haliaeetus leucocephalus*)	BCC, BGEPA	Lowland riparian	Agriculture	Lowland riparian	Low
Black-necked stilt (*Himantopus mexicanus*)	UPIF	Wetland	Playa	Migrant	Low
Bobolink (*Dolichonyx oryzivorus*)	UPIF	Wet Meadow	Agriculture	Migrant	Low
Brewer's sparrow (*Spizella brewerii)*	UPIF, BCC	Shrub-steppe	High Desert scrub	Migrant	High
Broad-tailed hummingbird (*Selasphorus platycercus*)	UPIF	Lowland riparian	Mountain riparian	Migrant	Low
Clark's grebe (*Aechmophorus clarkia*)	BCC	Wetland	Water	Water	Low
Ferruginous hawk (*Buteo regalis*)	UPIF	Pinyon-juniper	Shrub-steppe	Grassland	Moderate

TABLE 4.8-1

Migratory Birds and Birds of Conservation Concern Potentially Occurring in the Project Area

Common Name (*scientific name)*	Status	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat	Likelihood of Occurrence
Gambel's quail (*Callipepla gambelii*)	UPIF	Low desert scrub	Lowland riparian	Low desert scrub	Moderate
Golden eagle (*Aquila chrysaetos*)	BCC BGEPA	Cliff	High desert scrub	High desert scrub	High
Lesser yellowlegs (*Tringa flavipes*)	BCC	Freshwater shorelines	Freshwater wetlands	Salt Marsh	Low
Long-billed curlew (*Numenius americanus*)	UPIF	Grassland	Agriculture	Migrant	High
Sage sparrow (*Artemisiospiza nevadensis*)	UPIF	Shrub-steppe	High desert scrub	Low desert scrub	Moderate
Sage thrasher (*Oreoscoptes montanus*)	BCC	Shrub-steppe	High desert scrub	Migrant	Moderate
Wouldet (*Tringa semipalmata*)	BCC	Wetland	Wet meadow	Migrant	Low
Yellow-billed cuckoo (*Coccyzus americanus*)	UPIF, FE	Lowland riparian	Agriculture	Migrant	Low

Sources: USFWS, 2020a; Parrish et al., 2002

Key:
BCC = bird of conservation concern
FE = federally endangered
UPIF = Utah Partner in Flight

Construction and Operation Impacts and Mitigation Measures.

Impacts from construction-related activities may include temporary displacement of migratory birds in the Project area. Construction of the Project would result in temporary to long-term loss of vegetation within the construction right-of-way and workspaces associated with aboveground facilities. Loss of suitable habitat could result in a decrease in bird density and diversity within construction workspaces. However, the broader Project region contains similar habitat to that within the Project area, and as such, displaced birds are expected to utilize adjacent habitats for forage, shelter, and nesting. Construction-related activities occurring during the bird nesting season could result in nest abandonment from increased human presence and noise or direct mortality of nesting birds or nestlings and fledglings, which are less mobile.

Indirectly, increased noise and human presence could result in displacement of birds and nest abandonment. The HDD crossing at the Sevier River would produce noise from the HDD equipment, which may be operated 24 hours per day (see section 2.2), if necessary. Other construction activities that have the potential to extend beyond the typical Monday through Saturday, 7 a.m. to 7 p.m. schedule outlined in section 2.2 include hot tapping the pipeline, completing tie-ins, pressure testing, commissioning, and other time-sensitive construction activities. If nighttime construction activities occur, Kern River indicated lighting may be necessary for the workspace. Impacts of lighting on wildlife and mitigation measures that Kern River would employ to minimize the impacts of artificial lights on wildlife, including birds, are discussed in section 4.8.1.

Due to a considerable amount of Project siting adjacent to existing roadways, where migratory birds and their habitat are already affected by traffic and road runoff, impacts on migratory birds from Project activity would be reduced. Additionally, Kern River would adhere to the USFWS *Project Recommendations for Migratory Bird Conservation* (USFWS, 2020c), including conducting preconstruction clearance surveys during migratory bird nesting season (April 1 to July 15) no more than 7 days prior to any construction related activity. If an active nest is located, Kern River would work with the USFWS, BLM, and UDWR to develop appropriate mitigation measures. Active nests would be protected (e.g., through use of biological monitors) until the nest is determined to have failed, or the chicks have fledged.

Based on the characteristics and habitat requirements of migratory birds known to occur in the Project area, the amount of similar habitat adjacent to and in the vicinity of the Project, Kern River's implementation of the measures in FERC's Plan and Procedures and use of timing restrictions for clearing of vegetation, as well as Kern River's coordination of mitigation measures with the USFWS, BLM, and UDWR, we have determined that the Project would not result in population-level impacts on migratory birds or measurable negative impacts on their habitat.

4.9 SPECIAL STATUS SPECIES

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Included in this category are federally listed species that are protected under the ESA and those species that are state endangered or threatened. Section 7 of the ESA requires FERC as the lead federal agency to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed endangered or threatened species or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The agency is required to consult with the USFWS to determine whether any federally listed endangered or threatened species or any of their designated critical habitat are located in the vicinity of a proposed project and to determine the proposed action's potential effects on those species or critical habitats.

Kern River reviewed the USFWS Information for Planning and Consultation System and coordinated with the USFWS, BLM, and the UDWR to identify a preliminary list of federal-, state- and BLM-listed species, as well as species of special concern and sensitive species that could potentially occur within the Project area. Suitable habitat surveys were conducted by Kern River in May and October 2020 and May 2021 to map potentially suitable habitat for listed species. Table 4.9-1 lists the special status species potentially occurring within the Project area and provides a summary of surveys conducted to date.

TABLE 4.9-1

Special Status Species Potentially Occurring in the Vicinity of the Project

	Species Common Name	Scientific Name	Federal Status	State Status	Suitable Habitat Description	Suitable Habitat Present	Effects Determination /Impacts Analysis
Mammals	Dark kangaroo mouse **a/**	*Microdipodops megacephalus*	BLM	UDWR	Vegetated dunes with sagebrush.	Yes	No significant impact
	Kit fox	*Vulpes macrotis*	BLM	UDWR	Open desert landscapes and grasslands.	Yes	No significant impact
	Pygmy rabbit **b/**	*Brachylagus idahoensis*	BLM	UDWR	Dense sagebrush habitat and loose soils.	Marginal	No significant impact
Birds	Yellow-billed cuckoo **b/**	*Coccyzus americanus*	Federally Threatened	UDWR	Cottonwood galleries in riparian areas associated with water.	No	No effect
	Burrowing owl	*Athene cunicularia*	BLM	UDWR	Open grassland and sparse shrub habitats with burrows for nesting.	Yes	No significant impact
	Ferruginous hawk	*Buteo regalis*	BLM	UDWR	Open desert grasslands/shrub habitats and scattered junipers for nesting.	Yes	No significant impact
	Golden eagle	*Aquila chrysaetos*	BLM, BGEPA	N/A	Open grasslands/shrub habitats near cliff ledges and rock outcrops for nesting.	Yes	No significant impact
	Snowy plover	*Charadrius alexandrinus*	BLM	UDWR	Beaches, ponds, shorelines and barren lands in the vicinity of water.	Yes	No significant impact
	Long-billed curlew	*Numenius americanus*	BLM	UDWR	Open grassland-dominated habitats.	Yes	No significant impact
	Short-eared owl	*Asio flammeus*	BLM	UDWR	Grasslands, shrublands, and	Yes	No significant impact

TABLE 4.9-1

Special Status Species Potentially Occurring in the Vicinity of the Project

	Species Common Name	Scientific Name	Federal Status	State Status	Suitable Habitat Description	Suitable Habitat Present	Effects Determination /Impacts Analysis
					other open habitats.		
Insects	Monarch butterfly	*Danaus plexippus*	CA, BLM	N/A	Highly associated with milkweed for breeding, laying eggs, and larval development.	Yes	No significant impact
Plants	Giant four-wing saltbush	*Atriplex canescens* var. *gigantea*	BLM	N/A	Sand dunes	Yes	No significant impact
	Sandloving buckwheat	*Eriogonum nummulare* var. *ammophilum*	BLM	N/A	Shadscale, horsebrush, winterfat, rabbitbrush, Ephedra, and pinyon juniper woodland communities on sand dunes.	Yes	No significant impact
	Neese narrowleaf penstemon	*Penstemon angustifolius* var. *dulcis*	BLM	N/A	Associated with four-winged saltbush, sagebrush-eriogonum, and juniper communities of sand dunes. 4,600 to 5,400 feet.	Yes	No significant impact
	Ute Ladies'-tresses **b/**	*Spiranthes diluvialis*	Federally Threatened	UDWR	Wet habitats, including riparian, lacustrine, seeps, springs and subirrigated meadows	No	No effect
Fish	Southern leatherside chub **c/**	*Lepidomeda aliciae*	BLM	UDWR	Rare within its historic range. Occurs in scattered streams and rivers in the southeastern	Yes	No significant impact

TABLE 4.9-1

Special Status Species Potentially Occurring in the Vicinity of the Project

	Species Common Name	Scientific Name	Federal Status	State Status	Suitable Habitat Description	Suitable Habitat Present	Effects Determination /Impacts Analysis
					portion of Bonneville Basin		

Sources: California Burrowing Owl Consortium, 1993; BLM, 2007, 2020a

a The UDWR does not require presence/absence surveys for dark kangaroo mouse.
b Species and suitable habitat was determined to not occur along the Project right-of-way; therefore, additional survey efforts are not necessary.
c Species is assumed to be present in the Sevier River and Canal A.

Key:
CA = Candidate for listing under the ESA
BLM = BLM Special Status Species
FT = federally threatened
N/A = not applicable. Surveys are not required for these species.
UDWR = Utah Department of Wildlife Resources wildlife of special concern

4.9.1 Federally Protected Threatened and Endangered Species

Based on review of the USFWS Information, Planning, and Consultation System, two federally threatened species, the yellow-billed cuckoo *(Coccyzus americanus*) and the Ute Ladies'-tresses (*Spiranthes diluvialis*), were identified as potentially occurring in the Project area. No federally listed threatened or endangered or special concern fish species are known to occur near the Project.

The yellow-billed cuckoo is considered a localized breeder in specific riparian habitats with high densities of cottonwood galleries in the north, south, and eastern portions of Utah (Hughes, 1999). Waterbodies crossed by the Project generally have little to no riparian corridor, with the exception of the Sevier River. Riparian habitat within the vicinity of the Sevier River is not conducive for this species because it lacks the multilayered riparian habitat necessary for nesting. Furthermore, there are no documented occurrences of this species within the BLM-FFO district. The USFWS confirmed that this species is not expected to occur in the Project area based on the lack of suitable habitat (Moore, 2021). Because this species is not expected to occur in the Project area and suitable habitat does not exist in the Project area, we conclude that the Project would have ***no effect*** on yellow-billed cuckoo.

Ute Ladies'-tresses is a federally threatened plant species strongly associated with wet habitats, including riparian, lacustrine, seeps, springs, and subirrigated meadows. Based on information from the UDWR, this species is known to occur in Cache, Daggett, Duchesne, Garfield, Juab, Uintah, Utah, Wasatch, and Wayne Counties, but not known to occur in Millard County (UDWR, n.d.). Wetlands and soils crossed by the Project are unsuitable for Ute Ladies'-tresses, as they are mostly isolated unvegetated depressions that remain dry most of the year. Additionally, the two wetlands crossed by the Project associated with the Sevier River (W-001 and W-002) were determined by the USFWS to be unsuitable for Ute Ladies'-tresses based on the soil types and vegetation present (Reisor, 2020). The USFWS determined that Ute Ladies'-tresses surveys are not necessary due to a lack of suitable habitat crossed by the Project (Reisor, 2020). Because this species is not expected to occur in the Project area and suitable habitat does not exist in the Project area, we conclude that the Project would have ***no effect*** on Ute Ladies'-tresses.

4.9.2 State- and BLM-Protected Species

UDWR sensitive species include wildlife species that are federally listed, candidates for federal listing, or for which a conservation agreement is in place. Additionally, sensitive species also include "wildlife species of concern," which are species with credible scientific evidence to substantiate a threat to continued population viability.

BLM special status species includes species listed or proposed for listing under the ESA and those species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA. In addition to those species designated as sensitive by the state director, all federal candidate species and delisted species within the five years following delisting are to be conserved as BLM sensitive species (BLM, 2010).

The UDWR and BLM identified state- and BLM-protected species as potentially occurring in the Project area as shown in table 4.9-1. Kern River conducted Habitat Assessment Surveys in May and October 2020 and May 2021, and presence/absence surveys for sensitive plant species Spring 2021, including four-wing saltbrush, sandloving buckwheat, and Neese narrowleaf penstemon.

During coordination between FERC staff and the BLM, the BLM recommended that a Biological Resources Conservation Plan be developed to identify and describe conservation measures and protocols applicable to the Project in support of the BLM Right-of-Way Grant. The Biological Resources Conservation Plan would be developed between the BLM and Kern River to include practices that Kern River would commit to during construction to further minimize impacts on sensitive species.

Dark Kangaroo Mouse. The dark kangaroo mouse is a BLM and UDWR sensitive species that occurs primarily in the Project region in sagebrush areas with sandy soils and dunes (UDWR, n.d.). Habitat

suitability surveys identified several small potentially suitable sandy dunes with sparsely distributed vegetation. Based on coordination with the BLM and UDWR regarding habitat suitability, only vegetated dunes are considered suitable habitat (Kinross, 2021b). Approximately 31 acres of suitable habitat are crossed by the Project. The BLM and UDWR do not require presence-absence surveys for the dark kangaroo mouse; however, the UDWR stated that if suitable habitat (i.e., vegetated dunes) cannot be avoided, wildlife ramps should be installed to allow wildlife to exit any trenches (Kinross, 2021b). During construction, trenches would be sloped to allow wildlife to escape, or ramps would be provided.

Clearing of the construction right-of-way may result in loss of dune habitat, which could potentially result in mortality if this species is occupying the dunes. Additionally, construction-related activities would produce noise and vibrations that may stress and displace this species. Displacement of dark kangaroo mouse could increase the likelihood of being predated upon; furthermore, habitat requirements for this species are very specific and displacement from otherwise suitable habitat could result in mortality.

Given the limited amount of potentially suitable habitat in the Project area and Kern River's commitment to implement BMPs to minimize the impacts on the dark kangaroo mouse, we conclude that the Project would not significantly impact this species. Based on our conversations with the BLM, we were informed that Kern River also continues coordinate with the BLM and UDWR to develop additional conservation measures to avoid or further minimize impacts on this species.

Kit Fox. Kit fox is a BLM and UDWR sensitive species. Kit foxes are year-round residents of the Project region and are assumed to be present in the Project area. Suitable habitat for this species is broad and includes grasslands, desert scrub, shrub-steppe, and rangeland; as such, the entirety of the Project area is generally considered suitable habitat, with the exception of areas with sandy soils, which are not conducive for burrowing and denning.

One active fox burrow was identified during Kern River's May 2020 habitat suitability surveys near milepost 35.1, though no kit foxes were observed. Kern River was unable to determine whether this burrow belonged to a kit fox or other more common fox species. Due to the presence of suitable habitat and known occurrences of this species throughout the Project region, the kit fox is assumed to be present in and near the Project area on BLM and SITLA lands.

Kern River also conducted presence/absence surveys in May 2021 in accordance with the Project's *Final 2020 Pre-Construction Biological Survey Plan,* the *Bureau of Land Management Fillmore Field Office Kit Fox Occupancy and Habitat Survey Protocol* (BLM, 2007), and recommendations provided by the BLM-FFO resource specialists to identify locations of active dens. Two suitable kit fox burrows were identified approximately 0.14 mile south of milepost 13.4 in a barren area. No kit fox were observed during these surveys; however, sign of recent activity was observed at the burrow in the form of scat and subtle prints at the den entrance.

Construction-related activities associated with the Project would likely result in temporary displacement of kit fox in the Project area. Construction-related activities could cause stress to adult and young kit fox, especially if construction is visible from den locations. In some cases, ground disturbance can cause den abandonment; however, it is anticipated that construction would cause temporary displacement or increased stress to individuals rather than permanent abandonment. Additionally, as mentioned above, construction-related activities could result in displacement or mortality of prey species such as small rodents, rabbits, birds, and reptiles. However, based on the presence of similar habitats in the Project region, it is likely that any disturbance to prey species would not impact overall prey availability.

During construction, trenches would be sloped to allow wildlife to escape, or ramps would be provided. Open trenches would be inspected daily for trapped wildlife. If present, wildlife would be removed prior to construction activities beginning each day.

Given the availability of suitable habitat in the broader Project area, and Kern River's commitment to implement BMPs to minimize the impacts on kit fox, we conclude that the Project would not significantly

impact this species. Based on our conversations with the BLM, we were informed that Kern River also continues coordinate with the BLM and UDWR to develop additional conservation measures to avoid or further minimize impacts on this species.

Pygmy Rabbit. Pygmy rabbits require tall, dense sagebrush cover with loose soils that are conducive for excavating burrows. Based on results of Kern River's habitat suitability surveys, sagebrush-dominated shrub communities were present, and sagebrush was generally short, not exceeding 3 feet in height. Based on the habitat characteristics in the Project area, as well as our conversations with the BLM, this species may be present in the Project area. If present, construction-related activities would likely result in temporary displacement of pygmy rabbits in the Project area. However, based on the presence of similar habitats in the Project region, it is likely that any disturbance would not significantly impact pygmy rabbit.

Burrowing Owl. Suitable habitat for burrowing owl includes shortgrass prairie habitats, sparsely vegetated western landscapes, and grazed rangeland. Approximately 25 acres of suitable habitat exists within the Project area. In general, burrowing owls are most often associated with active and inactive prairie dog towns, as the town burrows are of suitable size for burrowing owl nesting and young rearing. Prairie dogs do not occur in the region of the Project and few burrows of suitable size were identified during Kern River's habitat surveys in spring of 2020.

Kern River conducted presence/absence surveys in May 2021 within 0.25 mile of the Project, in accordance with the Project's *Final 2020 Pre-Construction Biological Survey Plan*, *California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993), and in consultation with the BLM-FFO and the UDWR. Two active burrowing owl burrows were identified within the Survey Area, in a field dominated by short grasses, including intermediate wheatgrass, cereal rye, and cheatgrass near milepost 12.7, approximately 0.1 mile and 0.03 mile north of the Project's centerline. Burrowing owls have high nest fidelity; therefore, the two active burrows along the Project alignment may remain active leading up to the anticipated Project construction date. A single burrowing owl was observed at one of the active burrow locations.

The USFWS *Utah Field Office Guidelines for Raptor Protection From Human and Land Use Disturbances* (Romin and Muck, 2002) recommends a 0.25-mile spatial buffer from March 1 through August 31 for active burrows. However, Kern River has not committed to this seasonal buffer. Since nests have been located within the spatial buffer and construction is scheduled to occur during this period, Kern River is committed to employing biological monitors during construction that occurs within 0.25-mile of active burrows during the seasonal buffer. However, Kern River continues to coordinate with the BLM and UDWR to identify specific activities in which the biological monitor would conduct should an active owl burrow is observed, as well as to develop additional conservation measures to avoid or further minimize impacts on burrowing owls. We acknowledge that individual owls may be displaced or killed, but this should be minimized by Kern River's agency coordination and use of monitors. As such, we conclude that the Project would not have significant or population-level impacts on burrowing owls.

Ferruginous Hawk. We assume ferruginous hawk is present in the Project area based on its broad habitat requirements and the presence of suitable habitat. This species is particularly drawn to open areas with dense prey populations. Kern River did not observe any nests during the May and October 2020 surveys; however, two adult ferruginous hawks were observed flying over the Survey Area near milepost 11.0. Kern River would conduct preconstruction raptor nest surveys within 0.5 mile of the Project in accordance with the Project's *Final 2020 Pre-Construction Biological Survey Plan*. The purpose of these surveys is to identify raptor nests and determine their status (i.e., active or inactive) to develop adequate minimization and mitigation measures for construction-related activities. Following surveys, Kern River would provide the results of these surveys to FERC.

Kern River coordinated with the USFWS, UDWR, and BLM to determine the appropriate and prudent avoidance and mitigation measures, particularly if recommended spatial and seasonal buffers could not be adhered to. Kern River would adhere to the spatial buffers per Romin and Muck (2002) if a nest is

located (0.5-mile spatial buffer from March 1 through August 31 for active nests). However, for any nests where Kern River would not adhere to the spatial and seasonal buffers, Kern River states it would employ biological monitors. As discussed above, the role and responsibilities of the biological monitor(s) are the subject of ongoing consultation between Kern River, BLM, and UDWR.

Based on Kern River's commitment to conduct preconstruction raptor nest surveys, and commitment to employ biological monitors if spatial buffers around nests could not be adhered to, we conclude that the Project would not significantly impact this species.

Golden Eagle. The golden eagle is a common resident and migrant in the broader Project region and are likely present in the Project area. Kern River did not observe any nests during the May and October 2020 surveys. Rock outcrops and cliff habitats are not present along the Project route but do occur within 0.5 mile of the Project, which may provide suitable nesting habitat for this species. Kern River would apply the same approach to this species as discussed above for ferruginous hawk. As such, we conclude that the Project would not significantly impact this species.

Snowy plover. Snowy plovers are seasonal residents of the Great Basin region of the western United States, most likely to occur within the Project area during spring and fall migration. The small shorebird utilizes beaches, ponds, shorelines, and other barren lands in the vicinity of water (UDWR, n.d. [b]). Within the Project area, potential habitat is limited to the banks of the Sevier River and Canal A (approximately 0.3 acre). Although both of these waterways were observed during high flow with the banks mostly underwater, it is likely that they contain barren, muddy banks suitable for use by snowy plovers during low flow. Snowy plovers were not observed during habitat surveys.

As noted previously, Kern River would perform preconstruction nest clearance surveys before construction activities begin if the ground disturbing activities would occur between April 1 and July 31. Preconstruction clearance surveys and coordination with the BLM and UDWR would ensure that no snowy plover are significantly disturbed or lost as a result of construction-related activities. If an active nest is located, Kern River would work with the BLM and UDWR to develop appropriate mitigation measures. Biological monitors would observe this area until the nest is determined to have failed, or the chicks have fledged.

Based on Kern River's commitment to preconstruction nest clearance surveys, and commitment to employ biological monitors if spatial buffers around nests could not be adhered to, we conclude that the Project would not significantly impact this species.

Long-billed Curlew. Long-billed curlew is the only passerine that is a sensitive species potentially occurring in the Project area. Long-billed curlews are residents of the Project region during the breeding season (April 1 through July 31) and may be present in the Project area from March through September. Suitable habitat for this species was identified in grassland habitats, encompassing approximately 460.0 acres of land crossed by the Project, beginning at milepost 0.0 and ending at approximately milepost 14.7.

This species was heard and observed multiple times during other Project-related biological field surveys in grassland-dominated habitats conducted in May 2020 and May and June 2021. Long-billed curlew were exclusively observed in the southernmost portion of TAR-15 and the southern portion of the Project alignment, with most detections occurring between mileposts 10.0 and 13.3. Additionally, remnants of long-billed curlew eggshells were observed within 150 feet of the Project route, confirming its presence in the region.

Kern River would perform preconstruction nest clearance surveys no greater than seven days before construction activities begin if the ground disturbing activities would occur between April 1 and July 31. Preconstruction clearance surveys and coordination with the BLM and UDWR would ensure that no long-billed curlew are significantly disturbed or lost as a result of construction-related activities. If an active nest is located, Kern River would work with the BLM and UDWR to develop appropriate mitigation

measures within a 300-foot buffer of the nest. Biological monitors would observe this area until the nest is determined to have failed, or the chicks have fledged.

Based on Kern River's commitment to preconstruction nest clearance surveys, and commitment to employ biological monitors if spatial buffers around nests could not be adhered to, we conclude that the Project would not significantly impact this species.

Short-eared Owl. Short-eared owls are residents of the Project region and they use a broad range of habitats including grasslands, desert scrub, shrub-steppe, and wet meadows. Suitable habitat for this species occurs within the entire Project area, with the highest quality habitat found along the Sevier River and the grassland and shrub-steppe communities between mileposts 0.00 and 13.8. Kern River did not observe any nests during the May and October 2020 surveys. Kern River would conduct raptor nest surveys within 0.25 mile of the Project in accordance with the Project's *Final 2020 Pre-Construction Biological Survey Plan*. The purpose of these surveys is to identify raptor nests and determine their status to develop adequate minimization and mitigation measures for construction-related activities. Following surveys, Kern River would provide the results of these surveys to FERC. Kern River coordinated with the USFWS, UDWR, and BLM to determine the appropriate and prudent avoidance and mitigation measures, particularly if Kern River could not adhere to recommended spatial and seasonal buffers. Kern River would adhere to the spatial buffers (Romin and Muck, 2002) if a nest is located. For any nests where the recommended spatial and seasonal buffers could not be adhered to, Kern River would employ biological monitors during construction in the seasonal buffer for raptors.

Based on Kern River's commitment to conduct raptor nest surveys, and commitment to employ biological monitors if spatial buffers around nests could not be adhered to, we conclude that the Project would not significantly impact this species.

Monarch Butterfly. Monarch butterflies require milkweed species at multiple stages of life to develop and survive. Review of the Western Monarch Milkweed Mapper (Western Monarch Milkweed Mapper, 2020) indicates that no milkweed species have been identified within the Project area. However, habitat suitability surveys identified three locations where isolated populations of 2 to 25 milkweed plants were observed in open, sandy soils within the desert scrub communities near mileposts 31.2 and 33.3. Larger milkweed populations were noted along both sides of Canal A. Kern River did not observe any monarch butterflies during the surveys.

The USFWS provided to Kern River conservation measures from the *Pollinator Conservation Guidelines 2021 Draft* and the *2019 Monarch Conservation Implementation Plan: Final* for the monarch butterfly and other pollinators. However, Kern River states that it does not intend to implement the voluntary conservation measures outlined in these documents because monarch butterflies are not expected to be present within the Project area. As noted above, there was few areas suitable monarch butterfly habitat (e.g., milkweed) observed during field surveys, and no individuals were observed.

Kern River would avoid impacts to known populations of milkweed to the extent practicable. Use of the HDD method from milepost 27.0 to milepost 27.5 would avoid impacts to several of the identified milkweed populations near Canal A.

The Monarch butterfly is currently a candidate species (and a BLM sensitive species), indicating that listing under the ESA is warranted but currently preclude by higher priority listing actions. The species is subject to USFWS service review annually. In the event the monarch butterfly is proposed or listed under the ESA during construction of the Project, Kern River and FERC staff will consult under section 7 of the ESA with the USFWS on effects to the species. Based on the above, we conclude that the Project would not significantly impact this species.

Giant Four-Wing Saltbush. Giant four-wing saltbush is associated with sand dune habitats in purely sandy soils. Suitable habitat for this species overlaps with dark kangaroo habitats, which were identified as vegetated sand dunes. Approximately 7.2 acres of suitable habitat are crossed by the Project,

which occur mostly in the northern half of the Project area; however, Kern River did not identify this species during habitat suitability surveys in 2020. Kern River conducted presence/absence surveys in May-June 2021, within areas of identified suitable habitat and in accordance with the Project's *Final 2020 Pre-Construction Biological Survey Plan*. No individuals of this species were identified during Kern River's Spring 2021 surveys. Construction of the Project would likely not result in loss of any individuals but would temporarily impact otherwise suitable habitat for this species. Following construction of the Project, Kern River would reseed the construction right-of-way with a BLM-recommended seed mix that is representative of the desert scrub habitat in the region.

Given the limited amount of potentially suitable habitat in the Project area and Kern River's 2021 presence/absence surveys did not identify individuals, we conclude that the Project would not significantly impact this species.

Sandloving Buckwheat. Sandloving buckwheat is associated with alluvium and sandy soils and is most often identified with winterfat (*Krascheninnikovia lanata*), rabbitbrush (*Ericanerica nauseosa*), Mormon tea (*Ephedra viridis*), and juniper woodlands. Suitable habitat for this species is limited to small pockets of habitat within the Project area totaling approximately 0.6 acre. Kern River did not identify this species during habitat suitability surveys. Kern River also did not identify individuals during presence/absence surveys in Spring 2021.

Given the limited amount of potentially suitable habitat in the Project area and Kern River's 2021 presence/absence surveys did not identify individuals, we conclude that the Project would not significantly impact this species.

Neese Narrowleaf Penstemon. Neese narrowleaf penstemon (*Penstemon angustifolius*) occurs in purely sandy soils, often associated with sagebrush-Eriogonum and juniper communities. Potentially suitable habitat for this species is present throughout desert scrub communities crossed by the Project where soils are sandy and cheatgrass cover is less than 50 percent. Numerous areas of suitable habitat were identified for this species in the northern half of the Project area, where soils are sandy and dunes are present. Approximately 168 acres of suitable habitat are crossed by the Project. In total, 60 Neese narrowleaf penstemon individuals were identified in the survey area, 13 of which are within the proposed construction right-of-way. These 13 individuals would most likely be destroyed during ground-disturbing activities. Individuals outside of the construction right-of-way are not expected to be impacted.

Impacts on sensitive plant species include soil compaction, which may adversely affect a plant's ability to receive water and oxygen transfer at its roots, and the potential introduction of noxious and invasive plant species, which could outcompete sensitive plants for space. Kern River would adhere to BMPs and its Noxious and Invasive Species Management Plan to minimize the likelihood of the spread of noxious and invasive weeds.

To offset loss of Neese narrowleaf penstemon individuals, Kern River would collect seeds from these plants within the Project area and re-plant the collected seeds in areas adjacent to the right-of-way, as identified by the BLM (Whitaker, 2021). Additionally, Kern River would implement the measures included in the Reclamation Plan:

- keeping the area of disturbance to the absolute minimum required for construction of the pipeline; and
- flagging or fencing sensitive plant populations adjacent to but outside of the construction zone, to ensure avoidance.

Kern River would also monitor the areas where collected seeds have been replanted during post-construction reclamation monitoring. Restoration would be considered successful if the Neese narrowleaf penstemon are identified during monitoring efforts.

Given Kern River's commitment to implement measures to minimize and mitigate the impacts on Neese narrowleaf penstemon, we conclude that the Project would not significantly impact this species.

Southern Leatherside chub. Southern leatherside chub (*Lepidomeda aliciae*) is a small minnow species native to desert streams and rivers of the southeast Bonneville Basin, including the Sevier River and its drainages. Southern leatherside chub only exist in waterbodies with flowing water with intermediate water depths ranging from 25 to 65 centimeters, low water velocities (2.5 to 45 centimeters per second) and low percent composition of sandy-silt or gravel substrates (Wilson and Belk, 2001) (UDWR, 2020). Other variables include stream gradient, elevation, conductivity, and pH (Wilson and Belk, 2001; UDWR, 2020).

The southern leatherside chub was identified through agency consultation as potentially occurring within the Sevier River and Canal A (Great Basin Environmental and Aquatics, 2014; Mellon, 2020a). Potential impacts on the southern leatherside chub would be avoided through use of HDD methods to bore beneath the bed of the Sevier River and Canal A. The BLM did not have concerns with Kern River using the Sevier River as a water source for HDD drilling fluid as long as a screen is placed over the water intake hose to mitigate potential entrapment of fish species, including the southern leatherside chub (Mellon, 2021a). Kern River continues to coordinate with the BLM to determine an appropriate screen size.

As discussed in section 4.6, inadvertent release of drilling fluid could impact water quality and, consequentially, impact aquatic resources. To minimize the potential for an inadvertent release of drilling fluid to impact aquatic, Kern River would implement its HDD Plan. The UDWR and BLM reviewed the HDD Plan for the Project and agreed that procedures included in the event of an inadvertent return are reasonable and appropriate (Kinross, 2021a; Mellon 2021b). Kern River's HDD Plan includes procedures for monitoring, detection, isolation, stopping, and restoring inadvertent releases, and would make all necessary agency notifications.

Based on Kern River's proposed use of HDD to install the pipeline underneath the Sevier River and Canal A, and the BMPs listed in section 4.6, we conclude that the Project would not significantly impact the southern leatherside chub.

4.10 LAND USE, RECREATION, AND VISUAL RESOURCES

4.10.1 Existing Land Use Impacts and Mitigation

Kern River identified land use categories in the Project area using field observations made in May and October 2020. Existing land uses consist of rangeland, industrial/commercial land, open land, wetlands, and open water. A total of 543.5 acres would be temporarily disturbed during construction of the Project. Land temporarily impacted during construction but not required for permanent operations would be allowed to revert to preconstruction uses. Operation of the Project, including the pipeline and aboveground facilities, would disturb 221.6 acres. A total of 17 temporary access roads affecting 62.1 acres would be used during construction and would be restored to preconstruction conditions. Three permanent access roads would be constructed to access the aboveground pipeline facilities. These would permanently affect 2.4 acres. Appendix F contains a table of the temporary and permanent access roads identifying their location, purpose, characteristics, and land uses impacted.

Kern River would obtain easements from landowners and land-managing agencies to construct and operate natural gas facilities or acquire the land on which the facilities would be located. Easements would either be temporary, granting the operator the use of the land during construction (e.g., for temporary workspace, access roads, yards); or permanent, granting the operator the right to operate and maintain the facilities after construction.

For the Project, all temporary construction easements (e.g., ATWS, access roads, and staging areas) would be restored, returned to the landowners in accordance with the terms of the landowner agreement, and allowed to revert to prior uses. The land retained as permanent right-of-way would generally be allowed to revert to its former use, except that certain activities such as the construction of permanent structures, including houses, house additions, trailers, tool sheds, garages, poles, patios, pools, septic tanks, or other objects not easily removable, or the planting of trees, would be prohibited within the 50 foot-wide permanent easement.

A summary of the existing land use categories affected by construction and operation of the Project is provided in table 4.10-1.

TABLE 4.10-1

Land Use Types Affected by Construction and Operation of the Project

Workspace Type	Rangeland (acres)		Industrial Land/Commercial (acres)		Open Land (acres)		Wetlands (acres)		Open Water (acres)		Total (acres)	
	Cons	Op	Cons	Op	Cons	Op	Cons	Op b/	Cons	Op	Cons	Op
Pipeline Lateral												
Pipeline Right-of-Way	426.1	214.2	1.8	0.9	0.4	0.2	1.7	0.25	2.0	1.1	431.9	216.65
ATWS	23.3	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	23.6	0.0
Access Road	56.9	2.4	4.8	<0.1	0.4	0.0	0.0	0.0	0.0	0.0	62.1	2.4
Contractor Yards and Pipe Yards	9.8	0.00	13.1	0.0	0.00	0.0	0.0	0.0	0.0	0.0	22.9	0.0
Pipeline Lateral Total c/	**516.1**	**216.6**	**19.8**	**1.0**	**1.0**	**0.2**	**1.7**	**0.25**	**2.0**	**1.1**	**540.5 c/**	**219.05**
Aboveground Facilities												
Mainline taps with automated lateral inlet valve and In-line Inspection Device Launcher d/	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
Lateral Automated Block Valve Assembly	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Delivery Meter Station and In-line Inspection Device Receiver e/	0.1	<0.1	1.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
Aboveground Facilities Total	**1.5**	**1.5**	**1.5**	**1.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**3.0**	**2.6**
Project Total	**514.6**	**218.0**	**21.3**	**2.0**	**1.0**	**0.2**	**1.7**	**0.25 c/**	**2.0**	**1.1**	**543.5**	**221.6**

a Land required for the installation of cathodic protection is included in the pipeline right-of-way workspaces.

b Wetland operations impacts are based on a 10-foot-wide corridor centered on the pipeline that would be cleared at a frequency necessary to maintain the right-of-way in an herbaceous state.

c Minor impacts associated with hand clearing between the HDD and conventional bore entry and exit pits are not included.

d The in-line inspection device launcher would be within the mainline tap footprint.

e The in-line inspection device receiver would be within the delivery meter station footprint.

Key: - Cons = construction

-Op = operation

Rangeland. Rangeland is defined as large areas of non-forested lands in which the native vegetation is predominantly grasses, shrub-steppe, and desert shrub vegetation communities suitable for grazing or browsing use. The Project crosses 35.2 miles of rangeland. About 517.6 acres of rangeland would be affected by construction, and about 216.0 acres of which would be affected by operations (see table 4.10-1).

Land along the pipeline route would be reclaimed following construction, and previous use for livestock grazing would be allowed to continue except that certain structures would be prohibited within the 50 foot-wide permanent easement. Kern River would coordinate with landowners concerning use of temporary safety fencing, damage to range improvements, or maintenance of livestock watering facilities.

Kern River proposes to promptly revegetate rangeland with adapted native species in accordance with the Project-specific Reclamation Plan and any specific requirements identified by the BLM. SITLA reviewed Kern River's Reclamation Plan and had no additional comments or requirements. The Reclamation Plan would guide restoration of native plant species. Kern River would also adhere to its Project-specific Noxious and Invasive Weeds Management Plan to prevent the spread of problem species during construction and after restoration of the rangeland areas.

As stated above, at the completion of construction all lands above the pipeline would be allowed to revert to prior use with the exception of the 0.2 acre Block Valve site at approximate milepost 18.1 that would be fenced and permanently converted to industrial use. Given the availability of similar vegetation in the immediate vicinity of the Project for use as rangeland, we have concluded that impacts on rangeland and grazing use would be short term and minor.

Industrial Land/Commercial Land. Industrial/commercial land is defined as land containing or associated with energy facilities, industrial plants, roads and railroads, mines or quarries, landfills, and certain other facilities. The Project crosses a total of 0.2 mile of industrial/ commercial land. About 21 acres of industrial/commercial land would be affected by construction of the Project, primarily in the vicinity of the IPP, at the Project's terminus at milepost 35.8. The IPP encompasses approximately 4,500 acres; about 2.0 acres of industrial/commercial land would be affected as a result of permanent operations.

Construction and operation of the Project would result in minor and temporary impacts to the IPP because the pipeline intersects a very small portion of the IPP, and operation of the pipeline is compatible with industrial land uses.

The Holden Town Landfill (Class IVb) is the only solid waste facility located within 0.25 mile of the Project area (UDEQ, 2020a). The landfill is adjacent to the Project right-of-way near milepost 0.5 on N1900 E Street, about 1 mile north of Holden, Utah. Kern River proposes to site a contractor yard (CYD-2) on the northwest corner of the Holden Town Landfill. No excavation would occur at CYD-2 because this workspace would only be used for equipment and pipe storage; the avoidance of excavation eliminates the potential to encounter hazardous waste.

Additionally, the Project would cross three railroads, nine gravel roads, and four paved roads. The Project is also adjacent to existing roads for approximately 17.8 miles. Construction of the Project may result in short-term effects on traffic in the Project area. Construction activities associated with road crossings, right-of-way access points, and additional traffic generated by commuting construction workers could affect local traffic flow and volume, though impacts are expected to be temporary and minor. Kern River would not permanently impact any public roads and would follow applicable state and local permitting requirements for all road crossings during construction. See section 4.11.2 for additional discussion related to transportation impacts.

In general, industrial and commercial land uses affected by construction and operation of the Project would return to preconstruction conditions and uses. Therefore, we have determined that the Project's impacts on commercial and industrial land would be temporary and negligible.

Open Land. Open land includes non-forested and undeveloped land not classified for another use, including land maintained as utility rights-of-way (e.g., existing overhead and underground electric transmission, natural gas transmission, and oil transmission facilities). The Project would impact about 1 acre of open land. Additionally, Kern River identified 14 utility crossings that are traversed by the proposed pipeline route. Kern River would coordinate utility crossings with the individual utility owners.

Areas disturbed during construction would be restored in accordance with FERC's Plan and would be maintained in an herbaceous state as open land per the definition above. Because these areas would be restored as near as practicable to preconstruction conditions, there would be no change in land use. Kern River would implement the BMPs provided in FERC's Plan during construction in open land. Based on these measures, we conclude that impacts on open land would be temporary and negligible.

Wetlands. About 1.7 acres of wetlands would be affected by construction of the Project. Following construction, about 1.2 acres of wetland would be included in the permanent right-of-way; however, no wetlands would be filled or permanently lost because of pipeline construction.

Kern River would restore wetlands as near as practicable to preconstruction conditions. Construction and restoration would be completed in accordance with FERC's Procedures. Section 4.5 provides additional discussions of wetlands, including descriptions, length of wetlands crossed, and acreages affected by construction and operation, as well as measures to avoid and reduce potential wetland impacts.

Open Water. Approximately 2 acres of open water would be crossed by the Project. Kern River would cross open water using HDD, and no open water areas would be permanently filled or rediverted as a result of the Project. Construction and restoration would be completed in accordance with FERC's Procedures. Section 4.4.2 provides additional discussion of waterbodies, including descriptions, distances traversed, and measures to avoid, reduce, or mitigate potential effects.

4.10.2 Planned Developments

The Project is located in areas zoned for agricultural, agricultural-industrial, highway commercial, residential, and heavy industrial use (Millard County, 2019). Kern River learned, based on conversations with the landowner at approximately milepost 25, a water line may be installed in the future that could overlap Project workspaces. Kern River is coordinating with the landowner to avoid potential impacts. No other planned residential or commercial developments were identified in the vicinity of the Project; therefore, we conclude that construction and operation of the Project would not impact any planned developments.

4.10.3 Recreation and Special Interest Areas

Federal Lands. Table 4.10-2 summarizes the federal lands within 0.25 mile of the Project. The Project crosses about 7.4 miles of BLM-administered land in the House Range and Warm Springs Resource Management Areas. Management decisions for these lands are guided by the House Range and Warm Springs Resource Management Plans (BLM, 1987). About 111 acres (21 percent) of the Project area are located within BLM-administered lands.

TABLE 4.10-2

Federal and State Lands Crossed by the Project

Landownership/ Facility	Begin Milepost	End Milepost	Distance Crossed (miles)	Land Affected During Construction (acres)	Land Affected During Operation (acres)	Description
Federal – BLM						
Pipeline Lateral	0.5	0.8	0.3	112.0	44.8	Warm Springs and House Range RMAs, active grazing permits, Sheeprock-Tintic ORV area **a/**
	19.7	20.2	0.5			
	20.4	21.5	1.1			
	23.5	24.0	0.5			
	27.3	31.8	4.4			
	35.3	35.3	<0.1			
	35.3	35.8	0.5			
Aboveground Facilities/Delivery Meter Station	35.8	35.8	-	<0.1	0.0	House Range RMA
Total BLM Land			**7.4**	**112.0**	**44.8**	
State – SITLA						
Pipeline Lateral	5.3	5.5	0.2	150.8	62.4	Active grazing permits, Sheeprock-Tintic ORV area **a/**
	6.4	6.7	0.3			
	7.9	8.8	0.9			
	9.4	10.4	1.0			
	14.4	14.4	<0.1			
	14.6	18.3	3.7			
	23.1	23.1	<0.1			
	23.2	23.5	0.3			
	31.8	35.3	3.5			
Aboveground Facilities/ Lateral Automated Block Valve Assembly	18.2	18.2	N/A	0.2	0.2	Active grazing permit
Total SITLA Land			**9.9**	**151.0**	**62.6**	

Sources: BLM, 2020a, 2020b; SITLA, 2020b

a Sheeprock-Tintic ORV area extends on BLM and SITLA land.

Key:

RMA = resource management area

Of the 7.4 miles of BLM-administered land crossed, 7.3 miles include the Sheeprock-Tintic ORV area, which is a designated Recreation Management Area encompassing approximately 390,000 acres located primarily within Juab County, with a small portion extending into Millard County. The ORV area is designated as "Limited" in the House Range Resource Management Plan, which restricts ORV use to existing and/or designated roads, trails, and washes (BLM, 1986a).

The Project crosses the Sheeprock-Tintic ORV area from milepost 27.5 to milepost 31.8 and milepost 32.8 to milepost 35.8 on both BLM- and SITLA-managed lands. The Project would affect 121.4 acres of the Sheeprock-Tintic ORV area during construction and 46.2 acres of the Sheeprock-Tintic ORV

area during operations. Kern River would coordinate with the BLM to support ORV rider safety in this area to minimize impacts. Safety protocols for ORV rider safety would be addressed in the BLM's right-of-way grant stipulations.

Kern River would implement the BMPs provided in FERC's Plan and Procedures. Construction workspaces would be restored to preconstruction conditions as practicable and in compliance with BLM right-of-way grant permit requirements. Because of Kern River's commitment to adhere to safety protocols in its BLM right-of-way grant to minimize impacts on the Sheeprock-Tintic ORV area, we conclude impacts would be temporary and negligible.

The Project would not cross National Park Service Wilderness Areas, National Forests, or USFWS conservation easements. None of the Project's facilities would be within 0.25 mile of any other federally administered recreational or natural areas, including national trails (National Park Service, 2020); registered natural landmarks; areas in or designated for study in the National Wild and Scenic Rivers System (National Wild and Scenic Rivers System, 2020); areas of critical environmental concern; or wilderness areas designated under the Wilderness Act or Omnibus Public Land Management Act of 2009.

State Lands. SITLA was created to manage 12 real estate trusts granted to Utah by the federal government at statehood. Since then, about half of the trust lands have been sold to private owners. Rural areas typically have a higher concentration of SITLA-administered land, and Millard County contains about 373,944 acres of SITLA surface and mineral lands (SITLA, 2020b). The SITLA Surface Management Group makes surface lands available for many uses, including easements for pipelines.

Table 4.10-2 summarizes the state lands within 0.25 mile of the Project. The Project crosses 9.9 miles of SITLA-administered land. Approximately 151 acres (28 percent) of the Project area are located within SITLA-administered land and would be temporarily affected, with about 62 acres being affected during operation. The Project right-of-way crosses land administered under SITLA Active Special Use Lease Agreements, which are leases for agricultural, commercial, governmental, industrial, renewable energy facility, residential, and telecommunication purposes (SITLA, 2020b). The majority of SITLA land crossed by the Project is currently permitted for grazing.

Construction workspaces would be restored in accordance with FERC's Plan and Procedures and the Reclamation Plan. Construction workspaces would be restored as near as practicable to preconstruction conditions and in compliance with SITLA easement requirements. SITLA reviewed Kern River's Reclamation Plan and had no additional comments or requirements. Because of Kern River's implementation of BMPs, we conclude impacts on state lands would be negligible, temporary, and limited to the pipeline right-of-way.

4.10.4 Visual Resources

The Project crosses privately and publicly managed lands. Private lands crossed by the Project are not subject to federal visual management standards. The Project crosses land managed by SITLA, the BLM Warm Springs Resource Area Resource Management Plan, and the House Range Resource Management Plan (BLM, 1986a, 1986b).

The BLM's visual resource inventory process, as outlined in the BLM's Handbook H8410, Visual Resource Inventory (BLM, 1986b), determines visual values and classifies public land (e.g., BLM and SITLA) according to predetermined visual resource values. Visual resource inventory classes are used in the BLM planning process as the basis for establishing management goals and are intended for informational purposes to describe the existing visual character of the landscape (BLM, 1986c). Classes I, II, III, or IV are assigned to public lands based on a combination of these factors. The pipeline lateral would traverse Class III (3.4 miles) and Class IV (6.3 miles) areas on SITLA and BLM land, which are of "moderate" and "least" scenic value, respectively. Aboveground facilities associated with the Project would have a limited footprint in previously established industrial/commercial areas, thus the visual impacts

would be minimal. The lateral automated block valve assembly at milepost 18.16 is on SITLA land; SITLA has not identified any concerns related to visual resources at this location.

The management objectives for Class III visual resource areas are to "partially retain existing character of the landscape. The level of change to the 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." (BLM, 1986b).

Management objectives for Class IV visual resource are to "provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements." (BLM, 1986b).

The most notable impacts on visual resources would be temporary, short-term changes from exposed soils created during construction. Exposed soils may contrast with the surrounding colors and textures found adjacent to construction sites. Additional visual impacts associated with the Project include the removal of existing vegetation and the exposure of bare soils within construction workspaces, as well as grading, trenching, and equipment storage. Kern River proposes to use a nominal 100-foot-wide construction right-of-way in upland areas. Construction in flat, open terrain would temporarily disrupt and dominate the foreground and middle ground views with the introduction of equipment, materials, trenches, and soil piles.

Through the implementation of Kern River's Reclamation Plan, the disturbed contours would be restored following construction to closely match the preconstruction landscape, which would be the primary means of mitigating visual impact. Construction and operation of the pipeline would cause mostly minor and temporary visual impacts, although a right-of-way "scar" could persist for some time. To minimize impacts on visual resources, Kern River sited the pipeline lateral, where feasible, adjacent to existing roadways. Kern River also aligned the pipeline to avoid aesthetic features to the greatest extent possible. These mitigation measures comply with the management objectives for Class III and Class IV visual resource areas. As such, we conclude that impacts to visual resources would not be significant.

4.11 ENVIRONMENTAL JUSTICE

The EPA recommends that (1) the EIS consider and disclose impacts on communities with environmental justice concerns in light of past, present, and reasonably foreseeable planned actions; (2) the Commission engage communities with potential environmental justice concerns where regional impacts on various resources areas, such as climate change and air quality, may occur; (3) the Commission develop a comprehensive outreach strategy to engage minority and low-income populations in proximity of the proposed Project and foster meaningful participation and coordination with these populations, applicable stakeholders, and external organizations and entities. The EPA also suggests that the EIS describe any outreach activities conducted to involve all communities that could be affected by the proposed Project, along with discussion of any environmental justice concerns by communities.

As stated, the EPA recommends that the EIS include impacts on environmental justice communities from the Project. The EPA's environmental justice policies are directed, in part, by the recent Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, and Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, as amended, which require federal agencies to consider if impacts on human health or the environment would be disproportionately high and adverse for environmental justice communities in the surrounding community resulting from the programs, policies, or activities of federal agencies. The term "environmental justice community" could encompass (i) populations of color; (ii) communities of color; (iii) Native communities; and (iv) and low-income rural and urban communities who are exposed to a disproportionate burden of the negative human health and environmental impacts of pollution or other environmental hazards.[16]

In this EIS, a disproportionately high and adverse effect on an environmental justice community means the adverse effect is predominately borne by such population or is appreciably more severe or greater in magnitude on the minority or low-income population than the adverse effect suffered by the non-minority or non-low-income population. The EPA's Federal Interagency Working Group on Environmental Justice and NEPA Committee's publication, *Promising Practices for EJ Methodologies in NEPA Reviews* (EPA 2016), provide methodologies for conducting environmental justice analyses. Issues considered in the evaluation of environmental justice include human health or environmental hazards; the natural physical environment; and associated social, economic, and cultural factors.

According to the CEQ's environmental justice guidance under NEPA (CEQ, 1997) and *Promising Practices for EJ Methodologies in NEPA Reviews*, minorities are those groups that include American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. Following the recommendations set forth in *Promising Practices for EJ Methodologies in NEPA Reviews,* minority populations are defined in this EIS where either: (a) the minority population of the affected area exceeds 50 percent; or (b) the aggregate minority population of the affected area is meaningfully greater (10 percent greater) than the aggregate minority population percentage in the general population or other appropriate unit of geographic analysis. The guidance also directs low-income populations to be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau. Low-income populations are identified as census block groups where the low-income populations are greater than or equal to that of the county. According to the current U.S. Census Bureau information, a low-income population exists within the Project area, as discussed further below.

[16] *Cf.* Exec. Order No. 14008, § 219, 86 FR 7619, at 7629 (2021); *see also* EPA, *EJ 2020 Glossary* (Aug. 2, 2019), https://www.epa.gov/environmentaljustice/ej-2020-glossary.

Table 4.11-7 below identifies the minority populations by race and ethnicity and low-income populations of Utah, the county affected by the Project (Millard County), and census block groups[17] crossed by the pipeline and intersected by a 1-mile radius around the delivery meter station. As stated above, we used the EPA's *Promising Practices for EJ Methodologies in NEPA Reviews* to determine methodologies for conducting environmental justice analyses. To ensure we are using the most recent available data, we also go directly to the source data: the U.S. Census American Community Survey File# B17017 and File# B03002 as the source for race, ethnicity, and poverty data at the census block group level.

The environmental justice analysis used census block groups crossed by the pipeline and intersected by a 1-mile radius around the delivery meter station to identify affected minority and low-income populations. Because the proposed Project consists of a pipeline lateral and new aboveground delivery meter station, the primary impacts on the environmental justice community would be construction-period dust, noise, and visual impacts, as well as long-term noise and air quality effects from the meter station operation. These effects would be experienced by residents living close to the proposed facilities, generally within the identified 0.25 mile, with the effects diminishing with further distances from the proposed facilities. However, for the purposes of analyzing impacts of the aboveground facility on environmental justice communities, this EIS considers a 1-mile area as the appropriate unit of geographic analysis. We believe the 1-mile radius is sufficiently broad considering the likely concentration of construction emissions, noise, and traffic impacts proximal to the aboveground facilities and consistent with our regulations.[18] We have included an additional discussion related to construction and operation of the Project with regard to environmental justice communities within 1-mile of Project facilities, as discussed below.

As presented in table 4.11-7, one census block group in Millard County (Census Tract 9741, Block Group 3), which is crossed by the proposed pipeline lateral, has a low-income population greater than the county (U.S. Census, 2019). The pipeline lateral crosses about 1,000 feet of this block group at the point where the pipeline crosses the Sevier River, Canal A, and the Union Pacific Railroad tracks. The land crossed in this area consists of privately-owned and BLM-managed property. The closest residence within the census block is approximately 2.6 miles southwest of the pipeline, which would be constructed using an HDD. No other census block groups crossed by remainder of the pipeline lateral or within 1 mile of the delivery meter station were identified as having minority or low-income populations; therefore, these census block groups (Census Tract 9741, Block Group 1 and Census Tract 9743, Block Group 1) are not discussed further in regards to environmental justice impacts. The delivery meter station would be within the existing IPP facility, which is approximately 5 miles north of the low-income community (Census Tract 9741, Block Group 3).

[17] Census block groups are statistical divisions of census tracts that generally contain between 600 and 3,000 people (U.S. Census Bureau, 2021).
[18] 18 CFR § 380.12 Environmental reports for Natural Gas Act applications.

Table 4.11-7
Minority Populations by Race[a] and Ethnicity and Low-Income Populations in the Project Area

	RACE AND ETHNICITY COLUMNS										LOW-INCOME COLUMN
State/County/ Tract/Block Group	White (Not Hispanic) (%)	Black or African American (%)	Asian (%)	American Indian and Alaskan Native (%)	Native Hawaiian and Other Pacific Islander (%)	Some other race (%)	Two or more races (%)	Hispanic or Latino (%)	Total Minority (%)[a]		Total Persons Below Poverty Level (%)
Utah	78.3	1.1	2.3	0.9	0.9	0.2	2.3	14.0	21.7		9.7
Millard County[b]	83.0	0.2	1.2	1.1	0.1	0.1	1.4	12.9	17.0		11.6
Census Tract 9741, Block Group 1	90.1	0.0	0.0	0.6	0.4	1.3	3.4	4.2	9.9		6.4
Census Tract 9741, Block Group 3	79.0	1.1	0.0	0.0	0.0	0.0	2.1	17.8	21.0		**13.8**
Census Tract 9743, Block Group 1	96.7	0.0	1.0	0.0	0.0	0.0	0.4	0.7	3.3		4.2

Source: American Community Survey, 2015-2019, File # B01017 and File # B03002.
[a] "Minority" refers to people who reported their ethnicity and race as something other than non-Hispanic White.
[b] All Project facilities are located within Millard County.
Low-income or minority populations exceeding the established thresholds are indicated in red, bold, type and blue shading.
Due to rounding differences in the dataset, the totals may not reflect the sum of the addends.

Following completion of the Project, the pipeline lateral would be maintained and operated by existing Kern River staff, and no new permanent workers would be hired post-construction. Potential impacts on area residents could occur during construction and may include traffic delays during the construction period, changes in the existing viewsheds during construction of the Project, air emissions, and noise. The Project consists of a new pipeline lateral in an area that is distanced from nearby residences, commercial areas, schools, and churches. Kern River estimates that the construction work force would vary, with up to 275 construction workers being present at peak times for the pipeline lateral. Kern River anticipates that approximately 50 percent of the construction workers would be local hires. Therefore, we conclude that impacts on socioeconomics resources within the environmental justice communities (e.g., population, housing demand, or the provision of community services such as police, fire, or schools) would be minor and temporary, as there would be a negligible change from current conditions. Environmental justice concerns are similarly not present for other resource areas such as geology, wetlands, wildlife impacts, etc., due to the minimal overall impact the Project would have on these resources and the absence of any suggested connection between such resources and environmental justice communities.

With respect to visual impacts on environmental justice populations, as described in section 4.10.4 of this EIS, the land along the right-of-way is primarily undeveloped rangeland. Construction of the pipeline lateral would have temporary visual impacts resulting from the presence of construction equipment and related activity. Kern River proposes to use a nominal 100-foot-wide construction right-of-way in upland areas. Visual impacts associated with the Project would result from the removal of existing vegetation and the soil stockpiles within construction workspaces, the presence of the drill rig, trailers, and other equipment necessary for the HDD, as well as grading, trenching, side booms and other equipment use and storage on either side of the HDD workspaces. However, these construction activities would occur more than 2.6-miles from the nearest occupied portion of the environmental justice community, and due to

the distance, the views of the equipment, materials, trenches, and soil piles are likely to be minor elements of the distant landscape.

The introduction of equipment, materials, trenches, and soil piles in flat, open terrain would temporarily disrupt middle to far field views, however, due to the temporary nature of the work and distance from any receptors, their impact on the visual environment would not be significant. Therefore, we conclude the project would not result in significant visual impacts on the environmental justice community crossed by the pipeline lateral.

Construction air emissions from the Project, when considered with background concentrations, would be below the National Ambient Air Quality Standards (NAAQS), which are designated to protect public health. Construction emissions would occur over the duration of construction activity and would be emitted at different times along the proposed pipeline lateral. Construction emissions in the form of particulate matter (e.g., dust) would occur, and construction emissions from equipment exhaust would result in short-term, localized impacts in the immediate vicinity of construction work areas. To mitigate exhaust and dust emissions during construction, vehicles and equipment would use gasoline or diesel fuel compliant with current federal regulations and would be operated with required emission control devices. Kern River would also implement a fugitive dust control plan during construction. This plan, discussed further in section 4.13.1.6, includes mitigation measures, such as reducing vehicle and equipment speed in construction work areas and on access roads to account for adverse weather conditions (e.g., high wind velocities, dry soil conditions, etc.). With the mitigation measures proposed by Kern River, air quality impacts from construction activities would be temporary and would not have significant adverse air quality impacts on local residents and the surrounding communities, including the environmental justice community.

Regarding noise during construction, the pipeline lateral would cross the low-income community near the northeastern portion of the census block group and would use the horizontal directional drill (HDD) method from milepost 27.0 to milepost 27.5 (approximately 2,923 feet) to prevent surface level impacts to both a railroad tracks, the Sevier River and Canal A. The HDD crossing would produce noise from the HDD equipment, which may be operated on a 24-hour per day basis. As noted above, the closest residence within the low-income community crossed by the pipeline segment is approximately 2.6 miles southwest from the HDD crossing. The HDD crossing would take approximately eight weeks to complete. The HDD method considerably reduces impacts on sensitive resources by avoiding surface work and installing the pipeline at a substantial depth beneath the resources. The HDD construction technique is explained in more detail in Section 2.3.2 above. Because no NSAs are within 2.6 miles of the entry or exit locations for the HDD, we conclude that construction of the pipeline lateral would not result in significant noise impacts on local residents and the surrounding communities, including the environmental justice community.

The EPA commented that the Commission should engage communities with potential environmental justice concerns where regional impacts to various resources areas, such as air quality and climate change, may occur. Air quality, climate change, and community engagement regarding environmental justice communities are addressed below.

The EPA has promulgated NAAQS to protect human health and welfare. The NAAQS include primary standards, which are designed to protect human health, including the health of sensitive subpopulations, such as children and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, vegetation, animal species, and other concerns not related to human health. Attainment areas are those meeting the NAAQS, and non-attainment areas are those not meeting the NAAQS. Areas that have insufficient data to make a determination of attainment or non-attainment are unclassified or are not designated but are treated as being attainment areas for permitting purposes. The attainment designation of an area is determined on

a pollutant-by-pollutant basis and for each established primary standard. The pipeline lateral would be in Millard County, Utah, which is classified as in attainment or unclassifiable with all NAAQS.

Although no exceedances of NAAQS are anticipated to occur, and the NAAQS are designated to protect sensitive populations, we acknowledge that NAAQS attainment alone may not assure there is no localized harm to such populations due to project emissions of volatile organic compounds (VOC), hazardous air pollutants (HAP), as well as issues such as the presence of non-Project related pollution sources, local health risk factors, disease prevalence, and access (or lack thereof) to adequate care. Although alternative methods for determining air quality health impacts on environmental justice communities may exist, the EPA has not indicated any thresholds at which air quality impacts of criteria pollutants on environmental justice communities would be excessive. Overall, the construction and operational emissions from the Project are very minor and they would not have significant adverse air quality impacts on the low-income populations in the Project area. Air quality impacts are discussed in more detail below within section 4.13.1 of this EIS.

The EPA states that climate change may have impacts on broader, regional scale than the direct impacts of the proposed Project for environmental justice communities. Section 4.13.2 of this EIS addresses impacts associated with climate change. The construction and operation of the Project would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources and would contribute incrementally to future climate change impacts. However, it should be noted that the purpose of the Project is to supply the IPP with a source of natural gas to allow it to convert from coal-fired to natural gas-fired generation, resulting in decreased emissions of GHGs compared to the no-action scenario. While the climate change impacts described below, taken individually, may be manageable for certain communities, the impacts of compound extreme events (such as simultaneous heat and drought, or flooding associated with high precipitation on top of saturated soils) can be greater than the sum of its parts for nearby environmental justice communities. However, as indicated in section 4.13.2, Commission staff are unable to determine the significance that the Project would make on climate change. Should the Commission or other federal agency, such as the EPA or CEQ establish a threshold for determining whether a project's impact on climate change will be significant, that threshold would be considered in the Commission staff's environmental analysis.

The EPA recommends we evaluate the cumulative impacts of the proposed Project on environmental justice communities. Specifically, the EPA suggests that the EIS should consider whether communities may be experiencing existing pollution burdens and level of social or health burdens and how the proposed Project may potentially result in a disproportionate impact in that context. Section 4.1 of this EIS describes environmental trends and reasonably foreseeable planned activities in the Project area. The Project area is primarily open rangeland, with grazing and irrigated farming being the primary land uses. The Project terminus is dominated by the IPP generating facility and associated aboveground switching and transmission facilities. Additional energy facilities have been proposed to be constructed adjacent to the IPP site, including the Magnum Gas Storage Project and the Advanced Clean Energy Project. No construction start date has been made publicly available for either of these projects. Impacts from the construction and operation of these energy facilities in the Project area could affect vegetation and wildlife, stress local services such as schools, hospitals, and public safety, and could impact the visual landscape of the region. Development of related facilities, such as gas pipelines, electric transmission lines, and access roads could also contribute to the removal of vegetation and wildlife habitat and possibly impact water resources during construction. The energy facilities may also displace grazing allotments, resulting in a reduction of livestock production. Although other planned activities may influence the environmental conditions present at the time of Project construction (e.g., the environmental baseline) by impacting environmental resources that would also be affected by the proposed Project (e.g., air quality, noise, visual resources, land use), we conclude the potential for cumulative impacts to result would not be significant, and in some cases would be minor or negligible.

The EPA states that the EIS should include a description of a comprehensive outreach strategy developed by FERC to inform minority and low-income populations. Specifically, the EPA recommends engagement of minority and low-income populations in proximity of the proposed project and fostering meaningful participation and coordination with minority and low-income populations, applicable stakeholders and external organizations and entities. The EPA also suggests more broadly that FERC employ a comprehensive communication strategy in various forms of media, such as community's preferred radio stations, local television channels, library, food establishments as well as school and religious institutions, to inform the communities with environmental justice concerns.

FERC's communication and involvement with the surrounding communities have occurred throughout the environmental review process and started when Commission granted Kern River's request to use FERC's pre-filing process in Docket No. PF20-4-000 on July 1, 2020. The pre-filing process is designed to encourage early involvement by citizens, governmental entities, non-governmental organizations, and other interested parties in the development of proposed natural gas transmission projects, prior to the filing of a formal application. During the pre-filing process, FERC worked with Kern River and interested stakeholders, including federal and state agencies, to identify and resolve Project-related issues. FERC participated in regular conference calls with Kern River to discuss relevant Project issues, and we encouraged Kern River to communicate frequently with the public and resource agencies throughout the pre-filing process. Prior to and during the pre-filing and formal filing process, Kern River contacted federal, state, and local governmental agencies to inform them about the Project and discuss Project-specific issues and contacted affected landowners to inform them about the Project and to obtain permission to perform environmental surveys.

On January 4, 2021, FERC issued in Docket No. PF20-4-000, a *Notice of Scoping Period Requesting Comments on Environmental Issues for the Planned Delta Lateral Project* (NOS) which opened a 30-day formal scoping period that expired on February 3, 2021. The NOS was mailed to parties on our environmental mailing list, which included federal and state resource agencies; elected officials; environmental groups and non-governmental organizations; Native Americans tribes; potentially affected landowners; local libraries and newspapers; and other stakeholders who had indicated an interest in the Project. FERC's communication and involvement with the surrounding communities continued when Kern River filed its formal FERC application for the Project on April 23, 2021 in Docket No. CP21-197-000. On May 5, 2021, FERC issued a Notice of Application which was published in the *Federal Register* on May 11, 2021 (86 FR 25848). On August 26, 2021, FERC issued in Docket No. CP21-179-000 the *Notice of Intent to prepare an Environmental Impact Statement for the Proposed Delta Lateral Project, Request for Comments on Environmental Issues, and a Schedule for Environmental Review* (NOI) which was published in the *Federal Register* on September 1, 2021 (86 FR 49017). The NOI was mailed to the same list as described above. Issuance of the NOI opened a 30-day formal comment period which expired on September 27, 2021.

As FERC's Office of Public Participation (OPP) is being created, there has been opportunity for the public to engage in its development and we have received many comments from individuals and organizations who have commented about FERC's need to improve its outreach to low income communities and communities of color impacted by gas infrastructure to date. As a result, OPP plans to (1) engage with the public through direct outreach and education to facilitate greater understanding of Commission processes and solicit broader participation in matters before the Commission; (2) act as a liaison to members of the public affected by and interested in Commission proceedings, by providing ongoing process information on individual proceedings and responding to requests for technical assistance; and (3) coordinate with Commission program offices to improve, or, as appropriate, make recommendations to improve existing Commission processes in a manner responsive to public input, with the goal of ensuring processes are inclusive, fair, and easy to navigate.

Regarding future engagement and involvement, the public can contact OPP now for assistance navigating Commission proceedings of all types. Examples include questions on when and how to intervene, comment, file motions, or seek rehearing. Ongoing and additional support for engagement and public involvement will be further determined and established by the OPP Director.

As described throughout this EIS, the proposed Project would not have a significant adverse impact on the environment or on individuals living in the vicinity of the Project facilities, including environmental justice communities. Based on our analysis, impacts on environmental justice communities would not be disproportionately high and adverse as impacts in the Project area would not be predominantly borne by environmental justice communities. Further, as previously described, impacts on environmental justice communities would be less than significant and mostly temporary.

4.12 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act, as amended, requires FERC to take into account the effect of its undertakings on properties listed, or eligible for listing, on the NRHP and to afford the ACHP an opportunity to comment. Kern River, as a nonfederal party, is assisting FERC in meeting our obligations under section 106 and the implementing regulations at 36 CFR 800.

The area of potential effect (APE) for cultural resources comprises two distinct types of potential impacts: direct, and indirect or viewshed. Following guidance from the Utah State Historic Preservation Office (SHPO), the direct APE is considered the zone of ground disturbance that would be impacted during construction of the Project.

The viewshed, or indirect APE, consists of areas adjacent to the Project that may incur visual impacts. The indirect APE for the Project has two components: the first is related to the subterranean installation of the pipeline and the second involves any aboveground infrastructure required for the Project. However, since removal of vegetation or the installation of aboveground infrastructure (i.e., the delivery meter station) can cause effects, the assessment considered all standing structures, historic districts, and rural landscapes located within or adjacent to the direct APE. Assessment of the indirect APE consisted of visual evaluation of resources adjacent to the direct APE and within the line-of-sight of the Project area.

4.12.1 Cultural Resources Surveys

Kern River completed cultural resource inventories for the Project in June and October 2020 and provided the *Class III Cultural Resource Inventory for the Delta Lateral Project, Millard County, Utah* and *Addendum Report: Class III Cultural Resource Inventory for the Delta Lateral Project, Millard County, Utah* to the FERC, BLM, SITLA, UDOT, and Utah SHPO. The surveys included both archaeological and architectural resources and covered a total of 1,897 acres. A generally 300-foot-wide corridor was surveyed for the pipeline lateral, as well as ATWS, aboveground facilities, pipe yards, contractor yards, and access roads (using a 100-foot-wide corridor).

During the June 2020 inventory, six previously recorded sites were revisited, three new segments of previously recorded linear sites (railroad segments and canals) were recorded, and four new sites were recorded (see table 4.12-1). In addition, 14 isolated finds were recorded. The isolated finds were recommended not eligible for the NRHP; therefore, Kern River recommended that no actions for avoidance were warranted.

During the October 2020 cultural resource inventory, two previously recorded sites were revisited (also recorded during the June 2020 survey), and two new sites were recorded. No historic structures were present within the APE during either inventory.

Kern River also completed a survey of the southern 2 miles of TAR-15, a reroute, and an additional access road (totaling 154 acres) in July 2021. The resulting second addendum report was provided to FERC, BLM, SITLA, and the SHPO. One previously recorded linear site (an abandoned railroad segment) was recorded and recommended as non-contributing to NRHP eligibility.

TABLE 4.12-1

Cultural Resources in the Area of Project Effect

Site No.	Site Type	Eligibility Recommendations	Mitigation Recommendations	SHPO Comments (date)
42MD272	Prehistoric Lithic Scatter	Not eligible	None	Concur, not eligible (12/22/20)
42MD821	Prehistoric Lithic Scatter	Officially eligible	Restrict traffic to access road (TAR-10)	Concur, restrict traffic to access road (12/22/20)
42MD822	Prehistoric Lithic Scatter	Officially eligible	Restrict traffic to access road (TAR-10)	Concur, restrict traffic to access road (12/22/20)
42MD823	Historic Dump	Not eligible	None	Concur, not eligible (12/22/20)
42MD865	Prehistoric Open Camp	Officially eligible	Avoid	Avoid (12/22/20)
42MD1009	Abandoned Union Pacific Railroad	Non-contributing	None	Concur, non-contributing (12/22/20; 2/17/21; 9/24/21)
42MD1430	Central Utah Canal	Officially eligible	Restrict traffic to access road (TAR-4); use of conventional auger bore under resource for pipeline crossing **a/**	Concur, restrict traffic to access road; auger bore (12/22/20; 2/17/21)
42MD1498/ 1678	Historic 'A' Canal	Officially eligible	Restrict traffic to access road (TAR-14); use of horizontal directional drilling under resource for pipeline crossing **a/**	Restrict traffic to access road; horizontal directional drilling (12/22/20)
42MD1581	Union Pacific Railroad	Officially eligible	Restrict traffic to access road (TAR-10); use of horizontal directional drilling under resource for pipeline crossing **a/**	Restrict traffic to access road; horizontal directional drilling (12/22/20)
42MD4097	Historic Corral	Not eligible	None	Concur, not eligible (12/22/20)
42MD4098	Abandoned State Route 26	Not eligible	None	Concur, not eligible (12/22/20)
42MD4099	Historic Dump	Not eligible	None	Concur, not eligible (12/22/20)
42MD4100	Historic Foundation	Not eligible	None	Concur, not eligible (12/22/20)
42MD4137	Historic Artifact Scatter	Not eligible	None	Concur, not eligible (2/17/21)
42MD4138	Abandoned State Route 100	Not eligible	None	Concur, not eligible (2/17/21)

a These resources would be crossed twice: once by a proposed access route and again by the proposed pipeline lateral.

Kern River submitted its Class III Cultural Resource Inventory report to the BLM, SITLA, and UDOT on August 24, 2020. Comments were received from SITLA on September 2, 2020, and from the BLM on October 16, 2020. The UDOT did not respond or provide any comments. Kern River addressed the comments received from the BLM and SITLA and provided a final Class III Cultural Resources Inventory report to the BLM and SITLA. SITLA concurred with the eligibility and effects recommendations for those sites on SITLA lands. The BLM provided the report to SHPO for review in December 2020. The SHPO provided its concurrence on eligibility and that the Project would have no adverse effect on December 22, 2020. We concur also.

Upon completion of the October 2020 inventory, Kern River provided an Addendum Class III Cultural Resources Inventory report to the BLM and SITLA on November 20, 2020. Comments were received from SITLA and from the BLM on December 14, 2020. Kern River addressed the comments received from the BLM and SITLA and provided a final Addendum Class III Cultural Resources Inventory report to the BLM and SITLA. SITLA concurred with the eligibility and effects recommendation for the one site on SITLA lands. The BLM provided the Addendum report to the SHPO in February 2021. On February 17, 2021, the SHPO provided its concurrence on eligibility and that the Project would have no adverse effect. We concur also. Kern River commits to following all mitigation measures included in table 4.12-1. Kern River's EI would ensure measures are followed. Kern River coordinated with the BLM and the Utah SHPO to confirm that the specific mitigation measures proposed in table 4.12-1 are acceptable; the BLM and the SHPO confirmed this via email on March 4, 2021. We agree with the BLM and SHPO.

As noted above, Kern River provided a second addendum report for the southern 2 miles of TAR-15, a reroute, and an additional access road. The BLM and SITLA had no comments on the report. On September 24, 2021, the SHPO provided its concurrence on eligibility and that the Project would have no adverse effect. We concur also. Cultural resources surveys are complete for the Project and the SHPO and FERC concur that no historic properties would be adversely affected. Therefore, compliance with section 106 of the NHPA is complete.

4.12.2 Unanticipated Discovery Plan

Kern River provided a plan to address the unanticipated discovery of cultural resources and human remains encountered during Project activities. This plan provides direction to Kern River personnel and its contractors as to the proper procedure to follow in the event that unanticipated discovery of historic properties or human remains is made during construction. The plan also describes the process of halting construction activities in the vicinity of the discovery and notifying the FERC, BLM, SITLA, and interested parties, including federally recognized Native American tribes who requested notification. Kern River submitted the plan for review and comment to the FERC, BLM, and SHPO. On January 12, 2021, the SHPO found the plan to be acceptable. We also find the plan acceptable.

4.12.3 Native American Consultation

In July 2020, Kern River sent initial coordination letters to 16 individual contacts with the 9 Native American tribes listed below, seeking input on culturally important associations with landscapes in the area of the Project. Follow-up phone calls were made in February 2021. This correspondence included the following Native American tribes:

- Confederated Tribes of the Goshute;
- Hopi Tribe;
- Kaibab Band of the Paiute Indians;
- Kanosh Band of the Paiute Indians;
- Navajo Nation;
- Paiute Indian Tribe of Utah;
- Skull Valley Band of Goshute;
- Ute Indian Tribe; and
- Pueblo of Jemez.

Responses were received from the Navajo Nation, Hopi Tribe, Kaibab Band of Paiute Indians, and the Paiute Indian Tribe of Utah. The Navajo Nation determined that no Navajo traditional cultural properties are within the Project area and that Kern River may proceed without further consultation for this Project. The Hopi Tribe requested continued consultation throughout the Project and a copy of the Cultural Resource Survey Report and the "Draft EA" for review and comment. Kern River submitted the results of the cultural resource investigations completed to date to the Hopi Tribe via email on February 22, 2021, and via mail on March 22, 2021. The draft EIS is available on FERC's website. On March 30, 2021, the Hopi Tribe acknowledged the Project area has been surveyed and eligible sites would be avoided. The Kaibab Band of Paiute Indians did not have any comments regarding the Project. The Paiute Indian Tribe of Utah also did not have any comments regarding the Project but requested to be contacted if a cultural resources site is found during construction. No further comments have been received.

We sent our Notice of Scoping and follow-up letters to these same nine tribes. The BLM also initiated its own consultation with these tribes. No comments from the tribes have been received in response to our Notice of Scoping or letters.

4.13 AIR QUALITY AND NOISE

4.13.1 Air Quality

The Project would result in temporary impacts on local air quality through short-term construction activities; however, the Project would not result in significant, permanent impacts on local or regional air quality. Construction and operation air emissions and mitigation measures are discussed in section 4.13.1.6.

4.13.1.1 Existing Air Quality

Ambient air quality is protected by federal and state regulations. Under the CAA and its amendments, the EPA has established National Ambient Air Quality standards[19] (NAAQS) for carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone, particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2). These standards incorporate short-term (1-hour, 3-hour, 8-hour, and 24-hour) and long-term (3-month and annual) concentration levels to address acute and chronic exposures to the pollutants. The NAAQS primary standards are designed to protect human health and the health of sensitive subpopulations such as children and those with chronic respiratory problems. The NAAQS secondary standards are designed to protect public welfare concerns such as economic interests, visibility, vegetation, animal species, and other concerns not related to human health. The UDEQ has the authority to enforce these standards under the CAA for the Project.

Air quality in Millard County, Utah, is designated as in attainment/unclassifiable with the NAAQS for all criteria pollutants. The Project is not within 25 miles of any area that is designated as a Class I area. Class I areas are areas of special national value (e.g., national parks and wilderness areas) for which enhanced protection of air quality is required. The closest Class I area is the Capitol Reef National Park Area, approximately 100 miles to the southeast.

Greenhouse gases (GHG) occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHGs absorb infrared radiation in the atmosphere, and an increase in emissions of these gases has been determined by the EPA to endanger public health and welfare by contributing to global climate change. The most common GHGs emitted during fossil fuel combustion and natural gas transportation are carbon dioxide (CO_2), methane, and nitrous oxide. Emissions of GHGs are typically expressed in terms of CO_2e, where the potential of each gas to increase heating in the atmosphere is expressed as a multiple of the heating potential of CO_2 over a specific timeframe, also known as its global warming potential (GWP). We have selected the 100-year GWP over other published GWPs for other timeframes because these are the GWPs the EPA has established for reporting of GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements. The 100-year GWP of CO_2 is 1, methane is 25, and nitrous oxide is 298. During construction and operation of the Project, these GHGs would be emitted from fossil-fuel-powered engines used in construction and from fugitive methane from small vents and leaks from components at the delivery meter station.

4.13.1.2 Regulatory Requirements for Air Quality

4.13.1.3 Federal Requirements

The CAA of 1970, 42 USC Part 7401 et seq., amended in 1977 and 1990, is the basic federal statute governing air quality.

4.13.1.4 New Source Review

Proposed new or modified air pollutant emission sources must undergo a New Source Review (NSR) prior to construction or operation. Through the NSR permitting process, state and federal regulatory

[19] A full list of NAAQS is available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table.

agencies review and approve project emissions increases or changes, emissions controls, and various other details to ensure air quality does not deteriorate as a result of new or modified existing emission sources. The two basic groups of NSR are major source NSR and minor source NSR. Major source NSR has two components: PSD and Nonattainment New Source Review. PSD, Nonattainment New Source Review, and minor source NSR are applicable to projects depending on the size of the proposed project, the projected emissions, and if the project is proposed in an attainment area or nonattainment/maintenance area. PSD regulations define a major source as any source type belonging to a list of 28 specifically listed source categories that have a potential to emit 100 tons per year (tpy) or more of any regulated pollutant or 250 tpy for sources not among the listed source categories (such as natural gas compressor stations). These emission rate levels are referred to as the PSD major source thresholds.

The Delta Lateral Project would not result in the installation and operation of major sources of air pollutants. There would be no point sources of operational emissions, and only minor amounts of volatile organic compounds (VOC) and GHGs would be produced from venting and component leaks at the delivery meter station. Therefore, the Project is not subject to NSR.

New Source Performance Standards Applicability

The EPA promulgates New Source Performance Standards (NSPS) for new, modified, or reconstructed sources to control emissions to the level achievable by the best-demonstrated technology for stationary source types or categories as specified in the applicable provisions discussed below. The NSPS also establishes fuel, monitoring, notification, reporting, and recordkeeping requirements.

On August 13, 2020, the EPA issued a final rule to remove the natural gas transmission and storage segment from the NSPS Subpart OOOOa (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015) and rescind VOC and methane emissions standards for this segment. The Project is in the natural gas transmission and storage segment. Therefore, NSPS Subpart OOOOa does not apply.

Title V Operating Permit Applicability

Title V is an operating air permit program run by each state for each facility that is considered a "major source." The Title V operating permit major source applicability threshold is 100 tons per year of one or more criteria pollutants, 10 tons per year of an individual hazardous air pollutant (HAP) or 25 tons per year of total HAPs. The Project is not subject to the Title V (major source) operating permit program because operational emissions from the delivery meter station would be 0.054 ton per year of VOC and 0.001 ton of an individual and total HAP (hexane). No other criteria pollutants would be emitted.

General Conformity Applicability

Section 176 of the 1990 CAA Amendments requires the EPA to promulgate rules to ensure federal actions conform to the appropriate state implementation plan. These rules, known collectively as the General Conformity Rule (40 CFR 51.850 to 51.860 and 40 CFR 93.150 to 93.160), require any federal agency responsible for an action in a nonattainment or maintenance area for any criteria pollutant to address General Conformity Rule requirements. The Project would be located in areas that are not classified as nonattainment or maintenance for any criteria pollutant; therefore, the General Conformity Rule does not apply.

National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants (40 CFR 63) addresses emissions of HAPs at major and area sources. A major source for HAP emissions is a site that has a potential to emit of 10 tpy of a single HAP or a potential to emit of 25 tpy of total HAPs. Based on potential emissions, National Emission Standards for Hazardous Air Pollutants standards do not apply to the delivery meter station because emissions would be below these thresholds.

Greenhouse Gas Reporting Rule

On November 8, 2010, the EPA signed a rule that finalized reporting requirements for the petroleum and natural gas industry under 40 CFR 98. Subpart W of Part 98 requires petroleum and natural gas facilities that emit 25,000 metric tons or more of CO_2e per year to report annual emissions of specified GHGs from various processes within the facilities. The Project's aboveground facilities would be below this reporting threshold; therefore Kern River would not be required to report under Subpart W. Construction emissions are not covered under the GHG Reporting Rule.

4.13.1.5 State Requirements

The Utah Administrative Code requires an Approval Order from the UDEQ unless a project qualifies for exemption. The delivery meter station would qualify for a small source exemption under Utah R307-401-9 because it would meet the exemption requirements specified in the rule. Utah tracks exempt sources; therefore, a notice claiming exemption and providing information as described in R307-401-9 would be filed for the delivery meter station.

4.13.1.6 Air Quality Impacts and Mitigation

Construction Emissions

Construction activities and emission estimates include installation of the lateral pipeline and associated aboveground facilities, including mainline taps with automated lateral inlet valve assemblies, in-line inspection device launcher and receiver, lateral automated block valve assembly, and the delivery meter station. Construction is expected to primarily occur over eight months beginning in March 2023 and concluding in April 2024; however, the majority of construction would be completed between March and October 2023, Monday through Saturday from 7 a.m. to 7 p.m. However, certain conditions, discussed in section 2.2, may necessitate construction outside of these hours. Some final construction activities such as final cleanup and commissioning would be complete by April 2024.

Dust emissions would result from earthmoving and heavy equipment use. These emissions would be generated from ground excavation, cut-and-fill operations, and use of access roads. Dust emissions would vary from day to day depending on the level of activity, the specific operations, and the prevailing weather. Predominantly, these emissions would likely result from equipment traffic over existing unpaved access roads and wind. Open burning would not be conducted.

Emissions would also be produced from fuel combustion in construction equipment engines. Vehicles and equipment would use gasoline or diesel fuel compliant with current federal regulations and would be operated with required emission control devices. Gasoline used in vehicles and equipment would meet current Tier 3 standards. Equipment diesel fuel would meet current requirements for using ultra-low-sulfur (15 parts per million) diesel fuel specifications. Construction equipment would typically include bulldozers, graders, backhoes, front-end loaders, welding machines, trucks, pickups, and other miscellaneous equipment. Kern River would request contractors to use the lowest-emitting equipment available in the local area. A summary of fugitive dust and exhaust emissions from construction activities is shown in table 4.13-1.

TABLE.4.13-1

Estimated Construction Emissions from the Delta Lateral Project (total tons, except CO_2e total metric tons)

Project Component/Activity	Emission Source	CO	NO_x	O_2	PM_{10}	$PM_{2.5}$	VOC	CO_2e	Total HAPs
Pipeline Lateral	Fugitive Dust	0	0	0	364.2	36.4	0	0	0
	Off-Road Equipment	6.55	16.76	0.08	1.11	1.07	1.26	10,466	0.51
	On-Road Vehicles	1.03	0.99	0.01	0.03	0.03	0.06	560	0.01
	Subtotal	**7.58**	**17.74**	**0.08**	**365.3**	**37.5**	**1.32**	**11,026**	**0.52**
HDD	Fugitive Dust	0	0	0	1.26	0.13	0	0	0
	Off-Road Equipment	1.69	4.60	0.01	0.26	0.25	0.32	1,108	0.13
	On-Road Vehicles	0.02	0.01	0.00	0.00	0.00	0.00	6.1	0.00
	Subtotal	**1.71**	**4.61**	**0.01**	**1.52**	**0.38**	**0.32**	**1,114**	**0.13**
Delivery Meter Station, Mainline Taps with automated lateral inlet valve assemblies, and Lateral Automated Block Valve Assembly	Fugitive Dust	0	0	0	0.49	0.05	0	0	0
	Off-Road Equipment	0.62	1.36	0.01	0.11	0.10	0.13	807	0.05
	On-Road Vehicles	0.15	0.06	0.00	0.00	0.00	0.01	47	0.00
	Subtotal	**0.77**	**1.42**	**0.01**	**0.60**	**0.15**	**0.14**	**854**	**0.05**
Pipeline Commissioning (purging and packing)	Project Facilities	0	0	0	0	0	<0.001	1,476	<0.001
Total		**10.07**	**23.77**	**0.10**	**367.4**	**38.0**	**1.78**	**14,470**	**0.71**

Kern River would minimize wind erosion and fugitive dust emissions during construction through implementation of a fugitive dust control plan. This plan would prescribe mitigation measures such as regularly watering dusty areas, limiting activity during high winds, and other similar mitigation measures, including:

- limiting vehicle on-road and off-road speed (off-road speed is 15 miles per hour, or as posted) to reduce dust entrainment caused by vehicle movement;
- adhering to speeds as determined by the property owner on private lands and by Millard County, Utah Trust Lands Administration, or the BLM on land managing agency on public roads;
- limiting drop height of excavated soil;

- clean up of track-out of soils onto paved roads, typically within 48 hours;
- watering;
- chemical stabilization;
- wind breaks; or
- other equivalent methods or techniques approved by the environmental inspector.

Fugitive dust and air pollutants from the internal combustion engines of construction equipment would be limited to the immediate vicinity of the Project area and would be short term. Unnecessary idling of equipment would be limited to less than 5 minutes. As the construction spread moves along the right-of-way, emission sources would move in tandem. These emissions would cease when construction is complete. Emissions from construction are not expected to cause or significantly contribute to a violation of any applicable ambient air quality standard because the construction equipment would be operated on an as-needed basis during daylight hours.

Through the implementation of the work practices described above and given the short duration of the construction activities, the temporary emissions during construction of the Project would be minor, and the impact of these emissions would be localized. Therefore, we conclude that emissions generated during construction would not have significant impacts on local or regional air quality.

The IPP, Advanced Clean Energy Storage Project, Magnum Gas Storage Amendment Project, and ECG Utah Solar Project are all planned to be constructed or otherwise active within the same region and timeframe as the Project and would have the potential to contribute to cumulative impacts on air quality, primarily during construction. The EA issued by the Commission for the Magnum Gas Storage Project (CP10-22-000) concluded that construction of that project would not result in significant impacts on air quality (FERC, 2016). Information on the potential air quality impacts of the IPP, the ECG Utah Solar 1 Project, and Advanced Clean Energy Storage Project is not publicly available. Based on information provided by Kern River, these projects are expected to result in emissions of criteria pollutants during construction that would be similar to emissions during construction of the Project and limited to areas surrounding the project sites. Therefore, we conclude that the cumulative impact on air quality would not be significant.

Operational Emissions

Potential emissions from operation of the delivery meter station would consist of VOC and GHG emissions from a small (approximately 300-gallon) condensate tank, minor instrument venting, and fugitive emissions from pipe components, such as connectors and valves at the delivery meter station. Fugitive emissions due to leaks may occur at the mainline tap/valve site at milepost 0.00 and the block valve at milepost 18.16. Emergency use blowdown valves would be located at milepost 0.00 and milepost 18.16; however, routine blowdown of the pipeline lateral is not expected for the life of the pipeline. The pipeline lateral would be internally inspected every seven years. During the inspection, only the launcher (milepost 0.00) and receiver (milepost 35.84) are blown down, which would result in the release of a small quantity of gas. No compression or other aboveground equipment such as dehydrators, generators, line heaters, or other combustion equipment are part of the Project and, therefore, there would be no GHG emissions from these other sources.

Estimated operational emissions are shown in table 4.13-2.

TABLE 4.13-2

Operational Emissions from the Project

Emission Source	VOC (tons/year)	CO_2 (metric tons/year)	Methane (metric tons/year)	CO_2e (metric tons/year)	Total HAP (pounds/year)
Delivery Meter Station - Condensate Storage Tank	0.004	0.00	0.002	0.054	0.02 (hexane)
Delivery Meter Station - Blowdown of Filter/Separator	<1E-05	<0.001	0.15	3.7	<0.001
Delivery Meter Station Fugitive **a/**	9.6E-05	0.06	1.99	49.8	0.004 (hexane)
Delivery Meter Station Subtotal	**0.004**	**0.06**	**2.14**	**53.6**	**0.024**
Mainline tap/valve Milepost 0.0 **a/**	9.6E-05	0.06	1.99	49.8	<0.001
Block Valve Milepost 18.2 **a/**	9.6E-05	0.06	1.99	49.8	<0.001
Launcher Receiver **b/**	<1E-05	0.003	0.09	2.15	<0.001
Total Operational	**0.004**	**0.183**	**6.21**	**155.3**	**0.024**

a Kern River used internal 2018-2020 leak data as the basis for the presumed number of leaking components at Project facilities. Of the Kern River meter station and mainline valve facility locations where leaks occurred during the three-year period from 2018-2020, Kern River identified one leaking valve and one leaking connector per facility per year on average. Therefore, Kern River used one leaking valve and one leaking connector at each the meter station, automated lateral block valve, and mainline tap facilities in the greenhouse gas emissions analysis.

b Annualized emissions. Inspection would occur once every seven years.

Based on an inventory of components (e.g., valves, connectors, instruments, vents and other leak points), fugitive CO2e emissions from the Project would be less than the reporting threshold (25,000 metric tons of CO2e per year), and reporting for the delivery meter station as an individual facility would not be required.

Kern River states it takes active steps to monitor and reduce methane emissions and uses standardized methods to detect, monitor, and repair leaks for all facilities across its system. Kern River also participates in industry partnership groups, such as Our Nation's Energy Future Coalition Inc. (ONE Future) and two voluntary programs administered by the EPA, the Natural Gas STAR[20] and Methane Challenge Programs.[21] Because of the minor quantity of operational emissions produced at the delivery

[20] The Natural Gas STAR Program provides a framework for partner companies to implement methane reducing technologies and practices and document their voluntary emission reduction activities. By joining the Program, Partner companies commit to evaluate and implement methane emission reduction opportunities and communicate that information with other industry stakeholders and the Natural Gas STAR Program. Kern River joined this program in 2018.

[21] Partners of the Methane Challenge Program voluntarily report methane emission reductions resulting from systematic and comprehensive operational improvements implemented by partner companies. Kern River joined this program in 2016.

meter station, mitigation is not required. We conclude that emissions generated during operation would not have significant impacts on local or regional air quality.

Natural gas delivered by the Project to the IPP would allow conversion of the power plant from generating electricity using a coal-fired energy generation process to generating electricity using two combined-cycle, natural gas–fired power blocks. This would have a beneficial effect on air quality during operation. The IPP would retire 1,900 MW of coal-fired generating facilities and associated coal handling facilities and install two 420-MW combined-cycle turbines (840 MW total) designed to combust natural gas, hydrogen gas, or a mixture of these two fuels. Construction of the Project would allow the IPP to permanently discontinue the use of coal, thereby significantly decreasing greenhouse emissions associated with operation of the IPP. According to Kern River,[22] the fuel switch from coal to natural gas would result in a projected net GHG emissions reduction of 4.17 million metric tons of CO_{2e} annually when compared against the pre-Project emissions baseline (table 4.13-3).

TABLE 4.13-3

Greenhouse Gas Emission Reductions from Coal to Natural Gas Fuel Switch at the Intermountain Power Project Facility

Pollutant	Existing Coal-fired Boilers Actual Emissions (metric tons/year) [a]	New Combined-Cycle Combustion Turbine Facility Potential Maximum Emissions (metric tons/year) [b]	Net Emissions Change (metric tons/year)
Greenhouse Gases (CO_2e)	7,826,525	3,650,488	-4,176,037

Notes:

[a] The baseline emissions are based on the methodology outlined in the PSD regulations. The baseline period for the GHG emissions is from April 2017 through March 2019. The rated capacity of each of the two coal-fired boilers is 950 MW (1,900 MW total); however, the electrical output capacity factor during this baseline period was 55%.

[b] Emissions for the new turbine system is based on potential operating hours of 8,760 hours per year at full load. The total includes GHG emissions from ancillary emission sources.

If constructed, operation emissions associated with the Magnum Gas Storage Project are not expected to violate any applicable ambient air quality standards and would not result in significant impacts on air quality (FERC, 2016). Although potential operating emissions from the ECG Solar 1 and Advanced Clean Energy Storage projects are not yet available, emissions from the operation of the Delta Lateral Project would be limited to minor quantities of VOC and GHG emissions, as demonstrated by the permit exemption applicable to the delivery meter station and, therefore, not expected to have a significant cumulative impact with other nearby projects.

4.13.2 Climate Change

Commission staff defines climate change as the variation in climate (including temperature, precipitation, humidity, wind, and other meteorological variables) over time that cannot be characterized by an individual event or anomalous weather pattern. For example, a severe drought or abnormally hot summer in a particular region is not a certain indication of climate change. However, a series of severe droughts or hot summers that statistically alter the trend in average precipitation or temperature over

[22] Accession Number 20210602-5161.

decades may indicate climate change. Recent research (United States Global Change Research Program [USGCRP], 2018) has begun to attribute certain extreme weather events to climate change.

The leading U.S. scientific body on climate change is the USGCRP, composed of representatives from 13 federal departments and agencies.[23] The Global Change Research Act of 1990 requires the USGCRP to submit a report to the President and Congress no less than every four years that "1) integrates, evaluates, and interprets the findings of the USGCRP; 2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and 3) analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years." These reports describe the state of the science relating to climate change and the effects of climate change on different regions of the United States and on various societal and environmental sectors, such as water resources, agriculture, energy use, and human health.

In 2017 and 2018, the USGCRP issued its *Climate Science Special Report: Fourth National Climate Assessment*, Volumes I and II (Fourth Assessment Report; USGCRP, 2017; USGCRP, 2018). The Fourth Assessment Report states that climate change has resulted in a wide range of impacts across every region of the country. Those impacts extend beyond atmospheric climate change alone and include changes to water resources, transportation, agriculture, ecosystems, and human health. According to the Fourth Assessment Report, the United States and the world are warming; global sea level is rising and acidifying; and certain weather events are becoming more frequent and more severe. These changes are driven by accumulation of GHG in the atmosphere through combustion of fossil fuels (e.g., coal, petroleum, and natural gas), combined with agriculture, clearing of forests, and other natural sources. These impacts have accelerated throughout the end of the 20th and into the 21st century (USGCRP, 2018). Since the issuance of the *Climate Science Special Report: Fourth National Climate Assessment*, the Intergovernmental Panel on Climate Change (IPCC) has issued a portion of the Sixth Assessment Report (AR6), *Climate Change 2021: The Physical Science Basis*, which discusses acceleration of impacts of GHG on the global climate.[24]

GHGs were identified by the EPA as pollutants in the context of climate change. GHG emissions do not result in proportional local and immediate impacts; it is the combined concentration in the atmosphere that affects the global climate. These are fundamentally global impacts that feed back to local and regional climate change impacts. Thus, the geographic scope for cumulative analysis of GHG emissions is global rather than local or regional. For example, a project 1 mile away emitting 1 ton of GHGs would contribute to climate change in a similar manner as a project 2,000 miles distant also emitting 1 ton of GHGs.

Climate change is a global phenomenon; however, for this analysis, we will focus on the existing and potential cumulative climate change impacts in the Project area. The USGCRP's Fourth Assessment Report notes that the following observations of environmental impacts are attributed to climate change in the Southwest region (USGCRP 2017; USGCRP 2018):

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[23] The USGCRP member agencies are: Department of Agriculture, Department of Commerce, Department of Defense, Department of Energy, Department of Health and Human Services, Department of the Interior, Department of State, Department of Transportation, Environmental Protection Agency, National Aeronautics and Space Administration, National Science Foundation, Smithsonian Institution, and U.S. Agency for International Development.

[24] IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

- the average annual temperature of the Southwest increased 1.6 °F (0.9 ºC) between 1901 and 2016, and the region recorded more warm nights and fewer cold nights between 1990 and 2016, including an increase of 4.1 °F (2.3 °C) for the coldest day of the year;

- water for people and nature in the Southwest has declined during droughts, due in part to human-caused climate change;

- many coastal resources in the Southwest have been affected by sea level rise, ocean warming, and reduced ocean oxygen—all impacts of human-caused climate change—and ocean acidification resulting from human emissions of carbon dioxide. Homes and other coastal infrastructure, marine flora and fauna, and people who depend on coastal resources face increased risks under continued climate change;

- analyses estimate that the area burned by wildfire across the western United States from 1984 to 2015 was twice what would have burned had climate change not occurred; and

- heat-associated deaths and illnesses, vulnerabilities to chronic disease, and other health risks to people in the Southwest continue to result from increases in extreme heat, poor air quality, and conditions that foster pathogen growth and spread.

The USGCRP's Fourth Assessment Report notes the following projections of climate change impacts in the Project region (Northern Great Plains) with a high or very high level of confidence [25] (USGCRP 2018):

- climate models project an 8.6 °F (4.8 °C) increase in Southwest regional annual average temperature by 2100 which would contribute to aridification (a potentially permanent change to a drier environment) in much of the Southwest and a shift in plant hardiness zones;

- an increase in the frequency of heavy downpours, more frequent and severe droughts, and more wildfire across the Southwest region;

- models project annual declines of river flow in southern basins (the Rio Grande and the lower Colorado River) and either no change or modest increases in northern basins (northern California and the upper Colorado River);

- models project substantial reductions in snowpack, less snow and more rain, shorter snowfall seasons, earlier runoff, and warmer late-season stream temperatures;

- increased drought, heat waves, and reduction of winter chill hours are likely to harm crops and livestock; and

[25] The report authors assessed current scientific understanding of climate change based on available scientific literature. Each "Key Finding" listed in the report is accompanied by a confidence statement indicating the consistency of evidence or the consistency of model projections. A high level of confidence results from "moderate evidence (several sources, some consistency, methods vary and/or documentation limited, etc.), medium consensus." A *very* high level of confidence results from "strong evidence (established theory, multiple sources, consistent results, well documented and accepted methods, etc.), high consensus."
https://science2017.globalchange.gov/chapter/front-matter-guide/

- the reduction of water volume in both Lake Powell and Lake Mead would increase the risk of water shortages across much of the Southwest.

It should be noted that while the impacts described above taken individually may be manageable for certain communities, the impacts of compound events (such as simultaneous heat and drought, wildfires associated with hot and dry conditions, or flooding associated with high precipitation on top of saturated soils) can be greater than the sum of the parts (USGCRP 2018).

GHG emissions associated with construction and operation of the Project were identified and quantified in section 4.13.1.6 of the EIS. Emissions of GHGs are typically expressed in terms of carbon dioxide equivalents (CO_2e).[26] The Project may result in emissions of up to 14,470 metric tons of CO_2e over the duration of construction. Operation of the Project would result in about 155.3 metric tons per year (tpy) of CO_2e from fugitive emissions and minor instrument venting.

For informational purposes, here we estimate the downstream GHG emissions from the Project assuming 100 percent utilization of the 140,000 dekatherms per day of natural gas that Kern River would transport to the IPP electric generation facility.[27] Combustion of 140,000 dekatherms per day of natural gas would result in up to 2.7 million metric tpy of CO_2e. We note that this represents an upper bound estimate of end-use combustion that could result from the gas transported by the Project. This estimate assumes that the maximum capacity is transported 365 days per year. We also note that Kern River would utilize existing mainline capacity when making deliveries to the new lateral. Therefore, the downstream emissions are not new system capacity. Below, for additional informational purposes, we provide context of the downstream emissions in comparison to the national and state inventories.

Construction and operation of the Project would increase the atmospheric concentration of GHGs in combination with past, current, and future emissions from all other sources globally and contribute incrementally to future climate change impacts. In order to assess impacts on climate change associated with the Project, Commission staff considered whether it could identify discrete physical impacts resulting from the Project's GHG emissions or compare the Project's GHG emissions to established targets designed to combat climate change.

To date, Commission staff has not identified a methodology to attribute discrete, quantifiable, physical effects on the environment resulting from the Project's incremental contribution to GHGs. We have looked at atmospheric modeling used by the EPA, National Aeronautics and Space Administration, the Intergovernmental Panel on Climate Change, and others, and we found that these models are not reasonable for project-level analysis for a number of reasons. For example, these global models are not suited to determine the incremental impact of individual projects, due to both scale and overwhelming complexity. We also reviewed simpler models and mathematical techniques to determine global physical effects caused by GHG emissions, such as increases in global atmospheric CO_2 concentrations, atmospheric forcing, or ocean CO_2 absorption. We could not identify a reliable, less complex model for this task and thus staff could not determine specific localized or regional physical impacts from GHG emissions from the Project. Without the ability to determine discrete resource impacts, Commission staff are unable to assess the Project's contribution to climate change through any objective analysis of physical impact attributable to the Project.

[26] GHG gases are converted to CO_2e by means of the global warming potential, the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere, consistent with the EPA's established method for reporting GHG emissions for air permitting requirements that allows a consistent comparison with federal regulatory requirements.

[27] As described in recent Commission orders, the Commission has included downstream emissions for informational purposes only (see Tuscarora Gas Transmission Company, 175 FERC ¶ 61,147 at P29 (2021)).

Additionally, Commission staff has not been able to find an established threshold for determining the Project's significance when compared to established GHG reduction targets at the state or federal level. Should the Commission or other federal agency such as the EPA or CEQ establish a threshold for determining whether a project's impact on climate change will be significant, that threshold would be considered in the Commission staff's environmental analysis. We note that there have been a series of recent administrative changes and we continue to evaluate their impact on our review process. For example, on January 20, 2021, President Biden issued the *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* (EO 13990) and on January 27, 2021, the *Executive Order on Tackling the Climate Crisis at Home and Abroad* (EO 14008). Amongst other objectives, the Executive Orders call for a net-zero emission economy and a carbon-free electricity sector. In addition, on January 20, 2021, President Biden announced that the United States will rejoin the Paris Climate Agreement (Agreement), re-entering the United States into the Agreement on February 19, 2021 (White House, 2021a; White House, 2021b). The Agreement aims to limit global warming to well below 2 °C, and preferably to 1.5 °C, compared to pre-industrial levels (United Nations Framework Convention on Climate Change [UNFCCC], 2021a; UNFCCC, 2021b). On April 20, 2021, the United States set an economy-wide target of reducing net GHG emissions by 50-52 percent below 2005 levels by 2030 (UNFCCC, 2021c).

In order to provide context of the Project emissions on a national level, we compare the Project's GHG emissions to the total GHG emissions of the United States as a whole. At a national level, 5,769.1 million metric tons of CO_2e were emitted in 2019 (inclusive of CO_2e sources and sinks) (EPA, 2021). Construction emissions from the Project could potentially increase CO_2e emissions based on the national 2019 levels by 0.0003 percent; in subsequent years, the Project operations and downstream combustion of gas transported by the Project could potentially increase emissions based on the national 2019 levels by 0.047 percent.

In order to provide context of the Project emissions on a state level, we compare the Project's GHG emissions to the Utah GHG inventory. At the state level, Utah energy related CO_2 emissions in 2018 were 61.1 million metric tons (U.S. Energy Information Administration [EIA], 2021). Construction emissions from the Project could potentially increase CO_2e emissions based on the Utah 2018 levels by 0.02 percent; in subsequent years, the Project operations could potentially increase emissions by 0.0003 percent. Downstream combustion of gas transported by the Project in Utah (i.e., at the IPP) could potentially increase emissions in the state by 4.4 percent based on 2018 levels; however, retirement of coal-fired generation at the IPP would potentially reduce emissions in the state by 6.8 percent based on 2018 levels and the estimate presented in table 4.13-3 above.

Currently, Utah has set no statewide goals for GHG emissions reduction targets.[28]

Based on our analysis in this EIS, we are unable to assess the Project's contribution to climate change through any objective analysis of physical impacts attributable to the Project. Additionally, we are unaware of an established threshold for determining the Project's significance when compared to established GHG reduction targets at the state or federal level. As such, we are unable to determine significance regarding the Project's impacts on climate change. However, we acknowledge the Project would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources and would contribute to climate change.

The EPA comments that the draft EIS should estimate and analyze all potential upstream and downstream GHG emissions associated with the proposed Project. Above, we discuss the Project's potential downstream emissions. Related to comments on upstream emissions impacts, the specific sources

[28] We reviewed the U.S. State Greenhouse Emission Targets site for individual state requirements at: https://www.c2es.org/document/greenhouse-gas-emissions-targets/

of natural gas to be transported by the Project are unknown and would likely change throughout the Project's operational lifetime. Because the source of the gas is unknown and may change throughout the life of the Project, the environmental impacts and regulatory oversight of upstream natural gas production, including hydraulic fracturing activities, are outside the scope of this EIS. As the Commission has previously concluded in numerous natural gas infrastructure proceedings, the environmental effects resulting from natural gas production are likely neither caused by a proposed project nor are they reasonably foreseeable consequences of its approval of a project, as contemplated by CEQ regulations.[29] To date, the Commission has not found upstream emissions to be an effect of any proposed project, primarily because of the following unknown factors: the location of the supply source; whether transported gas will come from new or existing production; and whether there will be any potential associated development activities, and if so, its location.[30] However, the Commission will continue to determine, on a case-by-case basis, whether GHG emissions from upstream production activities are a reasonably foreseeable and causally connected result of a proposed project.

The EPA comments that the Commission's approach of comparing the Project's emissions to national and state emission totals inappropriately diminishes the significance of project-level GHG emissions impacts. The comparisons to national and state emission totals and targets are provided in the draft EIS because the Commission has found them useful in its decision-making process. The Commission stated in a recent *Order Issuing Certificate and Granting Abandonment* (issued March 22, 2021, in Docket No. CP20-487-000) that a project's share of contribution to GHG emissions at the national level provides a reasoned basis to consider the significance of the project's GHG emissions and their potential impact on climate change; and when states have GHG emissions reduction targets, the Commission will endeavor to consider the GHG emissions of a project on those state goals (or state inventories if the state does not have emissions targets).[31]

The EPA comments that the draft EIS include a discussion of the Project's GHG emissions in the context of national GHG emission goals, considering the U.S. 2030 GHG reduction target, 2050 net-zero pathway, and end date of the Project's expected lifetime, and that the draft EIS should address any increasing conflict over time between continued emissions and national GHG emissions reduction goals, including ways to avoid or mitigate that conflict. These goals are predicated on determination of significance and mitigation goals which are under review by the Commission under PL18-1-000. We also note that on February 18, 2021, the Commission issued a Notice of Inquiry in Docket No. PL18-1-000 seeking new information and additional stakeholder perspectives to help the Commission explore whether it should revise its approach under the currently effective policy statement on certification of new natural gas transportation facilities. The Notice of Inquiry seeks information concerning options for assessing the significance of the impacts of GHG emissions to inform the Commission's approach going forward, and how the Commission could impose GHG emission limits or mitigation to reduce the significance of impacts from a proposed project on climate change. We note these policy decisions are pending at the time of this EIS publication and their resolution is beyond the scope of staff's NEPA review in this proceeding.

The EPA comments that the draft EIS should use the social cost of GHGs (also referred to as the "social cost of carbon" [SCC]) to assess climate impacts generated by each additional ton of GHGs emitted

[29] *Birckhead*, 925 F.3d at 516-17. *See, e.g.*, *Double E Pipeline, LLC*, 173 FERC 61,074 at P 97 (2020), *Central New York Oil and Gas Co., LLC*, 137 FERC ¶ 61,121, at PP 81-101 (2011), *order on reh'g*, 138 FERC ¶ 61,104, at PP 33-49 (2012), *petition for review dismissed sub nom. Coal. for Responsible Growth v. FERC*, 485 F. App'x. 472, 474-75 (2d Cir. 2012) (unpublished opinion); *see also Adelphia Gateway, LLC*, 169 FERC ¶ 61,220 at P 243, *order on reh'g*, 171 FERC ¶ 61,049 at P 89.

[30] *See also Birckhead*, 925 F.3d at 517 (finding the Commission appropriately did not consider upstream emissions a project effect because the record did not contain any information establishing a causal relationship between the proposed project and upstream development).

[31] See *N. Nat. Gas Co.*, 174 FERC ¶ 61,189, at P 29 (2021).

or saved by the Project. The SCC estimates the monetized climate change damage associated with an incremental increase in CO_2 emissions in a given year. We recognize that the SCC methodology constitutes a tool that can be used to estimate incremental physical climate change impacts, either on the national or global scale. The integrated assessment models underlying the SCC tool were developed to estimate certain global and regional physical climate change impacts due to incremental GHG emissions under specific socioeconomic scenarios. However, the Commission has previously indicated that it is not appropriate for use in our Project-specific analyses for the following reasons: (1) the incorporation of the SCC tool into our review under NEPA cannot meaningfully inform the Commission's decision whether and how to authorize a proposed project under the NGA; (2) the Commission does not use monetized cost-benefit analyses as part of the review under NEPA or the decision under the NGA; and (3) the SCC tool has methodological limitations (e.g., different discount rates introduce substantial variation in results and no basis exists to designate a particular monetized value as significant) that limit the tool's usefulness in our review under NEPA and the Commission's decision under the NGA (FERC, 2018). As such, we do not use the SCC tool in this NEPA analysis.

4.13.3 Noise

Impacts on the noise environment can result from construction and operation of a natural gas pipeline. The EPA has determined that a day-night sound level of 55 A-weighted decibels (dBA) protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the Project at NSAs within specified distances of the noise source. NSAs include, but are not limited to, residences, schools, hospitals, campgrounds, parks, and other areas valued for their solitude and tranquility. Also, in general, a person's threshold for perceiving a change in loudness on the A-weighted sound scale is about 3 dBA, whereas a 5 dBA change is clearly noticeable, and a 10 dBA change is perceived as either twice or half as loud.

We have adopted distance criteria for determining when analysis of potential noise effects at NSAs should be conducted for construction and for operation of several types of natural gas and liquefied natural gas facilities. For this Project, NSAs within 0.5 mile of an HDD entry or exit location and the delivery meter station are evaluated for noise impacts during construction. For the assessment of operational noise, NSAs within 0.5 mile of a meter station are evaluated. We also have NSA evaluation distance criteria for compressor stations and liquefied natural gas facilities, but neither of these are components of the Project.

No applicable noise regulations were identified during a review of Utah regulations. In addition, no applicable local (i.e., township, city, county) noise regulations were identified.

Construction Noise

The land along the right-of-way is primarily undeveloped rangeland. There are no NSAs within 0.5 mile of the mainline tap at milepost 0.0, the automated block valve at milepost 18.2, the exit and entry location for the Sevier River HDD (milepost 27.0 and milepost 27.5), or the delivery meter station at milepost 35.8. There are no NSAs within 0.5 mile of the delivery meter station; therefore, construction noise at these locations would result in very minor and insignificant impacts, if any, on NSAs.

The HDD crossing at the Sevier River would produce noise from the HDD equipment, which may be operated on a 24-hour per day basis. However, no NSAs are within 0.5 mile of the entry or exit locations for the HDD. Therefore, noise produced during HDD activities would not affect an NSA.

Kern River identified the following NSAs along the right-of-way that could potentially be affected by noise during construction:

- small office or house at animal feedlot, near milepost 0.1, 0.4 mile west of the Project;
- residence near milepost 7.0, approximately 240 feet east of the Project;

- small office or house at animal feedlot near milepost 21.5, 0.4 mile east of the Project;
- golf course green near milepost 25.4, 0.1 mile east of the Project; and
- two residences near milepost 25.5, one 0.3 mile east of the Project and the other 0.4 mile west of the Project.

The potential NSAs listed above could be affected by temporary, transient noise from construction equipment as the pipeline construction spread moves along the right-of-way near these NSAs. As the spread progresses, construction at any single point along the pipeline lateral, from initial surveying and clearing to backfilling and final grading, would last approximately 6 to 18 weeks. Noise would diminish and cease as the pipeline construction spread moves away from the NSA. As such, we conclude that construction noise impacts would be negligible.

Operational Noise

Operation of the Project pipeline lateral would not produce continuous noise since no continuous noise sources would be located along the pipeline's right-of-way. Routine blowdown of the lateral is not expected for the life of the pipeline. Operation of the delivery meter station may produce minor noise levels due to lateral pipeline inspections every seven years when the pig launcher/receiver is in use. No NSAs are within 0.5 mile of the delivery meter station; therefore, any minor noise produced by the delivery meter station would not affect an NSA.

A filter/separator located at the delivery meter station would be installed to remove liquids and solids from the gas stream. During operation (periodic liquid transfer from sump to condensate tank) and maintenance (filter change-out), depressurizing the filter/separator is necessary. This may produce noise of short duration. No silencer would be installed on the filter/separator and since the meter station is on the IPP site and no NSAs are within 0.5 mile of the delivery meter station, a noise analysis is not required.

Because of the lack of significant operational noise-producing sources from the Project and infrequent (once every seven years) pipeline lateral inspection activity, we conclude that existing ambient noise levels would not be affected in the local environment during operation of the Project.

4.14 RELIABILITY AND SAFETY

The transportation of natural gas by pipeline involves some incremental risk to the public due to the potential for accidental release of natural gas. The greatest hazard is a fire or explosion following a major pipeline rupture.

Methane, the primary component of natural gas, is colorless, odorless, and tasteless. Methane is non-toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death. Methane has an autoignition temperature of 1,000 degrees Fahrenheit and is flammable at concentrations between 5.0 percent and 15.0 percent in air. An unconfined mixture of methane and air is not explosive; however, it may ignite and burn if there is an ignition source. A flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses rapidly in air.

4.14.1 DOT Safety Standards

The DOT's PHMSA is mandated to provide pipeline safety under 49 USC Chapter 601. PHMSA administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. PHMSA develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards that set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety. PHMSA ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level.

Title 49 USC Chapter 601 provides for a state agency to assume all aspects of the safety program for intrastate facilities by adopting and enforcing the federal standards. A state may also act as the DOT's agent to inspect interstate facilities within its boundaries; however, the DOT is responsible for enforcement actions. The State of Utah does not have delegated authority to inspect interstate pipeline facilities.

PHMSA pipeline standards are published in 49 CFR 190–199. Part 192 specifically addresses natural gas pipeline safety issues. Under a Memorandum of Understanding on Natural Gas Transportation Facilities between the DOT and FERC dated January 15, 1993 (Memorandum), PHMSA has the exclusive authority to promulgate federal safety standards used in the transportation of natural gas. Section 157.14(a)(9)(vi) of FERC's regulations require that an applicant certify that it would design, install, inspect, test, construct, operate, replace, and maintain the facility for which a Certificate is requested in accordance with federal safety standards and plans for maintenance and inspection. Alternatively, an applicant must certify that it has been granted a waiver of the requirements of the safety standards by PHMSA in accordance with section 3(e) of the Natural Gas Pipeline Safety Act. FERC accepts this certification and does not impose additional safety standards.

If the Commission becomes aware of an existing or potential safety problem, there is a provision in the Memorandum to promptly alert PHMSA. The Memorandum also provides for referring complaints and inquiries made by state and local governments and the general public involving safety matters related to pipelines under the Commission's jurisdiction. FERC also participates as a member of PHMSA's Technical Pipeline Safety Standards Committee, which determines whether proposed safety regulations are reasonable, feasible, and practicable.

The pipeline and aboveground facilities associated with the Project must be designed, constructed, operated, and maintained in accordance with the PHMSA Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. PHMSA specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

The PHMSA also defines area classifications, based on population density in the vicinity of the pipeline, and specifies more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. The four area classifications are defined below:

Class 1 Location with 10 or fewer buildings intended for human occupancy.

Class 2 Location with more than 10 but fewer than 46 buildings intended for human occupancy.

Class 3 Location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of any building, or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12-month period.

Class 4 Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. For instance, pipelines constructed on land in Class 1 locations must be installed with a minimum depth of cover of 30 inches in normal soil and 18 inches in consolidated rock. Class 2, 3, and 4 locations, as well as drainage ditches of public roads and railroad crossings, require a minimum cover of 36 inches in normal soil and 24 inches in consolidated rock.

Class locations also specify the maximum distance to a sectionalizing block valve (e.g., 10.0 miles in Class 1; 7.5 miles in Class 2; 4.0 miles in Class 3; and 2.5 miles in Class 4). Pipe wall thickness and pipeline design pressures, hydrostatic test pressures, maximum allowable operating pressure (MAOP), inspection and testing of welds, and frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas.

Table 4.14-1 summarizes the class locations crossed by the Project pipeline facilities. Kern River would design the pipeline with a design factor to allow for at least one future class location change. Changes in population density near the proposed facilities would be monitored to document that the new facilities meet the appropriate design criteria and safety standards where class locations change. When changes in population density occur in an area, Kern River would change the class location of the pipe based on the design factor and the historical strength test of the section of pipe within the area in question, or replace sections of pipe, or reduce the operating pressure in the line, or take other similar safety measures to achieve the required measure of safety.

TABLE 4.14-1

Class Locations for the Project Pipeline Facilities

Beginning MP	Ending MP	Existing Class for Proposed Facilities	Design Class for Proposed Facilities
In-line Inspection Device Launcher/Mainline Tap with Automated Inlet Valve Assemblies			
0.0		1	3
Lateral Automated Block Valve Assembly			
18.2		1	3
Delivery Meter Station/In-line Inspection Device Receiver			
35.8		1	3
Pipeline Lateral			
0.0	22.0	1	1
22.0	35.8	1	2

Key: MP = milepost

PHMSA's pipeline safety regulations require operators to develop and follow a written integrity management program that (1) contains all the elements described in 49 CFR 192.911 and (2) addresses the risks on each transmission pipeline segment. The integrity management program applies to all high consequence areas (HCA).

The DOT has published rules that define HCAs as places where a gas pipeline accident could do considerable harm to people and their property and requires an integrity management program to minimize the potential for an accident. This definition satisfies, in part, the Congressional mandate for the DOT to prescribe standards that establish criteria for identifying each gas pipeline facility in a high-density population area. The HCAs may be defined in one of two ways. In the first method, an HCA includes:

- current Class 3 and 4 locations under 49 CFR 192.5; or
- any area in Class 1 or 2 where the potential impact radius[32] is greater than 660 feet, and there are 20 or more buildings intended for human occupancy within the potential impact circle;[33] or
- any area in Class 1 or 2 where the potential impact circle includes an identified site.

An identified site is an outside area or open structure that is occupied by 20 or more persons on at least 50 days in any 12-month period; a building that is occupied by 20 or more persons at least 5 days a week for any 10 weeks in any 12-month period; or a facility that is occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate.

In the second method, an HCA includes any area within a potential impact circle containing:

- 20 or more buildings intended for human occupancy; or
- an identified site.

Once a pipeline operator has determined the HCAs along its pipeline, it must apply the elements of its integrity management program to those segments of the pipeline within HCAs. The DOT regulations specify the requirements for the integrity management plan at 49 CFR 192.911. Kern River has determined the Project, as designed, would not affect any HCAs, alleviating the need for further consideration relative to 49 CFR 192.761(f).

PHMSA's minimum standards for operating and maintaining pipeline facilities include the requirement to establish a written plan governing these activities. Each pipeline operator is required to establish an emergency plan that includes procedures to minimize the hazards of a natural gas pipeline emergency. Key elements of the plan include procedures for:

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- implementing an emergency system shutdown and safe restoration of service;
- making personnel, equipment, tools, and materials available at the scene of an emergency; and
- protecting people first and then property and making them safe from actual or potential hazards.

[32] The potential impact radius is calculated as the product of 0.69 and the square root of the maximum allowable operating pressure of the pipeline (in pounds per square inch gauge) multiplied by the square of the pipeline diameter in inches.

PHMSA requires that each operator establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization and to coordinate mutual assistance in the event of a natural gas pipeline emergency. As part of PHMSA's requirements, Kern River must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to the appropriate public officials. Kern River would provide the appropriate training to local emergency service personnel before the Project is placed in-service.

On October 1, 2019, PHMSA issued new regulations modifying and expanding the standard pipeline safety standards under 49 CFR 191 and 192. These regulations, in part, established new standards for in-line inspections; requirements for newly established moderate consequence areas; requirements to consider seismicity and geotechnical risks in its integrity management plan for the pipeline; new regulations on pipeline patrol frequency for HCAs, moderate consequence areas, and grandfathered pipelines; a policy to reconfirm MAOP for certain pipelines; installation of pressure relief for pig launcher/receivers; and reporting requirements for exceedances of the MAOP to PHMSA. These regulations went into effect on July 1, 2020.

4.14.2 Pipeline Accident Data

PHMSA requires all operators of natural gas transmission pipelines to notify it of any significant incident and to submit a report within 20 days. Significant incidents are defined as any leaks that:

- caused a death or personal injury requiring hospitalization; or
- involve property damage of more than $50,000 (1984 dollars).

During the 20-year period from 2000 through 2019, a total of 2,192 significant incidents were reported on the more than 300,000 total miles of natural gas transmission pipelines nationwide (PHMSA, 2020). Additional insight into the nature of service incidents may be found by examining the primary factors that caused the failures. Table 4.14-2 provides a distribution of the causal factors as well as the number of each incident by cause.

TABLE 4.14-2
Natural Gas Transmission Pipeline Significant Incidents by Cause (2000-2019)

Cause	Number of Incidents a/	Percentage of All Incidents
Corrosion	324	23.08
Excavation b/	191	13.60
Pipeline material, weld, or equipment failure	441	31.41
Natural force damage	160	11.40
Outside force c/	96	6.84
Incorrect operation	61	4.34
All other causes d/	131	9.33
Total	**1,404**	**100**

a All data acquired from the Pipeline and Hazardous Materials Safety Administration significant incident files (PHMSA, 2020).

b Includes damage from third-party excavation, operator/contractor excavation damage, and previous damage due to excavation.

c Fire, explosion, vehicle damage, previous damage, intentional damage.

d Miscellaneous causes or unknown causes.

The dominant causes of pipeline incidents are corrosion of pipeline material, weld, or equipment failure, constituting 54.5 percent of all significant incidents. The pipelines included in the data set in table 4.14-2 vary widely in terms of age, diameter, and level of corrosion control. Each variable influences the incident frequency that may be expected for a specific segment of pipeline.

The frequency of significant incidents is strongly dependent on pipeline age. Older pipelines have a higher frequency of corrosion incidents and material failure, since corrosion and pipeline stress and strain are time-dependent processes. The use of both an external protective coating and a cathodic protection system, required on all pipelines installed after July 1971, significantly reduces the corrosion rate compared to unprotected or partially protected pipe.

Outside force, excavation, and natural forces are the next three most significant causes of pipeline incidents, totaling 31.8 percent of significant pipeline incidents. These result from the encroachment of mechanical equipment, such as bulldozers and backhoes; earth movements due to soil settlement, washouts, or geologic hazards; weather effects such as winds, storms, and thermal strains; and willful damage. Older pipelines have a higher frequency of outside-forces incidents partly because their location may be less well known and less well marked than newer lines. In addition, older pipelines contain a disproportionate number of smaller-diameter pipelines, which have a greater rate of outside force incidents. Small-diameter pipelines are more easily crushed or broken by mechanical equipment or earth movement. Table 4.14-3 provides a breakdown of excavation, outside force, and natural force incidents by cause.

TABLE 4.14-3
Excavation, Outside Force, and Natural Force Incidents by Cause (2000-2019)

Cause	Number of Incidents	Percentage of All Incidents
Third-party excavation damage	154	11.0
Operator excavation damage	26	1.9
Previous damage due to excavation	11	0.8
Heavy rain/floods	81	5.8
Earth movement	30	2.1
Lightning/temperature	26	1.9
Natural force (other)	2	0.1
Vehicle (not engaged with excavation)	55	3.9
Fire/explosion	11	0.8
Previous mechanical damage	6	0.4
Fishing or maritime activity	7	0.5
Intentional damage	1	0.1
Electrical arcing from other equipment/facility	3	0.2
Unspecified/other outside force	10	0.7
Total	**232**	**16.5**

a Excavation, Outside Force, and Natural Force from table B.10.2-1.

b All data acquired from PHMSA significant incident files (PHMSA, 2020).

Since 1982, operators have been required to participate in One Call public utility programs in populated areas to minimize unauthorized excavation activities in the vicinity of pipelines. The One Call program is a service used by public utilities and some private sector companies (e.g., oil pipelines and cable television) to provide preconstruction information to contractors or other maintenance workers on the

underground location of pipes, cables, and culverts. Kern River would use the state's Blue Stakes of Utah One Call system for utility line identification and location prior to excavation.

4.14.3 Impact on Public Safety

Kern River would follow all applicable PHMSA pipeline safety standards as well as regular monitoring and testing of the pipeline. While pipeline failures are rare, the potential for pipeline systems to rupture and the risk to nearby residents is discussed below.

The incident data summarized in table 4.14-4 include pipeline failures of all magnitudes with widely varying consequences. Table 4.14-4 presents the 51 injuries and fatalities that occurred on natural gas transmission lines between 2015 and 2019. Most fatalities from natural gas pipelines are due to local distribution pipelines, which are not regulated by FERC. These are pipelines that distribute natural gas to homes and businesses after transportation through interstate natural gas transmission pipelines. In general, distribution lines are smaller-diameter pipes and/or plastic pipes, which are more susceptible to damage. Local distribution systems do not have large rights-of-way and pipeline markers common to the FERC-regulated natural gas transmission pipelines.

TABLE 4.14-4

Injuries and Fatalities – Natural Gas Transmission Pipelines (2015-2019)

Year	Injuries	Fatalities
2015	16	6
2016	3	3
2017	3	3
2018	7	1
2019	8	1

[a] All data acquired from PHMSA significant incident files (PHMSA, 2020)

To provide a relative measure of the industry-wide safety of natural gas transmission pipelines, the nationwide totals of accidental fatalities from various anthropogenic and natural hazards are listed in table 4.14-5. However, direct comparisons between accident categories should be made cautiously because individual exposures to hazards are not uniform among all categories. The data nonetheless indicate a low risk of death due to incidents involving natural gas transmission pipelines compared to the other categories. Furthermore, the fatality rate is much lower than the fatalities from natural hazards such as lightning, tornadoes, or floods.

The nationwide totals of accidental fatalities from various anthropogenic and natural hazards are listed in table 4.14-5 to provide a relative measure of the industry-wide safety of natural gas transmission pipelines. Direct comparisons between accident categories should be made cautiously, however, because individual exposures to hazards are not uniform among all categories. As indicated in the table, the number of fatalities associated with natural gas facilities is much lower than the fatalities from natural hazards such as lightning, tornados, floods, earthquakes, etc.

TABLE 4.14-5

Nationwide Accidental Deaths

Type of Accident	Annual No. of Deaths
All accidents	136,053
Motor vehicle	35,398
Poisoning	42,032
Falls	31,959
Drowning	3,406
Fire, smoke inhalation, burns	2,701
Floods [b]	176
Lightning [b]	27
Tornado [b]	36
Natural gas distribution lines [c]	11
Natural gas transmission pipelines [c]	2

[a] All data, unless otherwise noted, reflects 2014 statistics from: U.S. Department of Health and Human Services, CDC, National Center of Health Statistics, National Vital Statistics System, 2017.

[b] Reflects 2015 statistics from: U.S. Department of Commerce, NOAA, National Weather Service, 2017.

[c] 20-year average, 1997-2016. DOT, 2016c; d.

The available data show that natural gas transmission pipelines continue to be a safe, reliable means of energy transportation. From 1997 to 2016, there were an average of 52 significant incidents and 2 fatalities per year. The number of significant incidents distributed over the more than 315,000 miles of natural gas transmission pipelines indicates the risk is low for an incident at any given location. The rate of total fatalities for the nationwide natural gas transmission lines in service is 0.01 per year per 1,000 miles of pipeline. Using this rate, implementing the proposed 38.8-mile-long project might result in a fatality (either an industry employee or a member of the public) on the pipeline every 2,578 years. The operation of the Delta Lateral Project would represent only a slight increase in risk to the nearby public.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF THE ENVIRONMENTAL ANALYSIS

The conclusions and recommendations presented in this section are those of the FERC environmental staff. Our conclusions and recommendations were developed with input from the BLM as a cooperating agency. A cooperating agency may adopt this EIS per 40 CFR 1506.3 if, after an independent review of the document, it concludes that its permitting requirements and/or regulatory responsibilities have been satisfied. However, the BLM will issue subsequent decisions, determinations, or authorizations for the Project in accordance with its individual agency regulatory requirements.

We conclude that construction and operation of the Delta Lateral Project would result in limited adverse environmental impacts. Most adverse environmental impacts would be temporary or short-term during construction and have minimal effects on existing land use as new Project facilities would be added within an area characterized by open land or energy production and transmission facilities. This determination is based on a review of the information provided by Kern River and further developed from data requests; scoping; literature research; alternatives analysis; and contacts with federal, state, and local agencies as well as individual members of the public.

Overall, Commission staff conclude that approval of the Project would not result in significant environmental impacts, with the exception of climate change impacts resulting from GHG emissions. Although we acknowledge the Project's emissions from construction and operation would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and would contribute to climate change, we are unable to determine the significance of the Project's contribution to climate change. We also conclude that no system, route, or other alternative would provide a significant environmental advantage over the Project as proposed. Therefore, we conclude that the proposed Project, with our recommended mitigation measures, is the preferred alternative to meet the Project objectives.

5.2 FERC STAFF'S RECOMMENDED MITIGATION

If the Commission authorizes the Project, we are recommending that the following measures be included as specific conditions in the Commission's Order. We have determined that these measures would further mitigate the environmental impacts associated with the construction and operation of the Project.

1. Kern River shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by the Order. Kern River must:
    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
    b. justify each modification relative to site-specific conditions;
    c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
    d. receive approval in writing from the Director of OEP, or the Director's designee, **before using that modification.**
2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the Project. This authority shall allow:

a. the modification of conditions of the Order;

b. stop-work authority; and

c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation.

3. **Prior to any construction**, Kern River shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Kern River shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

   Kern River's exercise of eminent domain authority granted under the NGA section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Kern River's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline facilities to accommodate future needs or to acquire right-of-way for a pipeline to transport a commodity other than natural gas.

5. Kern River shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval of each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP, or the Director's designee, **before construction in or near that area**.

   This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

   Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;

   b. implementation of endangered, threatened, or special concern species mitigation measures;

   c. recommendations by state regulatory authorities; and

   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of the Certificate and before construction begins**, Kern River shall file an Implementation Plan with the Secretary for review and written approval by the Director

of OEP, or the Director's designee. Kern River must file revisions to their plan as schedules change. The plan shall identify:

a. how Kern River will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) identified in the EIS, and required by the Order;

b. how Kern River will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to on-site construction and inspection personnel;

c. the number of EIs assigned, and how Kern River will ensure that sufficient personnel are available to implement the environmental mitigation;

d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;

e. the location and dates of the environmental compliance training and instructions Kern River will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change);

f. the company personnel (if known) and specific portion of Kern River's organization having responsibility for compliance;

g. the procedures (including use of contract penalties) Kern River will follow if noncompliance occurs; and

h. for each discrete facility, a Gantt or PERT chart (or similar Project scheduling diagram), and dates for:

(1) the completion of all required surveys and reports;

(2) the environmental compliance training of on-site personnel;

(3) the start of construction; and

(4) the start and completion of restoration.

7. Kern River shall employ at least one EI for each pipeline spread. The EI shall be:

a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;

b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;

c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;

d. a full-time position, separate from all other activity inspectors;

e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and

f. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Kern River shall file updated status reports for the Project with the Secretary on a **biweekly** basis until all construction and restoration activities

are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Kern River's efforts to obtain the necessary federal authorizations;

b. the construction status of the Project, work planned for the following reporting period and any scheduled changes for stream crossings or work in other environmentally sensitive areas;

c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);

d. a description of the corrective actions implemented in response to all instances of noncompliance;

e. the effectiveness of all corrective actions implemented;

f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and

g. copies of any correspondence received by Kern River from other federal, state, or local permitting agencies concerning instances of noncompliance, and Kern River's response.

9. Kern River must receive written authorization from the Director of OEP, or the Director's designee, **before commencing construction of any Project facilities**. To obtain such authorization, Kern River must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. Kern River must receive written authorization from the Director of OEP, or the Director's designee, **before placing the Project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.

11. **Within 30 days of placing the authorized facilities in service**, Kern River shall file an affirmative statement with the Secretary, certified by a senior company official:

    a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

    b. identifying which of the conditions in the Order Kern River has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

APPENDIX A

Distribution List for the Draft Environmental Impact Statement

Federal Agencies

Federal Regulatory Commission

Douglas Cotton, Land Use, Environmental Justice, Socioeconomics and Project Manager

Jennifer Fink, Fisheries, Wildlife, Vegetation, Special Status Species and Deputy Project Manager

Andrea Jensen, Geology, Groundwater, Soils and Contaminated Sites

Kenneth Warn, Air Quality, Noise, Safety and Reliability

Julia Yuan, Surface Water and Wetlands

Laurie Boros, Archaeologist

Kimberly D. Bose, Secretary

Bureau of Land Management

Fred Braun, Realty Specialist and Project Coordinator

U.S. Army Corps of Engineers

Hollis Jenks, Regulatory Project Manager

U.S. Environmental Protection Agency Region 8

Julie A. Smith, Lead Reviewer

U.S. Fish and Wildlife Service

Joseph Moore, Biologist

U.S. Department of Agriculture Natural Resources Conservation Service

Emily Fife, State Conservationist

U.S. House of Representative

Chris Stewart, Representative

U.S. Senate

Mitt Romney, Senator

Mike Lee, Senator

State Agencies Utah

Office of the Governor

Spencer Cox, Governor

Rob Simmons, Executive Director Office of Energy Development

John Baza, Director Division of Oil, Gas, and Mining

Utah Department of Environmental Quality

Alan Humphreys, Environmental Program Manager

Utah School and Institutional Trust Lands Administration

Scott Bartlett, Resource Specialist

Utah Department of Natural Resources

Jason Torgerson, Millard County Area Manager

Utah Public Lands Policy Coordinating Office

Kathleen Clarke, Director

Native American Tribes

Confederated Tribes of Goshute
Rupert Steele, Chairman

Hopi Tribe
Timothy Nuvangyaoma, Governor
Stewart Koyiyumptewa, Tribal Historic Preservation Officer

Kaibab Band of Paiute Indians
Ona Segundo, Chairwoman
Charlie Bulletts, NAGPRA Representative

Kanosh Band of Paiute Indians
Darlene Arrum

Navajo Nation
Jonathan Nez, President
Timothy Begay, Tribal Historic Preservation Officer

Paiute Indian Tribe of Utah
Tamra Borchert-Slayton, Chairperson
Dorena Martineau, Cultural Resources Coordinator

Skull Valley Band of Goshute
Candace Bear, Chairwoman

Ute Indian Tribe
Luke Duncan, Chairman
Betsy Chapoose, NAGPRA Representative

Pueblo of Jemez
Paul S. Chinana, Governor
Christopher Toya, Tribal Historic Preservation Officer

State Representatives and Senators

Utah House of Representatives
Merrill F. Nelson, Representative

Utah Senate
Paul Okerlund, Senator

City and County Agencies

Millard County
Dean Draper, Commissioner
Bill Wright, Commissioner
Evelyn Warnick, Commissioner

Delta City
John Niles, Mayor

Town of Holden
James Masner, Mayor

Delta Library
Holden Library

Companies and Organizations

Intermountain Power Agency
Valley Lands Partnership

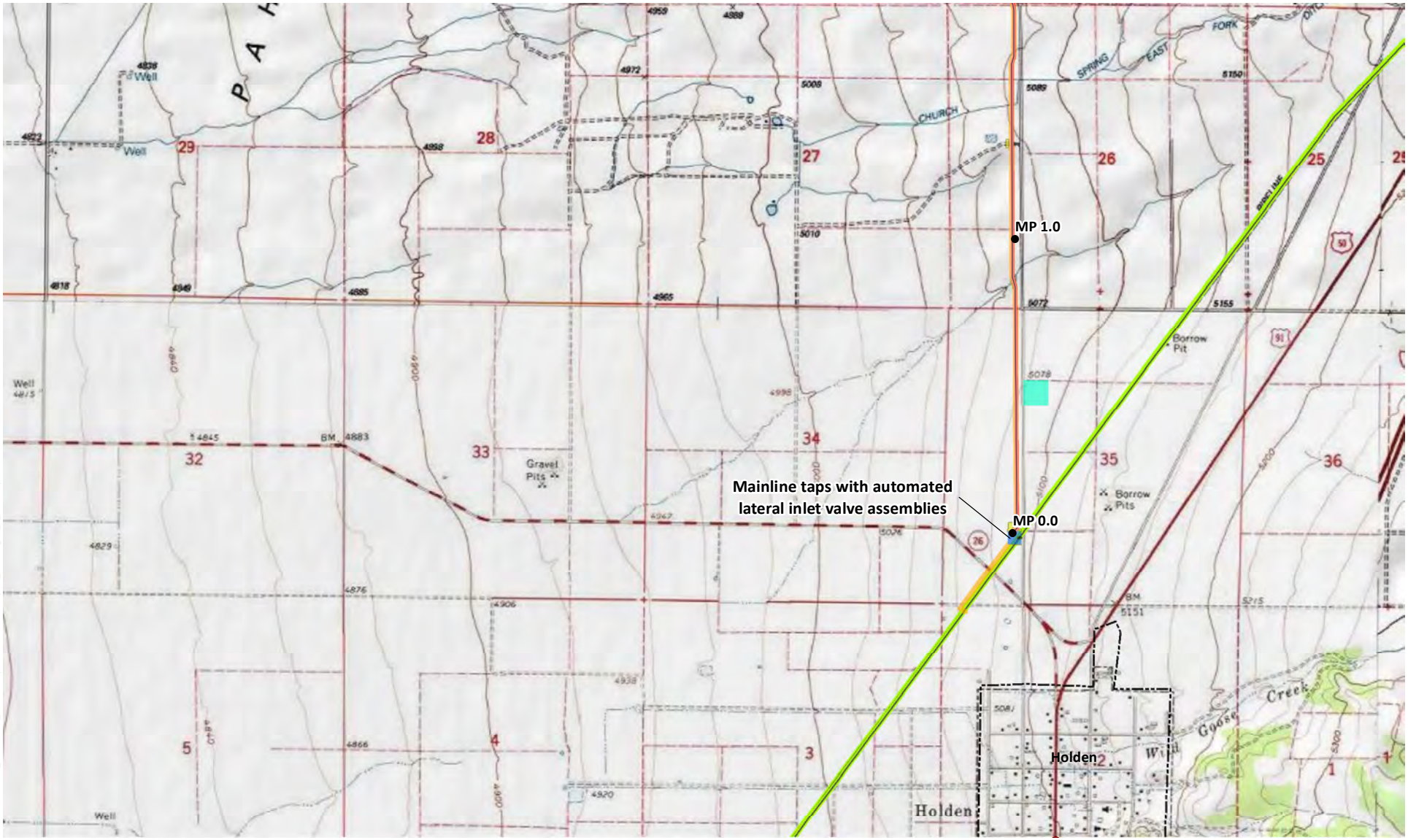
Delta Milk Company LLC
Bliss Dairy, LLC
Finlinson Land and Livestock
Nixon Land and Livestock, LLC
Pedersen Family Ranch, LLC
Terry Farms, LLC
SFC Welding, Inc.
Sand Mountain Investments
SDSC Enterprises, LLC
Millard County Chronicle Progress

Landowners and Individuals

Ross Stevens
Bruce Ashby
Melanie Jones
Ted Bennett
Bryan Komerek
John Henrie
Daren Fox
Ben Hunter
Katrina James
James Larsen
Shirley Lyman
Greg Kesler
Steve Murdock
Mitchell Meyers
Charles Roberts
Lawrence Rolph
Brian Stephenson
Robert Stephenson
Glade Stevens
Jayne Swapp
Juanita Teeples

APPENDIX B

Topographic Maps



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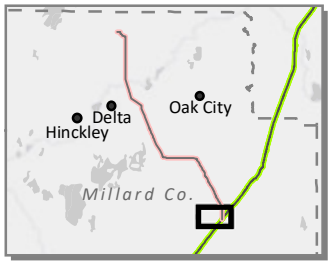


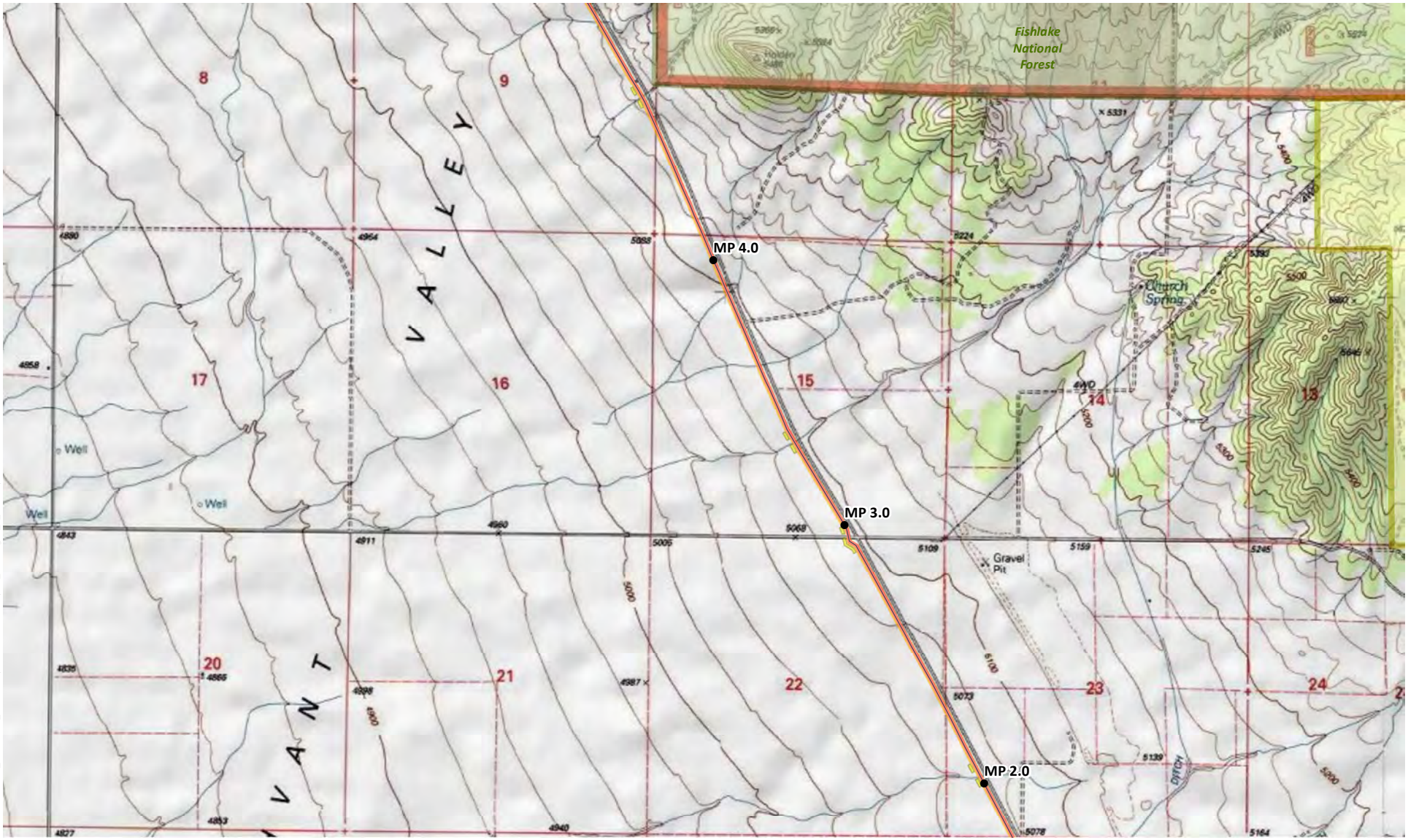
- Town
- Milepost
- Delta Lateral
- Existing Kern River Pipeline System
- Permanent ROW
- Temporary ROW
- ATWS
- Aboveground Facility
- Contractor Yard
- Access Road
- Town

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company



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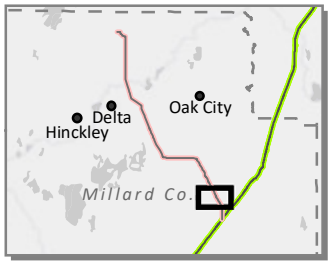


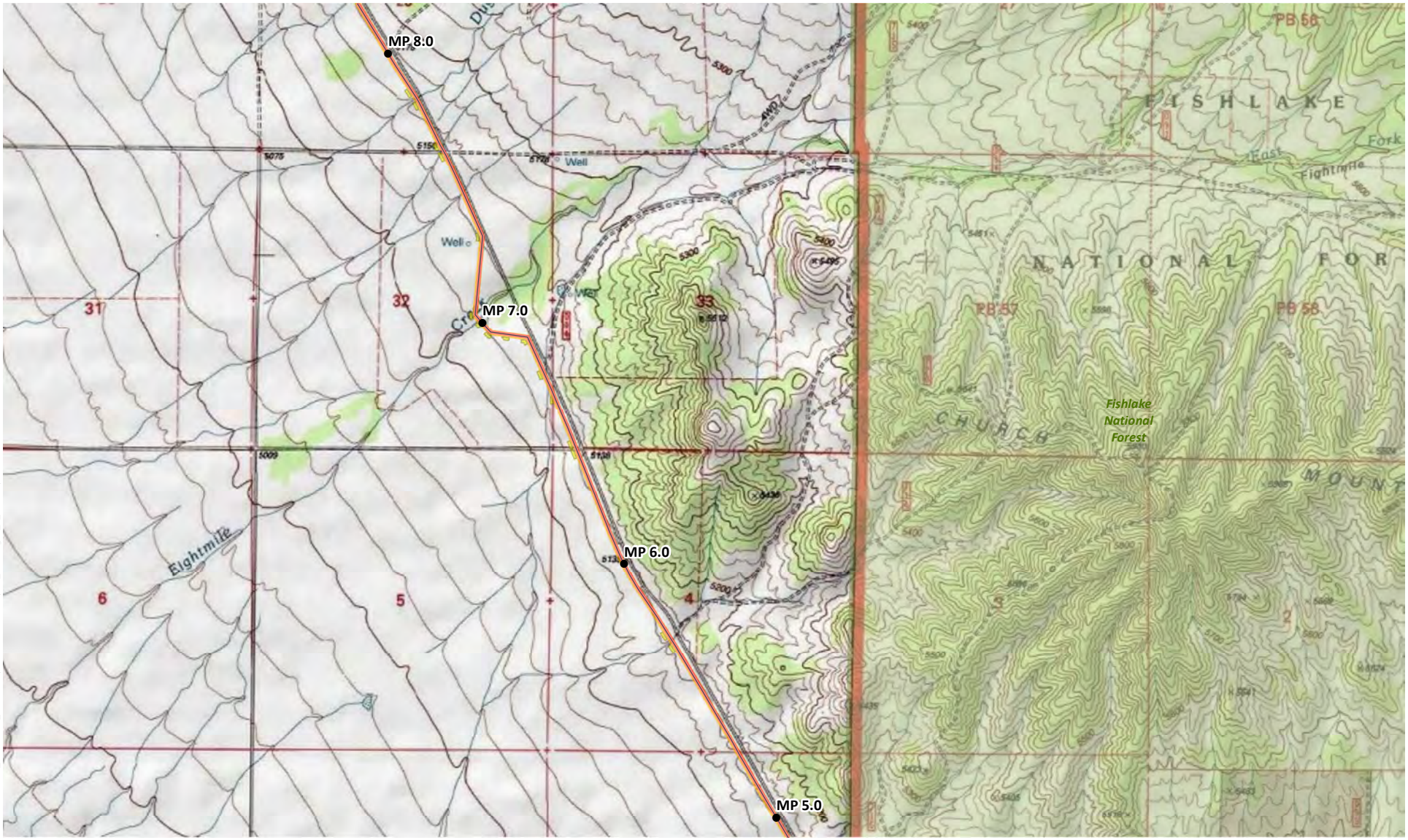
- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Access Road
- U.S. Forest Service Land
- Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company



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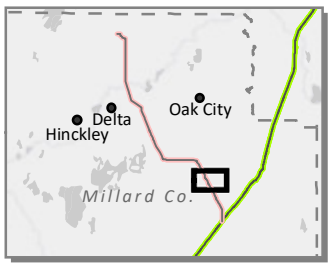


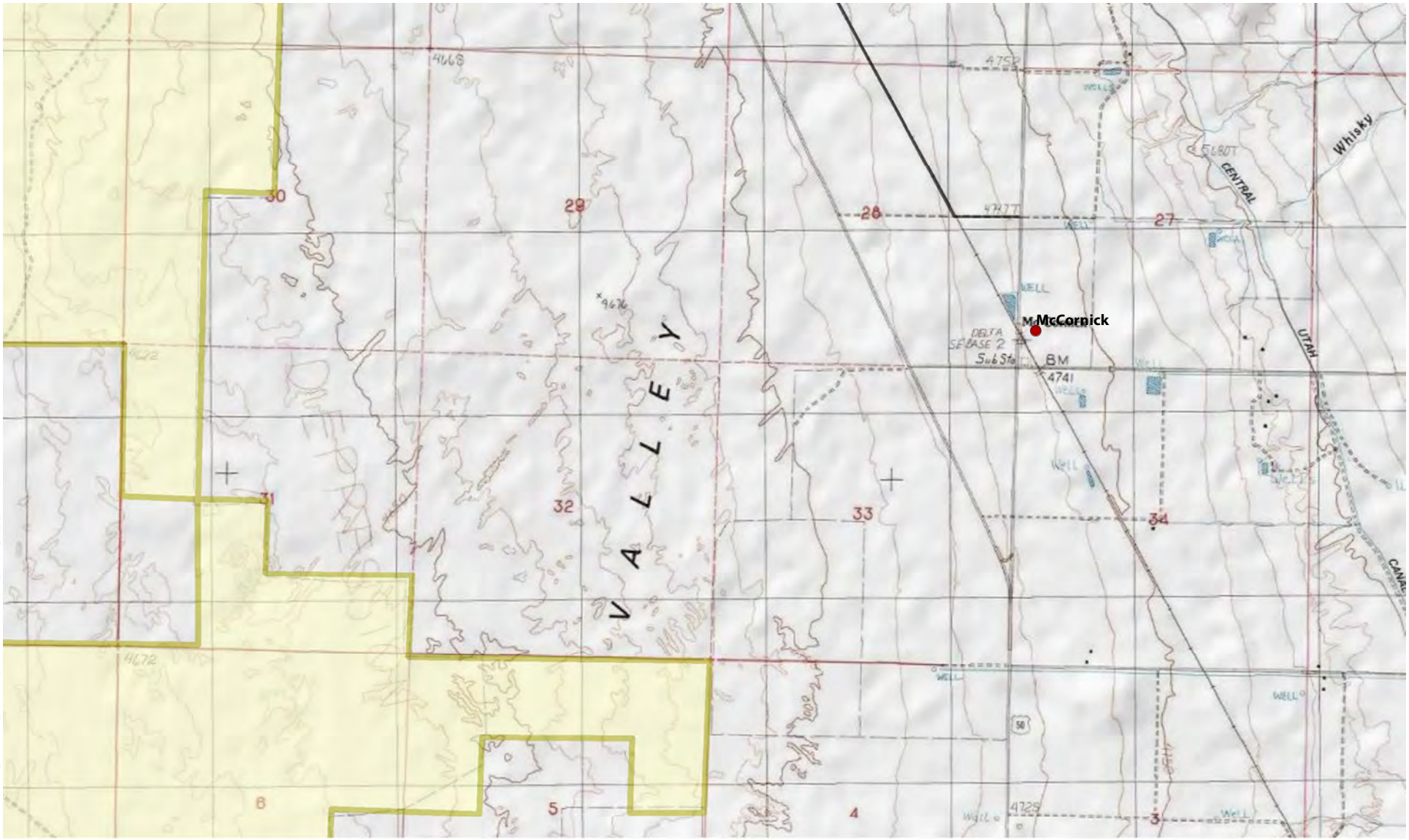
- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- U.S. Forest Service Land

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company



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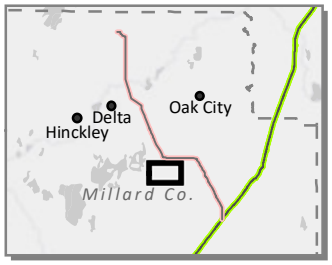


Town

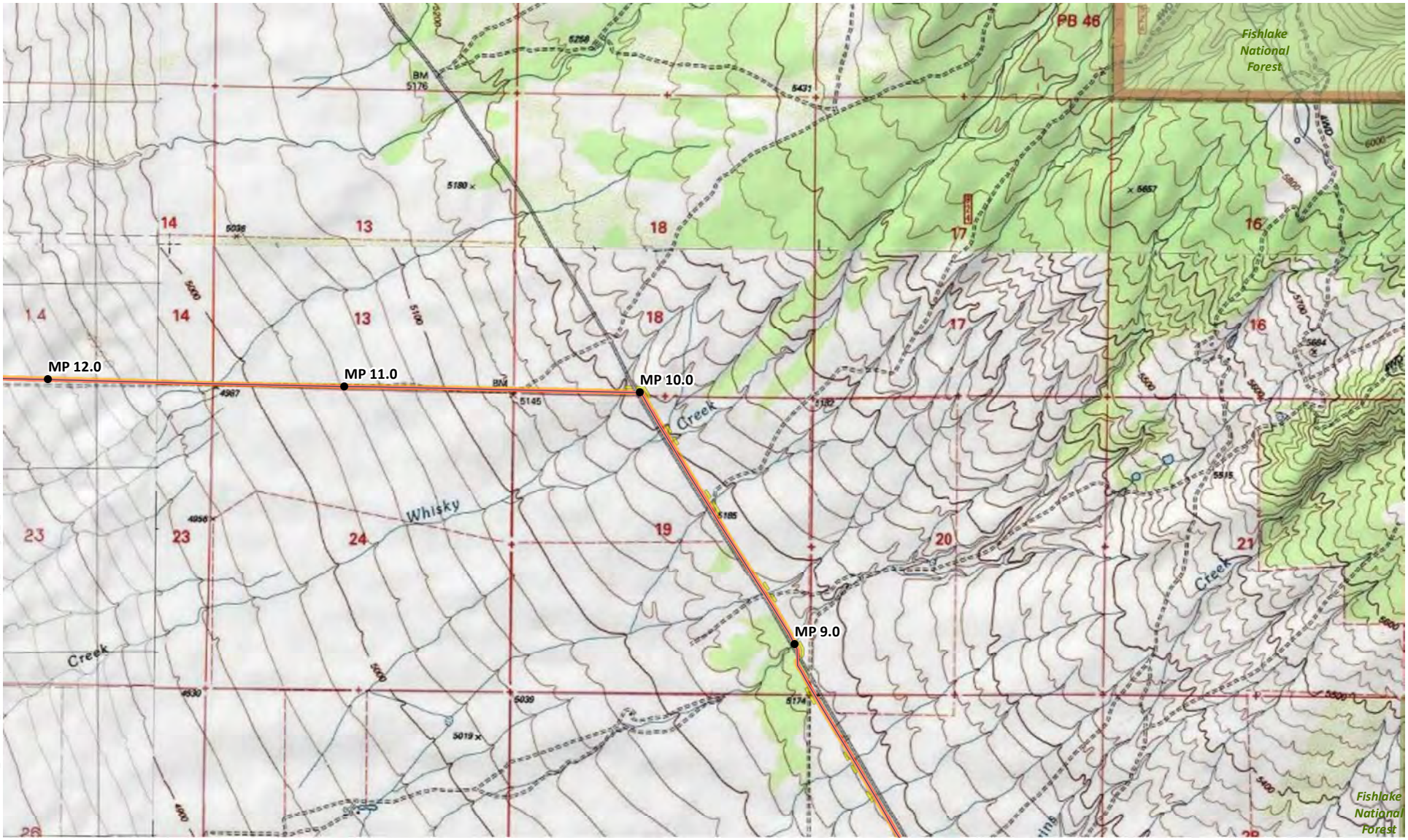
Access Road

Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Kern River Gas Transmission Company



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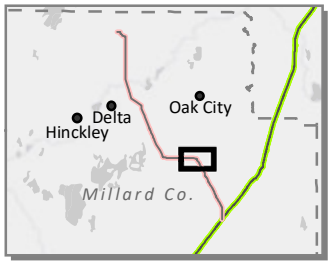
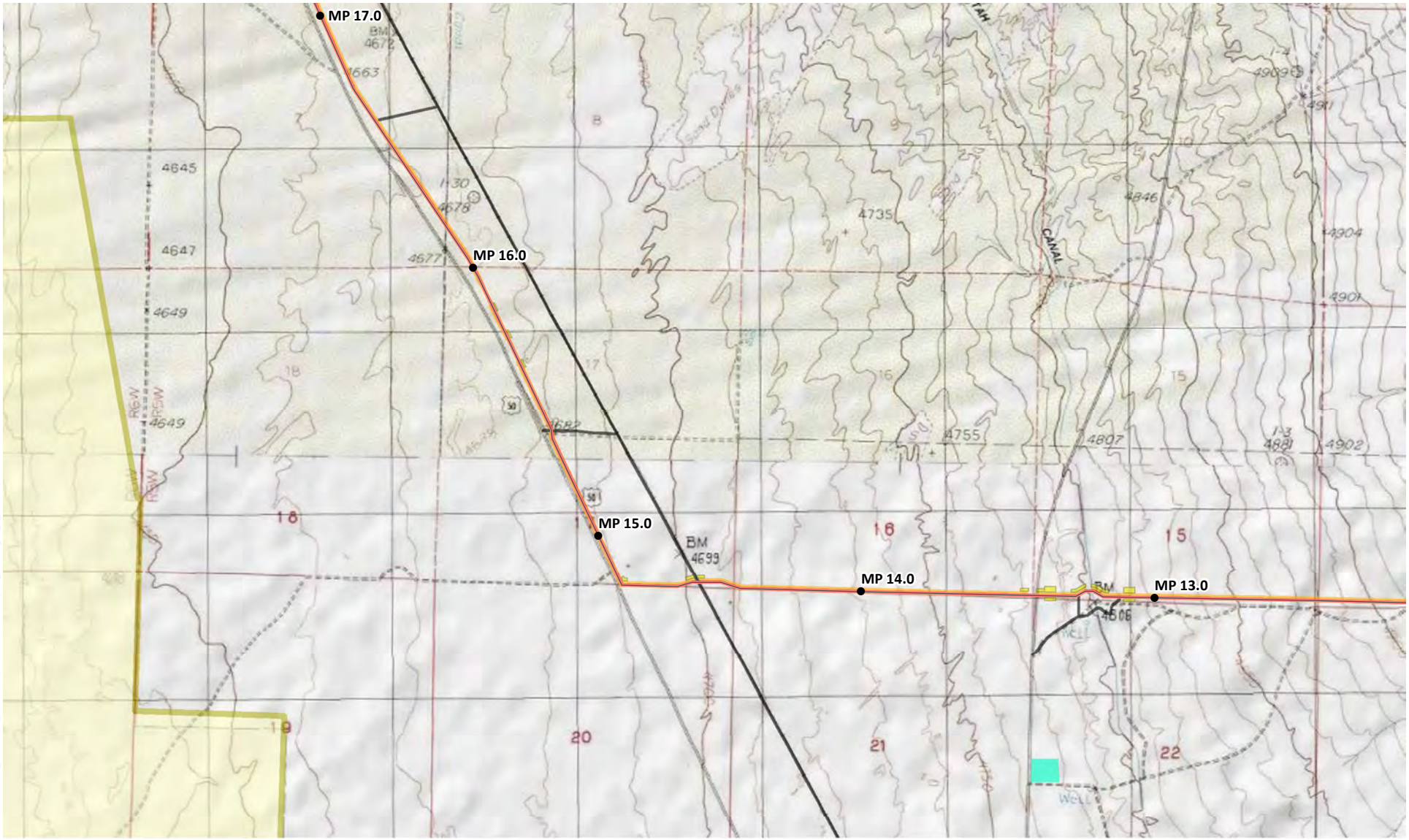


- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Access Road
- U.S. Forest Service Land

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Kern River Gas Transmission Company



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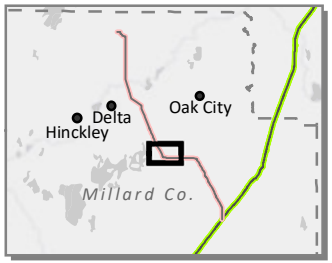


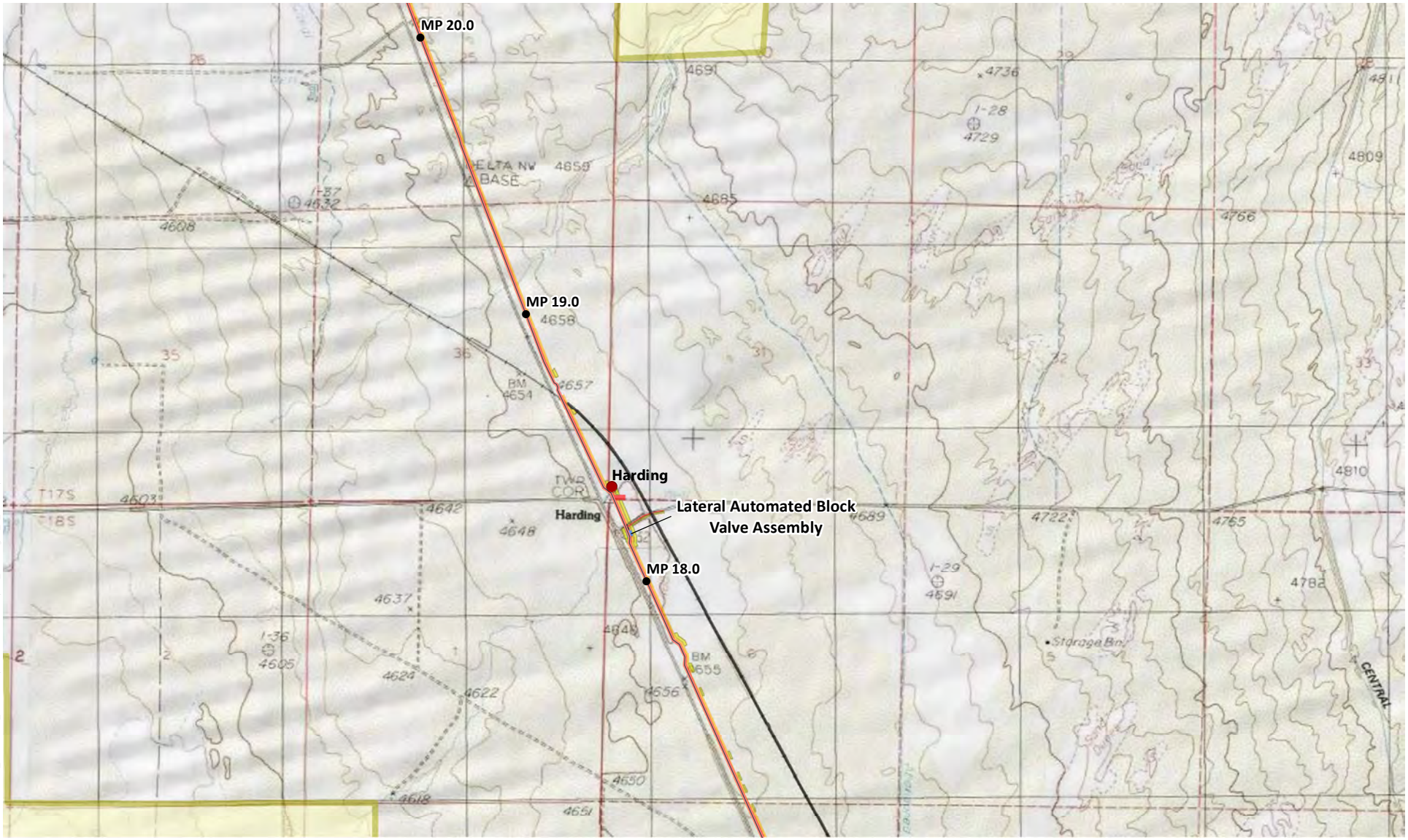
- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Contractor Yard
- Access Road
- Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company



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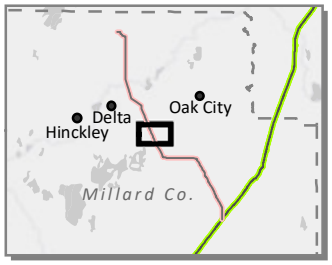


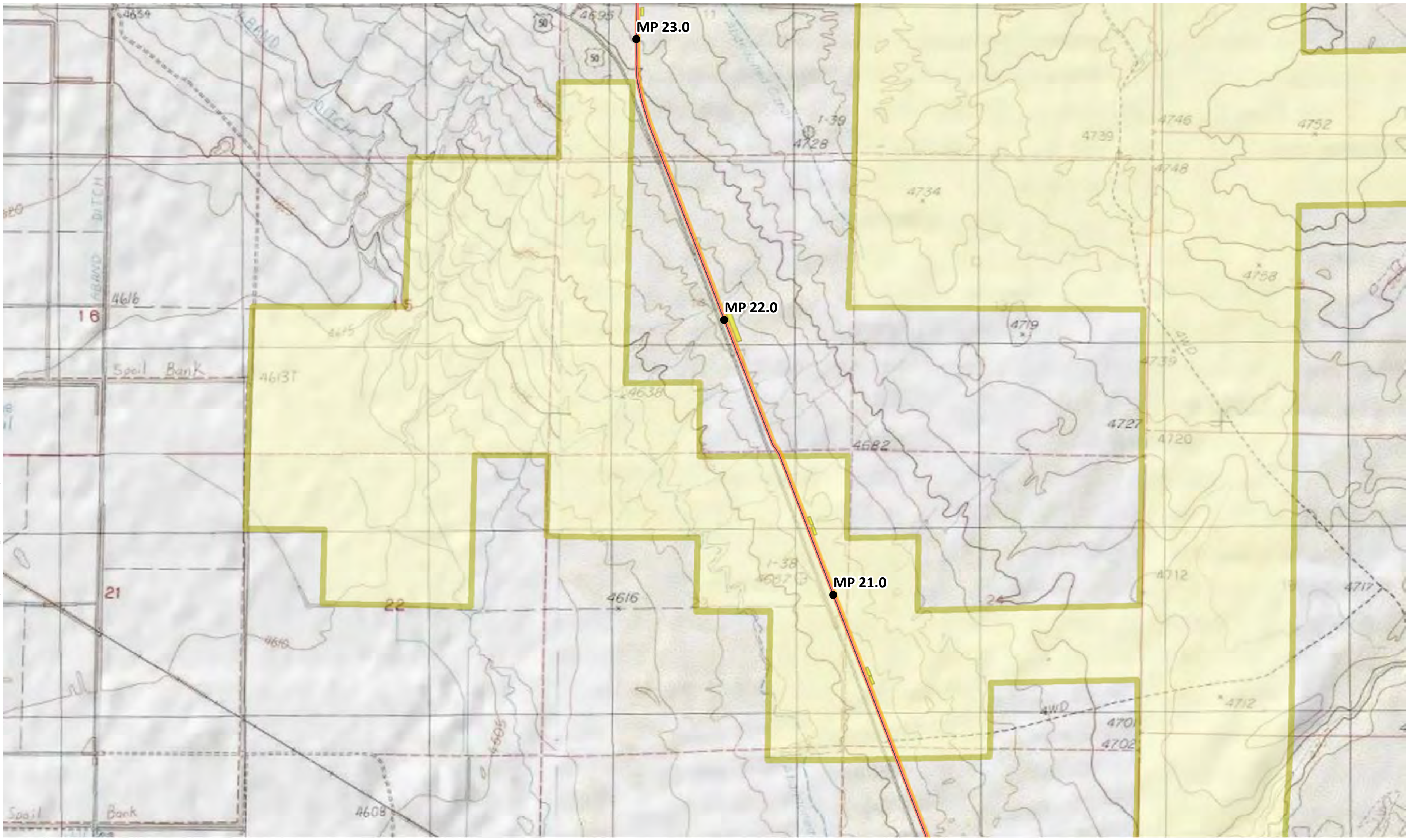
- Town
- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Aboveground Facility
- Access Road
- Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company



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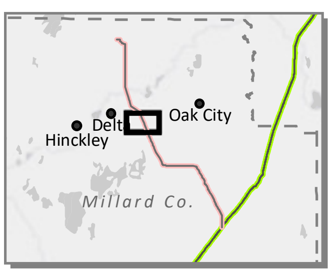


- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3

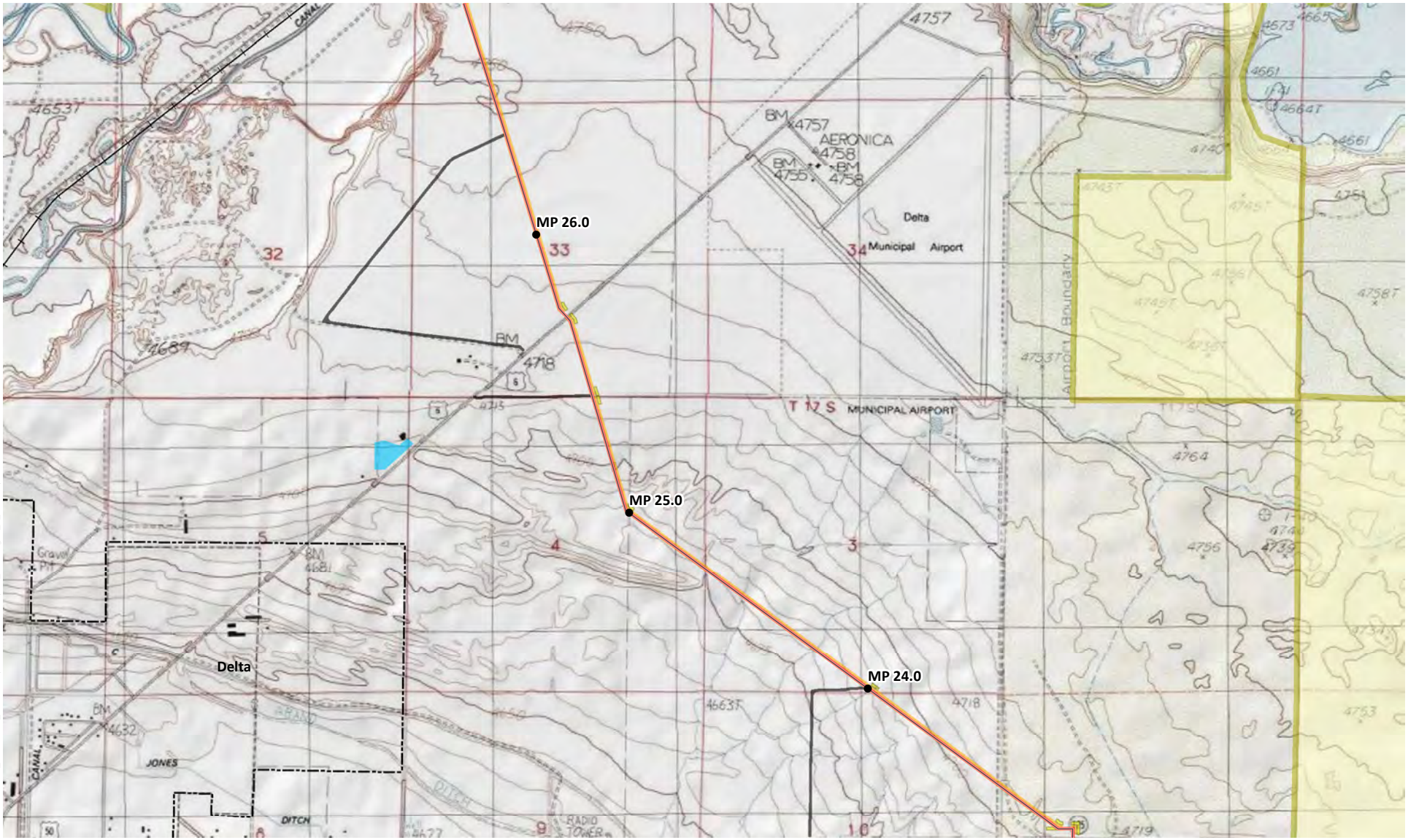
U.S. Geological Survey Topographic Map Series

Delta Lateral

Millard County, Utah

April 2021

Kern River Gas Transmission Company



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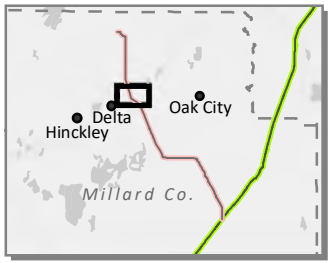


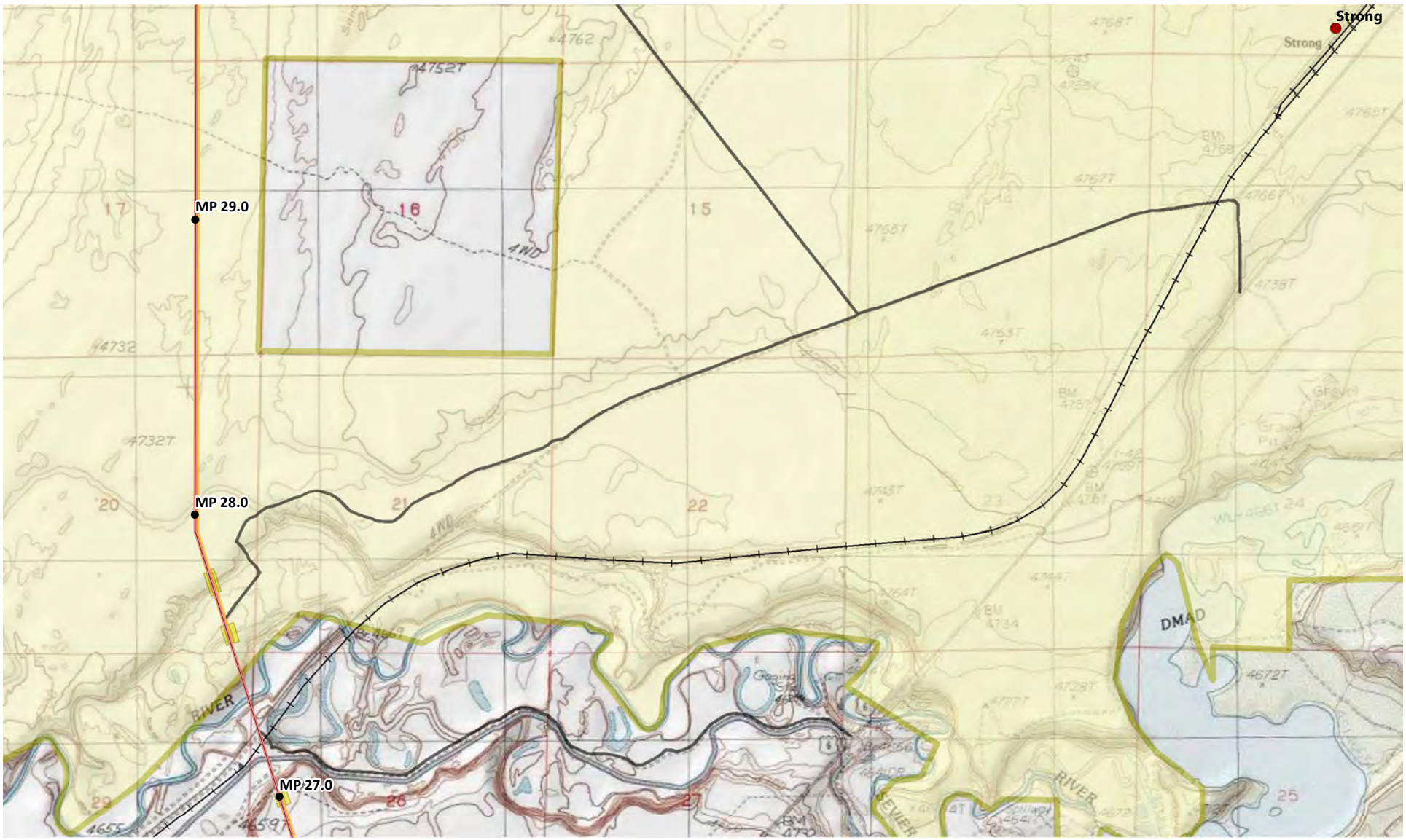
- Milepost
- Railroad
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Pipeyard
- Access Road
- Bureau of Land Management
- Town

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company



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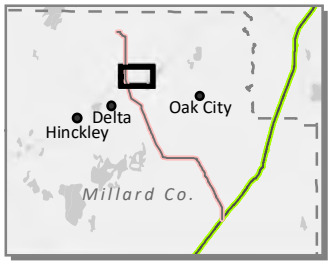
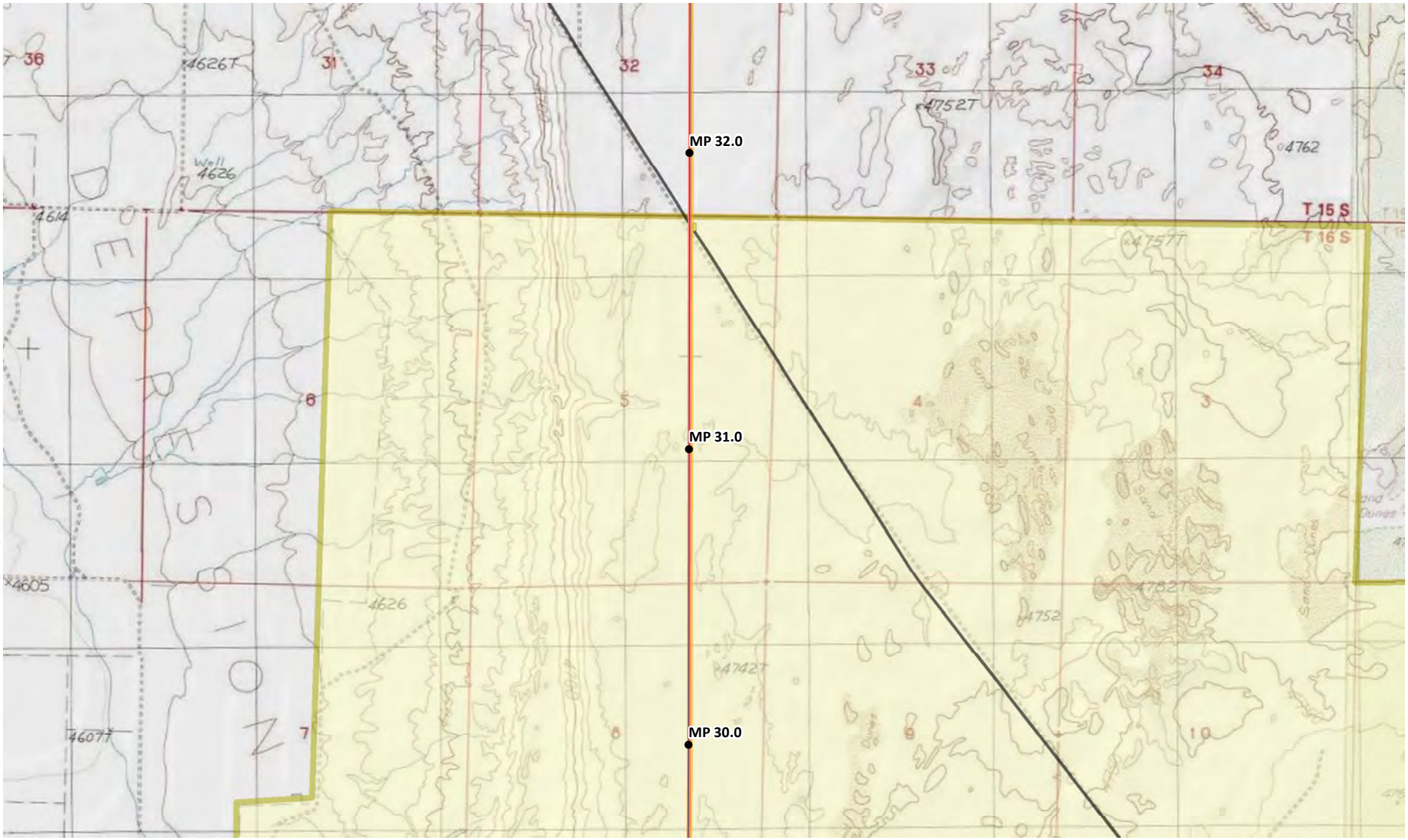


- Town
- Milepost
- Railroad
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Access Road
- Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Kern River Gas Transmission Company



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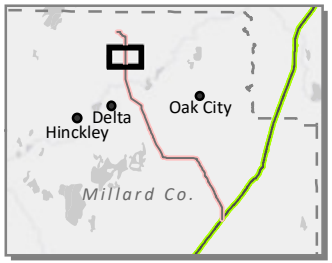
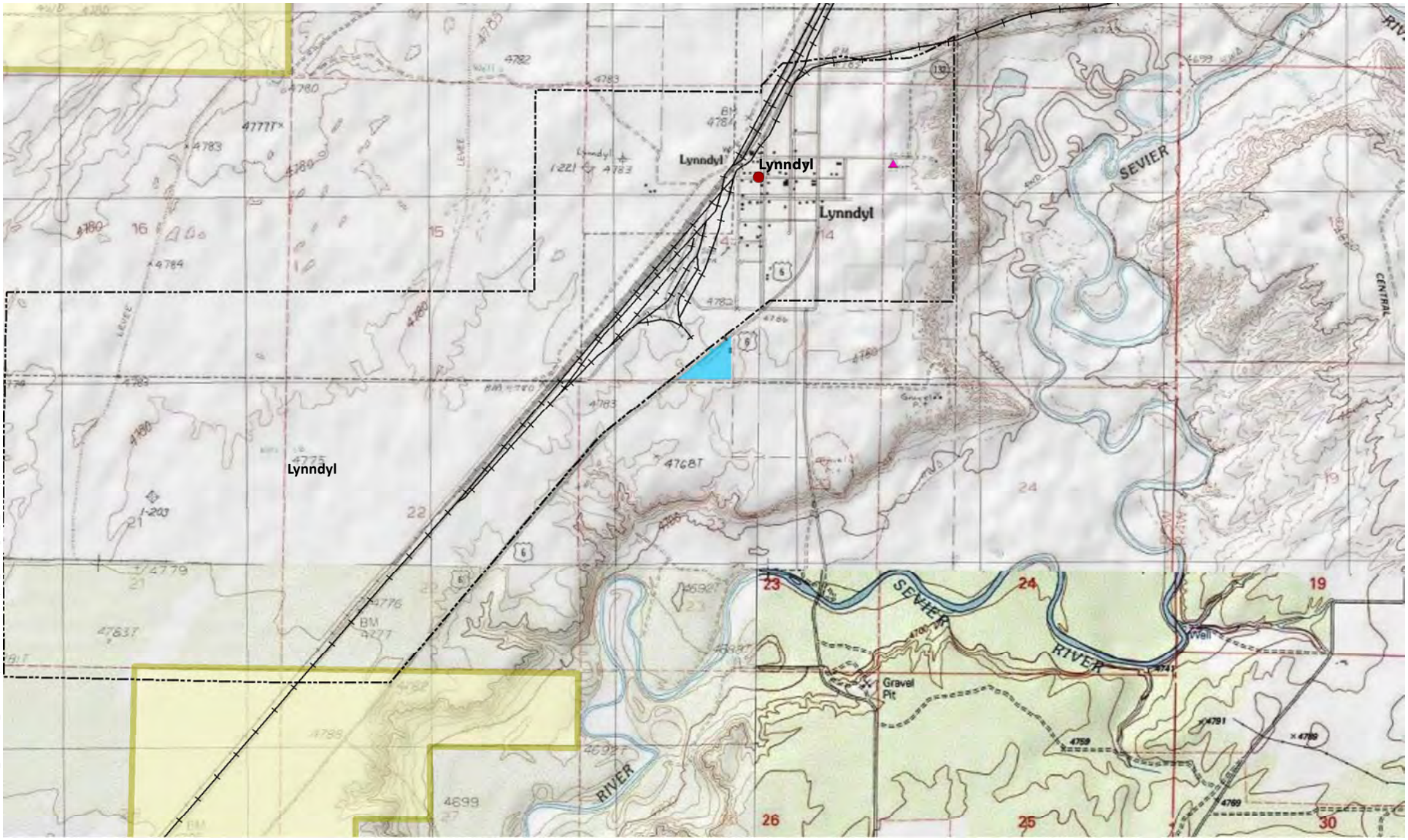


- Milepost
- Delta Lateral
- Permanent ROW
- Temporary ROW
- ATWS
- Access Road
- Bureau of Land Management

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Kern River Gas Transmission Company



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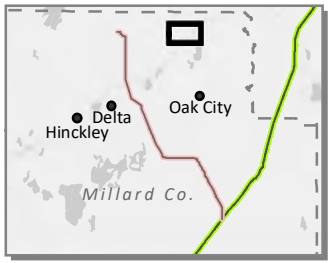
Feet



- Town
- Cemetery
- Railroad
- Pipeyard
- Access Road
- Bureau of Land Management

Town

Sources: ESRI 2019.

Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

Millard County, Utah
April 2021

Kern River Gas Transmission Company

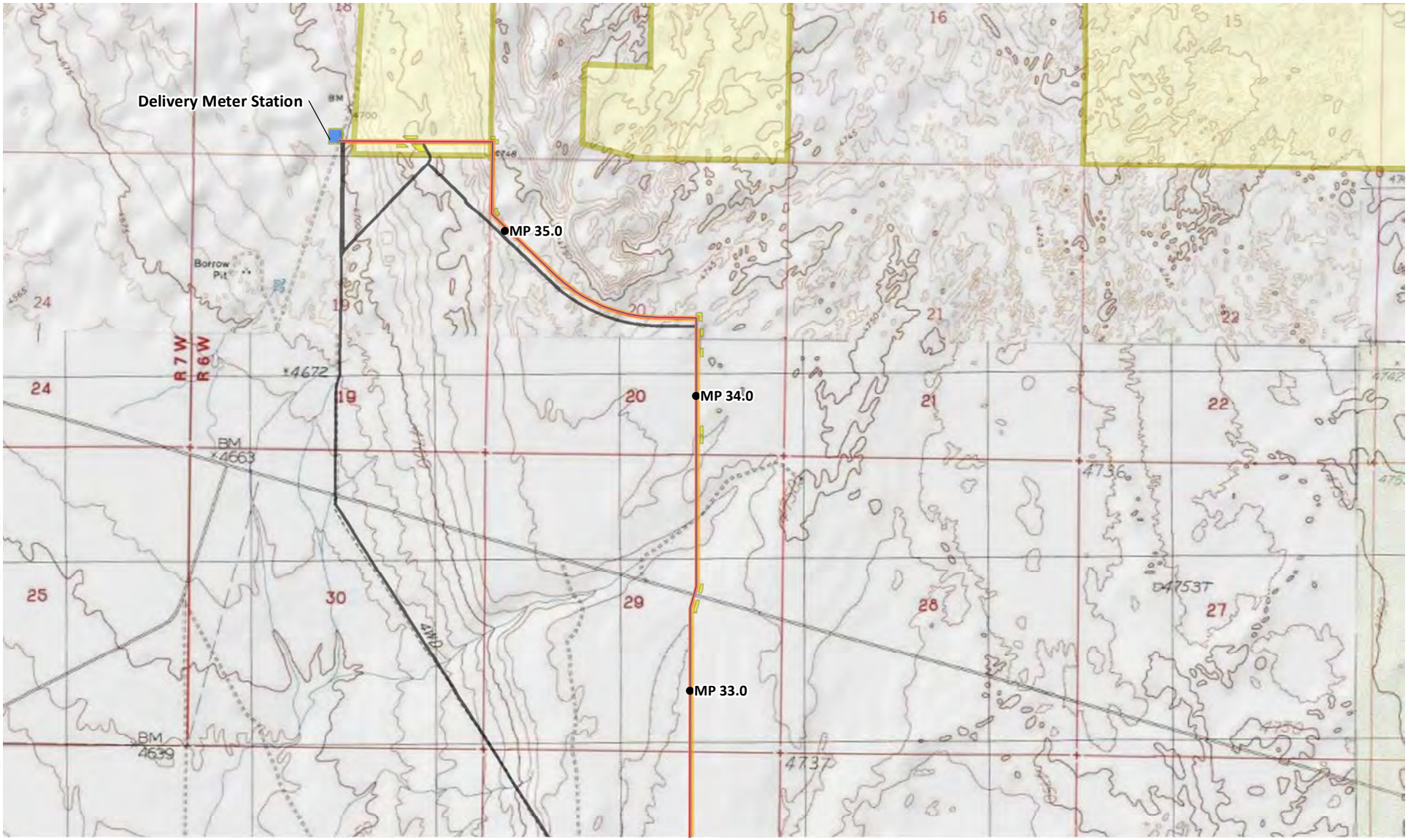


Figure 1A-3
U.S. Geological Survey Topographic Map Series
Delta Lateral

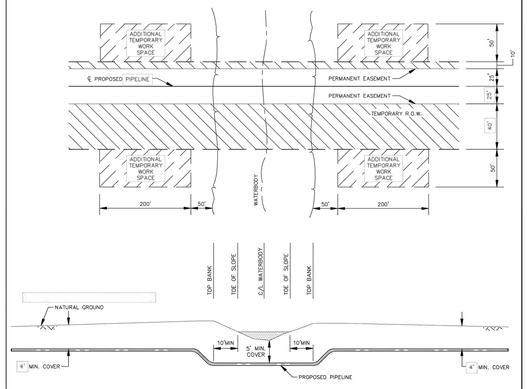
Millard County, Utah
April 2021

Kern River Gas Transmission Company

APPENDIX C

Pipeline Construction Right-of-Way Figures

TYPICAL WATERBODY CROSSING CROSS COUNTRY



PROFILE
SCALE: N.T.S.

NOTES:
1. FOR ACTUAL CONSTRUCTION WORK SPACE, REFER TO THE CONSTRUCTION ALIGNMENT SHEETS OR OTHER APPLICABLE SITE SPECIFIC DRAWINGS.
2. CONCRETE COATED PIPE OR CONCRETE WEIGHTS MAY BE USED AS REQUIRED.

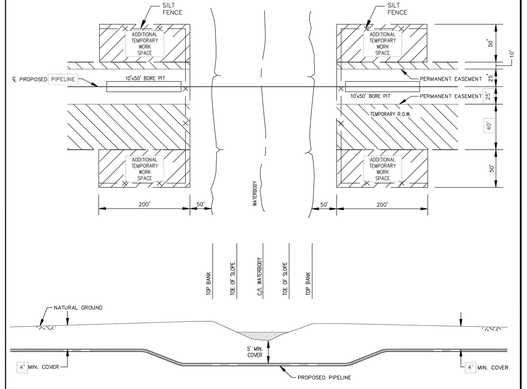
ENGineering — 28100 TORCH PARKWAY WARRENVILLE, IL 60555 TEL 630-353-4000 FAX 630-353-7777 WWW.ENGINEERING.COM
Kern River GAS TRANSMISSION COMPANY — A BERKSHIRE HATHAWAY ENERGY COMPANY

DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL WATERBODY CROSSING CROSS COUNTRY

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL BORED WATERBODY CROSSING



PROFILE
SCALE: N.T.S.

NOTES:
1. FOR ACTUAL CONSTRUCTION WORK SPACE, REFER TO THE CONSTRUCTION ALIGNMENT SHEETS OR OTHER APPLICABLE SITE SPECIFIC DRAWINGS.

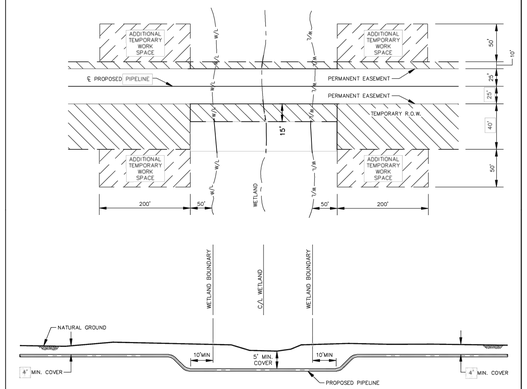
ENGineering — 28100 TORCH PARKWAY WARRENVILLE, IL 60555 TEL 630-353-4000 FAX 630-353-7777 WWW.ENGINEERING.COM
Kern River GAS TRANSMISSION COMPANY — A BERKSHIRE HATHAWAY ENERGY COMPANY

DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL BORED WATERBODY CROSSING

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL WETLAND CROSSING CROSS COUNTRY



PROFILE
SCALE: N.T.S.

NOTES:
1. CONCRETE COATED PIPE OR CONCRETE WEIGHTS MAY BE USED AS REQUIRED.

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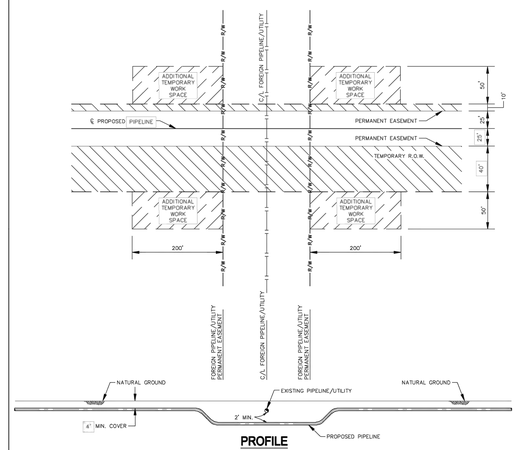
DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL WETLAND CROSSING CROSS COUNTRY

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL FOREIGN PIPELINE / UTILITY CROSSING CROSS COUNTRY



PROFILE
SCALE: N.T.S.

NOTES:
1. FOR ACTUAL CONSTRUCTION WORK SPACE, REFER TO THE CONSTRUCTION ALIGNMENT SHEETS OR OTHER APPLICABLE SITE SPECIFIC DRAWINGS.
2. PROPOSED PIPELINE WILL CROSS UNDER THE EXISTING FOREIGN UTILITY UNLESS SUFFICIENT COVER EXIST TO MAINTAIN MINIMUM COVER AND 2'-0" MINIMUM CLEARANCE.
3. PROPOSED PIPELINE WILL CROSS FOREIGN UTILITY BY OPEN CUT METHOD UNLESS THE FOREIGN UTILITY IS LOCATED IN PROXIMITY WITH A BORED CROSSING, WHERE PRACTICAL THE FOREIGN UTILITY CROSSING WILL BE INCLUDED IN THE BORED CROSSING.

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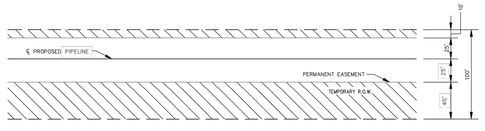
DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL FOREIGN PIPELINE/UTILITY CROSSING CROSS COUNTRY

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL CONSTRUCTION RIGHT OF WAY CROSS COUNTRY



NOTES:
1. FOR ACTUAL CONSTRUCTION WORK SPACE, REFER TO THE CONSTRUCTION ALIGNMENT SHEETS OR OTHER APPLICABLE SITE SPECIFIC DRAWINGS.

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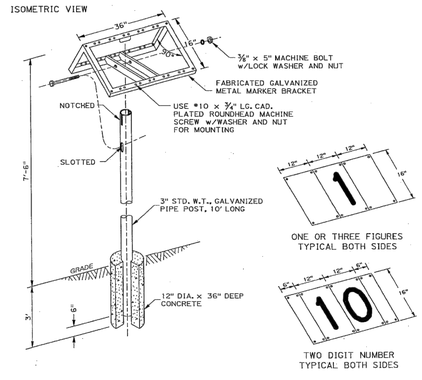
DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL CONSTRUCTION RIGHT OF WAY CROSS COUNTRY

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL PIPELINE AERIAL MARKER



NOTES:
1. MARKER BRACKET, MARKER PLATES AND MOUNTING HARDWARE SHALL BE PORTER COMPANY OR APPROVED EQUAL.
2. CONTRACTOR SHALL ASSEMBLE AND INSTALL AT LOCATIONS DESIGNATED BY COMPANY.

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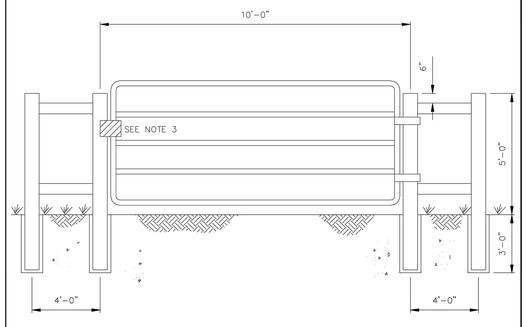
DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL PIPELINE AERIAL MARKER

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL RIGHT-OF-WAY GATE (METAL)



NOTES:
1. FENCE POSTS SHALL BE 4" MINIMUM DIAMETER AND BURIED 3'-0".
2. CROSS BRACES SHALL BE 2" MINIMUM DIAMETER.
3. GATE CLOSURE SHALL INCLUDE A WELDED CLASP DEVICE & LOCK PROTECTOR. CHAIN SHALL NOT BE USED TO SECURE FENCE.

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DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL RIGHT-OF-WAY GATE

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

TYPICAL PIPELINE GROUND MARKER

NOTES:
1. CONTRACTOR SHALL INSTALL ALL PIPELINE WARNING SIGNS.
2. 72" OVERALL LENGTH, 3 1/2" OD POST WITH YELLOW BULLET TOP, #0302043

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DWN BY:	APPROVED:	ORGN DATE:	REV. DATE:–

TYPICAL PIPELINE GROUND MARKER

DWG NO.
JOB NO. KRGT
SCALE: N.T.S.
REV.

REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REVISIONS

NO.	DATE	REMARKS	REV.	CKD.	COR.	APP.
A	11/11/20	ISSUED FOR 90% REVIEW	CNW	JP	CNW	DP
B	01/20/21	ISSUED FOR APPROVAL	CNW	JP	CNW	DP
C	03/12/21	RE-ISSUED FOR FERC	CNW	JP	CNW	DP

Kern River GAS TRANSMISSION COMPANY — A BERKSHIRE HATHAWAY ENERGY COMPANY

DRAWN BY:	CNW	DATE:	10/13/20
CHECKED BY:	JP	DATE:	10/14/20
CORRECTED BY:	CNW	DATE:	10/14/20
DESIGNED BY:	CNW	DATE:	10/13/20
APPROVED BY:	DP	DATE:	10/15/20
CONST.:		DATE:	
DESIGN MGR.:		DATE:	
W.O. #:		SCALE:	NTS

KERN RIVER GAS TRANSMISSION COMPANY
24" DELTA LATERAL

TYPICAL CONSTRUCTION DRAWINGS
MILLARD COUNTY, UTAH

ENGineering

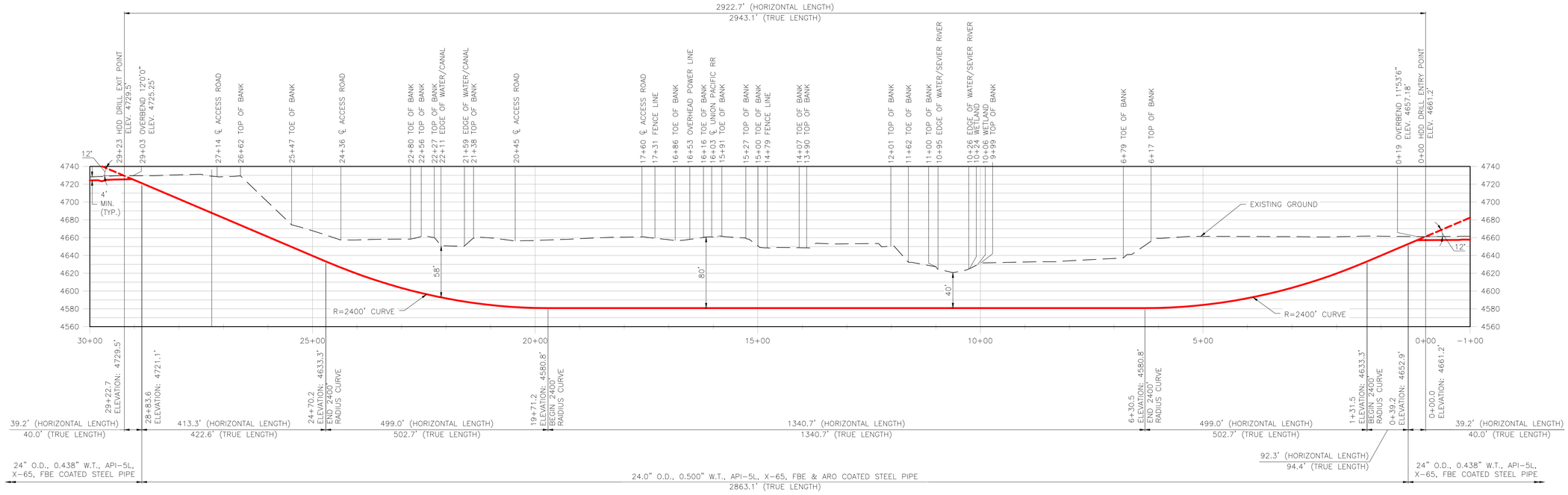
SHEET 1 OF 1

KO-A-STD-1-015

APPENDIX D

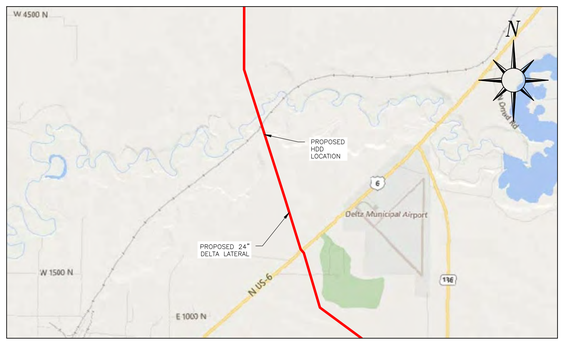
HDD Profile Drawing

PLAN
1"=120'



PROFILE
H: 1"=120' ; V: 1"=60'

VICINITY MAP - NOT TO SCALE



LEGEND

- EXISTING EDGE OF WATER
- EXISTING OVERHEAD POWER LINE
- EXISTING RAILROAD (RR) CENTERLINE (℄)
- EXISTING ROAD CENTERLINE (℄)
- EXISTING FENCE
- PROPOSED PIPELINE (HDD)
- PROPOSED PERMANENT RIGHT-OF-WAY (R.O.W.)
- PROPOSED TEMPORARY WORKSPACE (TWS)
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE (ATWS)
- AVOIDANCE AREA

NOTES

1. CONTRACTOR SHALL FOLLOW REQUIREMENTS AS SET FORTH BY PERMIT CONDITIONS AND COMPANY SPECIFICATIONS. WHERE CONFLICT ARISES, THE MORE CONSERVATIVE ACTION SHALL BE FOLLOWED.
2. PIPELINE AND CROSSING TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LAST APPROVED AREMA STANDARDS FOR PIPELINES CONVEYING FLAMMABLE AND NON FLAMMABLE SUBSTANCES.
3. PIPELINE SHALL BE INSTALLED USING HORIZONTAL DIRECTIONAL DRILLING METHODS AS STIPULATED IN THE APPLICABLE PERMIT(S). PIPELINE MATERIAL SHALL BE STEEL AND CARRY NATURAL GAS.
4. CONTRACTOR SHALL RETURN GRADE TO EXISTING CONDITION AFTER CONSTRUCTION OF CROSSING IS COMPLETE.
5. CARRIER PIPE WILL BE CATHODICALLY PROTECTED, TEST STATIONS TO BE INSTALLED WHERE DESIGNATED BY COMPANY. REFER TO ALIGNMENT SHEETS.
6. PIPELINE SHALL BE INSTALLED A MINIMUM 30' UNDERNEATH RAILROAD AND WATERBODIES.
7. CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES PER THE APPROVED SWPPP.
8. CONTRACTOR SHALL NOTIFY "BLUE STAKES OF UTAH 811" 48 HOURS (EXCLUDING HOLIDAYS AND WEEKENDS) IN ADVANCE OF ANY EXCAVATION ACTIVITIES COMMENCING.

PIPE SPECIFICATIONS

OUTSIDE DIAMETER:	24"
WALL THICKNESS:	0.500"
MATERIAL:	STEEL
GRADE:	API-5L X65
PIPE COATING:	FUSION BONDED EPOXY (15 MILS)
EXTERNAL COATING:	ARO (30 MILS MIN.)

DESIGN DATA

DESIGN PRESSURE:	1350 PSIG
DESIGN FACTOR:	0.5

HDD PIPE HYDROSTATIC PRETEST NOTES

CONTRACTOR SHALL HYDROSTATIC PRETEST HDD PIPE TO:
2700 PSIG MAX. (2 X DESIGN PRESSURE),
2025 PSIG MIN. (1.5 X DESIGN PRESSURE)
DURATION 4 HOURS MIN.

0 120 240 360
1" = 120'

REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE
2609.2-2	SEVIER RIVER - HDD BORING DETAILS AND PROFILE		
2609.22-29	24" DELTA LATERAL FROM STA. 1382+00 TO 1432+00		
2609.22-30	24" DELTA LATERAL FROM STA. 1432+00 TO 1482+00		

REVISIONS

NO.	DATE	REMARKS	REV.	CKD.	COR.	APP.
A	11/11/20	ISSUED FOR 90% REVIEW	CNW	JP	CNW	DP
B	01/20/21	ISSUED FOR APPROVAL	CNW	JP	CNW	DP

Kern River GAS TRANSMISSION COMPANY
A BERKSHIRE HATHAWAY ENERGY COMPANY

DRAWN BY:	CNW	DATE:	08/28/20
CHECKED BY:	JP	DATE:	08/31/20
CORRECTED BY:	CNW	DATE:	08/31/20
DESIGNED BY:	CNW	DATE:	08/31/20
APPROVED BY:	DP	DATE:	08/17/20
CONST.:		DATE:	
DESIGN MGR.:		DATE:	
W.O. #:		SCALE:	AS NOTED

KERN RIVER GAS TRANSMISSION COMPANY
24" DELTA LATERAL

SEVIER RIVER - HDD PLAN AND PROFILE
MILLARD COUNTY, UTAH

ENGineering

SHEET 1 OF 1

2609.2-1

8

APPENDIX E

Waterbody Crossings Table

Waterbodies Crossed by the Project								
MP	Feature ID / Name a/	Flow Regime	Crossing Length (feet)	FERC Classification	Utah Stream Water Quality Beneficial Use Designation	Fishery Type	Crossing Method b/	Crossing Window c/
0.9	D-041 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
1.0	D-042 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
1.5	S-007 (Church Spring Ditch)	Intermittent	3	Minor	2B and 3E	None	Open-cut	None
2.0	D-040 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
2.4	D-039 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
2.5	D-039 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
3.3	D-038 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
4.6	D-037 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
5.3	D-036 (unnamed)	Ephemeral	3	Minor	2B and 3E	None	Open-cut	None
5.7	D-035 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
6.7	D-034 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
6.7	D-033 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
6.9	D-032 (unnamed)	Ephemeral	1.5	Minor	2B and 3E	None	Open-cut	None
7.0	D-031a (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
7.2	D-030 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
7.8	D-029 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
7.8	S-006 (Duggins Creek)	Ephemeral	3	Minor	2B and 3E	None	Open-cut	None
8.6	D-028 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
8.6	D-027 (unnamed)	Ephemeral	0.5	Minor	2B and 3E	None	Open-cut	None
9.6	D-024A (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
9.6	D-024 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
9.8	D-023 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
9.8	S-005 (Whiskey Creek)	Intermittent	4	Minor	2B and 3E	None	Open-cut	None
10.1	D-022 (Unnamed Tributary to Whiskey Creek)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
11.3	D-020 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
13.2	S-004 (Central Utah Canal)	Ephemeral	4	Minor	2B and 3E	None	Auger Bore	None
17.0	D-019 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
18.8	D-018 (unnamed)	Ephemeral	3	Minor	2B and 3E	None	Open-cut	None

Waterbodies Crossed by the Project

MP	Feature ID / Name a/	Flow Regime	Crossing Length (feet)	FERC Classification	Utah Stream Water Quality Beneficial Use Designation	Fishery Type	Crossing Method b/	Crossing Window c/
21.6	D-017 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
21.6	D-016 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
21.7	D-015 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
21.7	D-014 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
21.8	D-013 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
21.8	D-012A (unnamed)	Ephemeral	3	Minor	2B and 3E	None	Open-cut	None
21.8	D-012 (unnamed)	Ephemeral	3	Minor	2B and 3E	None	Open-cut	None
22.0	D-011 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
22.3	D-010 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
22.4	D-009 (unnamed)	Ephemeral	0.5	Minor	2B and 3E	None	Open-cut	None
22.6	D-008a (unnamed)	Ephemeral	0.5	Minor	2B and 3E	None	Open-cut	None
22.6	D-008 (unnamed)	Ephemeral	0.5	Minor	2B and 3E	None	Open-cut	None
22.7	D-007 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
22.8	D-006 (unnamed)	Ephemeral	1	Minor	2B and 3E	None	Open-cut	None
22.9	D-005 (unnamed)	Ephemeral	2	Minor	2B and 3E	None	Open-cut	None
27.2	S-003 (Canal A)	Perennial	50	Intermediate	3B	Warmwater	HDD	None c/
27.3	S-002 (Sevier River)	Perennial	70	Intermediate	3B	Warmwater	HDD	None c/

Source: UDEQ, 2020c

a Each waterway encountered was assigned a unique alphanumeric identifier to assist in waterway documentation. Waterways encountered were assigned either a "D" for drainage or a "S" for stream, followed by a number to assign the feature a unique identifier (e.g., "D-001" and "S-001").

b Waterbodies that are dry at the time of crossing would be crossed via open-cut and construction would proceed in accordance with Section V.B.3.g of FERC's Procedures. In the event of perceptible flow, Kern River would temporarily cease construction at the waterbody until flow dissipated. If flow does not dissipate within a reasonable timeframe, Kern River would complete the open-cut crossing of waterbodies by implementing the flume-crossing method and the practices listed in Section V.B.6 of FERC's Procedures.

c The crossing window for these waterbodies is April 1 to June 30. However, this crossing window does not apply because Kern River proposes to use HDD methods to cross these waterbodies and no in-water work would occur (Mellon, 2021).

Key:
FERC = Federal Energy Regulatory Commission
HDD = horizontal directional drill
ID = identification
MP = milepost
OHWM = ordinary high water mark

APPENDIX F

Additional Temporary Workspace

Delta Lateral Additional Temporary Workspace						
		Dimensions (ft)		Acreage	Justification	Land Use
		Width	Length			
Pipeline Lateral						
ATWS-001A	0.00	10	163	0.03	Facility Construction	Rangeland
ATWS-001B	0.00	50	43	0.05	Facility Construction	Rangeland
ATWS-001	0.00	100	150	0.32	Pipeline PI	Rangeland
ATWS-002	1.30	50	150	0.17	Private Road Crossing	Rangeland
ATWS-003	2.04	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-004	2.04	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-005	2.96	50	335	0.40	Road Crossing	Open Land; Rangeland
ATWS-006	2.96	50	140	0.14	Road Crossing	Industrial/Commercial; Rangeland
ATWS-007	3.34	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-008	3.34	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-009	4.61	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-010	4.61	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-011	5.70	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-012	5.70	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-013	6.42	50	150	0.18	Road Crossing	Rangeland
ATWS-014	6.42	50	150	0.16	Road Crossing	Industrial/Commercial; Rangeland
ATWS-015	6.62	50	150	0.11	Waterbody Crossing	Rangeland
ATWS-016	6.70	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-017	6.84	50	150	0.14	Pipeline PI	Rangeland
ATWS-018	6.93	50	142	0.12	Waterbody Crossing	Rangeland
ATWS-019	6.97	50	107	0.14	Pipeline PI	Rangeland
ATWS-020	7.01	50	95	0.11	Pipeline PI	Rangeland
ATWS-021	7.05	50	118	0.16	Pipeline PI	Rangeland
ATWS-022	7.31	50	150	0.16	Pipeline PI	Rangeland
ATWS-023	7.62	50	150	0.19	Road Crossing	Rangeland

Delta Lateral Additional Temporary Workspace						
		Dimensions (ft)		Acreage	Justification	Land Use
		Width	Length			
ATWS-024	7.62	50	150	0.16	Road Crossing	Open Land; Rangeland
ATWS-025	7.82	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-026	7.82	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-027	8.41	50	205	0.25	Slope/Hill	Rangeland
ATWS-028	8.52	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-029	8.56	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-030	8.79	50	150	0.19	Private Road Crossing	Rangeland
ATWS-031	8.83	50	150	0.16	Private Road Crossing	Rangeland
ATWS-033	8.94	50	318	0.34	Road Crossing	Rangeland
ATWS-034	9.17	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-035	9.20	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-036	9.55	50	210	0.24	Waterbody Crossing	Rangeland
ATWS-037	9.58	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-038	9.79	50	140	0.16	Waterbody Crossing	Rangeland
ATWS-039	9.85	50	150	0.17	Waterbody Crossing	Rangeland
ATWS-040	10.00	50	292	0.39	Road Crossing	Rangeland
ATWS-041	10.04	50	140	0.14	Road Crossing	Rangeland
ATWS-042	13.09	100	200	0.46	Potential use for HDD	Rangeland
ATWS-043	13.09	50	200	0.23	Potential use for HDD	Rangeland
ATWS-044	13.18	50	330	0.36	Bore and PI	Rangeland
ATWS-045	13.26	50	276	0.32	Bore and PI	Rangeland

Delta Lateral Additional Temporary Workspace						
		Dimensions (ft)		Acreage	Justification	Land Use
		Width	Length			
ATWS-047	13.37	100	200	0.46	Potential use for HDD	Rangeland
ATWS-048	13.37	50	200	0.23	Potential use for HDD	Rangeland
ATWS-049	13.41	50	150	0.17	Road Crossing	Rangeland
ATWS-050	13.45	50	150	0.17	Road Crossing	Rangeland
ATWS-051	14.55	50	150	0.18	Road Crossing	Open Land; Rangeland
ATWS-052	14.58	50	172	0.19	Road Crossing	Rangeland
ATWS-053	14.81	50	150	0.14	Pipeline PI	Rangeland
ATWS-054	15.64	31	150	0.11	Wetland Crossing	Rangeland
ATWS-055	15.74	26	150	0.09	Wetland Crossing	Rangeland
ATWS-056	15.85	20	150	0.07	Wetland Crossing	Rangeland
ATWS-060	17.14	25	150	0.09	Wetland Crossing	Rangeland
ATWS-061	17.22	25	150	0.09	Wetland Crossing	Rangeland
ATWS-062	17.27	25	150	0.09	Wetland Crossing	Rangeland
ATWS-063	17.35	25	150	0.09	Wetland Crossing	Rangeland
ATWS-064	17.58	27	150	0.09	Wetland Crossing	Rangeland
ATWS-065	17.65	50	175	0.19	Wetland Crossing and PI	Rangeland
ATWS-066	17.77	50	294	0.34	Pipeline PI	Rangeland
ATWS-067	18.16	50	435	0.46	Pipeline PI	Rangeland
ATWS-067A	18.16	56	195	0.31	Facility Construction	Rangeland
ATWS-068	18.18	25	618	0.34	Anode Bed Installation	Rangeland
ATWS-069	18.24	50	430	0.48	Road	Industrial/Commercial; Rangeland

Delta Lateral Additional Temporary Workspace						
		Dimensions (ft)		Acreage	Justification	Land Use
		Width	Length			
					Crossing and Power Drop	
ATWS-070	18.33	50	329	0.39	Pipeline PI and Power Drop	Rangeland
ATWS-071	18.64	50	100	0.16	Road Crossing	Rangeland
ATWS-072	18.79	50	150	0.17	Wetland Crossing	Rangeland
ATWS-073	20.68	50	150	0.16	Road Crossing	Rangeland
ATWS-074	20.72	50	150	0.18	Road Crossing	Rangeland
ATWS-075	21.23	50	150	0.16	Road Crossing	Rangeland
ATWS-076	21.27	50	150	0.18	Road Crossing	Rangeland
ATWS-077	22.01	88	600	1.22	Hydrostatic Testing Area	Rangeland
ATWS-078	23.09	50	150	0.17	Road Crossing	Rangeland
ATWS-079	23.14	50	266	0.37	Road Crossing	Rangeland
ATWS-080	23.18	50	150	0.17	Road Crossing	Rangeland
ATWS-081	23.22	50	157	0.18	Road Crossing	Rangeland
ATWS-082	24.00	50	150	0.17	Private Road Crossing	Rangeland
ATWS-083	25.00	50	150	0.15	Private Road Crossing	Rangeland
ATWS-084	25.40	50	150	0.16	Private Road & Utility Crossing	Rangeland
ATWS-085	25.44	50	150	0.18	Private Road & Utility Crossing	Rangeland
ATWS-086	25.68	50	189	0.23	Road Crossing	Rangeland
ATWS-087	25.74	50	150	0.17	Road Crossing	Rangeland

Delta Lateral Additional Temporary Workspace						
		Dimensions (ft)		Acreage	Justification	Land Use
		Width	Length			
ATWS-088	26.99	90	250	0.52	HDD	Rangeland
ATWS-089	26.99	50	250	0.29	HDD	Rangeland
ATWS-090	27.58	90	350	0.72	HDD	Rangeland
ATWS-091	27.58	50	350	0.40	HDD	Rangeland
ATWS-092	27.77	50	445	0.51	Slope/Hill	Rangeland
ATWS-093	27.77	50	420	0.48	Slope/Hill	Rangeland
ATWS-094	31.74	50	150	0.17	Private Road & Utility Crossing	Open Land; Rangeland
ATWS-095	33.28	50	226	0.25	Road Crossing	Rangeland
ATWS-096	33.35	50	150	0.18	Road Crossing	Rangeland
ATWS-097	33.86	50	150	0.16	Private Road & Utility Crossing	Open Land; Rangeland
ATWS-098	33.88	50	150	0.18	Private Road & Utility Crossing	Rangeland
ATWS-099	34.15	50	150	0.17	Private Road & Utility Crossing	Open Land; Rangeland
ATWS-100	34.22	50	150	0.16	Railroad Crossing	Rangeland
ATWS-101	34.24	50	175	0.24	Railroad Crossing & PI	Rangeland
ATWS-102	35.08	50	150	0.15	Pipeline PI	Rangeland
ATWS-103	35.32	50	75	0.09	Pipeline PI	Rangeland
ATWS-103A	35.32	50	75	0.09	Pipeline PI	Rangeland
ATWS-104	35.59	50	207	0.27	Railroad Crossing	Rangeland
ATWS-104A	35.59	150	150	0.50	Railroad Crossing	Rangeland
ATWS-105	35.64	50	154	0.21	Railroad Crossing	Rangeland
			Total	**23.56**		

Delta Lateral
Additional Temporary Workspace

		Dimensions (ft)		Acreage	Justification	Land Use
		Width	Length			
Aboveground Facilities						
ATWS-106 [a]	35.84	20	250	0.43	Delivery Meter Station Construction	Industrial/Commercial, Rangeland

Note:

[a] The impacts associated with ATWS-106 are included as construction impacts associated with the Delivery Meter Station.

Key:

ATWS = additional temporary workspace

Ft = feet

ID = identification

PI = point of intersect

APPENDIX G

Proposed Access Roads

Delta Lateral Project Permanent and Temporary Access Roads

Access Road ID	MP	Existing Road Type	Modifications Required [a]	Use (Permanent or Temporary)	Existing Land Uses [b]	Existing Width (feet)	Length (feet)	Construction Width (feet)	Land Affected During Construction (acres)	Land Affected During Operation (acres)	Road Justification
PAR 1	0.00	N/A	Yes	Permanent	Rangeland	N/A	61	20	0.03	0.03	Access to mainline taps with automated lateral inlet valve assemblies
PAR 2	18.18	N/A	Yes	Permanent	Rangeland	N/A	103	20	0.05	0.05	Access to Lateral Automated Block Valve Assembly Site
PAR 3	35.81	N/A	Yes	Permanent	Rangeland	N/A	1,967	20	2.31	2.31	Access to Delivery Meter Station
TAR 1	1.30	Dirt /Gravel	Yes	Temporary	Rangeland	15	91	20	0.04	0.00	Access to ROW
TAR 2	1.32	Dirt	Yes	Temporary	Rangeland	15	25	20	0.01	0.00	Access to ROW between E. 8900 N St. and McCornick
TAR 3	8.80	Dirt/Gravel	Yes	Temporary	Industrial/ Commercial	15	39	20	0.02	0.00	Access to ROW to ease congestion at Whiskey Creek Rd. crossing
TAR 4	13.11	Dirt	Yes	Temporary	Rangeland	15	2,046	20	0.94	0.00	Access for auger bore
TAR 4.1	13.27	N/A	Yes	Temporary	Rangeland	N/A	327	20	0.15	0.00	Access for auger bore
TAR 8	24.00	Gravel	Yes	Temporary	Rangeland	15	3,509	20	1.63	0.00	Access off U.S. Route 50
TAR 9	26.35	Dirt	Yes	Temporary	Rangeland	15	8,225	20	3.90	0.00	Access to north side of U.S. Route 6
TAR 10	27.63	Dirt/Gravel	Yes	Temporary	Rangeland; Open Land	15	22,883	20	10.55	0.00	Access to north side of HDD
TAR 11	31.73	Gravel	No	Temporary	Rangeland; Open Land	16	31,719	20	14.56	0.00	Access to ROW
TAR 12	34.23	Dirt/Gravel	Yes	Temporary	Industrial / Commercial	10	5,873	20	2.69	0.00	Access to south side of railroad
TAR 13	34.24	Dirt/Gravel	Yes	Temporary	Industrial / Commercial	50	65	65	0.03	0.00	Access to pipe yard
					Rangeland						Access north of Canal A for

Delta Lateral Project Permanent and Temporary Access Roads

Access Road ID	MP	Existing Road Type	Modifications Required [a]	Use (Permanent or Temporary)	Existing Land Uses [b]	Existing Width (feet)	Length (feet)	Construction Width (feet)	Land Affected During Construction (acres)	Land Affected During Operation (acres)	Road Justification
TAR 14	27.22	Dirt/Gravel	Yes	Temporary		15	12,087	20	5.55	0.00	HDD monitoring
TAR 15 [d]	14.54	Gravel	Yes	Temporary	Rangeland	Varies	31,374	20	14.40	0.00	Access to avoid U.S.Route 50
TAR 15-1	15.38	Dirt	Yes	Temporary	Rangeland	10	1,262	20	0.59	0.00	Access from TAR-15to the ROW
TAR 15-2	16.58	N/A	Yes	Temporary	Rangeland	0	1,063	20	0.49	0.00	Access from TAR-15to the ROW
TAR 16	25.41	Gravel	Yes	Temporary	Rangeland	10	2,090	20	0.96	0.00	Access to south side of U.S. Route 6
TAR 17	35.54	Gravel	Yes	Temporary	Industrial / Commercial; Open Land	30	6,938	30	3.18	0.00	Access to Delivery Meter Station
Total									**62.09** [c]	**2.39**	-

Source: Existing land use was identified during field surveys. Notes:

[a] Modifications may include, but not limited to, grading, widening, clearing of shrubs and trees, timber mat installation and other measures as needed.

[b] Industrial/commercial land use type includes existing roadways.

[c] Numbers may not sum exactly due to rounding.

[d] The southern 2 miles of TAR-15 have not yet been surveyed. The land use for the southern 2 miles of TAR-15 is based on aerial imagery. Key:

HDD = horizontal directional drilling ID = identification

MP = milepost

N/A = not applicable

PAR = permanent access road ROW = right of way

TAR = temporary access road

APPENDIX H

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APPENDIX I

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