



— BUREAU OF —
RECLAMATION

DRAFT Environmental Assessment for Gould Canal Improvement Projects A & B – Upper Tunnel Bypass

**Basinwide Salinity Control Program
Upper Colorado Basin: Interior Region 7
Western Colorado Area Office**

Mission Statements

The mission of the Department of the Interior is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

DRAFT Environmental Assessment for Gould Canal Improvement Projects A & B – Upper Tunnel Bypass

**Basinwide Salinity Control Program
Upper Colorado Basin: Interior Region 7
Western Colorado Area Office**

*Prepared for the Bureau of Reclamation by
Rare Earth Science, LLC*

February 2024

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CHAPTER 1 - INTRODUCTION

This Draft Environmental Assessment (EA) has been prepared to explain and evaluate the potential environmental effects of Fruitland Irrigation Company's (Applicant's) proposed Gould Canal Improvement Projects A & B – Upper Tunnel Bypass (“Proposed Action” or “Upper Tunnel Bypass”). The Gould Canal Improvement Projects A & B (“Original Project”) was authorized by the Colorado River Basin Salinity Control Act's Colorado River Basinwide Salinity Control Program under Funding Opportunity Announcement (FOA) BOR-UC-17-F003 and Funding Agreements R18AC00074 and R18AC00075. The U.S. Department of the Interior Bureau of Reclamation (Reclamation) issued a Final Environmental Assessment (the “Original EA”) and Finding of No Significant Impact (FONSI) (WCAO-GJ-FONSI-19-03) for the Original Project in September 2019. The U.S. Department of the Interior Bureau of Land Management (BLM) was a cooperating agency for authorization of the Original Project, since parts of the Original Project were conducted on BLM lands. No part of the proposed Upper Tunnel Bypass would take place on BLM lands.

The Original Project improved a total of approximately 12.4 miles of the open, unlined Gould Canal with a combination of buried pipe and concrete (shotcrete) lining, proposed to pipe two tunnels (the upper tunnel and lower tunnel) in situ, and developed a Habitat Replacement Site to conserve habitat values lost in the construction footprint. Since the time of the Original Project authorization in 2019, the design process has revealed that in situ piping of the upper tunnel is not viable from both construction safety and cost standpoints. As a result, the Applicant is now proposing to construct an Upper Tunnel Bypass.

The Federal action evaluated in this Draft EA is whether Reclamation would provide funding assistance to the Applicant for the Upper Tunnel Bypass. Reclamation has prepared this Draft EA in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's (CEQ's) NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500 – 1508 (2020). Reclamation decided that an EA is warranted for the Proposed Action rather than a Documentation of NEPA Adequacy (DNA), since the Proposed Action involves a new activity with aspects that are sufficiently different from those activities that were subject to NEPA analysis for the Original Project.

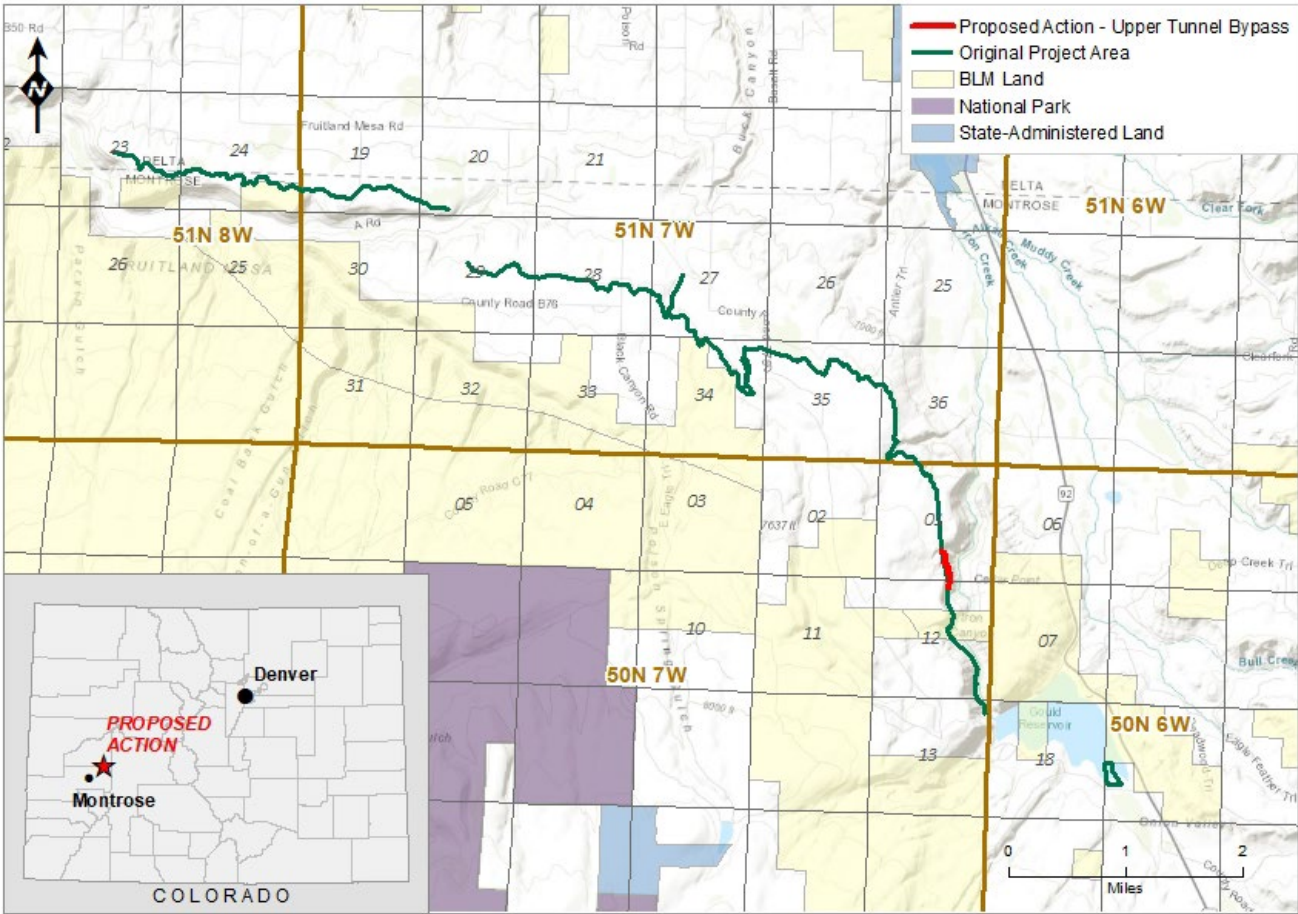
This Draft EA incorporates by reference those parts of the Original EA that remain applicable to the Proposed Action. The Original EA and FONSI are available here: <https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20190900-FruitlandIrrigationCompanyGouldCanalImprovementProjectsAandB-FinalEAandFONSI-508-WCAO.pdf>.

After a public review period for this Draft EA, Reclamation will determine whether a Finding of No Significant Impact (FONSI) for the Proposed Action is warranted, or whether potentially significant impacts to environmental resources warrant the preparation of an Environmental Impact Statement.

1.1 – Project Location and Legal Description

The Proposed Action would take place in the northeastern part of Montrose County, Colorado, in the southeast part of the Original Project area (see Figure 1). The Proposed Action area is on private land held by a single landowner (Figure 1), and encumbered by a Conservation Easement held by Colorado Open Lands. The general physical location of the Proposed Action is Township 50 North, Range 7 West (50N 7W) of the New Mexico Principal Meridian: the southwest quarter of the southeast quarter of Section 1 and the northwest quarter of the northeast quarter of Section 12. Section 1.5 of the Original EA provides further information about the setting and location of the Original Project.

Figure 1. Map of project location.



1.2 – Need for and Purpose of the Proposed Action

The need and purpose for the Proposed Action is to reduce salinity concentrations in the Colorado River basin in order to comply with the Colorado River Basin Salinity Control Act (Reclamation’s federal nexus; 88 Stat. 266).

1.3 – Decision to be Made

Reclamation will decide whether to provide funding to the Applicant to implement the Proposed Action.

1.4 – Background

1.4.1 – Salinity Control Program

The threat of salinity loading in the Colorado River basin is a major concern in both the United States and Mexico (Reclamation 2019). Salinity affects water quality, which in turn affects downstream users, by threatening the productivity of crops, degrading wildlife habitat, and corroding residential and municipal plumbing. Irrigated agriculture contributes approximately 37 percent of the salinity in the system (Reclamation 2019). Irrigation increases salinity in the system both by depleting in-stream flows, and by mobilizing salts found in underlying geologic formations into the system, especially during flood irrigation practices.

In June 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law 93-320, which directed the Secretary of the Interior to proceed with a program to enhance and protect the quality of water available in the Colorado River for use in the United States and Republic of Mexico. Public Law 104-20 of July 28, 1995, authorizes the Secretary of the Interior, acting through the Bureau of Reclamation, to implement a Basinwide Salinity Control Program. The Secretary may carry out the purposes of this legislation directly, or make grants, enter into contracts, memoranda of agreement, commitments for grants, cooperative agreements, or advances of funds to non-federal entities under such terms and conditions as the Secretary may require.

The Basinwide Salinity Control Program funds salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Salinity control projects are awarded based on applications received on Funding Opportunity Announcements (FOAs) issued by Reclamation. As part of the FOAs, applicants are evaluated individually according to the following criteria: cost effectiveness, the ability to enable on-farm salinity control features, risk assessment, detailed project plan, costs & capability to implement the project, future operation & maintenance and management capabilities for the project, past performance, and Department of the Interior goals. Applications are ranked by an Application Review Committee made up of multiple disciplines, and high ranking projects are recommended to the Salinity Control Program Manager for consideration. The Salinity Control Program Manager then provides recommendations to the Grants Officer for award. Once constructed, the facilities are operated, maintained, and replaced by the applicant at their own expense.

The cost effectiveness value of a proposed project is quantified as the estimated total annual salt load (in tons) reduced in the Colorado River basin divided by the project cost amortized over 50 years. Estimated salinity reduction is calculated based on measured total dissolved solids loads in basin streams, geographic information system (GIS)-based model calculations to determine subbasin loads, and ditch mapping data that include average flows, ditch lengths, and average annual days of use. Richards et al. (2014), Schaffrath (2012), and Linard (2013) provide more detailed information on salt loading estimate methodology.

Earthen irrigation ditch water seepage and the resultant deep percolation through saline soils is one way that salts are mobilized and transported into regional streams and rivers. Piping such ditches removes a source of deep percolation and salt mobilization to regional streams and rivers from the system. The Original Project eliminated water seepage from approximately 12.4 miles of earthen ditches, reducing salinity loading by an estimated 5,697 tons per year in the Lower Gunnison Basin and the Colorado River Basin.

While the Proposed Action is not a selenium reduction project, it is anticipated that an unquantified reduction in selenium loading in the Colorado River basin would also be associated with the Proposed Action. The U.S. Geological Survey (USGS) monitors dissolved selenium loads in rivers and tributaries immediately downstream of the Project Area. There has been a 47.7 percent decrease in selenium levels in the Gunnison River near Whitewater between 1986 and 2020 (Henneberg 2021). The Gunnison Basin Selenium Management Program (SMP), a private/public partnership of concerned parties working together to identify and implement solutions to reduce selenium concentrations in the Gunnison and Colorado rivers, attributes a portion of the reduction in selenium throughout the area to the reduction of deep percolation from seeping irrigation ditches due to the implementation of salinity control projects (Reclamation 2022a).

1.4.2 – The Applicant

Fruitland Irrigation Company is a mutually-owned non-profit corporation established in 1901 and serving dues-paying shareholders across Fruitland Mesa consistently since that time.

1.5 – Relationship to Other Projects

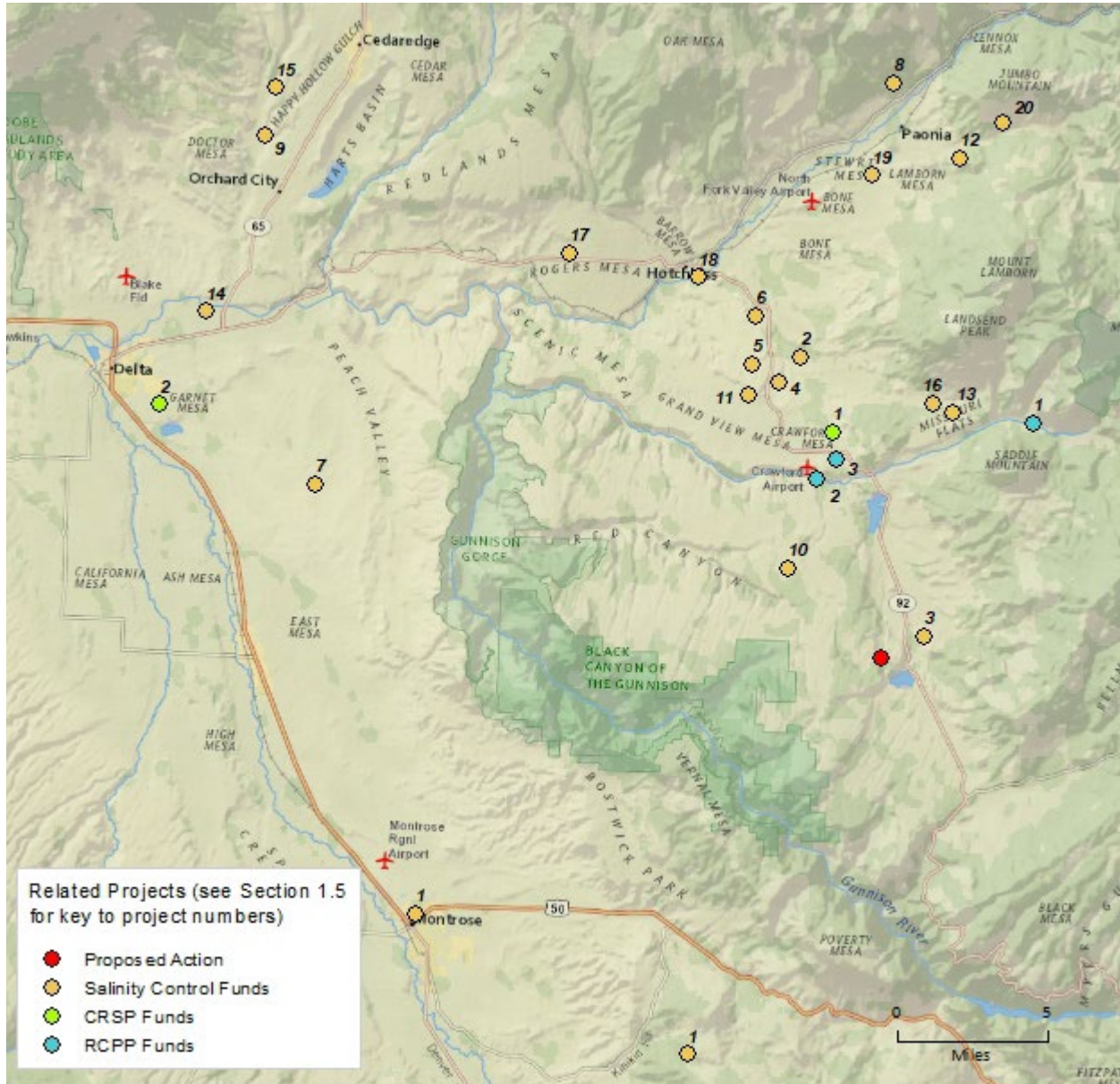
1.5.1 – Salinity Control Program

Reclamation, under the authority of the Colorado River Basin Salinity Control Act, Public Law 93-320, provides funding through the Basinwide Salinity Control Program and the Basin States Program to implement cost-effective salinity control projects in the Colorado River Basin. Reclamation’s Western Colorado Area Office is in the process of or has recently utilized Salinity Control Program funds for the following salinity control projects in the vicinity of the Proposed Action. Figure 2 shows the general locations of these projects relative to the Proposed Action.

1. Bostwick Park Siphon Lateral and Waterdog & Shinn Park Laterals Piping Projects
2. C Ditch/Needle Rock Piping Project
3. Cattleman’s Ditches Piping Project Phases I and II
4. Crawford Clipper Center Lateral Piping Project
5. Crawford Clipper Jerdon, West, Hamilton Piping Project
6. Crawford Clipper Spurlin Mesa (Clipper 4) & Zanni Lateral
7. Eastside Laterals Piping Projects, Phases 1 through 10, including GE, DK Laterals and Phase 9 Mod
8. Fire Mountain Canal Piping Project
9. Forked Tongue/Holman Ditch Piping Project
10. Gould Canal Improvement Projects A & B
11. Grandview Canal Upper, Middle and Lower Piping Projects
12. Minnesota Canal Piping Project Phase I and II, and Minnesota L75 Piping Project
13. Needle Rock/Lone Rock Piping Project

14. North Delta Canal Piping Project – Phase I and Phase I Extension
15. Orchard Ranch Ditch Piping Project
16. Pilot Rock Ditch Piping Project
17. Rogers Mesa Slack and Patterson Lateral Piping Project
18. Short Ditch Extension Piping Project
19. Stewart Ditch – Upper, Middle & Lower Piping Projects
20. Turner and Lone Cabin Ditches Piping Project

Figure 2. Regional salinity control projects & other related projects.



1.5.2 – CRSP Basin Funds

Reclamation’s Western Colorado Area Office recently utilized Colorado River Storage Project (CRSP) Basin Funds to implement the following projects(see Figure 2 for general locations):

1. Aspen Canal Piping Project
2. GK Lateral Piping Project

1.5.3 – RCPP Funds

The U.S. Dept. of Agriculture Natural Resources Conservation Service (NRCS) issued a Regional Conservation Partnership Program (RCPP) grant administered by the Colorado River Water Conservation District under the Lower Gunnison Watershed Plan. RCPP irrigation infrastructure improvement projects planned in the vicinity of the Proposed Action include (see Figure 2 for general locations):

1. Needle Rock Diversion Project
2. Grandview Canal Piping Project
3. Crawford Clipper Ditch Upper West Lateral Master Plan Projects (various)

1.6 – Scoping

Scoping for the Original EA is provided in Section 1.7 of the Original EA. Additional scoping for this Draft EA was completed by Reclamation, in consultation with the following agencies and organizations during the planning stages of the Proposed Action to identify the potential environmental and human environment issues and concerns associated with implementation of the Proposed Action and No Action Alternatives:

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- Colorado State Historic Preservation Office, Denver, CO
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO
- Colorado Open Lands, Lakewood, CO

Concerns raised during public comment periods on recent similar projects and related informal consultations with local CPW wildlife managers also helped identify potential concerns for the Proposed Action.

Resources analyzed in this Draft EA are discussed in Chapter 3. The following resources were identified as *not present or not affected*, and are not analyzed further in this Supplemental EA:

Table 1. Resources or Potential Issues Eliminated from Further Analysis

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Indian Trust Assets and Native American Religious Concerns	No Indian trust assets or Native American sacred sites were identified within the Proposed Action Area as a part of the Original EA drafting process. To confirm this finding, Reclamation provided the Ute Mountain Ute Tribe, the Ute Indian Tribe (Uintah and Ouray Reservation), and the Southern Ute Indian Tribe with a description of the Proposed Action and a written request for comments regarding any potential effects on Indian trust assets or Native American sacred sites as a result of the Proposed Action Alternative. Results on this consultation will be included in the Final EA.
Environmental Justice & Socioeconomic Issues	The Proposed Action Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low-income populations. The Proposed Action Alternative would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. Therefore, neither the No Action Alternative nor the Proposed Action Alternative, would have an environmental justice effect.
Wild & Scenic Rivers, Land with Wilderness Characteristics, or Wilderness Study Areas	No Wild and Scenic Rivers, land with wilderness characteristics, or Wilderness Study Areas exist in the Proposed Action Area. Therefore, neither the No Action Alternative nor the Proposed Action Alternative, would have an effect on these resources.
Desertification	Desertification is a type of land degradation in which fertile areas become arid. Biological and agricultural productivity are diminished due to drought, deforestation, overexploitation of soil and grasslands, or a combination of factors. No change to irrigated areas or farming practices would occur as a result of the Proposed Action. The purpose of the Proposed Action would prevent deep percolation of the canal water along the open ditches proposed for piping, and this conserved water would be delivered to irrigated crops, which would continue to return water to the atmosphere through evapotranspiration, and return water to the aquifer through deep percolation. No water resources would be removed from the basin. Therefore, this potential issue was eliminated from further analysis.

1.7 – Alternatives Considered But Not Carried Forward

The Applicant considered, but dismissed, several construction options for improving the upper tunnel when it became apparent that the alternative authorized in the original NEPA analysis (in situ

pipings, grouted in place) would be unviable. Other improvement options considered for the upper tunnel which were determined to be impractical or too expensive include the following:

- Boring a new upper tunnel for an estimated 3 million dollars. This far exceeds the budget and resources of the Applicant. This option would also generate a large amount of material that would need to be disposed of on-site.
- Installing cast-in-place pipe (CIPP) inside the upper tunnel to better adapt to the existing structure of the tunnel. CIPP installation contractors were not confident that this option could be constructed due to difficulties with installing a CIPP liner inside a tunnel with high variation in height and width, and the potential for large wrinkles in the finished product.
- Installing shotcrete inside the existing tunnel. Shotcrete contractors determined this was not a viable option due to the tight working conditions which would not allow for proper application of the shotcrete.
- The unsupported condition of the upper tunnel coupled with recent rockfall and movement of the tunnel flow are a serious risk to worker safety.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

Alternatives evaluated in this Draft EA include the No Action Alternative and the Proposed Action Alternative (the Preferred Alternative).

2.1 – No Action Alternative

Under the No Action Alternative, Reclamation would not approve funding for the Upper Tunnel Bypass. Since the time that the original design was contemplated, there has been movement within the upper tunnel which increases the risk of working underground. This movement has dramatically increased water loss from the upper tunnel which has further destabilized the tunnel. Under the No Action Alternative, the upper tunnel would continue to operate with significant water loss, significant risk of landslides below the tunnel, and would likely lead to a complete tunnel failure.

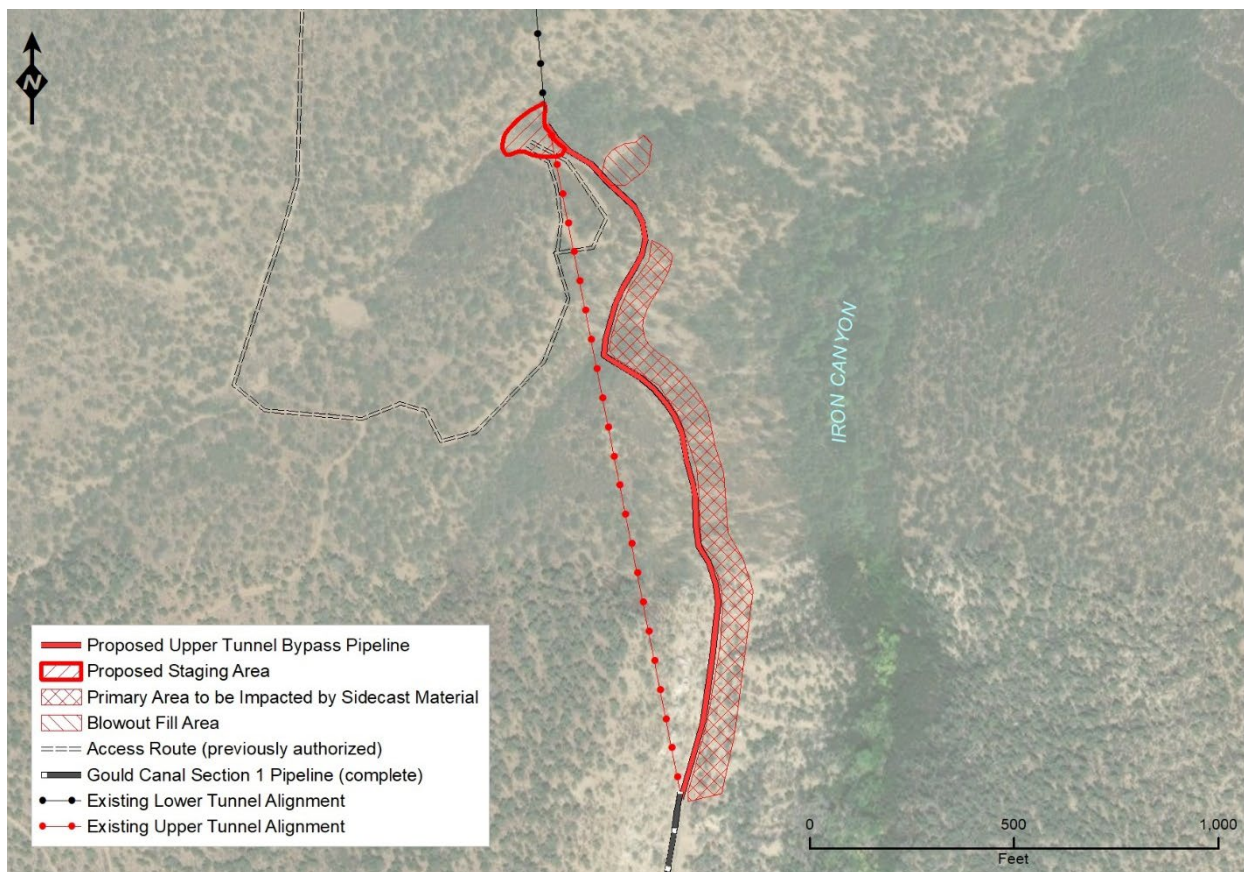
2.2 – Proposed Action

Under the Proposed Action Alternative, Reclamation would authorize funding to the Applicant to implement the proposed Upper Tunnel Bypass (Figure 3). The bypass would consist of approximately 2,000 feet of pipeline installed near the alignment of the existing upper tunnel, on the east-facing slope of Iron Canyon. The alignment of the proposed bypass pipeline would generally follow an old wooden surface flume that contours between two cliff bands on the side slope of Iron Canyon. The flume historically carried the same irrigation water prior to the construction of the upper tunnel. The middle approximately 700 feet of the bypass pipeline would drop below the cliff bands (in an area where the cliff bands nearly join together) and be placed in a bench constructed at

the toe of the cliff bands about 25 horizontal feet east of the existing old flume alignment. Once past this area, the pipeline would return to the grade of the old wooden flume.

To prepare the bypass alignment, an approximately 14-foot-wide bench would be constructed into the slope, followed by the excavation of a pipeline trench on the bench. Excavated rock from the northern, approximately 400-foot segment of bench construction would be placed into an erosional blowout scar (an approximately 0.2-acre area below the grade of the north end of the proposed bypass pipeline alignment (Figure 3)). For the remainder of the constructed bench, excavated rock would be side-cast on the slope below. Side-cast material would be placed on the slope below the bench such that downhill momentum (rolling, sliding) is generated as little as possible. The engineer for the Proposed Action estimates that the side-cast material would remain within 75 feet of the constructed bench on the hillside below, across an area of approximately 2.3 acres (Figure 3). The majority of the side-cast material would remain adjacent to (within 20 to 30 feet of) the construction bench. Vegetation (scattered pinyon pine and juniper trees and shrubs) in the construction path would be cut prior to bench construction or grubbed during bench construction, and placed on the slope below the bench.

Figure 3. Proposed Action Site Plan



Conventional blasting may be required during bench construction and pipeline trench excavation, in order to loosen or break rock into pieces manageable with heavy equipment. Blasting would be performed by a licensed blasting contractor, and would entail drilling a hole or holes in the rock,

placing a charge and detonator in the drill hole, and detonating the charge. No fly rock or significant gross movement of rock would occur during blasting.

Due to bedrock conditions or the potential lack of onsite pipe bedding material in the proposed bypass alignment, it may not be possible to bury or completely bury the pipeline. Following construction of the bench, test pits would be dug to determine bedrock and bedding material disposition. If it is determined that the pipeline would be exposed or partially exposed on the bench, the exposed pipeline would be covered by ½ thick concrete canvas material to protect it from UV exposure and smaller rockfall events. Any exposed concrete canvas material would be painted to color-match surrounding rock. Pipeline material is anticipated to be a combination of Spirolite HDPE and solid wall HDPE with bell and spigot ends. Pressure sections of the pipeline would be robotically fused together on the inside and fused on the outside with a handheld extrusion gun.

An approximately 0.3-acre proposed staging area would be prepared at the north end of the bypass alignment. The staging area is a relatively flat area where sediments have accumulated in a gulch upgradient of the location of an existing road that leads to the area of the upper tunnel's downstream (north) portal and the lower tunnel's upstream (south) portal. This area would be leveled to restore vehicle access to the south portal and make the area suitable for turning equipment around and staging materials. Sediment excavated to prepare the staging area would either be used for pipe bedding in the bypass alignment or placed in the blowout scar.

Following the bypass pipeline construction, an all-terrain vehicle (ATV) trail would remain on the construction bench.

The upper tunnel's portals would be blocked using onsite materials. Soil and rock would be pushed 10 to 20 feet into each portal to completely fill the opening. Immediately outside of each blocked portal, native fill would be compacted in 12 inch lifts to a level of approximately 2 feet above the portal roof.

Post construction revegetation and weed control would be conducted in the construction footprint and the staging area. Revegetation would entail broadcast seeding with a native weed-free seed mix appropriate to the area and specified in the Original EA. Weed control would be in accordance with the Original EA and the easement agreement for the Proposed bypass pipeline alignment between the Applicant and the private landowner.

Construction activities and test pits would be accomplished with medium sized heavy equipment (dozers, backhoes) with track widths of approximately 10 feet. Existing access roads approved during the original NEPA analysis would be used to support the Proposed Action.

The Proposed Action would require an estimated 3 months for completion. Two to four weeks would be required to build the bypass alignment bench, and pipeline construction and tunnel decommissioning would require another approximately 2 months. When construction is underway, it would occur during daylight hours (typically 7 am to 5 pm), Monday through Saturday. Weather conditions could cause gaps in activity during active work periods. Vegetation disturbance or grubbing would either be avoided between April 1 and July 15 to protect nesting migratory birds, or a nesting migratory bird survey and conservation measures would be conducted in accordance with a Reclamation- and U.S. Fish & Wildlife Service (FWS)-approved protocol prior to vegetation disturbance/grubbing conducted between April 1 and July 15.

2.2.1 – NEPA Sufficiency Review of Project Elements

Aspects of the Proposed Action have already been adequately analyzed and authorized by the Original EA include access and transportation (hauling equipment and materials on existing previously authorized routes with the option to improve routes to support large vehicles), staging activities (storage of materials and equipment), buried pipeline construction (including vegetation grubbing, trenching, blasting, onsite screening of pipe bedding material, pipe fusing), revegetation, and schedule (timing restrictions protective of sensitive wildlife).

Activities and aspects of the Proposed Action that were not analyzed by the Original EA are preparation of the construction bench on an exposed slope, side-casting of material on the exposed slope below the construction bench and into an erosional blowout scar, installation of on-grade pipe, preparation of a new staging area not previously authorized by the Original EA, and decommissioning the upper tunnel. Also, the bypass alignment would follow the path of old wooden surface flume—an alignment not contemplated by the Original EA. The option to disturb or grub vegetation during the migratory bird nesting season (April 1 through July 15) was not contemplated in the Original EA. Analyses of these activities are addressed in Chapter 3.

2.2.2 – Permits & Authorizations

If the Proposed Action is approved, the following agreements or permits would be required prior to project implementation:

- Memorandum of Agreement executed between Reclamation and the Colorado SHPO.
- Clean Water Act (CWA) Section 404 Regional General Permit 5 for Ditch Related Activities in the State of Colorado: 30-Day Advance of Construction Submittal Package (to include “(1) the respective agency’s documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map.”). Acknowledgment/approval of the Proposed Action from Colorado Open Lands, a land trust holding a conservation easement on the land involved with the Proposed Action.
- An easement agreement for the Proposed bypass pipeline alignment between the Applicant and the private landowner.

If the Proposed Action is approved, the following construction permits and plans would be required prior to project implementation:

- Stormwater Management Plan, to be submitted to Colorado Department of Public Health & Environment (CDPHE) by the construction contractor prior to construction disturbance.
- CWA Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (NPDES), to be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction).
- Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 (when dewatering is to take place during construction).
- Spill Response Plan, to be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.

- Utility clearances, to be obtained by the construction contractor prior to construction activities from local utilities in the area.

Compliance with the following laws and Executive Orders (E.O.) are required prior to and during project implementation:

Natural Resource Protection Laws

- Clean Air Act of 1963 (42 U.S.C. § 7401)
- Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1544, 87 Stat. 884)
- Clean Water Act of 1972 as amended (33 U.S.C. 1251 et seq.)
- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)
- Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668- 668c)
- Federal Land Policy and Management Act of 1976 (FPLMA) as amended (43 U.S.C. 1701-1785)
- The Act of October 27, 1986, amended Title V of FPLMA aka the Colorado Ditch Bill (43 U.S.C. 1761; 90 Stat. 2776)
- 2012 Colorado Roadless Rule (16 U.S.C. 472, 529, 551, 1608, 1613; 23 U.S.C. 201, 205.)
- 1866, July 26 – 14 Stat. 251, Act Granting Right of Way to Ditch and Canal Owners Over Public Land
- Farmland Protection Policy Act (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.)

Cultural Resource Laws

- National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.)
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-470mm et seq.)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.)
- American Indian Religious Freedom Act of 1978 (42 U.S.C. Public Law 95-341)
- Archaeology and Historic Preservation: Secretary of the Interior’s Standards and Guidelines (48 FR 44716)

Paleontological Resource Laws

- Paleontological Resources Preservation Act of 2009 [Section 6301-6312 of the Omnibus Land Management Act of 2009 (Public Law 111-11 123 Stat. 991-1456)]

CHAPTER 3 – AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

3.1 – Introduction & NEPA Sufficiency Review

This chapter discusses resources that would be affected by the Proposed Action Alternative and the No Action Alternative. For each resource, the affected area and/or interests are identified and the

existing conditions and impacts are described under the No Action and Proposed Action Alternatives.

Table 2 provides a cross-reference for sections in the Original EA for resources adequately analyzed in the Original EA. This Chapter concludes with a summary of impacts applicable to the Proposed Action, analyzed both in this Draft EA and the Original EA.

Table 2. NEPA Adequacy Review: Summary of Resources in the Affected Environment Analyzed in the Original EA

Resource (& Original EA Section)	Affected Environment Description Adequacy	Environmental Consequences Analysis Adequacy
Water Rights & Use (3.1)	The affected environment has changed since the time of the Original EA. The use of adjudicated waters by the Applicant has become impaired due to upper tunnel deterioration.	Both the current Proposed Action Alternative and the No Action Alternative have different consequences for this resource than those explained in the Original EA (see Section 3.2.1 of this EA).
Water Quality (3.2)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action and the Proposed Action Alternatives. See the Summary of Impacts Table of this EA (Table 4).
Air Quality (3.3)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action and the Proposed Action Alternatives. See the Summary of Impacts Table of this EA (Table 4).
Access, Transportation, & Construction Impacts (3.4)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action and the Proposed Action Alternative. See the Summary of Impacts Table of this EA (Table 4).
Safety (--)	This aspect of the affected environment was not addressed in the Original EA.	The No Action and Proposed Action Alternatives are analyzed in Section 3.2.2 of this EA.

Resource (& Original EA Section)	Affected Environment Description Adequacy	Environmental Consequences Analysis Adequacy
Noise (3.4, 3.9)	The affected environment description remains unchanged; however, types of surface disturbance associated with the Proposed Action (construction of a bench and side-casting of rock on the steep side slope of Iron Canyon) are aspects that were not analyzed by the Original EA.	Analysis remains unchanged for the No Action Alternative. The Proposed Action Alternative is analyzed in Section 3.2.3 of this EA for noise impacts related to construction methods differing from those analyzed in the Original EA.
Recreation Resources (3.5)	The affected environment description remains unchanged.	Analysis remains unchanged for the No Action Alternative. For the Proposed Action Alternative, there would be no direct effect to public recreation resources because the Proposed Action is on private land that is not open to the public. Indirect impacts are analyzed adequately in the Original EA. See the Summary of Impacts Table of this EA (Table 4).
Visual Resources (3.5)	The affected environment description remains unchanged; however, types of surface disturbance associated with the Proposed Action (construction of a bench, side-casting of rock, and the potential for exposed pipe on the steep side slope of Iron Canyon) are aspects that were not analyzed by the Original EA.	The Proposed Action has the potential to affect visual resources because of the new type of proposed surface disturbance and its location. This EA provides an updated analysis in Section 3.2.4, specific to the Proposed Action Area.
Livestock Grazing (3.6)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action and the Proposed Alternatives. See the Summary of Impacts Table of this EA (Table 4).

Resource (& Original EA Section)	Affected Environment Description Adequacy	Environmental Consequences Analysis Adequacy
Vegetation Resources (3.7)	The affected environment description remains unchanged. The applicable aspect of the vegetation resource is upland native vegetation. The specific condition of the Proposed Action Area is described in Section 3.2.5 of this EA.	Analysis from the Original EA remains unchanged for the No Action Alternative. The Proposed Action Alternative is analyzed in this EA (Section 3.2.5) for impacts related to upland vegetation and to aspects of revegetation, which differ from that analyzed in the Original EA.
Noxious Weeds (3.7)	The overall affected environment description remains unchanged. The specific condition of the Proposed Action Area is described in Section 3.2.10 of this EA.	Analysis from the Original EA remains unchanged for the No Action Alternative. The Proposed Action Alternative is analyzed in this EA (Section 3.2.6) for impacts related to aspects of the proposed revegetation method, which differs from that analyzed in the Original EA.
Wildlife Resources (3.8)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action and the Proposed Alternatives. See the Summary of Impacts Table of this EA (Table 4).
Migratory birds and raptors (3.9)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for the No Action Alternative. This EA provides updated analysis in Section 3.2.7, specific to the Proposed Action Area.
Special Status Species (3.9)	Since the time of the Original EA, several changes have occurred to the threatened & endangered species (T&E) listings in the Proposed Action area. This EA provides an updated description specific to the Proposed Action Area in Section 3.2.8.	Analysis from the Original EA remains unchanged for the No Action Alternative. This EA provides updated analysis in Section 3.2.8, specific to the Proposed Action Area.

Resource (& Original EA Section)	Affected Environment Description Adequacy	Environmental Consequences Analysis Adequacy
Cultural Resources (3.10)	The Proposed Action represents a change in activity and spatial location from what was analyzed in the Original EA. A new cultural survey was conducted for this area. This EA provides an updated description specific to the Proposed Action Area in Section 3.2.9.	Analysis from the Original EA remains unchanged for the No Action Alternative. This EA provides an updated analysis in Section 3.2.9 for cultural resources in the Proposed Action Area, and a new Memorandum of Agreement (MOA) between the SHPO and Reclamation will be executed and included in the Final EA.
Soils & Farmlands of Agricultural Significance (3.11)	The Proposed Action represents a change in activity and spatial location from what was analyzed in the Original EA, with a different soil classification and characteristics (rock outcrop). This EA provides an updated description specific to the Proposed Action Area in Section 3.2.10.	Both the current Proposed Action Alternative and the No Action Alternative have different consequences for this resource than those explained in the Original EA (see Section 3.2.10 of this EA).
Cumulative Impacts (3.12)	The Proposed Action represents a change in activity and spatial location from what was analyzed in the Original EA. This EA provides an updated description specific to the Proposed Action Area in Section 3.2.11.	This EA provides updated analysis in Section 3.2.11, for both the No Action and Proposed Alternatives, specific to the Proposed Action Area and specific to resources carried forward for analysis in this EA.

3.2 – Affected Environment & Environmental Consequences

3.2.1 – Water Rights & Use

The affected environment of water rights and use are described in Section 3.1 of the Original EA.

No Action Alternative: The No Action Alternative would have a significant effect on water rights and uses for the Applicant’s shareholders. The Applicant’s engineer estimates that the water loss from ongoing leaking from the upper tunnel created a deficit of approximately 10 percent (5 cubic feet per second) in the adjudicated irrigation water volume delivered to all shareholders of Fruitland Irrigation Company during the 2023 irrigation season. This volume of loss would be expected to

increase in coming irrigation seasons as water seeping through fractured rocks inside the tunnel continues to create instability in the slope and more leak pathways.

Proposed Action: Under the Proposed Action Alternative, the Upper Tunnel Bypass would route the Applicant's irrigation water past the unstable upper tunnel, ensuring the ability to deliver the full volume of adjudicated and historically diverted irrigation water to the shareholders, and the ability to put the irrigation water to beneficial use. There would be no change in water rights or an adverse effect on water use associated with the Proposed Action. Therefore, there would be no significant adverse effect on water rights and use.

3.2.2 – Access, Transportation, & Safety

The affected environment of access and transportation are described in Section 3.4 of the Original EA. The Original EA did not describe certain aspects of the affected environment of public and personal safety for the Proposed Action.

There are public safety risks associated with sources of open, moving water, and open canals flowing into enclosed tunnels. There are also safety risks associated with inspecting and maintaining tunnels. Although the Proposed Action Area is in Montrose County, it is served by both the Montrose County Sheriff and the Delta County Sheriff, as well as the North Fork EMS Health Service District, the Crawford Fire Protection District, and Delta County Fire Protection District 5.

No Action Alternative: There would be no effect to public safety, transportation, or public access from the No Action Alternative. The upper tunnel would continue to operate in its current condition and the baseline status of public safety, transportation routes, utilities, and public access in the vicinity would remain unchanged.

Proposed Action: All construction activities related to the Proposed Action would take place entirely in the approved/authorized and prescriptive project rights-of-way and previously approved access routes. Under the Proposed Action, the safety risks associated with sources of open, moving water entering an enclosed tunnel, or the safety risks associated with entering a tunnel for inspection or repairs, would no longer occur within the Project Area. The Montrose County Sheriff and the Delta County Sheriff, as well as the North Fork EMS Health Service District, the Crawford Fire Protection District, and Delta County Fire Protection District 5 would continue to cover the Project Area for emergency response, and would not be hindered in their response. Active construction areas would be adequately marked and barricaded to prevent public access. Trenches left open overnight would be limited to the extent practicable. In the case that a trench is left open overnight, it would be covered to adequately prevent entrapment of people, livestock, or wildlife. Therefore, there would be no significant effect on public safety.

No significant impacts to access, transportation, and public safety would occur as a result of the Proposed Action, because traffic and access disruptions would be short-term and coordinated with authorities, and public safety measures would be implemented in construction areas.

3.2.3 – Noise

The affected environment of noise is described in Sections 3.4 and 3.9 of the Original EA. The Proposed Action area is the "Tunnels Area" analyzed by the Original EA, which is relatively secluded from residential areas and public places. Baseline noise in the Proposed Action Area

includes vehicles and equipment operating in association with maintenance of the Fruitland Irrigation Company's pipeline, tunnels and ditches, and the landowners ranching activities. Baseline noise levels in the area can be moderate at times, depending on the activities that are occurring.

No Action Alternative: There would be no effect from the No Action Alternative, because there would be no construction noise related to the upper tunnel bypass in the Proposed Action Area. Noise related to irrigation infrastructure operation and maintenance activities and ranching in the area would continue as it has in the past.

Proposed Action: Proposed Action construction activities would generate a temporary source of noise audible to people near the Proposed Action. Sources of noise would include heavy equipment moving earth, grubbing vegetation, excavating, or crushing rock; and trucks hauling pipe and other materials. As explained in Section 2.2, blasting may also be required to help prepare the construction bench and pipe trench. Blasting would occur inside small boreholes in rock or in the trench below grade. The noise associated with such blasting would resemble a muffled "pop" from a firearm. Noise would also be generated by sidecasting of rock material on the slope below the construction bench or in the erosional blowout scar. This sound can be characterized as a natural rock clatter sound as material is placed on the slope below the bench. Occasionally, material could be expected to roll or slide downhill from the location of placement, creating isolated extended rock clatter sounds.

These disturbances would occur during daylight hours (typically 7 am to 5 pm), Monday through Saturday, on a sequenced basis along the ditch section involved with the Proposed Action.

No significant impacts to noise would occur as a result of the Proposed Action, because noise associated with construction of the Proposed Action would be minor and short-term and the Project would not result in a long-term elevation in the baseline noise level.

3.2.4 – Visual Resources

The affected environment of visual resources is described in Section 3.5 of the Original EA. The Proposed Action area is the upper tunnel component area of the overall project area analyzed by the Original EA. The terrain in the general area is canyon and plateau country, with rolling to steep topography. The Proposed Action area is on the east-facing slope of Iron Canyon, on a rocky, relatively steep slope, with layered horizontal bands of ledge rock comprised of tan sandstone. The slope and surroundings are vegetated with open woodlands of pinyon pine, Utah juniper, and scattered mountain shrubs. The human-made visual elements on the landscape include the linear feature of Section 1 of the Gould Canal (now piped), a ranch road/irrigation pipeline access road in the bottom of Iron Canyon, and an access road descending from the west rim of Iron Canyon to the area of the upper tunnel's downstream (north) portal and the lower tunnel's upstream (south) portal (which is also the proposed staging area for the Proposed Action).

The Proposed Action is entirely on private land. The nearest public land is BLM land, 0.2 mile south and 0.3 mile east (on Cedar Point), of the Proposed Action. The nearby BLM land is under general management for limited off-highway vehicle travel (on designated routes) and non-motorized uses, and has Class III Visual Resource Management classification, where "visual resource modifications are evident but harmonious with surroundings." Due to topography, the Proposed Action Area is only distantly visible from a small part of the BLM land to the east in the Cedar Point area, but not from a designated BLM motorized route. The nearest public road is State Highway 92, 1 mile east.

Due to intervening topography, the Proposed Action area is not visible to the public from Highway 92. There is no general public access to the Proposed Action area, except by trespass.

No Action Alternative: There would be no visual impacts from the No Action Alternative. The baseline level of visual disturbance near the Proposed Action Area associated with the linear features of Section 1 of the Gould Canal pipeline alignment and the roads, would continue.



Photograph 1. View of the Proposed Action Area vicinity. The arrows indicate a section of the proposed location of the bypass pipeline construction bench (Rare Earth Science, August 2023).

Proposed Action: Temporary impacts related to visual disturbance during construction would result from the Proposed Action. Machinery would be operating on the landscape on a spatially incremental basis during construction. Following construction, the disturbance footprint would be a permanent linear bench on the east-facing slope of Iron Canyon, with the potential for above-grade (exposed) pipe on the bench. Side-cast rocks would be piled on the slope below the bench. Any above-grade pipe would be painted and color-matched to the local rock formations. The finished construction bench and side-cast rocks would resemble the horizontal cliff bands and jumbled array of rocks already existing in Iron Canyon. None of the Proposed Action area is visible from Highway 92, or from other public roads within a distance (approximately 2 miles) where Project features could be visually discernible. The Proposed Action area is in a narrow viewshed from BLM land to the east, on a part of BLM land without road access.

Action is not visible to the general public, and because construction impacts would be temporary, and because and the visual characteristics of the landscape in and around the Proposed Action Area following construction would not be significantly out of character with the surrounding landforms.

No significant impacts to visual resources would occur as a result of the Proposed Action, because the Proposed

3.2.5 – Vegetation

The affected environment of vegetation resources is described in Section 3.7 of the Original EA. The Proposed Action area is vegetated with open pinyon pine (*Pinus edulis*)-juniper (*Juniperus osteosperma*) woodlands with a sparse mixed mountain shrubland understory across rocky terrain. Very little herbaceous vegetation or topsoil (containing organic matter) is present in the Proposed Action area (see Photograph 1, above).

No Action Alternative: There would be no effect on existing vegetation from the No Action Alternative. The area would continue to support sparse native woodlands in a rocky canyon environment.

Proposed Action: An analysis of upland vegetation impacts is provided in Section 3.7 of the Original EA. Specific to the Proposed Action, construction of the bypass pipeline, preparation of the staging area, and decommissioning of the upper tunnel portals, would result in the minor impact of removing upland native vegetation that is abundant in the surrounding area and in the region. This would involve cutting or grubbing of trees and shrubs in the construction footprint and in the downgradient sidecasting area, either prior to, or during, excavation of the construction bench. During bench excavation, some vegetation may be covered or partially covered with rocky sidecast material placed downgradient of the construction bench. Following pipeline construction, disturbed areas would remain as roughened subsurface soil or bare rock surfaces and seeded in accordance with specifications in the Original EA. Unlike the Original Project area, there is no topsoil to retain and replace on the surface following construction in the current Proposed Action Area. Because upland native vegetation is abundant in the surrounding areas and is adapted to rocky conditions without organic topsoil, native vegetation would also colonize the relatively small area of the construction corridor over time. Due to the factors explained above, the minor impact to upland native vegetation would not rise to the level of significant.

No significant impacts to vegetation would occur as a result of the Proposed Action, because the size of the Proposed Action's area of impact to vegetation is very small relative to the size of the surrounding upland vegetation community, reseeding with native plant species would be conducted following construction, and the area would naturally revegetate with upland plants from the adjacent plant community over time.

3.2.6 – Noxious Weeds

The affected environment of noxious weeds is described in Section 3.7 of the Original EA. In the Proposed Action area, there are no conspicuous occurrences of weeds recognized as noxious by Montrose County (<https://www.montrosecounty.net/374/Priority-Weed-Species>). Noxious weeds are present in the surrounding area along accessways and in the Original Project area at large. Weed management is conducted to varying degrees by landowners throughout the Original Project area.

No Action Alternative: There would be no effect on noxious weeds from the No Action Alternative. Noxious weeds would continue to exist in the surrounding area, and livestock and wildlife traversing the area would continue to serve as vectors for the spread of noxious weeds.

Proposed Action: Construction of the Proposed Action would create ground disturbance. Ground disturbances can stimulate weed seed germination if weed seeds are already present in the soil or introduced by vehicles, equipment, or wildlife; however, there are no conspicuous occurrences of weeds recognized as noxious by Montrose County within the Project Area. The lack of topsoil and the predominance of rocky material in the construction footprint would limit the ability for noxious weed seeds which may be present to successfully germinate. Environmental commitments (CHAPTER 4) such as power washing equipment prior to bringing it onsite and conducting weed management following construction would help further minimize the risk of weed infestations. Following construction, vehicles, livestock and wildlife traveling on the maintenance trail remaining on the bypass alignment would present a vector for weed introduction in the Project Area, and noxious weed species already found in the in the surrounding area or the Original Project area at

large, could be introduced to the Project Area. Such an introduction of noxious weeds would be a minor impact, as it would not be unusual or out-of-character with local and regional conditions. Reseeding following construction, and weed control, would be conducted along the Proposed Action alignment in conjunction with measures established for the Original Project at large, and in accordance with a bypass alignment easement agreement with the landowner.

No significant impacts related to noxious weeds would occur as a result of construction of the Proposed Action, because there are no conspicuous occurrences of noxious weeds in the Project Area that would germinate and spread following construction disturbance. Following construction, a maintenance trail remaining on the bypass alignment would present a vector for weed introduction in the Project Area. Weed infestations arising from use of the maintenance trail following construction would represent a minor impact on noxious weeds, because noxious weeds are already present in the surrounding area, and are a relatively normal occurrence along ranch roads in the region.

3.2.7 – Migratory Birds & Raptors

The affected environment of migratory birds protected under the Migratory Bird Treaty Act and eagles protected under the Bald and Golden Eagle Protection Act of 1940 is described in Section 3.9 of the Original EA. Several species of migratory songbirds breed in the pinyon-juniper woodland habitat type in rocky canyon settings such as the Proposed Action area. These include scrub-jay, blue-gray gnatcatcher, bushtit, canyon wren (uncommon), red-breasted nuthatch (uncommon), spotted towhee, Townsend's solitaire, western bluebird, and cliff swallow. Pygmy owl (a tree cavity nester) is also a potential nester in the vicinity of the Proposed Action. Overall peak breeding season for migratory birds is April 1 through July 15. However, in the vicinity of the Proposed Action, due to the higher elevation and the later leaf-out of deciduous vegetation required for nesting, egg laying and incubation for migratory birds begin in late April to mid-May.

During the Spring 2019 nesting raptor survey conducted for the Original Project, five golden eagle nests were identified in the rimrock bands of Iron Canyon. The nests belong to a single pair of golden eagles, with the active nest location 1.1 miles (mi) south-by-southeast of the Proposed Action in the rimrock above the Gould Reservoir dam. Four alternate (inactive) nest locations are distributed throughout Iron Canyon, at distances of 0.35 mi, 0.48 mi, 0.6 mi, and 1.1 mi from the Proposed Action area, respectively. The active nest location above Gould Reservoir dam has continued as the active nest each season since 2019. Egg incubation for this pair typically begins in late February (Le Fevre, pers. comm.).

No Action Alternative: There would be no effects to migratory birds or raptors from the No Action Alternative, because there would be no construction activities related to the upper tunnel bypass and the Proposed Action area would remain undisturbed.

Proposed Action: Direct effects to migratory songbirds and raptors would include short-term disturbance and displacement from the Proposed Action Area during construction, from operating construction equipment and human presence. Late summer, fall, or winter construction would cause temporary displacement of wintering and migrating songbirds and raptors from foraging habitat. Construction during spring and early summer would also displace migratory songbirds from nesting habitat in and near the construction footprint. These effects would be minor because adult birds have the flexibility to move away from disturbance to other suitable areas. Non-adult migratory birds (eggs, nestlings) would be protected by 1) avoiding vegetation removal (and potential destruction of

active nests) during nesting season, or 2) conducting migratory bird nest surveys and conservation measures in accordance with Reclamation and FWS-approved protocols in advance of vegetation removal during nesting season. Non-adult golden eagles (eggs, nestlings) would be protected from disturbance and potential abandonment by restricting construction activity during breeding season (December 1 through July 15) within a CPW-published or FWS-specified buffer distance from an active nest (a nest with eggs or young). Reclamation is coordinating with FWS regarding an appropriate timing window for the migratory bird nesting season, pre-construction survey protocols, and the appropriate buffer distance from an active golden eagle nest specific to the Proposed Action area. The results of that coordination will be included in the Final EA, along with specific Environmental Commitments in Chapter 4 of the Final EA. Additionally, a new survey for active raptor nests within 0.5 mi of the Proposed Action would be conducted prior to construction, if construction were to be planned for the raptor nesting season (December 1 through July 15).

Effects to migratory birds would be minor and temporary, because adult birds can move away from construction disturbance to other suitable areas. There would be no effects to non-adult birds (eggs, nestlings) because vegetation disturbance or grubbing would be avoided during migratory bird nesting season or, if vegetation disturbance or grubbing takes place during migratory bird nesting season, a Reclamation and FWS-approved pre-construction migratory bird nest survey and conservation measures would be implemented. There would be no effect on raptors, because construction would not take place during nesting season within raptor nest buffers published in CPW guidance or established in consultation with FWS.

3.2.8 – Threatened & Endangered Species

The affected environment of threatened & endangered species is described in Section 3.9 of the Original EA. The Original EA analyzed impacts to Gunnison sage-grouse and its designated critical habitat, and Colorado pikeminnow, razorback sucker, bonytail, and humpback chub and their designated critical habitat. The Original EA analysis remains adequate and current, with the following exceptions: since the time of the Original EA, one species has been downlisted from endangered to threatened (humpback chub), one new species has become a candidate for listing (monarch butterfly), one new species has been proposed for listing as threatened (silverspot), and one new endangered species is now recognized as potentially having range in the Proposed Action area (gray wolf).

The affected environment of the Gunnison sage-grouse is not within the Proposed Action area. The affected environment of the four analyzed fishes remains unchanged. As part of the Original Project's NEPA process, the Applicant signed a Recovery Agreement with the U.S. Fish & Wildlife Service (FWS) (included with the Original EA) to ensure that impacts from the Applicant's water depletions from the Upper Colorado River Basin to the humpback chub (and three other endangered fishes) and their critical habitat are covered under the Gunnison Basin Programmatic Biological Opinion, which resulted from Reclamation's formal consultation with FWS under Section 7 of the U.S. Endangered Species Act. Although the status of the humpback chub was downlisted to threatened in November 2021), the same protections are still in effect for this species.

While western Colorado has not been home to large numbers of monarch butterflies relative to other areas in its range, the species occurs in the Proposed Action Area during the warm season where milkweed plants are available in riparian areas, wetlands, irrigated pastures, and roadsides. The Proposed Action area lacks habitat for the candidate species monarch butterfly. No riparian, irrigated, or wetland areas supporting milkweed are in the Proposed Action area.

The Proposed Action area is mapped within the overall range of the silverspot (a butterfly) proposed for listing as threatened under the U.S. Endangered Species Act in May 2022. This species is well studied and according to FWS species profiles, the known populations of silverspot do not occur in or near the Proposed Action area. The Proposed Action area lacks habitat for the threatened silverspot. Its host plant, bog violet, is not present in the Proposed Action area.

The gray wolf is a wide-ranging habitat generalist and keystone predator that requires landscape-scale areas of minimal human disturbance and a sufficient prey base of large ungulates. Historically, wolves occurred across the state, but were extirpated (exterminated) from Colorado in the 1940s, mainly to protect domestic livestock. Documented reports of lone wolves sporadically dispersing into northern Colorado began in 2004, following the re-establishment of populations in Idaho, Montana, and Wyoming. In 2020, CPW confirmed an active pack of 6 wolves in extreme northwestern (Moffat County) Colorado. In 2021, the first reproductively active pack was documented in Jackson County in north-central Colorado. As of July 2022, there is no indication that wolves remain in Moffat County, and there was no evidence of reproduction in the north-central pack in 2022 (87 FR 43489-43491). The primary threats to wolves are vehicle collisions, illegal poaching, or accidental take (such as by poisoning targeted to other livestock predators such as coyote). The Proposed Action area is not in gray wolf designated critical habitat.

No Action Alternative: There would be no effect on T&E species from the No Action Alternative. The Applicant's historic depletions would continue to affect the four Colorado River Basin listed fishes and their critical habitat downstream; however the Recovery Agreement previously executed between the FWS and the Applicant as part of the Original EA would remain in effect.

Proposed Action: The Proposed Action would not change the status of the Applicant's water depletions to the Upper Colorado River Basin. Since no change to the Applicant's historic annual consumptive use rate or historic water depletions from operations of their systems within the Colorado River Basin would occur, the Recovery Agreement previously executed between the FWS and the Applicant as part of the Original NEPA review and Original EA would remain in effect.

There would be no direct effects to monarch butterflies from the Proposed Action, because the Proposed Action does not contain milkweed habitat that supports the life cycle of the species.

There would be no effect to silverspot from the Proposed Action, because the Proposed Action does not overlap with the documented population occurrences of silverspot.

Given the current understanding that wolves are not present or documented in the Proposed Action Area, the Proposed Action would have no effect on the gray wolf. If wolves dispersed into or near the Proposed Action Area during construction of the Proposed Action, the Project activities would not measurably affect wolves, because the Proposed Action does not include a predator management program, and wolves could disperse away from the Proposed Action area. Since the Proposed Action is not in gray wolf designated critical habitat, there would be no effect to gray wolf critical habitat.

No impacts to listed threatened and endangered (or proposed or candidate) species or their critical habitat would occur as a result of the Proposed Action, because the analysis of species and critical habitats completed for the Original Project continues to be applicable, and because analysis of

updated species found that these species do not have habitat in the Proposed Action area or do not occur in the Proposed Action area.

3.2.9 – Cultural Resources

The affected environment of cultural resources is described in Section 3.10 of the Original EA. Since the Proposed Action is spatially outside the Area of Potential Effect of the cultural study conducted for the Original EA, a cultural survey addendum has been prepared (ERO 2023). An additional segment of the Gould Canal and a historic adit or abandoned tunnel was documented in the addendum report. A Memorandum of Agreement (MOA) for the Original Scope of Work mitigated changing the canal from open to piped. This Proposed Action would realign the Gould Canal around the tunnel and close the tunnel openings of this National Register of Historic Places-eligible resource.

No Action Alternative: The No Action Alternative would have no effect on cultural resources in the Proposed Action Area. The cultural resources documented in the Proposed Action area would continue to exist in their current condition on the landscape.

Proposed Action: As a result of the Class III cultural resources inventory of the Proposed Action Area, and in consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation has determined that the Proposed Action would have an additional adverse effect on irrigation infrastructure elements involved with the Proposed Action beyond the adverse effect which was described in the Original EA. A Memorandum of Agreement (MOA) (in the Original EA) was executed between Reclamation and the Colorado SHPO, with the Applicant participating as an invited party, regarding the management of cultural resources related to the Original Project. The MOA for the Original EA has ended and cannot be amended to accommodate the Proposed Action. A new agreement is in the process of being consulted on with all consulting parties and will be included in the Final EA. The MOA stipulations are being designed to maintain the cultural heritage of irrigation history through public interpretation and/or documentation. Maintaining the cultural heritage of irrigation history would ensure the Proposed Action would not result in the loss of knowledge of early irrigation systems, their design, or reduce the ability to gain knowledge of early irrigation systems into the future.

No significant impacts to cultural resources would occur as a result of the Proposed Action, because the cultural heritage of irrigation history would be maintained.

3.2.10 – Soils & Farmlands of Agricultural Significance

The overall affected environment of soils and farmlands of agricultural significance for the Original Project is described in Section 3.11 of the Original EA. The soils unit mapped by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in the Proposed Action area is “rock outcrop” and is not classified as a farmland of agricultural significance under the Farmland Protection Policy Act (NRCS 2022). The proposed staging area has sediments accumulated from flood events. The erosional blowout scar in the Proposed Action area is also composed of rock outcrop material.

No Action Alternative: The No Action Alternative would have no direct effect on soils characterized by NRCS as agriculturally significant. There are no farmlands in the Proposed Action Area. As explained in Section 3.2.1, the No Action Alternative would have a significant effect on water rights and uses for the Applicant’s shareholders, because the volume of water loss from the upper tunnel

would be expected to increase in coming irrigation seasons as water seeping through fractured rocks inside the tunnel continues to create instability in the slope and more leak pathways. This water loss would represent a decrease in water delivery to shareholders and therefore a decrease in irrigation water that could be applied to farmlands and soils of agricultural significance, and a subsequent decrease in agricultural productivity for the shareholders.

Proposed Action: Under the Proposed Action Alternative, installation of the bypass pipeline would disturb rock outcrops in the construction bench area, sediment deposits in the proposed staging area, and rocky material in the erosional blowout scar area. Project activities would not cause direct disturbance to soils in irrigated agricultural production, or soils directly adjacent to irrigated agricultural lands. No farmlands would be permanently altered or removed from production as a result of the Proposed Action, and no interruption to agricultural production would occur. Therefore, there would be no significant impact to soils, farmlands, or agricultural production as a result of implementing the Proposed Action.

The Proposed Action would have a beneficial effect on the Applicant's ability to manage irrigation water with efficiencies gained from piping a bypass around the upper tunnel. This would in turn benefit soils because more water would be available per share of irrigation water (Section 3.2.1), allowing shareholders to continue managing their soils for agricultural productivity, vitality and fertility.

The risk of erosion or blowouts from upper tunnel leakage would be eliminated by installation of the bypass pipe. Therefore the Proposed Action would also have the beneficial effect of eliminating the risk of erosion or blowouts caused by upper tunnel leakage or failure.

3.2.11 – Cumulative Impacts

The overall affected environment of cumulative impacts for the Original Project is described in Section 3.12 of the Original EA.

Cumulative impacts are direct and indirect impacts on the resources affected by the Proposed Action which result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts can also be characterized as additive or interactive. An additive impact emerges from persistent additions from one kind of source, whether through time or space. An interactive—or synergistic—impact results from more than one kind of source.

The analysis of cumulative impacts (Table 3) for the Proposed Action considers both spatial (geographic) boundaries and temporal limits of impacts, on a resource-by-resource basis. Spatial and temporal analysis limits vary by resource. Spatial limits were selected to be commensurate with the impacts on, and realm of influence of, each resource type. The temporal limits of analysis were established as 50 years for each resource type (a standard timeframe for cumulative impacts analysis), except for resource types perceived to have only temporary impacts (impacts that end following construction of the Proposed Action or within a few seasons following construction).

The direct and indirect effects of past and ongoing (present) actions are reflected in the current conditions described in the affected environment above in each of the resource topics of

CHAPTER 3, and take into account ongoing cumulative effects from the past and present projects listed in Section 1.5. Reasonably foreseeable future actions are specific actions, and not speculative actions, in that they have approved NEPA documentation or approved plans with the potential to impact the same resources affected by the Proposed Action. Reasonably foreseeable future actions potentially affecting resources within the spatial and temporal limits of this analysis (Table 3) the Proposed Action are as follows:

- Salinity Control Program. Projects that may be occurring simultaneously with the Proposed Action are the Crawford Clipper Jerdon/West/Hamilton Laterals Piping Project (J/W/H) and the Grandview (Middle and Lower) Piping Project (Grandview M&L). Water Quality, Vegetation, Noxious Weeds, Wildlife Resources, Threatened & Endangered Species, and Cultural Resources are the affected resources relevant to this analysis.
- Gunnison Basin Selenium Management Program (SMP)(see Sections 1.4.1 and 3.2.8). The resources affected by this program relevant to this analysis are Water Quality and Threatened & Endangered Species.
- The Colorado River Endangered Fish Recovery Program (“Recovery Program”)(see Section 3.2.8). The resource affected by this program relevant to this analysis is Threatened & Endangered Species.

Table 3 describes the cumulative impacts incrementally cumulative effects, if any, of the reasonably foreseeable future actions in combination with the Proposed Action on the resources carried forward for analysis in this EA. For resources not carried forward for analysis in this EA, see the cumulative impacts analysis in Section 3.12 of the Original EA.

Table 3. Cumulative Impacts Analysis Spatial & Temporal Limits by Resource

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Water Rights and Use	None	Fruitland Mesa; 50 years	There are no known reasonably foreseeable future actions which would have an impact on water rights and use in the area of spatial analysis. Therefore, there are no cumulative impacts to water rights and use associated with implementation of the Proposed Action.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Air Quality	None	The airshed in the immediate Project Area; for the duration of Proposed Action construction	Since there are no other foreseeable actions which would affect air quality within the Proposed Action area, there would be no cumulative impact due to the Proposed Action and the area would remain in attainment for any criteria pollutants in the Montrose County airshed.
Access, Transportation, and Safety	None	Proposed Action Area; for the duration of Proposed Action construction	Since there are no other foreseeable actions which would affect access, transportation, or safety in the area of spatial analysis, there are no cumulative impacts to access, transportation, and safety associated with implementation of the Proposed Action.
Noise	None	Proposed Action Area plus 1-mile buffer; for the duration of Proposed Action construction	Since there are no other foreseeable actions which would affect noise in the area of spatial analysis, there are no cumulative impacts to noise associated with implementation of the Proposed Action.
Visual Resources	None	Proposed Action Area plus 1-mile buffer; 50 years	Vegetation clearing and the linear disturbance from construction of the bypass pipeline would not lead to visible changes significantly different or more dominant in the long-term than what is already present on the landscape. The Proposed Action area is not visible from public roads and is not substantially visible from nearby public land. Since there are no other foreseeable actions which would affect visual resources in the area of spatial analysis, the Proposed Action would not contribute significantly to cumulative effects to visual resources.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Vegetation	None	The Proposed Action Area plus 1-mile buffer; 50 years	Since there are no other foreseeable actions which would affect vegetation in the area of spatial analysis, the Proposed Action would not contribute significantly to cumulative impacts to upland vegetation.
Noxious Weeds	None	Proposed Action Area plus 1-mile buffer; 50 years	Noxious weeds are not present or conspicuous in the Proposed Action Area but are present in surrounding areas as a baseline condition. Introduction of noxious weeds is expected following project construction because an access trail would remain on the bypass pipeline alignment. Such infestations would be controlled in accordance with the bypass pipeline easement agreement. Since there are no other foreseeable actions which would introduce or spread noxious weeds in the Proposed Action area, the Proposed Action would not contribute significantly to adverse cumulative impacts related to noxious weeds.
Migratory Birds and Raptors	None	Proposed Action Area plus 1-mile buffer; 50 years	Since there are no other foreseeable actions which would affect migratory birds or raptors in the area of spatial analysis, there are no cumulative impacts to migratory birds or raptors associated with implementation of the Proposed Action.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Threatened and Endangered Species	SMP and Recovery Program	Fruitland Mesa & downstream critical habitat for endangered fishes; 50 years	While the Proposed Action would adversely affect the listed Colorado river fishes due to Fruitland Irrigation Company's historic depletion rates, the Recovery Program ensures cumulative effects to the fishes and their designated critical habitat do not occur due to projects covered under the PBO. The reduction in selenium loading to the Colorado River and Gunnison River basins as a result of the Proposed Action would contribute to the cumulative beneficial effects of the Gunnison Basin SMP in improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and lower Gunnison River basins.
Cultural Resources	Salinity Control Program projects	Ditch systems of the region; 50 years	The Proposed Action would adversely affect NRHP-eligible cultural resources, contributing to the adverse effects caused by Salinity Control Project projects in the region. However, the cultural heritage of irrigation history would be maintained through public interpretation and/or documentation. Therefore, contribution to cumulative impacts of the Proposed Action's adverse affect on cultural resources does not rise to the level of significant.
Soils & Farmlands of Agricultural Significance	None	Proposed Action Area; 50 years	There are no reasonably foreseeable future actions in the Proposed Action Area that would affect farmlands of agricultural significance. Due to the temporary nature of impacts to agricultural soils from construction, the Proposed Action would not contribute to cumulative effects on soils or Farmlands of Agricultural Significance.

3.3 – Summary

Table 4 provides a summary of environmental impacts, including cumulative impacts, for each of the resources evaluated in this EA. Resource impacts are outlined for both the No Action and the Proposed Action Alternatives. As described throughout Chapter 3, environmental impacts of the Action Alternative were not determined to be significant.

Table 4. Summary of Impacts for the No Action Alternative and Proposed Action Alternative.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Water Rights and Use (see Section 3.2.1 of this EA)	No effect. Upper tunnel seepage and irrigation inefficiencies would continue as they have in the past.	The Proposed Action would have a beneficial effect of routing the Applicant’s irrigation water past the unstable, leaking upper tunnel, enabling the full volume of adjudicated irrigation water to be delivered to the shareholders and put to beneficial use. No cumulative effects.
Water Quality (see Section 3.2 of the Original EA)	No effect. Salt and selenium loading from the Proposed Action Area would continue to affect water quality in the Colorado River Basin.	Implementation of the Proposed Action would not materially change the original analysis. An estimated salt loading reduction of 5,697 tons per year to the Colorado River Basin is resulting from implementation of the Original Project. The Original Project is reducing selenium loading into the Gunnison River (the amount has not been quantified). Improved water quality benefits downstream aquatic species by reducing salt and selenium loading in the Gunnison and Colorado rivers. The beneficial effects of improved water quality resulting from the Original Project contribute cumulatively to the regional efforts underway to reduce salinity and selenium in the lower Gunnison and Colorado River watersheds.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Air Quality (see Original EA Section 3.3)	No effect. The upper tunnel would continue to operate in its current condition and dust and exhaust would occasionally be generated by vehicles and equipment conducting routine maintenance and operation.	Implementation of the Proposed Action would not materially change the original analysis. Exhaust and dust from construction activities would have a minor, short-term effect on the air quality in the immediate Proposed Action Area. Following construction, impacts to air quality from routine maintenance and operation activities along the bypass corridor would be similar in magnitude to those currently occurring for the existing upper tunnel. If other construction projects occur concurrently with the Proposed Action, the cumulative impact on air quality in the area would be temporary and would not rise to the level of significant, as the area would remain in attainment for any criteria pollutants in Montrose County.
Access, Transportation & Safety (see Section 3.2.2 of this EA)	No Effect. The upper tunnel would continue to operate in its current condition and the baseline status of public safety, transportation routes, utilities, and public access in the vicinity would remain unchanged.	The Proposed Action would have the beneficial effect of eliminating safety risks associated with open, moving water entering and enclosed tunnel. No significant impacts to access, transportation, and public safety would occur as a result of the Proposed Action, because traffic and access disruptions would be short-term and coordinated with authorities, and public safety measures would be implemented in construction areas. No cumulative effects.
Noise (see Section 3.2.3 of this EA)	No Effect. There would be no construction noise related to upper tunnel bypass piping in the Proposed Action Area, and noise related to ditch operation and maintenance activities would continue as it has in the past.	Noise would be associated with construction activities during implementation of the Proposed Action, including machinery noise, rock clatter, and the muffled “pop” sounds of underground blasting agents used to loosen rock from excavations. Impacts to noise would be minor as a result of the Proposed Action, because noise associated with construction of the Proposed Action would be short-term and the Project would not result in a long-term elevation in the baseline noise level. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Recreation Resources (see Original EA Section 3.5)	No Effect. The Proposed Action is not on public lands.	Implementation of the Proposed Action would not materially change the original analysis. The Proposed Action is on private land that is not open to the public, therefore the Proposed Action would have no effect on public recreation resources. No cumulative effects.
Visual Resources (see Section 3.2.4 of this EA)	No Effect. The baseline level of visual disturbance in the Proposed Action Area associated with irrigation developments and ranching.	No significant impacts to visual resources would occur as a result of the Proposed Action, because the Proposed Action is not visible to the general public, and because construction impacts would be temporary, and because and the visual characteristics of the landscape in and around the Proposed Action Area following construction would not be significantly out of character with the surrounding landforms. No cumulative effects.
Livestock Grazing (see Section 3.6 of the Original EA)	No Effect. The Proposed Action is not within public land livestock grazing allotments. Private land grazing would continue as it has in the past.	Implementation of the Proposed Action would not materially change the original analysis. No effect to public land livestock grazing allotments would occur, because the Proposed Action is on private land. There would be temporary minor effects to livestock grazing in the Proposed Action area. No lands would be permanently eliminated from grazing use as a result of the Proposed Action. No cumulative effects.
Vegetation (see Section 3.2.5 of this EA)	No Effect: the upper tunnel would continue to operate as it has in the past, and no vegetation would be disturbed in the proposed bypass alignment.	A minor impact to vegetation would occur as a result of the Proposed Action. Because size of the Proposed Action's area of impact to vegetation is very small relative to the size of the surrounding upland vegetation community, and because the area would be reseeded and also naturally revegetate with upland plants from the adjacent plant community, the impact would not rise to the level of significant. There would be no effect to wetland or riparian vegetation. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Noxious Weeds (see Section 3.2.6 of this EA)	No Effect: the upper tunnel would continue to operate as it has in the past, and the baseline condition of relatively few noxious weeds in the area would continue.	Impacts related to noxious weeds would be minor, because there are no conspicuous occurrences of noxious weeds in the Proposed Action area that would germinate and spread due to construction disturbance. The impact of noxious weeds introduced to the Proposed Action area afterward from use of a maintenance trail remaining on the bypass alignment would be minor, because noxious weeds are already present in the surrounding area, and are a relatively normal occurrence along ranch roads in the region. Weed control would be conducted along the Proposed Action alignment in conjunction with measures established for the Original Project at large, and in accordance with a bypass alignment easement agreement with the landowner. No cumulative effects.
Wildlife Resources (see Sections 3.8 and 3.9 of the Original EA)	No Effect. Wildlife would continue to use the area as in the past.	Implementation of the Proposed Action would not materially change the original analysis. Construction would create incremental activity and ground disturbance throughout the Project area, resulting in minor temporary impacts to mule deer and elk within the Proposed Action area. Construction impacts to small animal populations (mammals, reptiles) would be minor and would include direct mortality and displacement during construction activities. No wetlands or riparian-dependent species would be affected, since the Proposed Action is not located in wetland or riparian areas. No cumulative effects.
Migratory Birds and Raptors (see Section 3.9 of the Original EA)	No Effect. The Proposed Action area would continue to support sparse native woodlands in a rocky canyon environment, providing breeding habitat for certain migratory songbirds.	Effects to migratory birds would be minor and temporary, because adult birds can move away from construction disturbance to other suitable areas. There would be no effects to non-adult birds (eggs, nestlings) because vegetation disturbance or grubbing would be avoided during migratory bird nesting season or, if vegetation disturbance or grubbing takes place during migratory bird nesting season, a Reclamation and FWS-approved pre-construction migratory bird nest survey and conservation measures would be implemented. There would be no effect on raptors, because construction would not take place during nesting season within raptor nest buffers published in CPW guidance or established in consultation with FWS. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Threatened & Endangered Species (see Section 3.2.7 of this EA)	No Effect. Historic depletions and salt and selenium loading from the Proposed Action Area would continue to affect the four Colorado River basin endangered fishes and their critical habitat downstream.	The Proposed Action may adversely affect the bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker and their critical habitat. However, the Applicant’s historic depletions are covered under the PBO, and the Recovery Program ensures impacts to the listed fishes or adverse modification of their designated critical habitat resulting from projects covered under the PBO would not result in jeopardy to the species. The reduction in selenium loading to the Colorado River and Gunnison River basins resulting from the Proposed Action would contribute to the cumulative beneficial effects of the Gunnison Basin SMP in improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and lower Gunnison River basins. No impacts to other listed threatened and endangered (or proposed or candidate) species or their critical habitat would occur as a result of the Proposed Action, because the analysis of species and critical habitats completed for the Original Project continues to be applicable, and because analysis of updated species found that these species do not have habitat in the Proposed Action area or do not occur in the Proposed Action area.
Cultural Resources (see Section 3.2.8 of this EA)	No Effect. The cultural resources documented as eligible for listing in the NRHP would continue to exist in their current condition on the landscape.	The Proposed Action would have an adverse effect on NRHP-eligible cultural resources. An MOA (Appendix A) between Reclamation and the Colorado SHPO, with the Applicant participating as an invited party, outlines stipulations designed to conserve the cultural heritage of irrigation history. The Proposed Action would contribute to an area-wide adverse effect on NRHP eligible cultural resources which is occurring as a result of irrigation piping projects, but this cumulative impact would not rise to the level of significant as the cultural heritage of irrigation history would be maintained through public interpretation and/or documentation.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Soils & Farmlands of Agricultural Significance (see Section 3.2.10 of this EA)	No Effect. Soils and farmlands of significance in the Proposed Action Area would continue to produce as in the past. Salinity loading from deep percolation of irrigation water through saline soils along the ditches would continue.	Project activities would cause temporary disturbance to soils (rock outcrops) that are not in or near irrigated agricultural lands. No farmed agriculturally significant soils would be directly disturbed by the Proposed Action. The Proposed Action would have a beneficial effect on the Applicant’s ability to manage irrigation water and soil vitality and fertility with efficiencies gained from replacing the upper tunnel with a bypass pipeline. The Proposed Action would also have the beneficial effect of eliminating the risk of erosion or blowouts caused by upper tunnel leakage or failure. No cumulative impacts.

CHAPTER 4 – ENVIRONMENTAL COMMITMENTS

This section summarizes the design features, BMPs, conservation measures, and other requirements (collectively, “Environmental Commitments”) developed to lessen the potential adverse insignificant effects specific to the Proposed Action. The actions in the following environmental commitment list would be implemented as an integral part of the Proposed Action and shall be included in any contractor bid specifications.

Note that in the event there is a change in the Proposed Action description, or any construction activities are proposed outside of the inventoried Proposed Action Area or the planned timeframes outlined in this EA, additional environmental review by Reclamation would be required to determine if the existing surveys and information are adequate to evaluate the changed project scope. Additional NEPA documentation may be required.

Table 5. Environmental Commitments

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Plan or Certification Requirement	A Spill Response Plan shall be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.	Water Quality	Clean Water Act of 1972 as amended

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Plan or Certification Requirement	A Stormwater Management Plan shall be prepared and submitted to CDPHE by the construction contractor prior to construction disturbance.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	A CWA Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (NPDES) shall be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction).	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 shall be obtained by the construction contractor prior to any dewatering activities related to construction.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	Any construction, access, or use permits required by the Delta County Planning Department, County Engineering and County Road & Bridge District #3, or the Montrose County Planning & Development Department, shall be obtained in advance of road crossings.	Access, Transportation & Safety	County Ordinances and Regulations
General BMP	All equipment shall be power-washed before it is brought to the construction area, to minimize transport of new weed species to the construction area.	Vegetation, Weeds, Habitat, Wildlife	Montrose County Weed Management Plan
General BMP	Vegetation removal shall be confined to the smallest portion of the Proposed Action Area necessary for completion of the work.	Soil, Vegetation, Weeds, Habitat	Montrose County Weed Management Plan

Type	Environmental Commitment	Affected Resource	Authority
General NEPA Requirement	Tree grubbing and vegetation removal in all project areas shall avoid the primary nesting season of migratory birds (to be established by FWS and stated here in the Final EA), or a nesting migratory bird survey and conservation measures shall be conducted in accordance with a Reclamation- and FWS-approved protocol prior to tree grubbing and vegetation removal conducted during the primary nesting season of migratory birds. This timing restriction shall be clearly noted on Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918
General BMP	Weed control shall be implemented by the Applicant or its contractor in accordance with any stipulations set forth in the bypass pipeline easement agreement between the Applicant and landowner.	Soil, Vegetation, Weeds, Habitat	Montrose County Weed Management Plan
General BMP	Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used to prevent erosion from entering water bodies during construction.	Water Quality	Clean Water Act of 1972 as amended
General BMP	Any concrete pours shall occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing shall be contained and treated or removed for off-site disposal.	Water Quality	Clean Water Act of 1972 as amended
General BMP	The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Proposed Action in an appropriate manner that prevents them from contaminating soil and water resources.	Water Quality, Soil	Clean Water Act of 1972 as amended
General BMP	Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	Clean Water Act of 1972 as amended

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Proposed Action.	Soil, Vegetation, Weeds, Habitat, Wildlife	Archaeological Resources Protection Act of 1979; Paleontological Resources Preservation Act of 2009
General BMP	Pipeline trenches left open overnight shall be kept to a minimum and covered to reduce potential for hazards to the public and to wildlife. Covers shall be secured in place and strong enough to prevent people, livestock, or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be used.	Wildlife, Public Safety	C.R.S. 33-1-101 to 125 Parks and Wildlife Article 1: Wildlife
General NEPA Compliance	If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the MOA (see Appendix A). Stipulations in the MOA are incorporated into this Final EA by reference. Additional surveys shall be required for cultural resources if construction plans, or proposed disturbance areas are changed.	Cultural Resources	National Historic Preservation Act of 1966 Archaeological Resources Protection Act of 1979 Paleontological Resources Preservation Act of 2009
General NEPA Compliance	In the event that previously undocumented threatened or endangered species are encountered during construction, the contractor shall stop construction activities until Reclamation has consulted with FWS to ensure that adequate measures are in place to avoid or reduce impacts to the species.	Threatened & Endangered Species	Endangered Species Act of 1973 as amended

Type	Environmental Commitment	Affected Resource	Authority
General NEPA Compliance	Construction activities shall take place only in accordance with the schedule restrictions outlined in this EA. These schedule restrictions and their spatial extents shall be clearly marked on the project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918; Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	Protective buffer areas and construction timing restrictions for active raptor nests shall be clearly identified on construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918 Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	If a previously undocumented active raptor nest is discovered within 1/2 mile of the Proposed Action Area during construction, construction shall cease until Reclamation can complete consultations with CPW or FWS as appropriate. This commitment shall be clearly noted on the construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918 Bald and Golden Eagle Protection Act of 1940
General BMP	All equipment shall be cleaned before it is transported to another job site, to avoid introducing weed species from the construction area to another job site.	Vegetation, Weeds, Habitat	Montrose County Weed Management Plan

CHAPTER 5 – CONSULTATION AND COORDINATION

5.1 – Introduction

Reclamation’s public involvement process presents the public with opportunities to obtain information about a given project, and allows interested parties to participate in the project through written comments. This chapter discusses public involvement activities taken to date for the Proposed Action.

5.2 – Public Involvement

Reclamation provided the public an opportunity to comment on the Draft Original EA and FONSI between July 22, 2019 and August 22, 2019. During this time, two comments were received. A summary of the comments, the original comments, and responses to the comments are provided in the Original EA, available here:

<https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20190900-FruitlandIrrigationCompanyGouldCanalImprovementProjectsAandB-FinalEAandFONSI-508-WCAO.pdf>.

Notice of the public review period and availability of this Draft EA will be distributed to private landowners adjacent to the Proposed Action, and the organizations and agencies listed in Appendix B. A two week public review comment period will be provided.

5.3 – Distribution

The publicly-available electronic version of the Final Original EA is appended to this Draft EA, and is available on Reclamation’s website

<https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20190900-FruitlandIrrigationCompanyGouldCanalImprovementProjectsAandB-FinalEAandFONSI-508-WCAO.pdf>).

This Draft EA and the Final Original EA version available on Reclamation’s website, meets the technical standards of Section 508 of the Rehabilitation Act of 1973, so that the documents can be accessed by people with disabilities using accessibility software tools.

CHAPTER 6 – PREPARERS

The following list contains the individuals who participated in the preparation of this EA.

Table 6. List of Preparers

Name	Agency	Title	Areas of Responsibility
Jenny Ward	Reclamation	Environmental Protection Specialist	EA review, general authorship, cultural resources
Dawn Reeder	Rare Earth Science (Consultant to the Applicant)	Principal Biologist	General authorship, mapping

CHAPTER 7 – REFERENCES

- CPW (Colorado Parks and Wildlife). 2023. Public Species Activity Mapping Data Layer accessed in ArcGIS from the ArcGIS online server. Last updated by CPW in January 2023.
- CPW. 2020. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. <https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/Raptor-Buffer-Guidelines.pdf>
- EPA (U.S. Environmental Protection Agency). 2022. Current nonattainment counties for all criteria pollutants, updated January 30. <https://www3.epa.gov/airquality/greenbook/ancl.html>
- ERO (ERO Resources Corporation). 2023. Addendum to: Cultural Resource Survey, Fruitland Irrigation Company Salinity Control Project, Delta and Montrose Counties, Colorado – 2023 Additional Survey. Prepared for Fruitland Irrigation Company. October. 23 pp.
- FWS (U.S. Fish and Wildlife Service). 2023. Memorandum re: 2020-2021 Abbreviated Assessment of Sufficient Progress under the Upper Colorado River Endangered Fish Recovery Program in the Upper Colorado River Basin. https://coloradoriverrecovery.org/uc/wp-content/uploads/sites/2/2023/02/feb-2021-Jan-2022-UCRRP-Suff-Prog_Acting-RD-signature.pdf
- FWS. 2009. Gunnison Basin Programmatic Biological Opinion. December 4. Memorandum to Area Manager, Western Colorado Area Office, Bureau of Reclamation, Grand Junction, Colorado from Colorado Field Supervisor, Ecological Services, Lakewood, CO. <https://coloradoriverrecovery.org/uc/wp-content/uploads/sites/2/2021/09/GUPBO.pdf>
- Montrose County. 2011. Weed Management Plan. Prepared by the Montrose County Weed Mitigation Department. April 18.
- Henneberg, M.F., 2021, Dissolved-Selenium Concentrations and Loads in the Lower Gunnison River Basin, Colorado, as Part of the Selenium Management Program (ver. 2.0, September 2022): U.S. Geological Survey data release, <https://doi.org/10.5066/P92UIS8X>.
- Le Fevre, J. (Wildlife Biologist). 2024. Personal communication with D. Reeder, regarding nesting birds and raptors in the Proposed Action vicinity. January 26.
- Linard, J.I., 2013, Ranking contributing areas of salt and selenium in the Lower Gunnison River Basin, Colorado, using multiple linear regression models: U.S. Geological Survey Scientific Investigations Report 2013–5075, 35 p., <http://pubs.usgs.gov/sir/2013/5075/>
- NRCS (U.S. Dept. of Agriculture Natural Resources Conservation Service). 2022. Soil Survey Geographic (SSURGO) database for Paonia Area, Colorado, Parts of Delta, Gunnison, and Montrose Counties, publication co679.

- OAHP (Office of Archaeology and Historic Preservation, History Colorado). 2013. Historic Resource Documentation Standards for Level I, II, and III Documentation. Publication 1595.NRCS (U.S. Department of Agriculture Natural Resources Conservation Service). 2022. Gridded Soil Survey Geographic (gSSURGO) for Colorado. USDA GeoSpatial Data Gateway.
- Reclamation (U.S. Bureau of Reclamation). 2023. Groundwater Analysis for the Turner & Lone Cabin Ditch Combination Salinity Reduction Project. Prepared by Jennifer Ward, Environmental Protection Specialist. May 4. 10 pp.
- Reclamation. 2022a. Selenium Management Program, Gunnison River Basin 2021 Annual Progress Report. Bureau of Reclamation.
<https://www.usbr.gov/uc/DocLibrary/Reports/SeleniumManagementProgram/20221100-SeleniumManagementProgram-2021Report-508-WCAO.pdf>
- Reclamation. 2019. Quality of Water – Colorado River Basin. Progress Report No. 26.
<https://www.usbr.gov/uc/progact/salinity/pdfs/ProgressReports/20190000-QualityWaterColoradoRiverBasin-ProgressReport26-508-UCRO.pdf>
- Reclamation. 2018. Basinwide Salinity Control Program: Procedures for Habitat Replacement. 14 pp. May.
- Richards, R.J., Linard, J.I., and Hobza, C.M., 2014, Characterization of salinity loads and selenium loads in the Smith Fork Creek region of the Lower Gunnison River Basin, western Colorado, 2008–2009: U.S. Geological Survey Scientific Investigations Report 2014–5101, 34 p., <https://pubs.usgs.gov/sir/2014/5101/pdf/sir2014-5101.pdf>
- Schaffrath, K.R., 2012, Surface-water salinity in the Gunnison River Basin, Colorado, water years 1989 through 2007: U.S. Geological Survey Scientific Investigations Report 2012–5128, 47 pp. <https://pubs.usgs.gov/sir/2012/5128/>
- SMPW (Selenium Management Program Workgroup). 2011. Selenium Management Program: Program Formulation Document, Gunnison River Basin, Colorado. Compiled by U.S. Bureau of Reclamation. <http://www.usbr.gov/uc/wcao/progact/smp/docs/Final-SMP-ProgForm.pdf>

CHAPTER 8 – ABBREVIATIONS AND ACRONYMS

Abbreviation or Acronym	Definition
BLM	U.S. Bureau of Land Management
BMP	Best management practice
CAA	Clean Air Act
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CPW	Colorado Parks and Wildlife
C.R.S.	Colorado Revised Statute
CRSP	Colorado River Storage Project
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	U.S. Endangered Species Act
FOA	Funding Opportunity Announcement
FONSI	Finding of No Significant Impact
FWS	U.S. Fish & Wildlife Service
GIS	Geographic information system
HDPE	High-density polyethylene
HUC	Hierarchical hydrologic unit code
Interior	U.S. Department of the Interior
mi	mile
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NRHP	National Register of Historic Places
PBO	Programmatic Biological Opinion
PIP	Plastic irrigation pipe
PLS	Pounds of live seed
PM	Principal meridian
PRHRP	Pilot Rock Habitat Replacement Project
psi	Pounds per square inch
PUP	Pesticide Use Proposal

Abbreviation or Acronym	Definition
PVC	Polyvinylchloride
PWWHIP	Paonia Winter Woodlands Habitat Improvement Project
RCPP	Regional Conservation Partnership Program
Reclamation	U.S. Bureau of Reclamation (also USBR)
RMP	Resource Management Plan (see BLM 2020 reference)
ROW	Right-of-way
SHPO	State Historic Preservation Officer
SMP	Gunnison Basin Selenium Management Program
SMPW	Selenium Management Program Workgroup
STP	Sewage treatment plant
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
UV	Ultraviolet
VRM	Visual Resource Management
WNRCS	Wildlife and Natural Resource Concepts & Solutions, LLC

APPENDIX A – CULTURAL RESOURCE COMPLIANCE DOCUMENTATION

Forthcoming/to be included with the Final EA.

APPENDIX B – DISTRIBUTION LIST

All landowners adjacent to the Proposed Action and the Original Project
Citizens for a Healthy Community
City of Delta
City of Montrose
Colorado Open Lands
Colorado Office of Archaeology and Historic Preservation
Colorado Parks and Wildlife
Colorado River Water Conservation District
Colorado Water Conservation Board
Delta Area Chamber of Commerce
Delta Montrose Electric Association
Delta County Planning & Development Department
Delta County Road & Bridge Department
Delta County Independent
Montrose Chamber of Commerce
Montrose County Planning & Development Department
Montrose County Public Works Department
Montrose Daily Press
Trout Unlimited
U.S. Army Corps of Engineers
U.S. Bureau of Land Management
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Western Slope Conservation Center