



— BUREAU OF —  
RECLAMATION

# Environmental Assessment and Finding of No New Significant Impact for the Realignment of the Northern Portion of the San Juan Lateral

WCAO-DUR-EA-2022-03

Navajo-Gallup Water Supply Project

New Mexico - Arizona

Upper Colorado Basin: Interior Region 7



## **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.

The Bureau of Indian Affairs' mission is to enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes, and Alaska Natives.

The Bureau of Land Management's mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

# **FINDING OF NO NEW SIGNIFICANT IMPACT**

for the

## **Realignment of the Northern Portion of the San Juan Lateral Navajo-Gallup Water Supply Project**

**WCAO-DUR-FONNSI-2022-03**

United States Department of the Interior  
Bureau of Reclamation  
Interior Region 7: Upper Colorado Basin  
Western Colorado Area Office  
Durango, Colorado

### **Introduction**

The Bureau of Reclamation (Reclamation), in conjunction with the Bureau of Indian Affairs (BIA) Navajo Region and Bureau of Land Management (BLM) Farmington Field Office (FFO) and in coordination with Navajo-Gallup Water Supply Project (NGWSP) cooperating agencies including the Navajo Nation, City of Gallup, New Mexico, Indian Health Service, Jicarilla Apache Nation, Navajo Tribal Utility Authority, and State of New Mexico, has completed an environmental assessment (EA) for a Realignment of the Northern Portion of the San Juan Lateral. The EA was developed in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Council on Environmental Quality's (CEQ) NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500 – 1508 (2022).

The following proposed federal actions are evaluated in the EA.

- Acquisition and upgrade of facilities and associated lands and rights-of-way (ROW) related to the Public Service Company of New Mexico's (PNM) San Juan Generating Station (SJGS) water intake, conveyance, and storage systems.
- A water conveyance agreement with PNM to convey a maximum flow of 4 cubic feet per second (cfs) not to exceed 1,500 acre-feet (AF)/year of non-NGWSP (non-project) water from the San Juan River to the SJGS Reservoir and other points of delivery along the system.
- Acquisition of lands and ROW from the New Mexico State Lands Office (NMSLO), New Mexico Department of Transportation (NMDOT), BIA, BLM, and from private landowners for the realignment and construction of the northern reaches of the NGWSP's San Juan Lateral water pipeline, including its associated pumping plants, water storage facilities, and water treatment plant.

- Connection of pumping plants, water storage facilities, and San Juan Lateral Water Treatment Plant (SJLWTP) to nearby transmission lines for project power.

Under the authority of 40 CFR Section 1501.7, Reclamation is the lead federal agency for the purposes of compliance with NEPA. The BIA Navajo Region/Navajo Nation and BLM FFO are cooperating agencies on the project and are responsible for responding to ROW applications for pieces of the project on Navajo Nation tribal trust and public lands, respectively.

The EA was prepared to address the potential impacts to the human environment from the Proposed Action. The EA tiers to and incorporates by reference information from the July 2009 NGWSP Planning Report and Final Environmental Impact Statement (PR/FEIS) (<https://www.usbr.gov/uc/envdocs/eis/navgallup/FEIS/index.html>).

Reclamation's NGWSP design and coordination efforts with project partners includes day to day correspondence, biweekly and monthly coordination and design meetings, quarterly Project Construction Committee meetings, a quarterly newsletter that is posted on the NGWSP website and distributed to Chapter Houses and others on the Navajo Nation, and a Project Issue Notice system that documents major project decisions. Tribal outreach and Navajo Chapter House visits are frequently conducted by Reclamation's Navajo Outreach Coordinator and various staff members during planning periods and before major project activities and construction. The draft EA was posted on Reclamation's website (<https://www.usbr.gov/uc/DocLibrary/ea.html>) for public comment and notice of the EA's availability and how to comment was provided to project partners and affected landowners via email/letter and during planning and other meetings. Submitted comments and responses are provided in Appendix G of the EA, and the EA document was updated as detailed in the responses. The project's EA is included in this document and is incorporated by reference in this Finding of No New Significant Impact (FONNSI) for the Proposed Action that found no new significant impacts from the 2009 NGWSP PR/FEIS.

## **Alternatives**

The EA analyzed the No Action Alternative (construct the NGWSP's remaining unconstructed San Juan Lateral project features north of Reach 4C and Pumping Plant 3 as described in the Preferred Alternative of the 2009 NGWSP PR/FEIS), Proposed Action, Nanofiltration (NF) with Ultrafiltration (UF) Pretreatment (UF-NF) Alternative, and Pumping Plant 1 Northern Alternative. The UF-NF and Pumping Plant 1 Northern Alternatives are substantially similar to the Proposed Action except for utilizing a different water treatment method and a different location of Pumping Plant 1, respectively.

## **Decision and Finding of No New Significant Impact**

Reclamation's decision is to implement the Proposed Action. Based upon a review of the 2009 NGWSP PR/FEIS and this EA with supporting documents, Reclamation has determined that implementation of the Proposed Action will not produce any new significant effects to the quality of the human environment, individually or cumulatively with other actions in the area, as defined in 40 CFR 1508.27 and that are not already described in the 2009 NGWSP PR/FEIS. Therefore, neither a supplemental EIS nor further NEPA analysis is needed. This finding is based on consideration of the degree of effects of the Proposed Action on the potentially affected environment, as analyzed in the EA. The BIA Navajo Region and BLM FFO will prepare separate decision document(s) for the project.

## Context

The affected locality is within San Juan County, New Mexico and the eastern portion of the Navajo Nation near the communities of Fruitland, Nenahnezad, and Waterflow. The project is located on private and Navajo Nation tribal trust lands as well as lands managed by the NMSLO, NMDOT, San Juan County, and BLM FFO. Affected interests include Reclamation and the Navajo Nation, BIA Navajo Region, BLM FFO, other NGWSP partners, and adjacent residences along the project's alignment. The NGWSP is an important project to the Navajo Nation and State of New Mexico as it provides a source of potable water to underserved residents and communities of the Navajo Nation, City of Gallup, and Jicarilla Apache Nation.

## Intensity

The following discussion is organized around the 10 significance criteria described in 40 CFR 1508.27. These criteria were incorporated into the resource analysis and issues concerned in the EA and were considered in determining whether the Proposed Action would induce new significant impacts not already described in the 2009 NGWSP PR/FEIS.

### **1. Impacts that may be both beneficial and adverse.**

As described in the EA, the Proposed Action will incur both beneficial and adverse impacts. Best Management Practices (BMPs), design features, and environmental commitments are incorporated into the design of the Proposed Action to reduce impacts. Implementation of the Proposed Action will result in beneficial effects by providing a safe and reliable source of drinking water to underserved regions of the Navajo Nation and City of Gallup, New Mexico, providing short- and long-term employment opportunities for local residents, and the removal and/or remediation of asbestos-containing materials. Predicted short-term impacts in the region of the Proposed Action include an increase in fugitive dust, localized wind and water erosion, additional construction related traffic, construction noise, vegetation disturbance, disturbance to a single wetland, displacement of grazing and wildlife use, and potential establishment of noxious and invasive weeds. Potential long-term impacts include the continued entrainment of fishes in the San Juan River including the Colorado pikeminnow and razorback sucker; conversion of native rangeland, vegetation communities, and wildlife habitat to industrial uses; acquisition of private properties and relocation of a private residence; and disturbance to cultural sites that could not be avoided by the project. Project proponents will follow the Programmatic Agreement developed for the NGWSP with the Advisory Council on Historic Preservation, New Mexico State Historic Preservation Officer (SHPO), Navajo Nation, BLM, and BIA that defined the process regarding the consideration and management of effects on historic properties arising from the construction of the NGWSP. Cultural resources clearances will be obtained prior to construction. For the reasons discussed in detail in the EA, none of the site-specific environmental impacts associated with the Proposed Action are considered significant. None of the impacts from the Proposed Action, together with other past, current, and reasonably foreseeable actions, rise to a level of significant cumulative impact that is not already described in Chapter V of the 2009 NGWSP PR/FEIS.

### **2. The degree to which the proposed action affects public health or safety.**

As described in the EA, Reclamation will install safety signage upstream of the PNM diversion weir on the San Juan River to notify river users of the existing hazard. Additional vehicle and heavy equipment traffic will be present in the project area during project construction. NGWSP construction contract specifications include sections on vehicular access and parking and traffic control, require the submittal of a traffic control plan that meets Federal Highway Administration and Department of Transportation reference standards,

and require submittal of any relevant permits from local road entities. NGWSP construction contract specifications also include safety and health requirements in accordance with Reclamation Safety and Health Standards as well as applicable Tribal and State safety and health regulations. Contractors are required to submit and follow a Safety Program that is in accordance with the above-mentioned standards and regulations. For the reasons above and as described in the EA, the Proposed Action will not create any new significant site-specific effects nor contribute to cumulative significant impacts to public health or safety that are not already described in Chapter V of the 2009 NGWSP PR/FEIS.

### **3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

The Proposed Action is located primarily within the Navajo Nation and extends north of the San Juan River to the SJGS. Several unique and specially managed areas are located within and adjacent to the Proposed Action. The BLM FFO's Hogback Area of Critical Environmental Concern is located outside the proposed Reach 2 pipeline corridor and therefore will not be directly impacted by the Proposed Action. The Hogback geological feature runs north-south through the project area, and the proposed Reach 3 pipeline will be horizontal directionally drilled underneath the geological feature. Perennial/intermittent water features include the San Juan and Chaco Rivers, Shumway Arroyo, irrigation ditches, SJGS Reservoir, and a seepage-created wetland area below the SJGS Dam. Impacts to floodplains and other wetland and riparian areas will be avoided with the use of horizontal directional drilling and jack-and-boring except for an 0.08-acre wetland area below the SJGS Dam that will be temporarily impacted by pipeline construction. No wild and scenic rivers or other ecologically critical areas are located near the Proposed Action. Several private farmlands exist in the San Juan River corridor and will be temporarily disturbed by pipeline construction with approximately 2.0 acres of fallowed Navajo farmland converted to industrial use for construction of Pumping Plant 1. These impacts are not significant. For the reasons above and as described in the EA, the Proposed Action will not create any new significant site-specific effects nor contribute to cumulative significant impacts to unique characteristics of the geographic area that are not already described in Chapter V of the 2009 NGWSP PR/FEIS.

### **4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

Controversial, in this context, means a substantial dispute as to the size, nature, or effect of the action. Reclamation and project contractors contacted representatives of other Federal agencies, Tribes, state and local governments, and individuals regarding the development of the 2009 NGWSP PR/FEIS and its effects. Similarly, Reclamation contacted relevant agencies, Tribes, and individuals regarding the Proposed Action and its potential effects. The Proposed Action was designed according to regulatory standards and in coordination and consultation with associated Tribes and agencies. No scientific disputes were presented over the likely effects of the Proposed Action during the development of the project, and the Proposed Action was informed by scientific studies and site-specific information as documented in the body of the EA and references section (Chapter 7). For the reasons above and as described in the EA, the effects of the Proposed Action are not likely to be highly controversial and will not create any new significant site-specific effects nor contribute to cumulative significant impacts to the quality of the human environment that are not already described in Chapter V of the 2009 NGWSP PR/FEIS.

### **5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

There are no effects on the human environment that are highly uncertain or that involve unique or unknown risks, therefore there will be no new significant site-specific effects.

**6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

Implementing the Proposed Action will not establish a precedent for future actions with significant effects and will not represent a decision in principle about a future consideration, therefore, there are no new significant site-specific impacts.

**7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.**

Cumulative impacts are possible when the effects of the Proposed Action are added to other past, present, and reasonably foreseeable future actions as described under related NEPA documents or approved plans. Cumulative impacts of the NGWSP were described in the 2009 NGWSP PR/FEIS. For the reasons described in the EA, the Proposed Action will not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in Chapter V of the 2009 NGWSP PR/FEIS.

**8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.**

Reclamation developed a Programmatic Agreement for compliance with the National Historic Preservation Act between the NGWSP participants. Reclamation, the BLM, the Navajo Nation Tribal Historic Preservation Officer, the BIA, the New Mexico SHPO, and the Advisory Council on Historic Preservation are signatories to the Programmatic Agreement. Consulting parties to the Programmatic Agreement include the governments and historic preservation officials of American Indian tribes and pueblos, local municipalities, State, and Federal agencies with Section 106 responsibilities to consider the potential effect of the project on historic properties. The Proposed Action will comply with the Programmatic Agreement created for the NGWSP. Reclamation will follow the Programmatic Agreement for the NGWSP and the concurred upon mitigation measures to lessen the potential adverse insignificant site-specific effects described in the EA. Therefore, for these reasons described above and as described in the EA, the Proposed Action will not create any new significant site-specific effects nor contribute to cumulative significant impacts to resources eligible for listing in the National Register of Historic Places that are not already described in Chapter V of the 2009 NGWSP PR/FEIS.

**9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

Reclamation reinitiated formal section 7 consultation with the US Fish and Wildlife Service (USFWS) for the NGWSP in April 2022 due to modifications of the NGWSP design that were not considered in the 2009 NGWSP PR/FEIS and associated Biological Opinion (USFWS consultation number 22420-2001-F-0532). The USFWS reissued the NGWSP Biological Opinion (Appendix D) in September 2022 to incorporate the Proposed Action. Even though the Proposed Action will continue to “*may affect, likely to adversely affect*” the Colorado pikeminnow and razorback sucker along with their designated critical habitat in the San Juan

River, as well as the Mesa Verde cactus, as shown in the EA these are not significant effects. No effect from the Proposed Action on southwestern willow flycatcher is anticipated because of habitat avoidance.

As described in Chapter 3.2.5 of the EA, approximately 3.2 acres of potentially suitable Mesa Verde cactus habitat will be disturbed by the Reach 2 pipeline alignment, however, the pipeline alignment parallels existing infrastructure and was modified to avoid all cacti documented during biological surveys. Potentially suitable habitat will be temporarily impacted during pipeline construction, however, BMPs and segregation of soils will be implemented to maintain topsoil viability and the potential for future colonization by Mesa Verde cactus.

As part of the Proposed Action, Reclamation will modify PNM's existing San Juan River diversion and intake and install a fish barrier weir rather than install a new diversion as described in the 2009 NGWSP PR/FEIS. Installation of the fish barrier weir is anticipated to reduce the existing diversion's potential entrainment of fishes in the San Juan River. The proportion of the San Juan River's larval Colorado pikeminnow and razorback sucker population potentially entrained in the modified diversion is estimated to be reduced to 0.2-1.0% and 0.06-0.9%, respectively. The proportion of the San Juan River's non-larval Colorado pikeminnow and razorback sucker population potentially entrained in the modified diversion is estimated to be reduced to 0.01-0.3% and 0.01-0.6%, respectively. While termed adverse, impacts to these species are negligible to their populations in the San Juan River and are not considered significant. Reclamation will follow the conservation measures, reasonable and prudent measures, terms and conditions, and conservation recommendations developed as part of the reissuance of the NGWSP Biological Opinion that incorporates the Proposed Action (listed in Appendix D of the EA) to lessen these adverse insignificant impacts. As documented in the Biological Opinion, the NGWSP (including the Proposed Action) will continue to be not likely to jeopardize the continued existence of the Mesa Verde cactus, Colorado pikeminnow, and razorback sucker and not likely to destroy or adversely modify the fishes' designated critical habitat in the San Juan River.

Several additional special status species including those listed by the Navajo Nation, State of New Mexico, and BLM sensitive species have the potential to occupy the project area and will be impacted by the Proposed Action if present during construction. While the project may result in habitat loss for some species and may result in temporary effects during construction and reclamation activities, for the reasons described in Section 3.2.5 of the EA, these effects are considered negligible and not significant for these species. The Navajo Nation Department of Fish and Wildlife issued a Biological Resources Compliance Form (BRCF; 21ees103) on August 30, 2022 that approved the Proposed Action with the reclamation measures described in Section 2.4.10.2 of this EA and gave conditional approval with the conditions of compliance listed in Appendix E of the EA. These measures and conditions serve to lessen potential adverse insignificant impacts to species in the project area.

For the reasons above and as further described in the EA, the Proposed Action will not create any new significant site-specific effects nor contribute to cumulative significant impacts to threatened and endangered species and their habitats that are not already described in Chapter V of the 2009 NGWSP PR/FEIS.

## **10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

The Proposed Action will not violate Federal, State, or local laws or requirements imposed for the protection of the environment.



**10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

The Proposed Action will not violate Federal, State, or local laws or requirements imposed for the protection of the environment.

**Environmental Commitments**

Environmental commitments to lessen the potential adverse insignificant effects of the Proposed Action shall be implemented as specified in Chapter 4 of the EA. Chapter 4 of the EA is herein incorporated by reference in this FONNSI document.

**Approval**



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-06'00'

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Ed Warner  
Area Manager  
Western Colorado Area Office  
Bureau of Reclamation

# **Environmental Assessment for the Realignment of the Northern Portion of the San Juan Lateral**

**WCAO-DUR-EA-2022-03**

**Navajo-Gallup Water Supply Project**

**New Mexico - Arizona**

**Upper Colorado Basin: Interior Region 7**

*Prepared by Ecosphere Environmental Services, Inc in conjunction with Reclamation's Upper Colorado Basin: Interior Region 7, Western Colorado Area Office.*

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### Abbreviations and Acronyms

AD	Anno Domini
AF	acre-feet
Alpine	Alpine Archaeological Consultants, Inc.
AMSL	above mean sea level
BA	Biological Assessment
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management

BMP	best management practice
BP	Before Present
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CWA	Clean Water Act
EA	Environmental Assessment
Ecosphere	Ecosphere Environmental Services, Inc.
ESA	Environmental Site Assessment
FEIS	Final Environmental Impact Statement
FFO	Farmington Field Office
FONSI	Finding of No Significant Impact
HDPE	high density polyethylene
HVAC	heating, ventilation, and air conditioning
kV	kilovolt
MCL	maximum containment level
mg/l	milligrams per liter
mgd	million gallons per day
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NESL	Navajo Endangered Species List
NF	nanofiltration
NGWSP	Navajo-Gallup Water Supply Project
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Environment Department
NMNHP	New Mexico Natural Heritage Program
NMSLO	New Mexico State Land Office
NNEPA	Navajo Nation Environmental Protection Agency
NNHHPD	Navajo Nation Heritage and Historic Preservation Department
NNHP	Navajo Natural Heritage Program
NNDFW	Navajo Nation Department of Fish and Wildlife
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTUA	Navajo Tribal Utility Authority
PIT	Passive Integrated Transponder
PL	Public Law
PLS	pure live seed
PNM	Public Service Company of New Mexico
PR	Planning Record
PVC	poly vinyl chloride
REC	recognized environmental condition
Reclamation	United States Bureau of Reclamation
ROW	right-of-way
SDWA	Safe Drinking Water Act
SJGS	San Juan Generating Station
SJLWTP	San Juan Lateral Water Treatment Plant
SJRBRIP	San Juan River Basin Recovery Implementation Program
SMCL	secondary maximum containment level

TCP	Traditional Cultural Property
UF	ultrafiltration
US	United States
USACE	US Army Corps of Engineers
USC	United States Code
USEPA	US Environmental Protection Act
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WAPA	Western Area Power Administration

# CHAPTER 1 – INTRODUCTION

This Environmental Assessment (EA) has been prepared to disclose and evaluate the potential environmental effects of the United States (US) Bureau of Reclamation's (Reclamation's) proposed Realignment of the Northern Portion of the San Juan Lateral (Project or Proposed Action) of the Navajo-Gallup Water Supply Project (NGWSP). This EA was developed in conjunction with the Bureau of Indian Affairs (BIA) Navajo Region and the Bureau of Land Management (BLM) Farmington Field Office (FFO) and in coordination with NGWSP cooperating agencies including the Navajo Nation, City of Gallup, New Mexico, Indian Health Service, Jicarilla Apache Nation, Navajo Tribal Utility Authority (NTUA), and State of New Mexico. The NGWSP was authorized for construction by Omnibus Public Land Management Act of 2009 (Public Law [PL] 111-11). Reclamation prepared a Planning Report and Final Environmental Impact Statement (PR/FEIS) for the NGWSP, and the Record of Decision (ROD) for that document was signed by the Secretary of the Interior in July 2009. The 2009 NGWSP PR/FEIS provided an analysis of the overall NGWSP and did not consider the effects of the newly designed pipeline reaches and facility infrastructure associated with the Proposed Action. This EA tiers to and incorporates by reference the information and analysis from the 2009 NGWSP PR/FEIS (Reclamation 2009).

The following proposed federal actions are evaluated in this EA.

- Acquisition and upgrade of facilities and associated lands and rights-of-way (ROW) related to the Public Service Company of New Mexico's (PNM) San Juan Generating Station (SJGS) water intake, conveyance, and storage systems.
- A water conveyance agreement with PNM to convey a maximum flow of 4 cubic feet per second (cfs) not to exceed 1,500 acre-feet (AF)/year of non-NGWSP (non-project) water from the San Juan River to the SJGS Reservoir and other points of delivery along the system.
- Acquisition of lands and ROW from the New Mexico State Lands Office (NMSLO), New Mexico Department of Transportation (NMDOT), BIA, BLM, and from private landowners for the realignment and construction of the northern reaches of the NGWSP's San Juan Lateral water pipeline, including its associated pumping plants, water storage facilities, and water treatment plant.
- Connection of pumping plants, water storage facilities, and San Juan Lateral Water Treatment Plant (SJLWTP) to nearby transmission lines for project power.

Reclamation has applied for ROW with the BIA Navajo Region/Navajo Nation and BLM FFO to construct the Proposed Action. Reclamation has also applied for ROW with the NMSLO and NMDOT and would enter into easement agreements with private landowners to develop the Proposed Action.

This document has been prepared in compliance with the National Environmental Policy Act (NEPA), as amended, and the requirements of the Council on Environmental Quality's (CEQ's) implementing NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500-1508 (2022). If potentially significant impacts on environmental resources are identified, a supplement to the 2009 NGWSP PR/FEIS will be prepared. A Finding of No New Significant Impact (FONNSI) will be issued if no new significant impacts are identified.



## **1.1 – Project Location and Legal Description**

The Proposed Action is in San Juan County, New Mexico and located on private and Navajo Nation tribal trust lands, as well as lands managed by the NMSLO, NMDOT, San Juan County, and BLM. The project area is in northwestern New Mexico, near the communities of Fruitland, Nenahnezad, and Waterflow. The Proposed Action is approximately 3.0 miles west of Fruitland and 1.75 miles east of Waterflow. The project extends from the SJGS south to US Highway 491 (Appendix A, Map 1).

The legal description of the Proposed Action is:

Township 30 North, Range 15 West, Sections 19, 29, 30, and 32;  
Township 29 North, Range 15 West, Sections 3, 4, 5, 7, 8, 18, and 19;  
Township 29 North, Range 16 West, Sections 13, 14, 15, 20, 21, 22, 23, 24, 29, and 30;  
Township 29 North, Range 17 West, Sections 23, 25, 26, and 35;  
Township 28 North, Range 17 West, Sections 12, 13, 23, 24, 26, 34, and 35;  
Township 27 North, Range 17 West, Sections 3, 4, 9, 16, 17, 19, and 20;  
Township 27 North, Range 18 West, Sections 24, 25, 35, and 36; and  
Township 26 North, Range 18 West, Sections 2, 11, and 14.

## **1.2 – Purpose and Need**

Reclamation is the lead federal agency, the BLM and BIA are federal cooperating agencies with connected actions, and the Navajo Nation and other entities are non-federal cooperating agencies on the project.

Reclamation's purpose of the Proposed Action is to comply with its responsibility under the Omnibus Public Land Management Act of 2009 to construct the NGWSP as a component of the 2005 Navajo Nation San Juan River Basin Water Rights Settlement Agreement. Reclamation's need for the Proposed Action is to provide long-term supply, treatment, and transmission of municipal and industrial water to the Navajo Nation and the City of Gallup, New Mexico. The Proposed Action would result in enhanced water quality, reduced operational risk, increased operational flexibility, capital cost savings, and potential annual operating cost savings for the NGWSP.

The BIA's purpose of the Proposed Action is to comply with its authority under 25 CFR Part 169 to respond to Reclamation's ROW applications. The BIA's need for the Proposed Action is to allow Reclamation access to tribal trust lands to construct and operate the water pipeline and associated pumping plants, water storage facilities, and water treatment plant.

The BLM's purpose of the Proposed Action is to comply with BLM's authority under Title V of the Federal Land Policy and Management Act (43 United States Code [USC] 1761-1771, as amended), to respond to Reclamation's ROW applications. BLM's need for the Proposed Action is to allow Reclamation access to public lands to construct and operate a portion of the Reach 2 water pipeline and reassign PNM's existing water pipeline and potentially electric powerline ROWs to Reclamation.

## **1.3 – Decisions to be Made**

Reclamation will decide whether to acquire lands and facilities associated with PNM's SJGS water intake, conveyance, and storage systems; enter into a water conveyance contract with PNM; acquire lands and

obtain ROW, including from the BIA, BLM, NMSLO, NMDOT, and private landowners, for the realignment and construction of the northern reaches of the NGWSP's San Juan Lateral water pipeline, including its associated pumping plants, water storage facilities, and water treatment plant; and connect those facilities to nearby power sources.

The BIA Navajo Region and Navajo Nation will decide whether to approve and issue the ROWs associated with the Proposed Action and, if approved, under what terms and conditions it will issue the ROWs.

The BLM FFO will decide whether to approve and issue the water pipeline ROWs (NMNM 144245, NMNM 144245-01) and reassign PNM's existing ROWs (NMNM 125466 [water pipeline]) associated with the Proposed Action and, if approved, under what terms and conditions it will issue and reassign the ROWs.

## **1.4 – Background**

The NGWSP is in varying stages of completion. The Cutter Lateral of the NGWSP is near full completion and began delivering water to Navajo communities along the US Highway 550 corridor in 2020. The Reach 24.1 Lybrook Connection is the final reach of the Cutter Lateral and is currently in the planning and development stage. The main trunk of the San Juan Lateral is being constructed south to north, with current construction activities near the Navajo communities of Little Water and Sanostee. Branches of the San Juan Lateral planned to deliver water to the communities of Crownpoint, New Mexico, and Window Rock, Arizona, are in the planning and construction phases of development, respectively. Other smaller reaches near the City of Gallup and the Shiprock Connection are also in the construction and/or planning phases of development.

The Congressionally mandated completion date for the NGWSP is December 31, 2024 and needs to be extended to accommodate the current project construction schedule. A proposal to extend the NGWSP construction time frame to 2029 is in development with New Mexico congressional representatives. Completion extension is authorized under PL 111-11 with the approval of the Navajo San Juan River Basin in New Mexico Water Rights Settlement Agreement signatory parties (Navajo Nation, State of New Mexico, and the US Department of the Interior). NGWSP cooperators have reduced schedule delay impacts to the City of Gallup by making Twin Lakes well water available to NGWSP facilities and looking into conjunctive groundwater funds to build additional wells in the area.

In 2018, PNM, faced with the potential decommissioning of the SJGS water conveyance system, inquired if Reclamation would be interested in incorporating the system into the NGWSP. At that time, Reclamation was considering using the Hogback Diversion Canal area for the San Juan Lateral's intake and associated facilities. However, major concerns existed regarding operational risk and the location of facilities in the San Juan River's floodplain. Reclamation conducted a "fatal flaw" analysis to determine the feasibility of incorporating the SJGS water conveyance system and found that the project schedule would be impacted by 9 to 18 months initially to conduct an in-depth analysis. Additional time would be needed for design work, ROW acquisition, environmental compliance, cultural resources investigations and clearances, necessary agreements and contracts, and other work if a decision were made to incorporate the SJGS facilities into the Proposed Action. In 2019, Reclamation and project cooperators decided to move forward with incorporating the SJGS water conveyance system into the Proposed Action as it was thought to result in enhanced water quality, reduced operational risk, increased operational flexibility, capital cost savings, and potential annual operating cost savings for the NGWSP.

Reclamation completed background studies and research related to incorporating the SJGS water conveyance system into the NGWSP. A preliminary analysis on the potential of incorporating the SJGS river diversion and reservoir facilities, inspection report, and reservoir survey was completed in 2019, followed by a comprehensive review of the SJGS Dam in 2020. An appraisal design report, cost comparison of operation and maintenance costs, and value planning study were completed in 2021. Reclamation has been collecting water samples at the San Juan River and SJGS Reservoir since 2019. The US Geological Survey (USGS) was contracted to complete an evaluation of groundwater flow and chemistry associated with the SJGS Reservoir and collect SJGS Reservoir sediment cores in 2021. Reclamation also completed sampling for invasive mussels in the SJGS Reservoir in 2021; no mussels were detected. Phase I and Phase II Environmental Site Assessments have been or are being completed for the project and will be updated as appropriate before acquisition of any property. A property appraisal will also be completed prior to any acquisitions.

In April 2021, the Navajo Nation Environmental Protection Agency (NNEPA), New Mexico Environment Department (NMED), and the US Environmental Protection Agency (USEPA) signed a Memorandum of Understanding (MOU) regarding the NGWSP. The MOU clarifies government oversight and regulatory roles and responsibilities of the agencies involved. Due to the length of the pipelines and resulting long retention times of water in the pipelines, agencies anticipate that byproducts of chlorination (disinfection byproducts) are likely to be formed within the transmission mains and the Consecutive Distribution System. Therefore, treatment, monitoring, and compliance are expected to be required at different places within the NGWSP project to produce consistently compliant and safe water as required by the Safe Drinking Water Act (SDWA). Per the SDWA, the Navajo Nation has primacy for drinking water systems within its jurisdiction and the NNEPA implements the Public Water Systems Supervision Program. Regarding the Proposed Action, the NNEPA is the regulating entity for all San Juan Lateral components of the NGWSP within the formal Navajo Nation Reservation. The SJLWTP would be subject to NNEPA's application requirements and Public Water Systems Supervision Program. The NMED is the regulating entity for San Juan Lateral components of the NGWSP on federal, state, and privately-owned land outside the formal Navajo Nation Reservation in the State of New Mexico. Eventually, the Navajo Nation intends to obtain regulatory authority over all or additional components of the NGWSP, at which time the MOU would be terminated or modified accordingly.

## **1.5 – Relationship to Other Projects**

Several large-scale projects planned, occurring, or associated with Reclamation in the vicinity of the Proposed Action are listed below.

### **PNM and SJGS**

In 2017, PNM recommended to the New Mexico Public Regulatory Commission that PNM retire its shares in the SJGS effective June 30, 2022, based on an economic analysis and to meet the requirements of the Energy Transition Act. In February 2022, the Commission agreed that PNM could continue operating unit four of the SJGS after July 1, 2022 to prevent power shortages during the summer peak. A shutdown extension was granted until September 30, 2022. All other owners in the SJGS, except for the City of Farmington, have indicated they will divest their ownership shares in the SJGS. Effectively, this means that the SJGS will be retired and shut down unless the City of Farmington and Enchant Energy determine that it is feasible for the City of Farmington and Enchant Energy to take ownership of the SJGS and continue operation following the installation of carbon capture technology.

## **City of Farmington/Enchant Energy Carbon Capture Project**

The City of Farmington and Enchant Energy are assessing the viability of taking over ownership of the SJGS (except for the water conveyance system) and using carbon capture technology to continue operating the SJGS and meet the stricter emission targets required by the New Mexico Energy Transition Act. If Reclamation acquires PNM's SJGS water conveyance system as described in this document, and the City of Farmington/Enchant Energy carbon capture project subsequently moves forward with the desire to also use the SJGS water conveyance system, the City of Farmington and Enchant would be required to enter a contract with Reclamation to carry and store non-NGWSP water in the newly acquired federal facilities. The potential water carriage contract would be analyzed in a future NEPA document in conjunction with other federal actions associated with the carbon capture project.

## **PNM and San Juan Coal Company Consent Decree**

In 2010 the Sierra Club filed a lawsuit against PNM and the San Juan Coal Company. The Sierra Club claimed that PNM violated the Surface Mining Control and Reclamation Act, the New Mexico state regulatory program, and the Resource Conservation and Recovery Act. PNM denied the claims. The lawsuit resulted in a March 2012 Consent Decree, which required, among other things, that PNM design, install, and operate a groundwater recovery system downstream of the SJGS Reservoir and the power plant drainages in the Shumway Arroyo. The recovery system captures groundwater and pumps it to an evaporation pond north of the reservoir.

PNM is required to continue monitoring and operating the recovery system until either:

- Surface and alluvial groundwater monitoring for parameters set forth in the Consent Decree establishes that for a period of 12 consecutive months that (1) no Surface Water Base Flow is present at the location of the Recovery System, and (2) alluvial groundwater captured by the Recovery System occurs only in direct response to precipitation; or
- PNM and San Juan Coal Company demonstrate that conditions downstream of the Recovery System...do not or will not present an imminent and substantial endangerment to health or the environment as set forth at 42 USC § 6972(a)(1)(B) and applicable case law (US District Court Case No. 10-cv-00332-MCA-LAM).

The Shumway Arroyo water recovery system would remain the responsibility of PNM and the San Juan Coal Company.

## **San Juan Mine**

Westmoreland San Juan Mining, LLC's San Juan Mine is located east of the SJGS and supplies coal to the SJGS. Future mining operations or reclamation of the mine would depend on the operational status of the SJGS.

## **Fish Passage at PNM's San Juan River Diversion**

The Navajo Nation owns and operates a fish passage on the south side of the San Juan River at PNM's SJGS diversion weir that allows fish to bypass the weir structure. PNM entered a lease agreement with the Navajo Nation to construct the fish passage and operates and maintains the fish passage with the Navajo Nation through reimbursement by the San Juan River Basin Recovery Implementation Program (SJRBRIP). If the PNM diversion facilities are sold, it is anticipated that the SJRBRIP would continue to fund the operation and maintenance of the fish passage.

## **Navajo Nation Municipal Pipeline**

The Navajo Nation Municipal Pipeline, associated with Reclamation's Animas-La Plata Project, was recently impacted by a landslide on Bluff Road that caused the road's closure and prevents use of the water pipeline. The landslide occurred south of the San Juan River in the Upper Fruitland Chapter of the Navajo Nation and near the Proposed Action area. In coordination with Animas-La Plata Project partners, Reclamation is analyzing options to repair the impacted reach of pipeline.

## **Future NGWSP Actions**

Multiple projects associated with the NGWSP (listed below) are in preliminary planning phases and may require additional analysis under the NEPA as well as completion of consultation with various entities.

- San Juan River Water Quality Monitoring Station
  - A water quality monitoring station is planned at the existing USGS Fruitland Bridge station or a new station further upstream but below the confluence of the Animas and San Juan Rivers to provide data on high suspended solids events in the San Juan River and help guide decision making on when to divert water to the SJGS Reservoir.
- Reach 24.1 Lybrook Connection
  - Would connect Reach 24 (constructed) to the community of Lybrook.
- Reach 12.3
  - Would connect Reach 12.2 (under construction) to Window Rock, Arizona.
- Shiprock Connection
  - Planned as a smaller diameter lateral pipeline and connection along Navajo Route N36 that was the former alignment of the San Juan Lateral trunk pipeline.
- Various reaches and pumping plants associated with the City of Gallup, New Mexico.
- Removal of the Navajo Depletion Guarantee from the 2009 NGWSP PR/FEIS and associated Biological Opinion.

## **1.6 – Scoping**

Reclamation's NGWSP design and coordination efforts with project partners includes day to day correspondence, biweekly and monthly coordination and design meetings, quarterly Project Construction Committee meetings, a quarterly newsletter that is posted on the NGWSP website and distributed to Chapter Houses and others on the Navajo Nation, and a Project Issue Notice system that documents major project decisions. Tribal outreach and Navajo Chapter House visits are frequently conducted by Reclamation's Navajo Outreach Coordinator and various staff members during planning periods and before major project activities and construction.

Reclamation conducted various internal and external scoping efforts during the project's planning stages to identify the potential environmental and human-environment issues and concerns associated with implementing the Proposed Action or Alternatives. Reclamation held a project-specific scoping meeting for the Proposed Action on October 27, 2021, and invited scoping comments from October 27, 2021, through November 30, 2021. Invites to the meeting were sent by Reclamation to agencies and organizations included in the above-mentioned design and coordination efforts and as listed below. No substantive comments were received during the meeting or during the month-long scoping period.

- NGWSP Cooperating Agencies
  - BIA Navajo Region
  - City of Gallup, New Mexico
  - Indian Health Services Navajo Area
  - Jicarilla Apache Nation
  - Navajo Nation
    - Office of the President and Vice President
    - Washington Office
    - Department of Water Resources
    - Heritage and Historic Preservation Department (NNHHPD)
    - NNEPA
    - Department of Justice
    - Department of Natural Resources
    - Water Rights Commission
    - NTUA
  - State of New Mexico
- Associated Federal Agencies
  - USEPA Regions 6 and 9
  - USGS New Mexico Water Science Center
- Associated State Agencies
  - New Mexico Office of the State Engineer
  - New Mexico Interstate Stream Commission
  - NMED
- Local Government
  - City of Farmington
- Other Entities Involved with the NGWSP
  - DePauli Engineering
  - Enchant Energy
  - Greater Gallup Economic Development Corporation
  - PNM
  - Souder, Miller & Associates
  - Stelzner Law Firm
  - Wood

Reclamation implemented additional external scoping efforts for the Proposed Action. Reclamation sent a description of the Proposed Action and a list of preliminary topics to be discussed in detail to the BLM FFO and BIA Navajo Region with a request for review and comments. A BLM FFO interdisciplinary team completed a checklist of potential resource issues relevant to the project, which is incorporated into this EA

(Appendix B). General discussions between Reclamation and the US Fish and Wildlife Service (USFWS) SJRBRIP have occurred since the 2009 Biological Opinion. Previous informal discussions from 2015 to 2019 explored the potential of using the Hogback Canal diversion area as a location for the NGWSP San Juan River intake and water treatment plant. Additional informal discussions, site visits, and presentations were held from 2019 to 2022 regarding the use and potential modification of the SJGS diversion and facilities and fish weir design options. Reclamation also had brief discussions about permitting options for the Proposed Action with the US Army Corps of Engineers (USACE). Right of entry permissions were secured with landowners before completing cultural, environmental, and other data collection and the survey information was dispersed to the relevant agencies and organizations. Agencies and organizations not previously listed above and that were consulted with during the planning of the Proposed Action are listed below.

- Cooperating Federal Agencies (Proposed Action)
  - BLM FFO
- Associated Federal Agencies
  - USFWS (Ecological Services and SJRBRIP)
  - USACE Albuquerque District
  - Western Area Power Administration (WAPA)
- Associated State Agencies
  - NMSLO
  - NMDOT
  - New Mexico Historic Preservation Department

### 1.6.1 – Resources Eliminated from Further Analysis

The following resources were determined to be previously analyzed in the 2009 NGWSP PR/FEIS with no further changes from the Proposed Action or are not applicable. These resources are not analyzed in greater detail within this EA. Resources determined to be of potential significance and requiring further analysis are discussed in Chapter 3.

**Table 1. Resources Eliminated from Further Analysis**

Resource	Rationale for Elimination from Further Analysis
Recreation	Effects on recreation from the NGWSP were analyzed in Chapter 5 of the 2009 NGWSP PR/FEIS (pp. V93-V104). There are no designated recreation areas in the proposed project area. Dispersed recreation is limited, and public access is restricted from private lands. Recreation would continue to be restricted from the SJGS Reservoir. The PNM diversion weir in the San Juan River would remain in place and continue to block passage for river users. No further analysis is needed.
Soils	Effects on soils from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V114-V119). Soils within the realigned portions of the project area are like other soils throughout the NGWSP analysis area and are erosive, nutrient-limited, and require special care during construction and reclamation activities. Best management practices (BMPs) were discussed in the 2009 NGWSP

Resource	Rationale for Elimination from Further Analysis
	PR/FEIS and incorporated into the NGWSP's environmental commitments to avoid or limit potential effects on soils. No substantial changes to the impacts previously described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives; no further analysis is needed.
Geology	As described in the 2009 NGWSP PR/FEIS (pp. V119-V122), the NGWSP would have no effect on geology. No substantial changes would occur from the Proposed Action; no further analysis is needed.
Paleontology	Effects on paleontology resources from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V122-V125). New areas of disturbance associated with the Proposed Action are not documented as known areas of paleontological resources, and no substantial changes to the impacts previously described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives. No further analysis is needed.
Air Quality and Noise	Effects on air quality and noise from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V125-V128). No substantial changes to the impacts previously described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives. All areas in San Juan County, New Mexico, are in attainment with National Ambient Air Quality Standards (NAAQS). No further analysis is needed.
Hydrologic Variability and Climate Change	Potential effects of climate change on the hydrology of the San Juan Basin and NGWSP were discussed in the 2009 NGWSP PR/FEIS (pp. V144-145). Conservation measures regarding climate change impacts to threatened and endangered fish were incorporated into the NGWSP's Biological Opinion (USFWS 2009) and environmental commitments. No substantial changes to the impacts previously described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives; no further analysis is needed.
Socioeconomics	Effects on socioeconomics from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V128-V133). While the construction phase may extend beyond the timeline analyzed in the FEIS, no substantial changes to the impacts previously described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives; no further analysis is needed.
Wildlife (Terrestrial)	Effects on terrestrial wildlife from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V50-V56). No substantial changes to the impacts previously described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives. There would be no permanent loss of key wildlife habitats beyond what was identified in the PR/FEIS, and no further analysis is needed. Effects on special status species are analyzed in Section 3.2.5.
Aquatic Resources	Effects on aquatic resources from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V56-V70). The FEIS evaluated the effects on hydrology in the San Juan River, change in the native fish community, and deterioration of trout habitat from Navajo Dam to Blanco, New Mexico. No substantial changes to the impacts on the San Juan River hydrology, the native fish community, or trout habitat described in the 2009 NGWSP PR/FEIS would occur from implementing the action alternatives; no further analysis is needed. Effects on special status species are analyzed in Section 3.2.5.
Special Status Species (Bald Eagle, Ferruginous Hawk,	Effects on special status species from the NGWSP were analyzed in the 2009 NGWSP PR/FEIS (pp. V70-V93). No substantial changes to the impacts



Resource	Rationale for Elimination from Further Analysis
Golden Eagle, Kit Fox, Mountain Plover, Burrowing Owl, Bluehead Sucker, Mottled Sculpin, and Roundtail Chub)	previously described in the 2009 NGWSP PR/FEIS for the bald eagle, ferruginous hawk, golden eagle, kit fox, mountain plover, burrowing owl, bluehead sucker, mottled sculpin, and roundtail chub would occur from implementing the action alternatives, therefore, no further analysis is needed for these species. Reclamation and their contractors will follow the NNDFW's condition of compliance for the project (Appendix E). Effects on special status species not listed here are further analyzed in Section 3.2.5.
Wilderness and Wild and Scenic River	There are no Wilderness areas or Wild and Scenic Rivers in the project area. No further analysis is needed.
Floodplains	The Shumway Arroyo and San Juan River are Federal Emergency Management Agency designated floodplains. The proposed water pipeline would be horizontal directionally drilled or bored under these features and avoid impacts to floodplains. No further analysis is needed.

Notes: BMP = best management practice, NAAQS = National Ambient Air Quality Standards, NGWSP = Navajo-Gallup Water Supply Project, PR/FEIS = Planning Record/Final Environmental Impact Statement.

## CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

Alternatives evaluated in this EA include the No Action Alternative (2009 NGWSP PR/FEIS preferred alternative), Proposed Action, Nanofiltration (NF) with Ultrafiltration (UF) Pretreatment (UF-NF) Alternative, and Pumping Plant 1 Northern Alternative. The UF-NF and Pumping Plant 1 Northern Alternatives are substantially similar to the Proposed Action except for utilizing a different water treatment method and a different location of Pumping Plant 1, respectively.

### 2.1 – Comparison of Proposed Action to 2009 NGWSP PR/FEIS

Several major changes are planned in the Proposed Action that differ from what was analyzed in the 2009 NGWSP PR/FEIS. These changes are briefly summarized and compared in Table 2.

**Table 2. General Comparison of Proposed Action to the 2009 Navajo-Gallup Water Supply Project Planning Record/Final Environmental Impact Statement**

Project Feature	2009 NGWSP PR/FEIS	Proposed Action
PNM Facilities, Lands, and ROW Acquisition and Upgrade; Water Conveyance Agreement	Not included in 2009 NGWSP PR/FEIS.	Acquisition and upgrade of facilities and associated lands and ROW related to PNM's SJGS water intake, conveyance, and storage systems and a water conveyance agreement with PNM.
Private Lands Acquisition	Acquisition of private parcels in the SJLWTP site.	Acquisition of private parcels along the pipeline alignment.

Project Feature	2009 NGWSP PR/FEIS	Proposed Action
ROW Acquisition	Acquisition of ROW from BIA on Navajo tribal trust lands.	Acquisition of ROW from BIA on Navajo tribal trust lands and from the BLM, NMSLO, NMDOT, and private landowners.
San Juan Lateral Pipeline (Reaches 1 through 4)	Approximately 35 miles from the San Juan River south to Navajo Route N36, then west to and south along US Highway 491.	Approximately 32 miles from the SJGS Reservoir south across the San Juan River then west along Navajo Route N36 before traveling cross-country to the SJLWTP and eventually south along US Highway 491.
San Juan Lateral Pumping Plants and Water Storage	Two pumping plants (one located just south of the San Juan River and one located just south of the intersection of Navajo Route N36 and US Highway 491).	Two pumping plants (one located just south of the San Juan River and one located at the junction of Reaches 4A and 4B) and a surge tank site along Navajo Route N36 just north of Morgan Lake.
San Juan Lateral Water Treatment Plant	Located on private land near the existing PNM diversion just north of the San Juan River.	Located approximately 10.5 miles southwest of the San Juan River, just south of Navajo Route N36 on Navajo Nation tribal trust land.
San Juan Lateral Annual Diversion from San Juan River	Diversion of 33,119 AF/year.	No change in diversion amount or depletions (33,119 AF/year).
San Juan Lateral Diversion Rate from San Juan River	Diversion rate of 59 cfs.	Diversion rate of 71 cfs.
San Juan Lateral Intake	New intake just upstream of the PNM intake with water diverted through a self-cleaning fish screen with 3/32-inch openings and a through-screen velocity of less than 0.5 feet per second to a sump where low-head pumps lift the raw water into settling ponds for removal of suspended sediment.	Modification of the existing PNM diversion and intake to include a new outer trash rack; removal of the inner trash rack and hoist framing; and installation of radial and dual-leaf gates, and fish barrier weir.

Note: PNM = Public Service Company of New Mexico; SJGS = San Juan Generating Station.

## 2.2 – Alternatives Considered but Not Carried Forward

Reclamation considered several alternatives for the project since the completion of the 2009 NGWSP PR/FEIS. These alternatives were eliminated from detailed analysis per 40 CFR 1502.14. These alternatives included a Hogback Alternative, Gravity Alignment Alternative, alternative designs for PNM's San Juan River diversion and intake, as well as a realignment of NGWSP project features between US Highway 491 mile markers 70 and 72.

### **2.2.1 – Hogback Intake Alternative**

The Hogback Intake Alternative was explored by Reclamation and project partners generally from 2015 to 2019. Project features of this alternative are similar to the Proposed Action south of Navajo Route N36; however, the main difference was the location of the intake, a pumping plant, and major sediment handling facilities located near the Hogback Diversion and in the flood zone of the San Juan River. Two potential water treatment plant sites, including the location included in the Proposed Action, were explored in detail while this alternative was being considered. This alternative was dismissed from further evaluation because of concerns about sediment removal efficiency as well as it being considered a high-risk/high-cost option to pursue further.

### **2.2.2 – Gravity Alignment Alternative**

The Gravity Alignment Alternative was explored by Reclamation and project partners generally from 2019 to 2021 while exploring the potential use of the SJGS lands and facilities. Reclamation and project partners evaluated multiple pipeline alignment options while this alternative was being considered. The potential to connect the proposed gravity alignment features to the New Mexico Municipal Pipeline was explored to provide interim water to the NGWSP during construction. This alternative was dismissed from further evaluation because it was determined that impacts on local farms and residences in the San Juan River valley would be high. The ability to obtain ROW for pipeline construction was also determined to be challenging and likely to negatively impact targeted construction timeframes and deadlines.

### **2.2.3 – Alternative Designs for the San Juan River Diversion and Intake**

Reclamation considered several design options for upgrading the San Juan River diversion and intake before selecting the design described in the Proposed Action. A 73-foot-long weir with 5.5-inch-tall water column was initially designed but eliminated because the water column flowing overtop the weir was considered too high. A design with a screen installed on the top of the weir was also considered but eliminated because of the potential for the screen to freeze and block water passage in winter months. Installation of a 3/32-inch fish screen within the intake structure was considered but dismissed due to the need to markedly alter the existing diversion and intake structure. Lastly, several radial and dual-leaf gate options were considered and eliminated due to potential negative impacts on fish.

### **2.2.4 – Realignment of NGWSP Project Features Between US Highway 491 Mile Markers 70 and 72**

Realignment of the NGWSP project features between US Highway 491 mile markers 70 and 72 was requested by a landowner near the community of Little Water. The NGWSP Reach 4C pipeline is constructed up to its northern terminus just east of US Highway 491 near mile marker 71. This terminus is the planned location of Pumping Plant 3 and the southern end of Reach 4B that is proposed to continue northward past mile marker 72 and beyond.

The alternative of rerouting the proposed Reach 4B pipeline to within the US Highway 491 ROW, along with removal of the Reach 4C pipeline constructed from mile marker 70 to 71 and realignment of the Reach 4C pipeline to within the US Highway 491 ROW, as well as the movement of Pumping Plant 3 from its planned location at mile marker 71 south to Little Water is not carried further for analysis as it would significantly impact engineering and construction design of the NGWSP project features (including those previously constructed) extending beyond the mile marker 70 to 72 region. Redesign of the project would likely contribute to further delays in the NGWSP construction schedule. Additionally, pipelines associated with the NGWSP are generally not designed to be installed within highway and road rights-of-way for several reasons including safety, liability, access, and potential future infrastructure among others.

## 2.3 – No Action Alternative

Under the No Action Alternative, Reclamation would construct the NGWSP's remaining unconstructed San Juan Lateral project features north of Reach 4C and Pumping Plant 3 as described in the 2009 NGWSP PR/FEIS preferred alternative (Appendix A, Map 2).

## 2.4 – Proposed Action

Components of the Proposed Action are listed below and described further in this chapter of the EA. The Proposed Action is shown on US Geological Survey 7.5-minute quadrangles on Maps 3 to 13 in Appendix A.

- Acquisition and upgrade of facilities and associated lands and ROW related to PNM's SJGS water intake, conveyance, and storage systems.
- A water conveyance agreement with PNM to convey a maximum flow of 4 cfs not to exceed 1,500 AF/year of non-NGWSP (non-project) water from the San Juan River to the SJGS Reservoir and other points of delivery along the system.
- Acquisition of lands and ROW from the NMSLO, NMDOT, BIA, BLM, and from private landowners for the realignment and construction of the northern reaches of the NGWSP's San Juan Lateral water pipeline, including its associated pumping plants, water storage facilities, and water treatment plant.
- Connection of pumping plants, water storage facilities, and SJLWTP to nearby transmission lines for project power.

### 2.4.1 – PNM Facilities Acquisition and Upgrade

Reclamation proposes to acquire and upgrade (as necessary) the following existing facilities from PNM to provide additional water storage capacity and improve the flexibility and resiliency of the NGWSP system. Reclamation would execute a contract with PNM (representing the nine owners of the SJGS) in compliance with applicable federal acquisition laws and policies.

#### 2.4.1.1 – San Juan River Diversion Weir

PNM's existing San Juan River diversion weir pools river water to be diverted into the intake works. The diversion weir was built in 1971 and is an approximately 170-foot-long by 20-foot-wide concrete structure spanning the San Juan River. The structure also provides low water vehicular crossing for transporting heavy equipment and large loads across the river. River flows are concentrated near the mid-span of the weir, with the tailwater dissipated in a concrete stilling basin downstream of the weir. Reclamation evaluated the weir in 2019 and found it in good condition with substantial service life remaining and little maintenance and repair work anticipated in the near term.

Safety signage would be installed on both sides of the San Juan River (fish ladder area and diversion/intake area) immediately upstream of the diversion weir in accordance with Reclamation Safety and Health Standards ("Yellow Book") policy (in particular, Section 9 [Signs, Signals, and Barricades]). Signage would indicate the danger of the diversion weir and potential for death or serious injury. A boat ramp/portage area is not planned at the diversion weir due to the hazardous conditions, however, exposed banks and gravel bars upstream of the weir allow for safe boat landing under most river flows. Reclamation may install additional signage further upstream of the diversion weir as well as pursue the development of an official boat takeout upstream of the diversion weir to limit the long-term potential of river user incidents.

#### **2.4.1.2 – San Juan River Diversion and Intake**

PNM's existing San Juan River diversion and intake diverts water from the river to an adjacent pumping facility (River Station) that pumps water to the SJGS Reservoir, where it is then used for cooling operations at the SJGS. The San Juan River diversion and intake is a large concrete structure where water is first diverted through an outer trash rack with bar spacing of approximately 8 inches. Before entering the main diversion channel, water flows into a small basin and through an inner trash rack. Stop logs sit just upstream of the inner trash rack and are used if water needs to be blocked from entering the channel. A hoist frame (currently damaged) is used to move the stop logs and inner trash rack up and down. Water then flows through the channel until it is either sent to the River Station to be pumped to the SJGS Reservoir or passed through the return channel back to the San Juan River. PNM currently uses vertical traveling screens (0.25-inch gaps) at the entrance of the River Station to reduce debris entering the project works. Roller gates are positioned at the entrance of the return channel near the River Station.

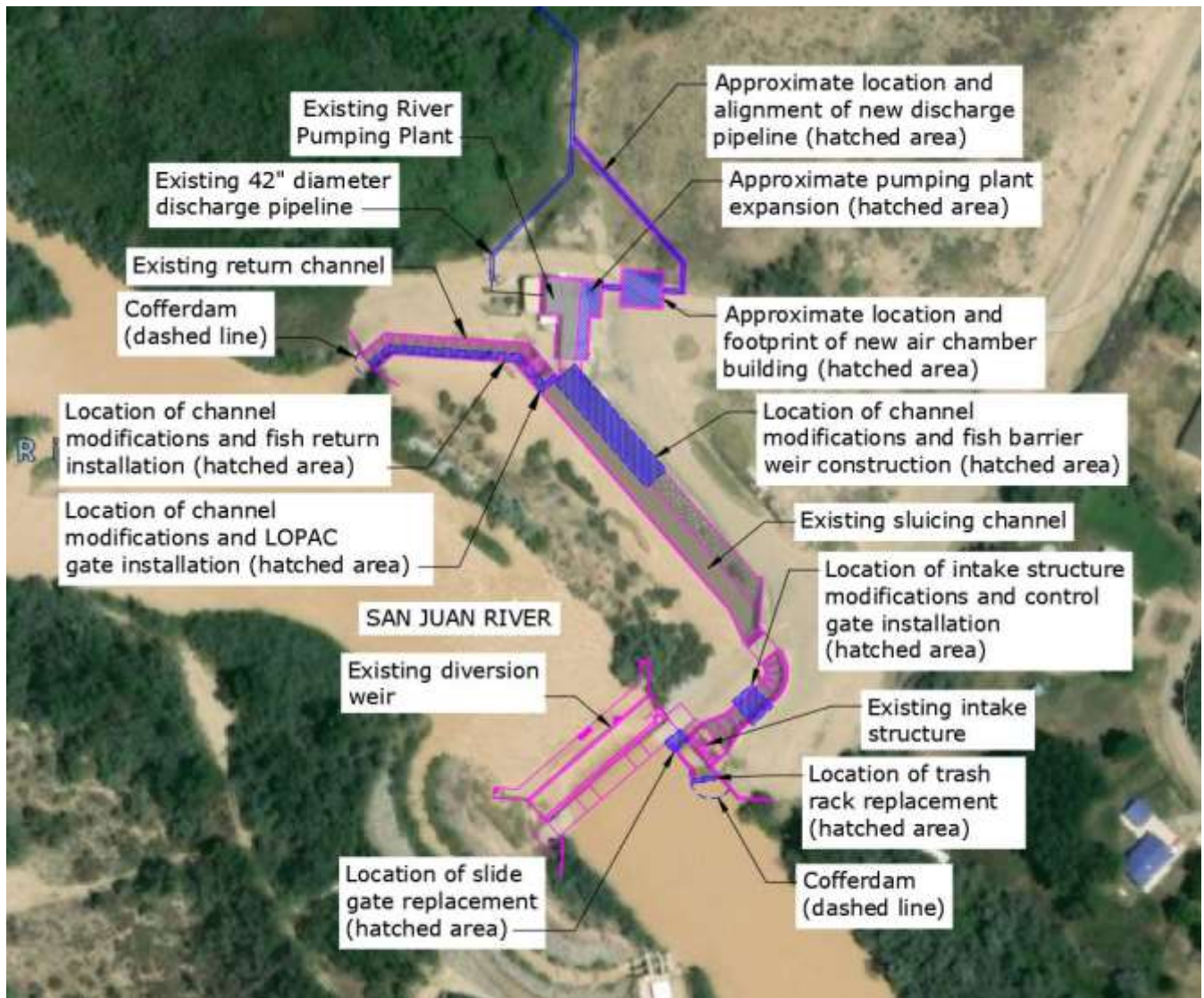
While the diversion and intake were evaluated to be in good condition, Reclamation proposes the following upgrades at the facility (see Figure 1, below).

- Removal and replacement of the outer trash rack with new 4-inch by 4-inch bar spacing.
- Removal of the inner trash rack and damaged hoist framing.
- Replacement of the slide gate infrastructure to allow sluicing through the diversion weir.
- Installation of a radial gate below the inner trash rack to limit water intake during flood flows.
  - Option 1: a single 9-foot-wide radial gate and adjacent slide gate.
  - Option 2: two 9-foot-wide radial gates separated by a 2-foot-wide pier with one of the radial gates closed during most normal operations).
- Installation of a new headwall with two pairs of dual-leaf gates (LOPAC brand) at the entrance of the return channel to help control the flow of water through the diversion and intake structure and maintain a consistent water surface elevation behind a fish barrier weir for pumping operations.
- Installation of a 123-foot-long concrete fish barrier weir with 4-inch-tall water column flowing overtop into the pumping forebay of the River Station.
- Installation of a guide wall along the south side of the return channel.

The dual-leaf gate openings would allow fish, debris, and sluicing back to the river during normal pumping operations. Dual-leaf gates and radial gates would be operated automatically but could also be controlled locally. Regular channel sluicing would be needed for operations and maintenance. During sluicing, pumping would stop, and the dual-leaf and radial gates would be fully opened. Slide gates would also be installed upstream and downstream of the weir and be opened during sluicing to clear sediment from behind the weir. The existing roller gate located at the entrance of the return channel would be open except during sluicing to exclude the tailwater in the return channel downstream.

The fish barrier weir design would be similar to the weir used on the San Juan River at the Hogback Diversion Canal and would be designed to pump up to 71 cfs of water to the SJGS Reservoir. The proposed weir would be designed to be operated at flows of 500 to 10,000 cfs in the San Juan River. Water entering the diversion and intake structure and not passing overtop the weir would flow into the return channel and back to the river. The newly installed radial gate(s) would be fully open during low flows and closed to a 12-inch-tall minimum opening during flood flows to limit water diversion into the intake channel.

NGWSP water diversion from the San Juan Lateral would remain at 33,119 AF/year at full use, as previously analyzed in the 2009 NGWSP PR/FEIS.



**Figure 1. River Intake and Pumping Plant Design**

Through coordination with the SJRBRIP, a remotely operated Passive Integrated Transponder (PIT) tag monitoring system may be installed during or after the construction of the fish barrier weir to monitor endangered fish (Colorado pikeminnow [*Ptychocheilus lucius*] and razorback sucker [*Xyrauchen texanus*]) use of the intake and potential entrainment within the SJGS water conveyance system. The USFWS, through the SJRBRIP, would be responsible for the operation, maintenance, and data collection of the remote PIT-tag monitoring system.

Most diversion and intake improvements would occur within the existing structure. Removal and replacement of the outer trash rack and construction of the bottom of the fish raceway would occur at the interfaces of the diversion and intake structure and the San Juan River. Temporary cofferdams would be installed around the outer trash rack (approximately 85 feet long by 15 feet wide [0.03 acre]) and bottom of the fish raceway (approximately 50 feet long by 15 feet wide [0.02 acre]) to exclude water during construction activities.

### **2.4.1.3 – San Juan River Station**

PNM's existing River Station takes water from the intake and pumps it to the SJGS Reservoir. Reclamation evaluated the River Station and found it in generally fair condition, with much of the electrical and mechanical components near the end of their service lives. Civil and site features at the River Station are generally in good condition. Among other components, Reclamation would upgrade and/or replace the River Station's vertical shaft pumps, motors, electronics, controls, and portions of the building to meet the demands of the NGWSP. An additional two-bay sump, pumps, motors, and metal building system would be added onto the River Station to increase pumping capacity to 71 cfs resulting in increased operational flexibility. A new air chamber building with a slight realignment of the River Station's discharge pipeline would also be constructed. Reclamation would reconstruct the River Station and diversion and intake structure without using variable speed infrastructure to not interfere with PIT-tag systems that monitor fish in the San Juan River.

### **2.4.1.4 – Raw Water Pipeline (River Station to SJGS Reservoir)**

An existing 4.8-mile-long and 42-inch-diameter raw water pipeline brings water from the River Station to the SJGS Reservoir. The pipeline was constructed in 2010-2011 to replace a 36-inch-diameter water pipeline that was abandoned in place. The water pipeline was found to be in good condition, with initial maintenance work focused on replacing valves, flanges, and appurtenant features as necessary.

The pipeline was installed within a 20- to 80-foot-wide construction area across various land jurisdictions, including the BLM FFO, NMSLO, multiple private landowners, and within San Juan County and NMDOT ROWs. Existing ROW widths for this pipeline vary from 20- to 50-feet. Reclamation would seek to transfer the existing ROW to federal control where possible and acquire new ROW where necessary. Acquired ROW widths by Reclamation may vary depending on land ownership and management allowances, topography, or other factors.

A limited amount of new ground disturbance is anticipated to install required hydraulic controls to allow the existing pipe to handle additional conveyance capacity. A terminal weir structure (approximately 21-feet-long by 14-feet-wide by 10-feet-tall) would be built above the crest of the SJGS dam to provide a steady water surface elevation for the river station to pump against. Additionally, a 20-foot-long by 20-foot-wide disturbance zone would be needed to install an orifice plate in the existing pipeline approximately 400 feet downstream of the terminal weir structure (Figure 2). Lastly, an approximately 32-foot-long by 38-foot-wide air chamber building would be constructed adjacent to the River Station to protect the raw water pipeline and pumping units at the River Station from hydraulic transients (Figure 1).

### **2.4.1.5 – SJGS Reservoir and Dam**

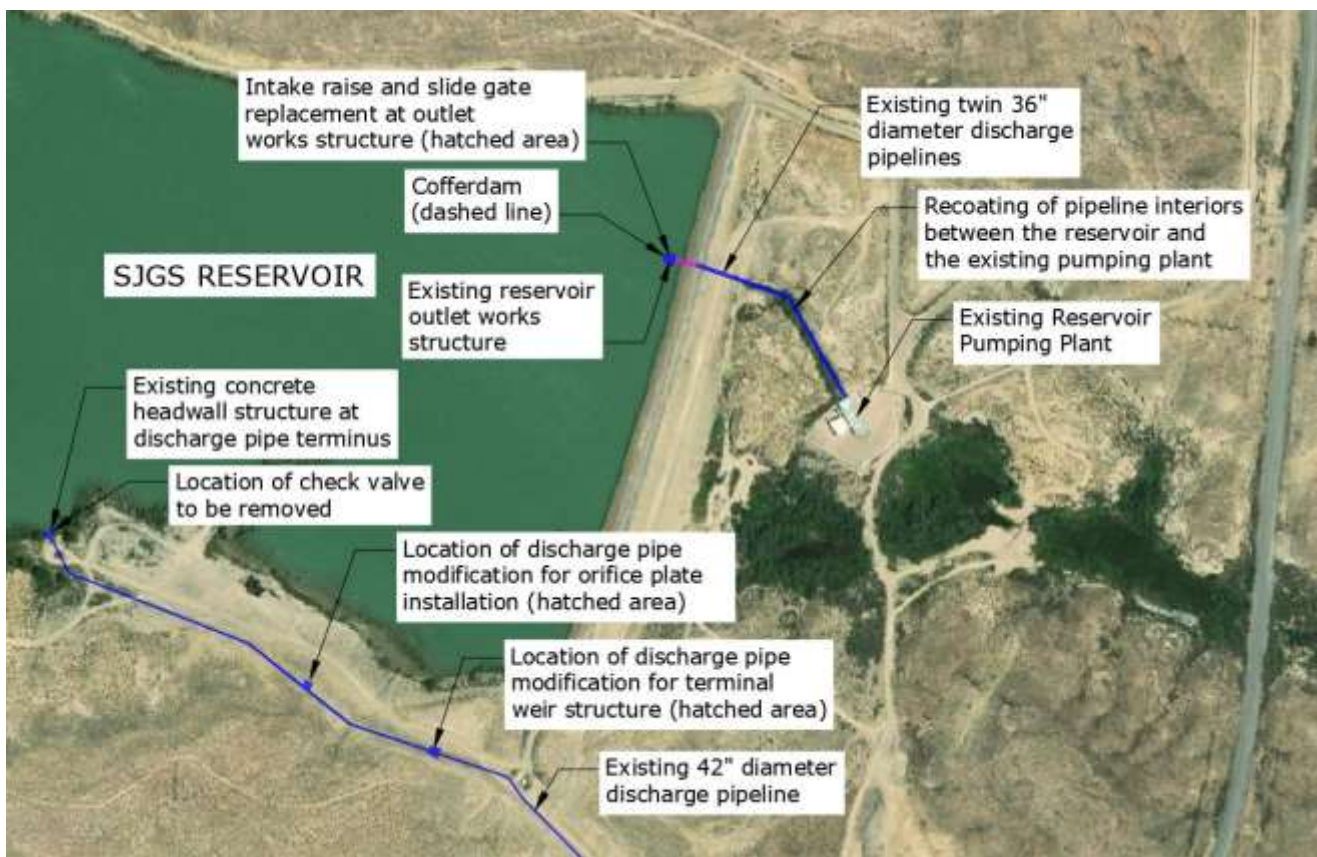
Reclamation would acquire PNM's existing SJGS Reservoir and Dam and associated structures as part of the Proposed Action. Reclamation's evaluations of the dam conclude that it has been well designed, constructed, and operated. Bathymetric survey data collected by Reclamation in 2019 estimates the reservoir's storage capacity at water surface elevation 5,277 feet above mean sea level (AMSL) (maximum operating pool) to be 2,783.6 AF with a surface area of 132.8 acres. Storage within the SJGS Reservoir would provide operational flexibility in the pumping regime from the San Juan River.

Reclamation would upgrade the SJGS Reservoir and Dam facilities (Figure 2). Erosional fills on the dam face would be repaired, and the dam's crest would be regraded to improve surface runoff. Riprap and bedding of the dam would be updated to Reclamation design standards, and weather and animal proofing would occur on select facilities. Additional upgrades proposed for the SJGS Reservoir inlet and outlet areas are described below.

- The SJGS Reservoir inlet dumps water from the 42-inch raw water pipeline into the reservoir. Reclamation would replace the old, flanged rubber check valve at the inlet to minimize unwanted animal invasion of the pipe. The existing concrete headwall and riprap erosion control may also be replaced or repaired if needed. Construction within the ordinary high water mark of the SJGS Reservoir would be limited to the minimum size necessary and is estimated at approximately 0.02 acre.
- The SJGS Reservoir outlet and discharge send water from the reservoir through twin 36-inch diameter steel outlet pipes to PNM's SJGS Reservoir Lake Station. Reclamation would raise the intake sill elevation of the reservoir by 10 feet to further limit the amount of sediment that may be mobilized into the project pipeline and replace the slide gate at the reservoir outlet works structure. The SJGS Reservoir would be drawn down in elevation, and a temporary cofferdam (approximately 40 feet in diameter [0.03 acre]) would be installed around the outlet works structure to exclude water during construction activities. In addition, the downstream valve in the Lake Station would be replaced.

Access to the SJGS Reservoir and Dam would be restricted to Reclamation personnel, the NGWSP operator, authorized PNM staff, and others authorized by Reclamation.

Following acquisition, water would be conveyed from the San Juan River to the SJGS Reservoir using existing infrastructure until Reclamation's proposed construction and upgrades to the system are completed (2 to 3 years).



**Figure 2. San Juan Generating Station Reservoir and Dam**



#### **2.4.1.6 – 12.5-Kilovolt Powerline and Fiber Optic Line**

Reclamation may seek to acquire (or lease) an existing 12.5-kilovolt (kV) powerline and fiber optic line that begins at the San Juan River Station and terminates near the SJGS Reservoir and currently provides power to multiple SJGS water conveyance facilities.

#### **2.4.1.7 – Ancillary Facilities Not Being Acquired**

Ancillary facilities near the Proposed Action not being acquired include the fish passage on the south side of the San Juan River at the PNM diversion, PNM's SJGS Reservoir Lake Station, and an abandoned 36-inch pipeline from the San Juan River to the SJGS Reservoir.

#### **2.4.2 – Land Acquisitions**

Reclamation proposes to acquire a PNM-owned property surrounding the SJGS Reservoir as well as the PNM property housing the San Juan River diversion, intake, and River Station. These lands are summarized below.

- SJGS Reservoir Property
  - San Juan County Parcel Number: 2090175132404
  - San Juan County Account Number: R6001798
  - Location: Section 19, T30N, R15W; Section 29, T30N, R15W; Section 30, T30N, R15W
  - Approximate acreage: 631.6 (with proposed division)
- San Juan River Diversion, Intake, and River Station Property
  - San Juan County Parcel Number: 2087173493100
  - San Juan County Account Number: R4005913
  - Location: Section 3, T29N, R15W
  - Approximate acreage: 21.0

Reclamation may also acquire several privately owned lands that are within the project area and that may be left otherwise unusable after project construction activities. These lands are summarized below.

- Weathers Property
  - San Juan County Parcel Number: 2089173502212
  - San Juan County Account Number: R0082148
  - Location: Section 5, T29N, R15W
  - Approximate acreage: 17.9
- Shaw/Dickerson Property (1)
  - San Juan County Parcel Number: 2089173439436
  - San Juan County Account Number: R0081049
  - Location: Lot 6 of Section 5, T29N, R15W
  - Approximate acreage: 9.7
- Shaw/Dickerson Property (2)

- San Juan County Parcel Number: 2089173495496
- San Juan County Account Number: R0081048
- Location: Lot 7 of Section 5, T29N, R15W
- Approximate acreage: 5.0

Reclamation would execute contracts with PNM and private landowners to acquire the needed lands for the NGWSP in compliance with applicable federal acquisition laws and policies.

### **2.4.3 – Water Conveyance Agreements**

Under the Proposed Action, Reclamation would acquire the SJGS water intake, conveyance, and storage system and would convey both NGWSP and non-NGWSP (non-project) water from the San Juan River to the SJGS Reservoir and other points of delivery along the system. PL 111-11 Section 10602(h) allows for the carriage of non-project water through NGWSP facilities so long as capacity is available without impairing any water delivery to a NGWSP participant and the non-project water beneficiary has the right to use the water; agrees to pay operation, maintenance, and replacement costs for the use of NGWSP facilities; and agrees to pay a fee for the recovery of capital costs. Following the acquisition, water would be conveyed from the San Juan River to the SJGS Reservoir using existing infrastructure until Reclamation’s proposed construction and upgrades to the system are completed (2 to 3 years).

As part of the Proposed Action, Reclamation would enter into a contract with PNM to convey a maximum flow of 4 cfs not to exceed 1,500 AF/year. The contract would be effective upon the date that the deed to the United States is recorded, which conveys title to the federal project facilities through December 31, 2040, unless renewed or terminated by mutual agreement by both parties. Storage in the SJGS Reservoir would be allocated based on annual demand projections and contracting would follow federal laws and policies.

### **2.4.4 – San Juan Lateral Pipeline Realignment**

Reclamation proposes to realign approximately 32 miles of the San Juan Lateral water pipeline from the southern terminus of Reach 4B to the northern terminus of Reach 2 at the SJGS Reservoir. The water pipeline may vary from 36 to 54 inches in diameter and would be made of either cement mortar-lined steel, ductile iron, high-density polyethylene (HDPE), or poly vinyl chloride (PVC), depending on pressure. Where possible, the pipeline alignment was modified to avoid sensitive cultural and environmental resources and parallels existing roads, two-tracks, and other linear infrastructure. Sections of the pipeline would be bored or use horizontal directional drilling to go under wetlands, water features, roads, or ditches.

The pipeline would have necessary appurtenances for operation and maintenance, such as air valves, blowoffs, access maintenance holes, and isolation valves. These features would be installed directly on the buried pipe and protected by buried concrete vaults. Surface markers, bollard posts, and metal guard rails would be located directly above the pipe at the surface to protect any air vents or concrete vault lids that extend to the surface. More information on construction is provided in section 2.4.8.

Reclamation would require a 150-foot-wide corridor for safe and efficient pipeline construction. The corridor would generally include an 80-foot-wide permanent ROW centered on the pipeline and 70 feet of temporary construction easement (35 feet on each side of the permanent ROW). On BLM lands, Reclamation would request a 50-foot-wide permanent ROW centered on the pipeline and 50 feet of temporary construction easement (25 feet on each side of the permanent ROW). The final permanent ROW and/or temporary construction easement has been and may be further restricted on one or both sides of the pipeline to avoid disturbance to sensitive cultural and environmental resources or not interfere with adjacent infrastructure. The construction ROW and temporary construction easement would be used to allow storage

of topsoil and spoils, fill material, stockpiled pipe and other materials, vehicular access, and the staging and use of heavy construction equipment. Further details about the individual pipeline reaches are listed below.

#### **2.4.4.1 – Reach 1**

Reach 1 includes PNM's existing 42-inch diameter raw water pipeline from the San Juan River to the SJGS Reservoir and the existing twin 36-inch diameter steel outlet pipes that bring water from the reservoir to PNM's SJGS Reservoir Lake Station.

#### **2.4.4.2 – Reach 2**

The 42- to 54-inch diameter Reach 2 water pipeline would begin at the SJGS Lake Station and head southward for approximately 5.4 miles crossing the San Juan River and eventually terminating at the proposed Morgan Lake Surge Tank site along Navajo Route N36. The proposed pipeline would use horizontal directional drilling underneath the San Juan River, Yellow Man Irrigation Siphon, and Shumway Arroyo. Pipeline jack and boring would occur underneath US Highway 64, the Jewett Valley Ditch just north of US Highway 64, under County Roads 6800 and 6820, and under PNM's existing raw water pipeline, however, trenching through roadways may be completed if traffic impacts can be alleviated sufficiently at final design and approved by the road owner. Reclamation would trench through the seepage-created wetland area below the SJGS Reservoir and Dam using a restricted construction corridor 80 feet in width.

#### **2.4.4.3 – Reach 3**

The 42-inch diameter Reach 3 water pipeline would begin at the proposed Morgan Lake Surge Tank site and travel westward for approximately 8.6 miles to the proposed location of the SJLWTP. Pipe diameter may be reduced to 36 inches if deemed suitable during the final design. The pipeline would parallel Navajo Route N36 before crossing the road and traveling southwest toward Chaco Wash and the Hogback. The pipeline would go underneath Chaco Wash and the Hogback via horizontal directional drilling (approximately 1,500 feet) and then continue westward to the water treatment plant. An approximately 1,750-foot-long and 200-foot-wide area (8.0 acres) west of the Hogback was identified for staging and pulling pipe through the horizontal directional drill area. Pipeline jack and boring would occur underneath Navajo Route N36 and a local Navajo road crossing, however, trenching through these roadways may be completed if traffic impacts can be minimized sufficiently at final design and approved by the road owner.

#### **2.4.4.4 – Reach 4A**

The 42-inch diameter Reach 4A water pipeline would begin at the SJLWTP and travel approximately 7.0 miles south to the proposed location of Pumping Plant 2. An approximately 11.2-acre staging area is proposed just west of Pumping Plant 2.

#### **2.4.4.5 – Reach 4B**

The 42-inch diameter Reach 4B water pipeline would begin at the proposed Pumping Plant 2 location and travel southwestward for approximately 5.5 miles before reaching and paralleling US Highway 491. Reach 4B then travels south and parallel to the highway for another 5.4 miles before terminating at Reach 4C. Reach 4C is currently under construction and nearing completion. A single section of horizontal directional drilling (approximately 750 to 800 feet long) is planned under an unnamed waterway and volcanic dike. One short section of pipeline jack and the bore is proposed at the southern end of Reach 4B to reduce impacts to cultural resources. An approximately 7.6-acre staging area is proposed where Reach 4B begins to parallel US Highway 491. Additionally, a large salt wash/drainage area near the southern terminus of Reach 4B may contain groundwater under certain hydrologic conditions and may require dewatering and discharge from the pipeline trench during construction. Initial testing of this location, however, did not encounter

groundwater. If necessary, appropriate BMPs would be installed to limit erosion and sedimentation downstream of the discharge site.

## **2.4.5 – Pumping Plants and Water Storage**

Multiple pumping plants and water storage facilities would be required to collect, stage, and optimally pump the required amount of water through the NGWSP pipeline system. These features are described below.

### **2.4.5.1 – Pumping Plant 1 (Southern Option)**

Pumping Plant 1 is proposed to be constructed abutting the bluffs south of the San Juan River and outside the river's mapped flood zone. An approximately 6.8-acre area of fallow fields was identified as an initial location for the pumping plant. The initial construction footprint and final design of Pumping Plant 1 are not yet finalized; however, the pumping plant would be similar in size and features to other NGWSP pumping plants. The final fenced and graveled footprint of the pumping plant would not exceed 2.0 acres and no more than 300 feet of new access road (24-foot-wide graveled running surface) would be constructed.

Pumping Plant 1 would house a 12,000 square foot pumphouse building that contains four 15.7 cfs pumps, five air chambers, compressor system, control room, electrical room, backup diesel engine generator for safe shutdown operation if primary power is lost, and a heating, ventilation, and air conditioning (HVAC) system. An underground vault would house a strainer with bypass and a magnetic flowmeter.

### **2.4.5.2 – Pumping Plant 2 (Tsé Da'azkání)**

Pumping Plant 2 is proposed to be constructed at the junction of Reaches 4A and 4B and would be capable of pumping 33.28 million gallons/day (mgd) (51.5 cfs) through the NGWSP water pipeline system. An approximately 520-foot-long by 390-foot-wide area (4.6 acres) would be disturbed during initial construction, and the pumping plant's final fenced and graveled footprint would be approximately 273 feet long by 262 feet wide (1.6 acres). An approximately 238-foot-long new access road would be constructed with a 24-foot-wide graveled running surface (0.1 acre). Approximately 3.3 miles of existing road (ISR 8720) would be used from US Highway 491 to the start of the proposed access.

Pumping Plant 2 would house a 6,445 square foot pumphouse building that contains four 12.87 cfs pumps, four air chambers, compressor system, control room, backup diesel engine generator for safe shutdown operation if primary power is lost, and a HVAC system. The site would also include a chlorine residual sampling vault and two 1-million-gallon water storage tanks (28 feet tall and 82 feet in diameter). A single water storage tank would be used until NGWSP water requirements necessitate installation and use of the second tank.

### **2.4.5.3 – Morgan Lake Surge Tank**

The Morgan Lake Surge Tank is proposed to be constructed at the junction of Reaches 2 and 3 near Navajo Route N36 and Morgan Lake. This location is the high point between the SJGS Reservoir and the proposed SJLWTP. The initial disturbance for the surge tank facility would be an approximately 120-foot-long by 100-foot-wide area (0.3 acre). The surge tank facility's final fenced and graveled footprint would be approximately 80 feet long by 60 feet wide (0.1 acre). An approximately 250,000-gallon surge tank with associated buried isolation valves, air valves, and blowoff in buried concrete vault would be housed on-site. Under the Proposed Action, an approximately 400-foot-long new access road would be constructed with a 24-foot-wide graveled running surface to connect the surge tank site to Navajo Route N36 (0.2 acre).

#### **2.4.6 – San Juan Lateral Water Treatment Plant (SJLTWP)**

The proposed SJLTWP would be relocated approximately 10.5 miles southwest of the location in the 2009 NGWSP PR/FEIS and away from the San Juan River. It would be capable of treating 37.6 mgd (58.2 cfs). The plant would be constructed in two phases; Phase 1 would operate at approximately 22 mgd (34.0 cfs) capacity, and Phase 2 would operate at full capacity.

A 180-acre site just south of Navajo Route N36 was initially identified for the location of the SJLTWP, and construction of the plant is anticipated to disturb no more than 100 acres of the site. Phase 1 project work is anticipated to occur in an approximately 1,800-foot-long by 1,000-foot-wide area (41.3 acres). The footprint of Phase 2 at full buildout is anticipated to be slightly larger than at Phase 1 (1,975-foot-long by 1,150 area [52.1 acres]). Depending on the treatment process, facilities would include 5 to 6 buildings, 2 to 6 lined and unlined ponds, a septic system, and 3 to 6 tanks/vaults, and the facility would have security fencing installed.

At full buildout using a conventional treatment method and granular activated carbon, like the process used at the NGWSP Cutter Lateral Water Treatment Plant, plant facilities would consist of an approximately 17-acre sludge drying bed, 6-acre backwash pond, 1.1-acre stormwater retention pond, 3.5-acre space for maintenance facilities, flocculation and sedimentation basins, and buildings for media filtration, granular activated carbon contact, chemical storage, clearwell and treated water pump station, and administrative area. An appraisal level design and initial view of the site and building layout is provided in Appendix C.

The total organic carbon treatment driven granular activated carbon process would be preceded by conventional coagulation, flocculation, sedimentation, and filtration. Decant from solids drying beds may be recycled upstream of the rapid mix through the treatment process or surface discharged and solids hauled off-site.

Up to 6 percent of water to the SJLTWP would be used for treatment and discharged off-site where it would flow overland or be absorbed by the soil depending on site conditions. A rock-lined or concrete spillway may be constructed to dissipate discharge flows and limit erosion from the discharge site.

#### **2.4.7 – Power Supply**

Newly constructed pumping plants and the SJLTWP would be connected to nearby transmission lines for project power. Construction of new transmission lines, where necessary, would be funded by Reclamation through agreement(s) with the WAPA, City of Farmington, or another regulatory agency. In coordination with Reclamation, WAPA has determined that contracting with the NTUA for transmission service to deliver power to the relevant project loads located on the Navajo Nation is the most reasonable, cost-effective, and economical method to provide electrical power to the project facilities. The NTUA would be responsible for securing ROW and performing environmental and cultural resources reviews if located outside of the surveyed areas of the Proposed Action. Pumping Plant 1 (Northern Alternative) and facilities associated with the SJGS are located north of the San Juan River and within the City of Farmington's retail power jurisdiction. Power supplied to these features would be negotiated with the City of Farmington via wheeling agreement(s) and could need additional environmental and cultural analysis.

#### **2.4.8 – Construction**

Construction would follow the general workflow outlined below. Project contractors would follow Reclamation Safety and Health Standards ("Yellow Book") and Occupational Safety and Health Administration requirements during construction, including subpart 29 CFR 1926.650-652 for trench safety. NGWSP construction contract specifications include safety and health requirements in accordance with Reclamation Safety and Health Standards as well as applicable Tribal and State safety and health regulations.

Contractors are required to submit and follow a Safety Program that is in accordance with the above-mentioned standards and regulations.

The proposed estimated surface disturbance is summarized in Table 3, based on Reclamation’s current design. Short-term disturbance would be reclaimed after construction, with long-term disturbance remaining for the project's life.

**Table 3. Proposed Action Summarized Estimated Disturbance**

Component	Short-Term Disturbance (acres)	Long-Term Disturbance (acres)
Pipelines	574.1	0
Directional Drilling Bore Pits	6.2	0
Water Treatment Plant and Pumping Plants	up to 111.7	55.8
Access Roads	0.0	0.4
Total	692.0	56.2

**2.4.8.1 – Vegetation Clearing (Clearing and Grubbing)**

Vegetation clearing would comply with the MBTA. Much of the project area occurs in sparsely vegetated desert scrub grasslands and barren lands, with smaller sections of agricultural and residential areas within the San Juan River valley. Vegetation clearing and grubbing in these areas would remove any trash and waste material detrimental to reclamation. The project generally avoids riparian tree and shrub vegetation due to planned pipeline jack and boring and horizontal directional drilling; however, small trees and larger shrubs are scattered in the San Juan River valley. Trees larger than 3 inches in diameter would be cut, de-limbed, and removed from the ROW or delivered to local residents for firewood use. Trees and shrubs smaller than 3 inches in diameter, slash, and brush would be chipped and spread in the project area or hauled to an appropriate disposal site. Chipped material would be distributed to not interfere with future reclamation efforts.

**2.4.8.2 – Topsoil Management**

Reclamation may complete soil testing in the project area to help determine the characteristics of disturbed soils and the applicability of adding soil amendments in the reclamation process. Soil testing may include an analysis of pH, electrical conductivity, texture, topsoil depth and overall soil depth, carbonates (reactivity), organic matter, and Sodium Absorption Ratio, among others. Organic and/or inorganic amendments may be added to help with project reclamation. A "soil amendment" is a material added to a soil to improve its physical properties, such as water retention, permeability, water infiltration, drainage, aeration, nutrition, and structure.

Following clearing and grubbing, a minimum of 6 inches of topsoil (if present) would be stockpiled and stored on the edge of the pipeline ROW and plant facilities. Topsoil would be stored separately from subsurface materials. Stockpiled topsoil would not be compacted, driven on, have equipment stored on, or be otherwise disturbed during construction. To prevent fugitive dust, a dust palliative that is biodegradable, water-based, and does not inhibit revegetation may be applied to stockpiled topsoil piles. Topsoil would be redistributed across the disturbed project areas before reseeding.

**2.4.8.3 – Erosion Control and Stormwater Management**

During construction, the project contractors would place erosion controls following each project’s Stormwater Pollution Prevention Plan as required by the USEPA’s National Pollutant Discharge Elimination System (NPDES) Construction General Permit. Reclamation and the project contractor would

follow the general conditions of any USACE Nationwide Permit or NNEPA permit obtained for the project. Standard best management practices for erosion control and stormwater management would be implemented during construction. Potential erosion control or water management features that may be used include water bars, sediment traps, check dams, erosion control blankets, and wattles, among others.

#### **2.4.8.4 – Construction**

The Proposed Action would include the new construction of multiple pumping plants, SJLWTP, pipeline, and weir. In addition, multiple facilities (including the SJGS Reservoir Dam) would be upgraded and supplied with new equipment. Reclamation would complete pre-construction geotechnical testing of underlying soils and bedrock. Construction activities would be confined to established and approved ROWs and temporary construction easements.

Construction of the pipeline trench would reach a maximum depth of 20 feet in some areas (drainage crossings) but would typically average 6 to 7 feet in depth. The width of the trench would be approximately 20 feet wide but may vary depending on the depth of excavation, type of bedding, embedment requirements, and side slope safety requirements, including the use of trench boxes, benching, or other methods. Horizontal directional drilling and jack and boring would be used to pipe underneath wetland and riparian areas, near roads and other infrastructure, and avoid otherwise sensitive resources.

Construction of the plant facilities would include grading, excavation, sub-foundation earthwork, fabrication of water storage tanks and other facilities, and storage of materials and equipment. New facilities would be lighted using dark sky lighting techniques to minimize skyglow, glare, and light trespass; and use paint colors that match the surrounding environment. Surface water runoff and drainage from the tank sites would discharge to existing ditches/swales adjacent to the sites. Periodic discharges of chlorinated or non-chlorinated water from the tanks may occur when disinfecting, flushing, filling, or emptying the tanks and associated piping and would follow methods in the facilities' approved discharge, stormwater, and other permits.

NGWSP construction contract specifications would include sections about use of site, cleaning and waste management, and disposal of excavated materials to properly document approved litter and waste removal requirements. Submittal of a waste production and disposal plan would be required by the construction contractor(s).

#### **2.4.8.5 – Equipment**

Construction of the proposed pipeline and plant facilities would use heavy equipment, including bulldozers, scrapers, track hoes, bore equipment, and potentially trenchers. A ripper may be used to break up sandstone and other hard features. No blasting is anticipated.

For horizontal directional drilling and jack and boring, equipment and pumps would include a horizontal drilling rig, drilling mud, reclamation equipment, pumps, control cab, vacuum trailer, excavators, storage tanks, and pipe cradles.

#### **2.4.8.6 – Access**

Reclamation and their project contractors would use existing access roads to access project construction areas with vehicles and heavy equipment. NGWSP construction contract specifications include sections on vehicular access and parking and traffic control, require the submittal of a traffic control plan that meets Federal Highway Administration and Department of Transportation reference standards, and require submittal of any relevant permits from local road entities. New access roads would be constructed as 24-

foot-wide graveled roads to access the project's pumping plants, SJLWTP, and other facilities (Appendix A; Maps A-3 to A-13). The pipeline corridor would be used for vehicular travel during construction.

#### **2.4.8.7 – Staging and Borrow Areas**

Staging and borrow areas would generally be within the proposed pipeline and plant facility ROWs or use existing disturbed areas. Two large staging areas are proposed along the Reach 4A and 4B alignment. Additional staging would be used at pipeline horizontal directional drilling and jack and bore locations to place pipe and equipment.

#### **2.4.8.8 – Fencing**

The proposed pumping plants and water storage facilities as well as the SJLTWP would have perimeter security fencing installed or upgraded. Existing livestock fences removed during construction, would be braced and secured before being cut. Temporary fencing, cattle guards, and gates may be installed during construction at the discretion of Reclamation and the landowner to facilitate access. These features would be kept closed to manage livestock and unauthorized access in the project area. Gates may be permanently installed in select areas to allow access for future operations and maintenance activities and would be kept locked unless otherwise agreed upon. Fences would be rebuilt to match or improve upon the existing adjacent fence.

Regarding the 2009 NGWSP PR/FEIS commitment to fencing the pipeline ROW; Reclamation, the BIA, and Navajo Nation determined in the 2019 Revegetation Plan for the NGWSP (Reclamation 2019) that if acceptable ground cover conditions are not achieved within 3 years, fencing may be necessary to achieve ground cover criteria identified in the site-specific revegetation plan.

#### **2.4.9 – Operation, Maintenance, and Replacement**

Reclamation would conduct periodic inspections and maintenance on NGWSP infrastructure and facilities to ensure properly functioning infrastructure and equipment as well as safe working and operating conditions for the NGWSP. Portable instrumentation would likely perform monitoring of water quality in the SJGS Reservoir. SJGS Reservoir outlet water quality would be monitored through a monitoring point on the outlet pipe.

#### **2.4.10 – Reclamation**

Areas disturbed during construction of the Proposed Action, except for project footprints needed for the continuous operation and maintenance of the project (e.g., fenced tank sites and the SJLWTP), would be reclaimed and reseeded. Landowners would be notified of reclamation activities, with the BLM FFO and Navajo Land Department notified at least 48 hours before work begins. Removal of riparian and wetland vegetation would not occur between March 15 and August 15 to avoid the potential effects on migratory nesting birds. Impacted riparian or wetland habitat would include acre-per-acre replacement or enhancement of 3 acres for each acre lost.

##### **2.4.10.1 – Site Recontouring and Soil Preparation**

Drainage in the project area generally flows towards the San Juan River. Areas that require recontouring would be recontoured to match pre-disturbance conditions and blend in with the surrounding landform. Subsoils would be redistributed evenly across the project area and would be ripped, tilled, disked on contour, or otherwise prepared for reseeded. Stockpiled topsoil free of trash and weeds would then be respread evenly across the project area. Final seedbed preparation would include raking or harrowing the top few inches of topsoil to promote a firm seedbed.



#### **2.4.10.2 – Reseeding**

The general NGWSP-specific goal for revegetation is to meet 70 percent of the pre-construction vegetative cover or better within 3 years of reseeded. If pre-disturbance vegetative cover is below 25 percent, the goal of revegetation is to meet pre-disturbance levels within that time frame.

Reseeding would be performed as soon as possible following construction and testing and immediately after topsoil has been replaced and the site prepared. The general time frame for reseeded would be July 15 to November 15 and would coincide with conditions when ambient temperatures are above 38 °F, when the ground is not snow covered or frozen, and when there is a greater potential for moisture. Reseeding in the winter and spring may be completed depending on suitable conditions. Seed would be native and certified as weed free.

A disk-type seed drill would primarily be used for reseeded with drill rows spaced 1 foot or less apart. Seed drilling would be performed on the contour, perpendicular to slopes to minimize runoff, rilling, and erosion. In areas where the slope is too steep to drill seed; hand broadcasting, mechanical broadcasting, hydroseeding, or other seeding methods may be utilized. Broadcast reseeded rates would be double that of drill seeding rates. Smaller seeds would be planted at a depth of 0.25 to 0.5 inch, whereas larger seeds would be planted at 1 to 2 inches. Improper planting depth can be especially problematic for successful reseeded and planting too shallow is generally better than planting too deep. Broadcast seeds would be covered in the appropriate depth of topsoil immediately after broadcasting using a hand rake or float.

Much of the proposed project area can be characterized as a desert scrub grassland, with sparsely vegetated barren lands near the Hogback, agricultural and developed areas in the San Juan River valley, some scattered grasslands, and riparian areas along water features. One general seed mix (Table 4) is proposed to be used for the majority of the proposed project. Areas of potential and suitable habitat for Mesa Verde cactus would have a separate seed mix (Table 5) as would impacted wetlands (Table 6). Revegetating private lands would include additional landowner-specific requests. Seed mixes were developed using regional knowledge, the BLM FFO's Bare Soil Reclamation Procedures (BLM 2013), and the Navajo Nation/BIA Navajo Region's 2018 NGWSP Recommended Seed Species for Bare Soils/Invasive Weed Infested Sites. Seed mixes and seeding rates may deviate from the tables below based on the availability of seed and other materials at the time of reseeded, as well as further site-specific analysis in the project area.

**Table 4. General Seed Mix**

Common Name	Scientific Name	Variety	Season	Form	Pure Live Seed (PLS) lbs/acre*
Fourwing saltbush	<i>Atriplex canescens</i>	VNS	-	Shrub	3.0
Shadscale	<i>Atriplex confertifolia</i>	VNS	Cool	Shrub	2.0
Blue grama	<i>Bouteloua gracilis</i>	Alma or Hachita	Warm	Sod	2.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	3.0
Western wheatgrass	<i>Pascopyrum smithii</i>	Arriba	Cool	Sod	2.0
Galleta	<i>Pleuraphis jamesii</i>	Viva or florets	Warm	Bunch/Sod	2.0
Purple threeawn	<i>Aristida purpurea</i>	VNS	Warm	Bunch	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.25
Alkali sacaton	<i>Sporobolus airoides</i>	VNS	Warm	Bunch	0.25
Scarlet globemallow	<i>Sphaeralcea coccinea</i>	VNS	Warm	Forb	0.25
Narrowleaf penstemon	<i>Penstemon angustifolius</i>	VNS	Cool	Forb	0.25
Rocky Mountain beeplant	<i>Cleome serrulata</i>	VNS	Warm	Forb	0.25
Hairy false goldenaster	<i>Heterotheca villosa</i>	VNS	Warm	Forb	0.25
Bailey's yucca	<i>Yucca baileyi</i>	VNS	-	Forb	0.25

Notes: VNS=variety not specified.

\*Based on 60 PLS per square foot, drill seeded. Double this rate (120 PLS per square foot) if broadcast or hydroseeded.

**Table 5. Seed Mix in Mesa Verde Cactus Habitat**

Common Name	Scientific Name	Variety	Season	Form	Pure Live Seed (PLS) lbs/acre*
Mat saltbush	<i>Atriplex corrugata</i>	VNS	-	Shrub	2.0
Shadscale	<i>Atriplex confertifolia</i>	VNS	Cool	Shrub	2.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	2.0
Galleta	<i>Pleuraphis jamesii</i>	Viva or florets	Warm	Bunch/Sod	2.0
Blue grama	<i>Bouteloua gracilis</i>	Alma or Hachita	Warm	Sod	2.0
Purple threeawn	<i>Aristida purpurea</i>	VNS	Warm	Bunch	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.25
Scarlet globemallow	<i>Sphaeralcea coccinea</i>	VNS	Warm	Forb	0.25
Narrowleaf penstemon	<i>Penstemon angustifolius</i>	VNS	Cool	Forb	0.25

Notes: VNS=variety not specified.

\*Based on 60 PLS per square foot, drill seeded. Double this rate (120 PLS per square foot) if broadcast or hydroseeded.

**Table 6. Seed Mix in Wetland Areas**

Common Name	Scientific Name	Wetland Indicator Status	Variety	Season	Form	Pure Live Seed (PLS) lbs/acre*
Inland saltgrass	<i>Distichlis spicata</i>	FAC	LK517f	Warm	Sod-forming	5.00
Canada wildrye	<i>Elymus canadensis</i>	FAC	Mandan	Cool	Bunch	4.55
Switchgrass	<i>Panicum virgatum</i>	FACW	Kanlow	Warm	Sod-forming	7.15
Western wheatgrass	<i>Pascopyrum smithii</i>	FAC	Arriba	Cool	Bunch	0.60
Alkali sacaton	<i>Sporobolus airoides</i>	FAC	VNS	Warm	Bunch	0.65

Notes: FAC=facultative, FACW=facultative wetland, VNS=variety not specified.

\*Based on 120 PLS per square foot, broadcast or hydroseeded.

**2.4.10.3 – Mulching**

Approximately 1 to 2 tons/acre of certified weed-free straw or native grass hay mulch would be mechanically crimped into the soil within 24 hours of seeding. Mulching generally protects against erosion and can increase the chance of successful revegetation. A mulch component would be incorporated into the slurry mix if hydroseeding is used. Mulching materials and rates may deviate from the above based on the availability of materials at the time of reclamation, and further site-specific analysis in the project area.

**2.4.10.4 – Noxious and Invasive Weed Control**

Halogeton (*Halogeton glomeratus*) and Russian thistle (*Salsola tragus*) would likely continue to be widespread in the project area following project construction, given their pre-construction abundance. Reclamation would implement noxious weed control efforts following methodology in the Revegetation Plan for the NGWSP if successful revegetation proves problematic.

**2.4.10.5 – Monitoring, Reporting, and Adaptive Management**

Site monitoring and reporting would follow methods described in the Reclamation’s Revegetation Plan for the NGWSP and/or the BLM FFO’s 2013 Bare Soil Reclamation Procedures. Progress in the attainment of reclamation standards would be assessed, and adaptive management actions for the project would be adopted as necessary.

**2.4.11 – Construction Timeframe**

Project construction for the Proposed Action is anticipated to occur through 2029. Project features are in various stages of design. Reaches 4A and 4B and Pumping Plant 2 are near final design, whereas the remaining project features are closer to initial design and may be further refined or realigned. If the final design of project features changes from that described in this EA, Reclamation would initiate supplemental surveys, consultation(s), and NEPA for modified project features as appropriate. Table 7 gives a schedule breakdown for individual project features.

**Table 7. Projected Construction Timeframe**

Project Feature	Start	Finish
Reach 1 Pipeline	January 2025	November 2026
Reaches 2 and 3 Pipeline	June 2024	June 2026
Reaches 4A and 4B Pipeline	February 2023	January 2025
Pumping Plant 1	June 2025	October 2027
Pumping Plant 2	October 2022	August 2025

Project Feature	Start	Finish
San Juan River Station	January 2025	November 2026
San Juan Lateral Water Treatment Plant	July 2025	June 2028 (end of testing June 2029)
San Juan River Intake	January 2025	November 2026

## 2.5 – Nanofiltration (NF) with Ultrafiltration (UF) Pretreatment (UF-NF) Alternative

This alternative is the same as the Proposed Action except that water at the SJLWTP would be treated using a nanofiltration (NF) with ultrafiltration (UF) pretreatment (UF-NF) method. The combined UF-NF process removes both particulate and dissolved constituents. Generally, the UF process removes particulate species, and the NF process removes dissolved species. Using UF upstream of NF provides better protection of the NF membranes than media filtration processes by improving the removal of particulate and colloidal species.

A preliminary site configuration and process flow diagram for the UF-NF treatment facility is provided in Appendix C. The UF-NF process is expected to require a main process building, administrative building, chemical storage facility and tankage, a septic system, membrane residuals, and stormwater pond. A clearwell and treated water pump station would be located outside the main buildings. Chemicals required for the process may include hydrochloric acid for pH adjustment, sodium hypochlorite for disinfection and membrane cleaning, and other membrane cleaning chemicals such as sodium hydroxide, citric acid, and hydrochloric acid. Facilities would be similar to those described in the Proposed Action; however, the overall footprint of the site would likely be smaller (approximately 40 acres). Up to 10 percent of water for treatment would be discharged off-site as a concentrated brine, which would need regulatory approval. Discharged water would flow in a similar path as described in the Proposed Action.

## 2.6 – Pumping Plant 1 Northern Alternative

This alternative is similar to the Proposed Action except that under this Alternative Reclamation would construct Pumping Plant 1 just south of PNM’s SJGS Reservoir Lake Station. An approximately 550-foot-long by 350-foot-wide area (4.4 acres) would be disturbed during initial construction, and the final fenced and graveled footprint of the pumping plant would be approximately 400 feet long by 200 feet wide (1.8 acres). An approximately 0.4-mile-long existing road leads to Pumping Plant 1 and would be upgraded to a 24-foot-wide graveled running surface. The pumping plant’s building and facilities would be the same as described in the Proposed Action.

The proposed pipeline’s overall alignment would not change, however, the lengths and types of pipe for Reaches 1 and 2 would be altered.

A weir site rather than a surge tank facility would be constructed at the junction of Reaches 2 and 3 near Morgan Lake. The weir structure would be approximately 21-feet-long by 14-feet-wide by 10-feet-tall. An approximately 91-foot-long by 84-foot-wide area (0.2 acre) would be disturbed during initial construction, and the final fenced and graveled footprint of the weir structure would be about 65 feet long by 58 feet wide (0.1 acre). An approximately 400-foot-long new access road would be constructed with a 24-foot-wide graveled running surface to connect the weir site to Navajo Route N36.

## 2.7 – Permits and Authorizations

Authority to conduct water resources planning and land and facilities acquisition activities associated with this EA is in conformance with the Act of Congress of June 17, 1902 (32 Stat. 388), and acts amendatory thereof and supplementary thereto, all of which acts are commonly known and referred to as Reclamation Laws, and particularly Section 10602 of PL 111-11, as amended. Authority to enter into contracts to convey non-project water in NGWSP facilities is in conformance with Section 10602(h) of PL 111-11. PL 92-199 of 1971 authorized Reclamation to conduct feasibility studies for the potential Gallup water resource development project in McKinley, Valencia, and San Juan Counties in New Mexico.

If the Proposed Action were selected, the following permits would be required prior to project implementation:

- USACE Clean Water Act (CWA) Section 404 permit(s)
- NNEPA discharge permits for the SJLWTP and other locations
- CWA NPDES construction general permit(s)
- NMED and NNEPA CWA Section 401 Water Quality Certification(s)
- NMED Storage and Diversion permits
- Federal acquisition laws and policies

Compliance with the following laws and Executive Orders is required before and during project implementation:

### 2.7.1 – Natural Resource Protection Laws

- Clean Air Act, as amended (PL 88-206; 42 USC § 7401 et seq.)
- CWA, as amended (PL 107-303; 33 USC § 1251, et seq.)
- Endangered Species Act, as amended (16 USC 1531-1544, 87 Stat. 884)
- Migratory Bird Treaty Act (MBTA), as amended (16 USC §§ 703-712; 50 CFR Part 21)
- Bald and Golden Eagle Protection Act of 1940 (16 USC 668- 668c)
- SDWA, as amended (42 USC § 300f et seq.)
- National Primary Drinking Water Regulations (40 CFR Part 141 and 142)
- National Secondary Drinking Water Regulations (40 CFR Part 143)
- Navajo Nation Safe Drinking Water Act (22 NNC § § 2501-2586)
- New Mexico Drinking Water Regulations (Title 20, Chapter 7, Part 10 of New Mexico Administrative Code)

### 2.7.2 – Cultural Resource Laws

- Antiquities Act of 1906, as amended (PL 52-209; 16 USC 431-433)
- American Indian Religious Freedom Act of 1978 (PL 95-431; 92 Stat. 469; 42 USC 1996)
- Archaeological Resources Protection Act of 1979 (PL 96-95; 93 Stat. 721; 16 USC § 470aa et seq.), as amended (PL 100-555; PL 100-588)
- Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 104 Stat. 3048; 25 USC 3001; 43 CFR Part 10)
- National Historic Preservation Act (NHPA) of 1966 (PL 89-665; 80 Stat. 915; 16 USC 470 et seq.), as amended (implemented under regulations of the Advisory Council on Historic Preservation, 36 CFR Part 800)

- Archaeology and Historic Preservation: Secretary of the Interior’s Standards and Guidelines (48 Federal Register 44716)

### **2.7.3 – Paleontological Resource Laws**

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

### **2.7.4 – Other Laws and Policies**

- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act; 42 USC 4601-4655)
- Regulations of the Attorney General Governing the Review and Approval of Title for Federal Land Acquisitions (2016)
- Uniform Appraisal Standards for Federal Land Acquisitions (Interagency Land Acquisition Conference 2016)
- Reclamation Safety and Health Standards (“Yellow Book”)
- Navajo Preference in Employment Act
- Federal contracting laws and policies

## **CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **3.1 – Introduction**

This chapter discusses resources that may be affected by the Action Alternatives. For each resource, the potentially affected area and/or interests are identified, existing conditions described, and potential environmental consequences analyzed under the Action Alternatives. This section is concluded with a summary of environmental consequences and a list of environmental commitments in Chapter 4.

The 2009 NGWSP PR/FEIS analyzed the affected environment and environmental consequences from the No Action Alternative to the resources described in this chapter and is incorporated by reference throughout.

### **3.2 – Affected Environment and Environmental Consequences**

#### **3.2.1 – Water Uses and Resources**

##### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with water uses and resources outlined on pages V5-V18 detailing Navajo Reservoir capacity; San Juan River flow volumes and timing; Native American water rights; and Colorado River, La Plata River, and Animas-La Plata compacts.

The 2009 NGWSP PR/FEIS did not consider use of the SJGS Reservoir for the NGWSP. Bathymetric survey data collected by Reclamation in 2019 estimates the SJGS Reservoir's storage capacity at water surface elevation 5,277 feet AMSL (maximum operating pool) to be 2,783.6 AF with a surface area of 132.8 acres. Use of the SJGS Reservoir to supply water to the SJLWTP would provide storage and settling capacity to the NGWSP and would reduce the operations and maintenance burden at the SJLWTP.

The Sanostee Chapter of the Navajo Nation passed Resolution No. TAT 19-03-43 (March 10, 2019) regarding the local community's opposition to any tapping into the existing water table related to where the NGWSP San Juan Lateral would be placed as well as not approving local watering sources being moved along the pipeline away from the community. Reclamation's geotechnical data collection in the Sanostee Chapter area did not encounter groundwater.

### **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with water uses and resources outlined on pages V5-V18.

### **Environmental Consequences of the Proposed Action**

Environmental consequences to water uses and resources from the Proposed Action would not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in the 2009 NGWSP PR/FEIS.

The Proposed Action would not change Navajo Reservoir levels or San Juan River flows as described in the 2009 NGWSP PR/FEIS (pages V5-V18). Reclamation would continue to operate Navajo Dam and Reservoir under the flow recommendations derived by the SJRBRIP and pursuant to the Navajo Reservoir Operations FEIS and ROD (Reclamation 2006). There would be no changes to the underlying NGWSP diversion (San Juan Lateral 33,119 AF/year) as analyzed in the 2009 NGWSP PR/FEIS (pages V5-V18).

Under the Proposed Action, Reclamation would acquire and upgrade PNM's SJGS water intake, conveyance, and storage system and would be able to convey both NGWSP and non-NGWSP (non-project) water from the San Juan River to the SJGS Reservoir and other points of delivery along the system. Proposed upgrades to the San Juan River Station would increase pumping capacity to 71 cfs. Reclamation would also enter into a water carriage contract with PNM to convey a maximum flow of 4 cfs of non-project water (not to exceed 1,500 AF/year) to the SJGS Reservoir for which PNM would use its existing water depletion rights. The conveyance of 1,500 AF/year of PNM-related non-project water through and storage in NGWSP facilities would have no significant effects on water use because the Proposed Action would have an adequate design capacity to meet these demands, and PNM would continue to use its existing water depletion rights with or without Reclamation acquiring the PNM water conveyance facilities.

Any future storage and conveyance of non-project water in NGWSP facilities would be negotiated in a separate water carriage contract. Storage in the SJGS Reservoir would be allocated based on annual demand projections. Contracting would be in compliance with federal laws and policies. Future water conveyance contracts would be contingent upon the completion of any required environmental permitting and compliance associated with the project(s) including impacts analysis.

Following the construction of the upstream portions of the San Juan Lateral, including the San Juan Lateral Water Treatment Plant, a Navajo Blessing Ceremony would be conducted for these facilities similar to the Blessing Ceremony conducted for the NGWSP's Cutter Lateral in October 2021.

## **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences on water uses and resources would be the same as those described under the Proposed Action.

## **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Environmental consequences on water uses and resources would be the same as those described under the Proposed Action.

### **3.2.2 – Indian Trust Assets**

#### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with Indian trust assets outlined on pages V18-V32. Indian trust assets, or resources, are defined as legal interests in assets held in trust by the US Government for Native American Indian tribes or individual tribal members. Examples of Indian trust assets are lands, minerals, water rights, other natural resources, money, or claims. Secretarial Order 3175 and Reclamation policy requires the assessment of effects on Indian trust assets. Based on scoping for the 2009 NGWSP PR/FEIS, Indian trust assets potentially affected by the proposed federal action are water rights and land use (easements, including trust lands and tribal allotments, necessary for project construction and operation).

The affected environment for the NGWSP includes the northern and eastern portion of the Navajo Nation, including 43 Chapters within the service area; the Navajo Indian Irrigation Project service area; lands served along the Hogback, Fruitland-Cambridge, and Cudei irrigation projects; and irrigation along the tributaries to the San Juan River. The 2009 NGWSP PR/FEIS further details Navajo Nation water rights and major existing and future tribal uses of San Juan basin water, the Navajo Indian Irrigation Project, San Juan River irrigation projects, and the Navajo Nation Municipal Pipeline authorized under the Animas-La Plata Project. The 2009 NGWSP PR/FEIS also discusses the Jicarilla Apache Nation and Colorado Ute Tribes and their respective water rights settlements.

## **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with Indian trust assets outlined on pages V18-V32.

## **Environmental Consequences of the Proposed Action**

Environmental consequences on Indian trust assets from the Proposed Action would not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in the 2009 NGWSP PR/FEIS.

The Proposed Action would not directly affect the Navajo Agricultural Products Industry, Navajo Indian Irrigation Project, Navajo Nation Municipal Pipeline, or San Juan River Irrigation projects. Effects on Jicarilla Apache, Southern Ute Tribe, and Ute Mountain Ute Tribe Indian trust assets would be the same as those described in the 2009 NGWSP PR/FEIS (pages V18-V32).

Under the Proposed Action, the SJLWTP would be located on tribal trust land, rather than private land. Approximately 56.2 acres of tribal trust land would be converted from rangeland to an industrial use



including 52.1 acres for the water treatment plant and 4.1 acres for Pumping Plants 1 and 2, the Morgan Lake Surge Tank site, and their new access roads. Compared to the No Action Alternative, the Proposed Action would convert about 33.2 more acres of tribal trust rangeland to industrial use; however, based on the scale of these effects, they would not be significant.

### **Environmental Consequences of the UF-NF Pretreatment Alternative**

Effects on Indian trust assets would be similar to those described under the Proposed Action, however, the SJLWTP would require a slightly smaller footprint encompassing approximately 40 acres under this alternative. The total tribal trust rangeland converted to industrial use would be approximately 44.1 acres compared to approximately 56.2 acres under the Proposed Action, and therefore, the effects on Indian trust assets from this alternative would not be significant.

### **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Effects on Indian trust assets would be similar to those described under the Proposed Action, however, Pumping Plant 1 would be located on private land near the SJGS under this alternative rather than tribal trust land. Pumping Plant 1 would be located within the City of Farmington's retail power jurisdiction with power supplied via wheeling agreement similar to existing facilities north of the San Juan River that are proposed to be acquired under the Proposed Action. While NTUA would not be the power provider for Pumping Plant 1, power demands for the NGWSP would still be met under this alternative. In addition, the southern alternative for Pumping Plant 1 and its associated access road was estimated to impact 2.1 acres, thus the total tribal trust rangeland converted to industrial use under this alternative would be approximately 54.1 acres compared to approximately 56.2 acres under the Proposed Action and approximately 44.1 acres under the UF-NF Pretreatment Alternative. Therefore, for the reasons described above, the effects on Indian trust assets from this alternative would not be significant.

## **3.2.3 – Water Quality**

### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with water quality outlined on pages V32-V42.

Perennial waters in the action area include the SJGS Reservoir and the San Juan River. Intermittent waters include the Shumway Arroyo, Chaco River, and several ditches; and 10 ephemeral drainages with defined ordinary high water marks were recorded in the water pipeline alignments. Ephemeral drainages are typically small, shallow, and less than 6 inches deep by 1 to 4 feet wide. San Juan River flows peak in the spring and remain low from summer to fall, marked by short-duration peaks resulting from storm events. PNM's San Juan River diversion and intake is located at river mile 167 near Waterflow, between Farmington and Shiprock, New Mexico.

### **San Juan River Water Quality**

The State of New Mexico has listed reaches of the San Juan River where water quality does not meet intended uses. Turbidity, fecal coliform, and bottom sediments impact the designated uses of the river most often, including the stretch of the river from the confluence of the Animas River to the Hogback (NMED 2021). Several water quality standards are periodically exceeded in the San Juan River in the project area, and there are a few historical exceedances in the San Juan River for aluminum, mercury, selenium, cadmium, and

lead. The number of exceedances increases between Farmington and Shiprock, New Mexico, including several for copper and zinc (Reclamation 2009).

Reclamation, along with the USGS and USEPA, has actively sampled the San Juan River since the 2009 NGWSP PR/FEIS and in response to the 2015 Gold King Mine spill. A suite of water quality analyses was completed for in-situ and grab samples collected by Reclamation and the USGS at the Hogback Diversion on the San Juan River from 2014 to 2016 to develop design data for the SJLWTP (Reclamation 2016). Reclamation has collected and analyzed water samples from the San Juan River at PNM's SJGS diversion and intake since 2019 and has also gathered USGS water quality data at the Hogback Canal and Fruitland bridge locations on the San Juan River (Reclamation 2021).

Reclamation conducted a water quality study to evaluate the impacts of four storm events between 2017 and 2018 in the San Juan River. During the river responses caused by these storms, high levels of suspended sediment and total/dissolved metals were observed. Aluminum and iron were the only dissolved metals that exceeded SDWA standards. Total aluminum, iron, lead, and manganese exceeded maximum contaminant level (MCL) limits during all four storm events. Total beryllium exceeded the MCL for three storm events. Total barium exceeded the MCL during two storm events. Total antimony, arsenic, cadmium, chromium, thallium, and uranium exceeded limits during one storm event. However, the suspended sediment from all four storms had similar metals content (Reclamation 2020).

### **SJGS Reservoir Water Quality**

The watershed of the SJGS Reservoir is relatively small and is not subject to large fluctuations in sediment loading and adverse water quality changes during runoff and storm events. Reclamation collected new data and evaluated existing data to determine the SJGS Reservoir's suitability as a drinking water storage supply for the NGWSP. PNM provided Reclamation with historical water quality information collected at the San Juan River diversion and intake as well as SJGS Reservoir. Reclamation has collected and analyzed water quality samples since 2019 from several locations and at various depths at the SJGS Reservoir (Reclamation 2021).

The water quality data provided by PNM indicated the presence of regulated total suspended metals above National Primary Drinking Water Standards. Reclamation confirmed the exceedance of regulated parameters in one of the five samples collected during Reclamation's initial sampling effort in 2019. A summary of Reclamation's water quality sampling results at PNM's San Juan River intake and the SJGS Reservoir with drinking water MCL and secondary MCL (SMCL) exceedances are provided in Table 8 (Reclamation 2021). Water samples analyzed from PNM's San Juan River intake were observed to exceed the respective MCLs for arsenic, barium, beryllium, cadmium, chromium, lead, thallium, and uranium, however, no MCL exceedances were noted at the SJGS Reservoir. SMCL exceedances were documented at PNM's San Juan River intake for aluminum, chloride, color, iron, manganese, total dissolved solids (TDS), and sulfate. SMCL exceedances at the SJGS Reservoir were noted for aluminum, iron, manganese, and pH.

**Table 8. Percentage of Maximum Contaminant Level (MCL) and Secondary MCL (SMCL) Exceedances From Reclamation Water Sampling at PNM’s San Juan River Intake and Reservoir From 2019-2021**

Contaminant Level	Constituent	Total (San Juan River)	Total (SJGS Reservoir)	Dissolved (San Juan River)	Dissolved (SJGS Reservoir)
Maximum Contaminant Level (MCL)	Arsenic	6%	-	-	-
MCL	Barium	6%	-	-	-
MCL	Beryllium	18%	-	-	-
MCL	Cadmium	1%	-	-	-
MCL	Chromium	4%	-	-	-
MCL	Lead	41%	-	-	-
MCL	Thallium	1%	-	-	-
MCL	Uranium	2%	-	-	-
Secondary MCL (SMCL)	Aluminum	99%	67%	19%	6%
SMCL	Chloride	1%	-	-	-
SMCL	Color	82%	-	-	-
SMCL	Iron	95%	21%	4%	-
SMCL	Manganese	95%	21%	2%	2%
SMCL	pH	-	48%	-	-
SMCL	Total Dissolved Solids (TDS)	4%	-	-	-
SMCL	Sulfate	1%	-	-	-

### Surface Water and Groundwater Dynamics Near the SJGS

The SJGS Reservoir lies in a small unnamed drainage that merges with the Westwater Arroyo approximately 0.6 miles downstream of the reservoir and then merges with the Shumway Arroyo approximately 1.1 miles downstream of the SJGS Reservoir. Both the Westwater and Shumway arroyos run through the SJGS and San Juan Mine area. PNM collects seepage water from the SJGS Reservoir prior to it reaching the Westwater Arroyo and pumps it back into the reservoir. PNM also utilizes several evaporation ponds throughout the SJGS. As a result of a Sierra Club lawsuit, PNM installed and operates a groundwater recovery system in the Shumway Arroyo downstream of the SJGS and reservoir that captures groundwater and pumps it to evaporation ponds north of the SJGS Reservoir.

Reclamation solicited the USGS to collect and analyze water and sediment samples from four groundwater wells and one pond at and around the SJGS in 2021 to characterize water quality and evaluate if water seeping from the SJGS Reservoir is affecting downgradient groundwater quality (Blake et al. 2021a, 2021b). Water from the reservoir seepage areas was similar to San Juan River water and different than samples taken in the Westwater and Shumway Arroyos which generally had higher concentrations of sulfate, chloride, uranium, and other constituents.

### Total Organic Carbon

The most common drinking water disinfection method is through the addition of chlorine. Chlorine can react with organic materials in water to form disinfection byproducts, which are regulated in drinking water.

All public water systems that disinfect must routinely test their treated water for total organic carbon to determine if regulated disinfection byproducts are present and at what levels. Total organic carbon has no health implications; however, high concentrations in water can damage equipment when left unchecked and untreated. By measuring total organic carbon, facilities can implement the proper treatment to reduce the formation of disinfection by-products to comply with regulatory requirements.

### **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with water quality outlined on pages V32-V42.

### **Environmental Consequences of the Proposed Action**

Environmental consequences on water quality from the Proposed Action would not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in the 2009 NGWSP PR/FEIS.

#### **Surface Water**

Construction of the Proposed Action's water pipeline, upgrades to PNM's San Juan River diversion and intake, and infrastructure improvements at the SJGS Reservoir would occur within and adjacent to surface waters. The proposed water pipeline would use horizontal directional drilling or jack-and-boring to avoid impacts to perennial and intermittent water features, including the San Juan and Chaco Rivers, Shumway Arroyo, and irrigation ditches. Pipeline crossings of ephemeral watercourses would be trenched, however, impacts would be temporary and insignificant because design features and BMPs would be implemented during construction to avoid and/or limit erosion and sedimentation. In addition, construction at PNM's San Juan River diversion and intake and the SJGS Reservoir would require work in and adjacent to perennial water features and could create the potential for direct water quality impacts from temporary increases in turbidity (sediment), equipment leaks, or spills. These effects would not be significant because cofferdams would be installed around the ends of the PNM diversion and intake and SJGS outlet works structure, and the work areas would be dewatered to exclude water during construction. Temporary effects to the water quality of the San Juan River and SJGS Reservoir would also be minimized by implementing design features and BMPs. Reclamation or the project contractor would acquire and comply with applicable USACE Nationwide and/or Regional General Permits for the project. Future operations and maintenance activities would continue to implement BMPs and design measures and acquire and comply with any necessary permits. Based on the measures described above, impacts to surface water quality would be temporary and not significant.

Up to 6 percent of water to the SJLWTP would be used for treatment and discharged off-site where it would flow overland or be absorbed by the soil depending on site conditions. A discharge permit from the NNEPA would be required. A rock-lined or concrete spillway may be constructed to dissipate discharge flows and limit erosion from the discharge site. The continuous water discharge would likely create wetland conditions at the discharge site. Discharged water would be permitted and would not reach potential Waters of the US, therefore, surface water quality impacts would not be significant.

#### **Groundwater**

Based on water and sediment sampling by the USGS in and around the SJGS Reservoir (Blake et al. 2021a, 2021b), Reclamation concluded that groundwater contamination downstream of the SJGS Reservoir is likely to originate in the Westwater and Shumway Arroyos. The SJGS Reservoir would not contribute to

downstream surface water and groundwater contamination with PNM continuing operation of the groundwater recovery system as required as part of the Sierra Club and PNM consent decree, and therefore effects on groundwater quality would not be significant.

### **Water Quality Standards**

Use of the SJGS Reservoir for the NGWSP would provide a buffer to fluctuations in particulate matter and allow for raw water storage and pumping over a wider range of turbidity/particulate levels compared to a direct intake from the San Juan River. Pumping may be temporarily shut down to limit excess sediment uptake into NGWSP project features and avoid water use during periods of poor water quality. Reclamation found improved water quality at the SJGS Reservoir compared to the San Juan River through water sampling and analysis (Reclamation 2021). Use of the SJGS Reservoir would enhance the NGWSP's storage and settling capacity and improve the quality of raw river water before being treated at the SJLWTP. Based on bench-scale tests, conventional coagulation, sedimentation, and filtration followed by granular activated carbon are expected to remove total organic carbon to at least 0.8 milligram/liter (mg/L) to alleviate formation of disinfection byproducts in the distribution system. Ferric chloride would be used as the primary coagulant, and free chlorine would be used for disinfection. Based on water quality sampling and analysis (Reclamation 2021), the water treatment process at the SJLWTP would remove contaminants and meet applicable federal, state, and/or tribal water quality standards, and therefore impacts to water quality standards would not be significant.

### **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences on water quality from the UF-NF Pretreatment Alternative would not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in the 2009 NGWSP PR/FEIS.

### **Surface Water and Groundwater**

Environmental consequences on surface water and groundwater from the UF-NF Pretreatment Alternative would be the same as described under the Proposed Action except that up to 10 percent of water to the SJLWTP would be used for treatment and discharged off-site as a concentrated brine. Discharged water would be permitted and would not reach potential Waters of the US, therefore, surface water quality impacts would not be significant.

### **Water Quality Standards**

The UF-NF Pretreatment Alternative would utilize San Juan River water and the SJGS Reservoir as described in the Proposed Action. A loose NF membrane would provide good rejection of total organic carbon while allowing non-target ions (e.g., sodium, chloride) to pass, thereby reducing energy requirements. The UF-NF process configuration would be designed to achieve a treated water total organic carbon concentration of 0.9 mg/L to alleviate the formation of disinfection byproducts in the distribution system. To help determine the efficacy of the UF-NF process, further testing to determine total organic carbon rejection using SJGS Reservoir water is anticipated if the design progresses through a pilot study of this treatment method at the SJGS Reservoir in 2022. This water treatment process would remove contaminants and meet applicable federal, state, and/or tribal water quality standards, therefore impacts to water quality standards would not be significant.

## Environmental Consequences of the Pumping Plant 1 Northern Alternative

Environmental consequences on water quality and the ability to meet water quality standards would be the same as described under the Proposed Action.

### 3.2.4 – Vegetation Resources

#### Affected Environment

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with vegetation resources outlined on pages V42-V50. Special status plants are discussed in Section 3.2.7.

In the 2009 NGWSP PR/FEIS, 20 vegetation classifications were identified by the New Mexico Natural Heritage Program (NMNHP) and Arizona Natural Heritage Program within the proposed project area. Specific vegetation classifications developed by the NMNHP were used to classify vegetation within the 500 feet of the proposed pipeline routes. These vegetation community classifications are described in Attachment K of the 2009 NGWSP PR/FEIS. Pedestrian biological surveys of the project area were conducted in the spring and summer of 2021. No additional vegetation community classifications were identified in the realigned portion of the Proposed Action or the SJGS facilities to be acquired.

During the 2021 biological surveys, eight noxious weed species as listed by the State of New Mexico were observed (NMDA 2020). Class A species are currently not present in New Mexico or have limited distribution. The highest priority is to prevent new infestations of these species and eradicate existing infestations. Class B species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread. Class C species are widespread in the state. Management decisions for these species should be determined at the local level, based on the feasibility of control and level of infestation (NMDA 2020). Noxious weeds identified in the area included the Class A species Canada thistle (*Cirsium arvense*); Class B species halogeton and spiny cocklebur (*Xanthium spinosum*); and Class C species cheatgrass (*Bromus tectorum*), Russian olive (*Elaeagnus angustifolia*), saltcedar (*Tamarix* sp.), Russian knapweed (*Acroptilon repens*), and Siberian elm (*Ulmus pumila*). Canada thistle, spiny cocklebur, Russian olive, saltcedar, and Siberian elm were typically located along drainages. Cheatgrass and halogeton are pervasive and widespread throughout the project area.

The USACE and USEPA jointly define wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

For the 2009 NGWSP PR/FEIS, delineations identified three separate wetlands within the San Juan River site: (1) 12.86 acres of palustrine shrub-scrub wetland, (2) 11.39 acres of persistent emergent palustrine wetland, and (3) 1.54 acres of persistent, palustrine emergent wetland. In the absence of a final design, the PR/FEIS noted that potential jurisdictional wetlands and/or other waters of the United States associated with crossing of intermittent or ephemeral streams may occur along the proposed water pipeline route (Reclamation 2009).

Wetland delineations in the proposed project area were conducted, and the ordinary high water mark of the San Juan River was delineated at the PNM diversion weir and intake in March 2022 (Ecosphere 2022a). One persistent emergent palustrine wetland (0.08 acre in size within the Reach 2 pipeline alignment) was delineated at the base of the SJGS Reservoir and Dam. An approximately 6.25-acre persistent emergent palustrine wetland occurs north of the San Juan River within and extending outside the construction ROW.

This wetland was not formally delineated but was recorded in the field. The National Wetland Inventory has mapped freshwater forested/shrub wetlands within the Chaco River in the project area.

### **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with vegetation resources outlined on pages V42-V50.

### **Environmental Consequences of the Proposed Action**

Environmental consequences from the Proposed Action related to vegetation resources would not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in the 2009 NGWSP PR/FEIS.

Up to 692 acres of land would be cleared of vegetation as part of the Proposed Action, of which approximately 56.2 acres would be permanently converted to industrial use and approximately 635.8 acres would be reseeded and reclaimed as detailed in Section 2.4.10 of the EA. Based on the permanent loss of only 8% of vegetation in the project area along with the measures to reseed and reclaim the temporarily disturbed vegetation, these effects would not be significant.

Noxious weeds could be introduced into the project area or further spread during construction and operation. Seeds of noxious species could unknowingly be carried on vehicles, heavy equipment, and on the clothing and shoes of personnel. Roads and pipelines can be a conduit for the spread of noxious weeds or undesirable plants (Gelbard and Belnap 2002). Noxious weeds can affect soil temperature, soil salinity, water availability, nutrient cycles and availability, native seed germination, water infiltration, and precipitation runoff (DiTomaso 2000). Disturbance could allow seeds of noxious species already present in the soil to germinate and grow without competition from native plant species. The establishment of invasive species could reduce the success of reclamation efforts and create a source of future colonization and degradation of adjacent, undisturbed areas. However, these effects on vegetation resources would be minor and insignificant because Reclamation and/or project cooperators and contractors would revegetate disturbed areas and implement other BMPs during construction and operation to prevent, control, and avoid further introduction and/or spread of noxious weeds.

The Proposed Action would not convert wetlands or riparian areas to upland areas. Approximately 0.08 acre of palustrine emergent wetland below the SJGS Reservoir and Dam would be temporarily disturbed by Reach 2 water pipeline installation. Construction in this wetland would require an approved restoration/monitoring plan from the USACE and would be reseeded with the seed mix listed in Table 6. The wetland complex surrounding the San Juan River would be avoided during construction by horizontal directional drilling. The proposed water pipeline would also bore/horizontal directional drill under Shumway Arroyo and the Chaco River (intermittent) to avoid impacts on these waterways and adjacent wetlands. With the implementation of these avoidance measures and BMPs, effects on wetlands would be short term and not significant.

### **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences from this alternative would be the same as those described under the Proposed Action except there would be approximately 12.1 fewer acres of permanent vegetation loss associated with the SJLWTP, and therefore, this effect would not be significant based on the scale of the permanent vegetation loss in the project area.

## Environmental Consequences of the Pumping Plant 1 Northern Alternative

Environmental consequences from this alternative would be the same as those described under the Proposed Action.

### 3.2.5 – Special Status Species

#### Affected Environment

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with special status species outlined on pages V70-V93 and aquatic resources outlined on pages V56-V70. Special status species include federally listed threatened, endangered, or proposed species and those listed as threatened or endangered by the Navajo Nation and State of New Mexico, and BLM sensitive species. A Biological Assessment (BA) was prepared in 2005 to analyze the effects of the NGWSP (Keller-Bliesner Engineering and Ecosystems Research Institute 2005). In 2022, a Biological Assessment/Evaluation (BA/E) was prepared to analyze the effects of the Proposed Action (Ecosphere 2022b). Reclamation reinitiated formal section 7 consultation with the USFWS for the NGWSP in April 2022 due to modifications to the NGWSP design that were not considered under the USFWS 2009 Final Biological Opinion for the Navajo-Gallup Water Supply Project, New Mexico, No. 22420-2001-F-0532 (USFWS 2009). The USFWS reissued the NGWSP Biological Opinion (Appendix D) in September 2022 to incorporate the Proposed Action

Since the 2005 BA was prepared, there have been changes in agency species listings, with some species delisted and others listed. More details about species' life histories, habitat, distribution, and status in the project area can be found in the BA/E on file with Reclamation (Ecosphere 2022b). Endangered Species Act and biological resources compliance documentation are provided in Appendices D and E.

Of the 10 federally listed species known to occur or that have the potential to occur within the project area, seven were eliminated from further consideration. The proposed PNM diversion and intake modifications and weir installation is within designated Colorado pikeminnow critical habitat within and adjacent to the San Juan River. Colorado pikeminnow and its designated critical habitat, razorback sucker, and Mesa Verde cactus (*Sclerocactus mesae-verdae*) occur in the project area (Ecosphere 2022b). The BLM FFO's Hogback Area of Critical Environmental Concern is located just west of the proposed Reach 2 pipeline corridor and provides protections for special status plant species.

Not including federally listed species, 40 other special status species have the potential to occur in San Juan County. In the BA/E, 25 species were eliminated from detailed consideration, however, the Naturita milkvetch (*Astragalus naturitensis*) has subsequently been added due to a known population in the general vicinity of the Proposed Action. Two special status species were observed in the action area during the biological surveys—Gunnison's prairie dog (*Cynomys gunnisoni*) (BLM Sensitive) and burrowing owl (*Athene cunicularia*) (Navajo Nation and BLM Sensitive). Prairie dogs are widespread throughout the region and inhabit large areas adjacent to the project. Johnson et al. (2010) estimated active Gunnison's prairie dog towns on the Navajo Nation and Reservation of the Hopi Tribe to be 102,615 hectares. While widespread, prairie dog populations can decline rapidly from outbreaks of plague. Populations along the US Highway 491 corridor (in the general region of the NGWSP) notably decreased from 2001 to 2003 (Seglund et al. 2005). Approximately 329 acres of active and inactive prairie dog towns were recorded in the survey area (project facilities plus a 200-foot-wide buffer of the pipeline centerline), most of which extend outside the project footprint. The largest town (251 acres) was recorded near the proposed location of the SJLWTP. Additionally, the Navajo Natural Heritage Program (NNHP) identified eight species previously recorded within 1 and 3 miles of the project area (Ecosphere 2022b).



Reclamation and the SJRBRIP have evaluated fish entrainment at the San Juan River's Hogback Diversion Canal which has shown mixed results across species and sampling events. Larval entrainment of razorback sucker averaged 39% (Brandenburg et al. 2017) and entrainment of non-larval fish ranged from 0.7 to 47 percent during sampling events (Brandenburg et al. 2017; Durst [USFWS] personal communication, January 26, 2022; McKinstry [USBR], personal communication, July 2021).

### **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP on special status species outlined on pages V70-V93 and aquatic resources outlined on pages V56-V70, including federally listed threatened and endangered species as well as other special status species.

### **Environmental Consequences of the Proposed Action**

Environmental consequences from the Proposed Action related to special status species would not create any new significant site-specific effects nor contribute to cumulative significant impacts that are not already described in the 2009 NGWSP PR/FEIS. Reclamation would continue to operate Navajo Dam and Reservoir under the flow recommendations derived by the SJRBRIP to assist in conserving endangered fish in the San Juan River as described in the Navajo Reservoir Operations FEIS and ROD (Reclamation 2006).

### **Federally Listed Species**

The Proposed Action would continue to *may affect, likely to adversely affect* the Colorado pikeminnow and its designated critical habitat, razorback sucker, and the Mesa Verde cactus. While termed adverse, for the reasons described below, impacts to these species would be negligible and are not considered significant. No effect on southwestern willow flycatcher is anticipated. Reclamation would follow the conservation measures, reasonable and prudent measures, terms and conditions, and conservation recommendations developed as part of a reissuance of the NGWSP Biological Opinion that incorporates the Proposed Action. The Proposed Action would continue to be not likely to jeopardize the continued existence of the Mesa Verde cactus, Colorado pikeminnow, and razorback sucker and not likely to destroy or adversely modify the fishes' designated critical habitat in the San Juan River.

**Colorado Pikeminnow:** The Proposed Action would modify the PNM diversion and intake to allow pumping of up to 71 cfs from the San Juan River. No additional NGWSP diversion above the 33,119 AF/year analyzed in the 2009 NGWSP PR/FEIS would occur, however, an additional 1,500 AF/year would be pumped to meet PNM's needs using PNM's existing water depletion rights. The modified PNM diversion and intake structure would include installation of a new outer trash rack, fish barrier weir, and other small modifications; and would not completely exclude fish. Direct effects could include mortality or injury from entrainment or impingement. The potential installation of a PIT tag system could increase knowledge of fish use in and around the PNM diversion and intake. Reclamation could potentially shut down pumping operations temporarily to reduce potential entrainment of endangered fishes if suitable operating conditions exist.

Potential entrainment of larval Colorado pikeminnow was calculated assuming pumping is constant over the July to August spawning period and was estimated for low, average, and high flows from 2010-2020 in the San Juan River (USGS 2021). Potential entrainment was calculated for the existing PNM diversion as well as the Proposed Action. Approximately 20.6 percent of the adult pikeminnow population capable of spawning (age 7+) was estimated to be at or above the PNM diversion weir based on a yearly average of 37 adult pikeminnow documented at PNM via PIT tag data from the USFWS and an estimated adult population of 180 individuals in the San Juan River (USFWS 2020). The PNM diversion was estimated to divert

approximately 12.6, 8.1, and 2.7 percent of the San Juan River's flow during low, average, and high flows resulting in approximately 2.6, 1.7, and 0.6 percent of larval San Juan River pikeminnow being potentially entrained into PNM's existing diversion works and potentially into the River Station. Installation of the Proposed Action's weir would reduce potential entrainment of larval San Juan River pikeminnow to approximately 1.0, 0.7, and 0.2 percent during low, average, and high flows based on larval entrainment values documented at the Hogback Diversion Canal on the San Juan River (39 percent). Therefore, any entrainment of larval Colorado pikeminnow would be minimal and insignificant.

The 2009 NGWSP Biological Opinion did not address potential entrainment of juvenile, subadult, and adult fish because using a 3/32-inch fish screen would have largely excluded impacts on these life stages. The Proposed Action's fish barrier weir was designed to minimize fish impingement and entrainment and is similar to the weir Reclamation and the SJRBRIP installed at the Hogback Diversion Canal on the San Juan River. Potential entrainment of non-larval Colorado pikeminnow was calculated assuming pumping is year-round at an average San Juan River flow of 1,352.9 cfs (USGS 2021). Potential entrainment was calculated for the existing PNM diversion as well as the Proposed Action. Approximately 9.9 percent of the San Juan River's pikeminnow population was estimated to be at or above the PNM diversion weir based on PIT tag data provided by the USFWS, and the PNM diversion was estimated to divert approximately 7.3 percent of the San Juan River's flow resulting in approximately 0.7 percent of San Juan River pikeminnow being potentially entrained into PNM's existing diversion works and potentially into the River Station. An additional inner trash rack is installed at the PNM diversion, however, Reclamation could not verify how often it is used or if it could impinge fish. Installation of the Proposed Action's weir would reduce potential entrainment of San Juan River pikeminnow to approximately 0.01 to 0.3 percent based on entrainment values documented at the Hogback Diversion Canal on the San Juan River (0.7 to 47 percent). Therefore, any entrainment of non-larval Colorado pikeminnow would be minimal and insignificant.

Approximately 0.05 acre of Colorado pikeminnow critical habitat would be disturbed during construction activities which is less than 0.5 percent of the total designated critical habitat in the San Juan River and therefore minimal and insignificant. Removal and replacement of the outer trash rack and construction at the PNM intake and diversion would require construction activities within the San Juan River and create the potential for minor direct water-quality impacts from temporary increases in turbidity (sediment), equipment leaks, or spills. Additional modifications to the PNM intake and diversion and installation of the proposed fish barrier weir would occur within the previously constructed concrete structure. Increased human and heavy equipment activity and noise during construction may cause fish to avoid the project area. These activities would be temporary and non-significant and would not result in take of Colorado pikeminnow. Furthermore, BMPs would be implemented to avoid and minimize impacts from construction.

**Razorback Sucker:** Environmental consequences of construction near the San Juan River were discussed above for Colorado pikeminnow.

Potential entrainment of larval razorback sucker was calculated assuming pumping is constant over the March to July spawning period and was estimated for low, average, and high flows in the San Juan River (USGS 2021). Approximately 10.7 percent of the adult razorback sucker population capable of spawning (age 4+) was estimated to be at or above the PNM diversion weir based on a yearly average of 308 adult razorback sucker documented at PNM via PIT tag data from the USFWS and an estimated adult population of 2,892 individuals in the San Juan River (Schleicher et al. 2019, 2021). The PNM diversion was estimated to divert approximately 20.8, 5.6, and 1.5 percent of the San Juan River's flow during low, average, and high flows resulting in approximately 2.2, 0.6, and 0.2 percent of larval San Juan River razorback sucker being potentially entrained into PNM's existing diversion works and potentially into the River Station. Installation of the Proposed Action's weir would reduce potential entrainment of larval San Juan River razorback sucker

to approximately 0.9, 0.2, and 0.06 percent during low, average, and high flows based on larval entrainment values documented at the Hogback Diversion Canal on the San Juan River (39 percent). Therefore, any entrainment of non-larval razorback sucker would be minimal and insignificant.

Potential entrainment of non-larval razorback sucker was calculated assuming pumping is year-round at an average San Juan River flow of 1,352.9 cfs (USGS 2021). Potential entrainment was calculated for the existing PNM diversion as well as the Proposed Action. Approximately 17.3 percent of the San Juan River's razorback sucker population was estimated to be at or above the PNM diversion weir based on PIT tag data from the USFWS, and the PNM diversion was estimated to divert approximately 7.3 percent of the San Juan River's flow resulting in approximately 1.3 percent of San Juan River razorback sucker being potentially entrained into PNM's existing diversion works and potentially into the River Station. An additional inner trash rack is installed at the PNM diversion; however, Reclamation could not verify how often it is used or if it could impinge fish. Installation of the Proposed Action's weir would reduce potential entrainment of San Juan River razorback sucker to approximately 0.01 to 0.6 percent based on entrainment values documented at the Hogback Diversion Canal on the San Juan River (0.7 to 47 percent). Therefore, any entrainment of non-larval razorback sucker would be minimal and insignificant.

**Mesa Verde Cactus:** Mesa Verde cactus and suitable habitat occur along the proposed Reach 2 pipeline alignment, primarily on NMSLO lands, a PNM-owned parcel, and BLM FFO lands. During pedestrian surveys conducted in the spring and summer of 2021, 156 live and 9 dead Mesa Verde cactus were recorded within a 100-foot buffer of the project footprint (Ecosphere 2022b). Reclamation revised the pipeline alignment and construction ROW to avoid Mesa Verde cactus recorded in 2021 so that no visible individuals would be impacted by the Proposed Action.

There is the possibility that cacti that are not visible (mostly below ground) may occur in the ROW or may colonize the project area prior to construction. Pre-construction surveys for Mesa Verde cacti would be conducted in suitable habitat in the blooming period (April/May) of the year preceding the initiation of construction activities to identify if any new cacti are in the project area. Reclamation developed a Mesa Verde Cactus Construction Plan to avoid and minimize disturbance to cacti and suitable habitat. Additional required survey conditions and measures were developed by the NNDFW and would be completed as further described in Section 4.4 and Appendix E of the EA. For these reasons, any impacts on cacti and suitable habitat would be minimal and insignificant.

Fugitive dust from construction activities could settle on nearby plants resulting in decreased photosynthesis and a decline in overall health, which could affect survivorship. Water would be used to control fugitive dust during construction. Additionally, ground disturbance may alter natural drainage patterns in and adjacent to the construction area. Disturbed soils would be subject to greater erosion, which could impact nearby individuals by exposing roots or smothering stems. BMPs would be implemented during construction to minimize dust and erosion from the construction area, and therefore the impacts would be minimal and insignificant.

Based on the distribution of cacti recorded during the biological surveys and the quality of habitat, approximately 3.2 acres of suitable but unoccupied habitat occurs within the project footprint. Some of this suitable but unoccupied habitat has been previously disturbed by pipelines, roads, and transmission lines. Soil disturbance in suitable but unoccupied habitat could result in a loss of seed viability and decrease the success of recolonization. Topsoil (upper 6 inches or what is available) would be stripped before construction and stockpiled separately for use in reclamation to minimize impacts on the seedbed and suitable habitat, and therefore these impacts would be minimal and insignificant.

## **Other Special Status Species**

Environmental consequences from the Proposed Action were deemed to be similar to those described in the 2009 NGWSP PR/FEIS for several other special status species which are listed in Table 1. Environmental consequences on other special status species potentially located within the project area are described below. While the project would result in habitat loss for some species as well as temporary effects during construction and reclamation activities, for the reasons described below, effects are considered negligible and not significant. If applicable, species-specific presence/absence surveys and additional measures developed by the NNDFW would be completed for certain species as further described in Section 4.4 and Appendix E of the EA.

**Gunnison's Prairie Dog:** This is a BLM sensitive species, however, prairie dogs were only documented on the Navajo Nation where they do not have specific protections. The southern two-thirds of the prairie dog town within the SJLWTP footprint (approximately 40 acres) would be removed by construction and up to an additional 40 acres may be disturbed at this location during construction. Additional scattered burrows occur along the Reaches 3, 4A, and 4B pipeline alignments south of the San Juan River and approximately 40 more acres of non-contiguous prairie dog towns with several hundred active and inactive burrows would be destroyed during pipeline construction. Total removal of prairie dog towns by the Proposed Action would be approximately 120 acres or 0.05% of the 2010 estimate of active prairie dog towns on the Navajo Nation and Reservation of the Hopi Tribe. This scale of prairie dog town removal is minimal to the overall population in the region and is not significant.

To further avoid and limit impacts to individual prairie dogs, Reclamation or their project contractor would survey prairie dog burrows and towns prior to construction to document if they are actively occupied or are inactive. Clearing and grubbing and topsoil removal activities would not occur in actively occupied prairie dog areas during the reproduction season (March 1 to June 1) when young are not able to vacate the burrow. While the above measures would limit impacts to prairie dogs, individuals in the project area that do not disperse into adjacent areas during construction could be injured or killed. While adverse at an individual scale, impacts would not be significant at a metapopulation scale for Gunnison prairie dogs given the amount of prairie dog towns documented in the surrounding region. Areas temporarily disturbed by construction would be available to be recolonized following soil redistribution.

**Belted Kingfisher (*Ceryle alcyon*):** This is a NESL Group 4 species. Suitable nesting and foraging habitat is present on the San Juan River, however, direct impacts to belted kingfisher habitat would be avoided as the pipeline would be horizontal directionally drilled under the San Juan River. Therefore, the impacts to belted kingfisher would be temporary and insignificant.

**Bendire's Thrasher (*Toxostoma bendirei*):** This is a BLM sensitive species. Most of the area south of the San Juan River provides suitable nesting and foraging habitat for Bendire's thrasher, however, there are no records of the species occurring in the project area and none were not documented during 2021 biological surveys. With the low likelihood of Bendire's thrasher being found in the project area, the scale of habitat loss, and complying with the MBTA, impacts to Bendire's thrasher would not be significant.

**Sora (*Porzana carolina*):** Suitable nesting and foraging habitat occurs along the San Juan River, however, this species was not observed during biological surveys in 2021 (Ecosphere 2022b). Direct impacts to sora habitat would be avoided as the pipeline would be horizontal directionally drilled under the San Juan River. Therefore, impacts to sora would be temporary and insignificant.

**Northern Leopard Frog (*Lithobates pipiens*):** This is a NESL Group 3 and BLM sensitive species. The San Juan River, Chaco River, and other water sources in the project area provide suitable habitat, however, impacts would be limited to the small wetland area below the SJGS Reservoir and Dam as all other wetland

and riparian areas would be avoided during construction with the use of horizontal directional drilling and jack and boring. Therefore, impacts in this wetland area would be minor and temporary.

**Naturita Milkvetch (*Astragalus naturitensis*):** This is a NESL Group 3 species found in sand filled pockets of sandstone slickrock and rimrock pavement along canyons in the piñon-juniper zone between 5,000 and 7,000 feet in elevation. The nearest known population is approximately 700 feet from the Proposed Action's pipeline corridor. Direct effects would be avoided and indirect effects from project construction (e.g. dust, erosion) would be minimal because of distance to the population. To lessen potential impacts to Naturita milkvetch, Reclamation and their contractors will follow the NNDFW's condition of compliance (Appendix E) that dictates preconstruction surveys be completed near the known population site during the plant's fruiting season (late April to May). With no plants being detected during biological surveys and NNDFW survey requirements, impacts would not be significant.

**Parish's Alkali Grass (*Puccinellia parishii*):** This is a NESL Group 4, state endangered, and BLM sensitive species. The Chaco River in the project area provides suitable habitat, however, impacts would be avoided with the use of horizontal directional drilling. Therefore, there would be no impacts on the species.

### **Environmental Consequences of the UF-NF Pretreatment Alternative**

#### **Federally Listed and Other Special Status Species**

Environmental consequences on federally listed and other special status species under the UF-NF Pretreatment Alternative would be the same as those described under the Proposed Action except there would be approximately 12.1 fewer acres of prairie dog colony associated with the SJLWTP. As described in the environmental consequences of the Proposed Action, while adverse effects to individual prairie dogs could occur, effects to the regional population would be minimal and not significant.

### **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

#### **Federally Listed and Other Special Status Species**

Environmental consequences on federally listed and other special status species under the Pumping Plant 1 Northern Alternative would be the same as those described under the Proposed Action.

## **3.2.6 – Land Use**

### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with land use outlined on pages V104-V111.

The Proposed Action is located on private and Navajo Nation tribal trust lands and on lands managed by the NMSLO, NMDOT, and BLM in San Juan County, New Mexico. Project area land uses include electrical energy generation and transmission, residential and commercial development mainly along the US Highway 64 corridor, agriculture along the San Juan River, grazing, and oil/natural gas development with associated pipelines and roads. Lands south of the San Juan River are tribal trust, while private, BLM, and state-managed lands occur north of the river. Tribal trust land in the project area and outside the San Juan River corridor has limited residential use and some livestock grazing but no livestock forage production values are available.

## **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with land use outlined on pages V104-V111.

## **Environmental Consequences of the Proposed Action**

Environmental consequences from the Proposed Action related to land use would not create any new significant site-specific effects nor contribute to cumulative significant effects that are not already described in the 2009 NGWSP PR/FEIS.

Acquisition and upgrade of the SJGS water intake, conveyance, and storage system would result in continued land use. The proposed water pipeline would require ROWs on Navajo Nation, BLM, NMDOT, NMSLO managed lands and other private parcels; however, land uses would be unchanged from current use, therefore the impacts of acquiring these lands and facilities would be minimal and insignificant.

Reclamation may need to acquire up to three private parcels (32.6 acres) in the Reach 2 pipeline alignment that would otherwise be unsuitable for other uses after project construction activities and considering long-term operations and maintenance needs. These properties are located adjacent to County Road 6800 and between US Highway 64 and County Road 6700. One of the properties houses a private residence, while the others have several outbuildings and have the potential for commercial development. Relocation assistance would be offered to the affected residents that would be displaced by the construction of the pipeline with relocation and acquisition following applicable laws and policies. Additionally, the Reach 2 pipeline would be constructed through several other private parcels in the San Juan River corridor, potentially limiting future uses on the properties. No relocation of residences would be required for these properties, and Reclamation would negotiate agreements with these landowners before construction. Therefore, the impacts of acquiring the private parcels would be minor and insignificant.

As previously discussed in Section 3.3.2 (Indian Trust Assets), the proposed project would convert approximately 56.2 acres of tribal trust land south of the San Juan River to industrial use. Reductions in forage would not modify current grazing allotment carrying capacity. Compared to the No Action Alternative, the Proposed Action would convert about 33.2 more acres of tribal trust land to industrial use, however, based on the scale of these effects, they would not be significant. A section of the Reach 2 water pipeline would cross a Navajo farming area near the San Juan River, however, impacts would be temporary and insignificant because Reclamation would negotiate agreements with the landowner(s) before construction, and the field would be available for farming or grazing once the pipeline is installed. In addition, approximately 2.0 acres of fallowed Navajo farmland would be converted to Pumping Plant 1. Because the farmland is fallowed, there would be no impacts caused by converting the land to a pumping plant, and therefore, impacts would be minor and insignificant.

## **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences from the UF-NF Pretreatment Alternative related to land use would not create any new significant site-specific effects nor contribute to cumulative significant effects that are not already described in the 2009 NGWSP PR/FEIS. Effects on land use would be similar to those described under the Proposed Action except that the SJLWTP would be smaller in size.

## **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Environmental consequences from the Pumping Plant 1 Northern Alternative related to land use would not create any new significant site-specific effects nor contribute to cumulative significant effects that are not already described in the 2009 NGWSP PR/FEIS. Effects on land use would be similar to those described under the Proposed Action except that Pumping Plant 1 would be located on private land rather than tribal trust land.

### **3.2.7 – Hazardous Materials**

#### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with hazardous materials outlined on pages V111-V114.

A Phase I Environmental Site Assessment (ESA) for SJGS infrastructure and lands associated with the Proposed Action was completed in 2020 (SWCA 2020) and will be updated prior to land acquisitions. The Phase I ESA noted three recognized environmental condition (REC) locations. RECs were documented at former mine operations upgradient of the SJGS, the SJGS, and an approximately 0.33-acre uncontrolled dumping site within a dry wash approximately 900 feet north of the San Juan River Station property. Reclamation reported the uncontrolled dumping site to the NMED for cleanup. The SJGS is listed twice as a Superfund Enterprise Management System (SEMS, or “Superfund”) Archive site, which has no further interest under the Federal Superfund Program based on the available information (SWCA 2020).

A follow-up Phase II ESA was completed near the SJGS Reservoir and evaporation ponds and collected/analyzed 20 soil and one water sample from the SJGS Reservoir area for potential heavy metal contamination at the site (BRIC 2022b). Initial soil and water samples were collected in March 2021. An additional five soil borings/temporary groundwater monitoring wells were drilled in August 2021 between the SJGS Reservoir and evaporation ponds to a depth of 30 feet with samples collected at 15, 20, 25, and 30-foot depths; groundwater was not encountered in any of the locations. Soil sampling found levels of thallium (one sample) and arsenic (multiple samples) above applicable NMED soil screening levels for residential soil exposure but well below soil screening levels for industrial/occupational and construction worker soil exposures. The water sample did not reveal concentrations for dissolved metals or semi-volatile organic compounds above NMED screening levels (BRIC 2022b). The Phase II ESA concluded that arsenic is likely accumulated in the entire vicinity of the SJGS due to mining and ore processing operations, the operation of the SJGS coal-burning power plant, and waste disposal. Additionally, the SJGS evaporation ponds do not appear to be leaking or capable of contaminating the SJGS Reservoir (Blake et al. 2021a, 2021b; BRIC 2022b).

Reclamation contracted the USGS to collect sediment core samples at the SJGS Reservoir in 2020. The core samples were analyzed for organic compounds with most results below laboratory reporting limits, however results were not compared to regulatory levels (Blake 2021).

Reclamation documented and verified that asbestos-containing material is present in Reaches 4A and 4B where old helium pipeline(s) are or were previously located. Much of the pipeline has been removed from the project area by locals and reused for fencing and other projects with the asbestos wrapping stripped and discarded in the project area. Preliminary site data has determined that helium pipelines cross the Reach 4 ROW at a minimum of seven locations. This asbestos-containing material was not previously analyzed in the 2009 NGWSP PR/FEIS. A Phase I ESA documented that asbestos scraps on the ground in the project area are likely from a helium pipeline located on east side of Reach 4A, the helium pipeline, a helium

connector vault located on the west side of Reach 4b, and linear indentations in the ground that cross the proposed ROW are RECs (BRIC 2022a). Reclamation is planning a Phase II ESA with a plan for sampling soils across the proposed project area to determine the extent of asbestos contamination. Additionally, small amounts of oil and gas infrastructure are present in the general region of the project.

### **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with hazardous materials outlined on pages V111-V114.

### **Environmental Consequences of the Proposed Action**

Environmental consequences from the Proposed Action related to hazardous material sites would not create any new significant site-specific effects nor contribute to cumulative significant effects that are not already described in the 2009 NGWSP PR/FEIS.

Acquisition of the SJGS water intake, conveyance, and storage system is not expected to result in significant public or environmental health risks from hazardous materials since the facilities would be used for industrial/occupation purposes and the SJGS Reservoir's water quality (analyzed in Section 3.2.3) was determined to meet SDWA standards following treatment at the SJLWTP. The small uncontrolled dumping site near the PNM river station is located approximately 1.0 mile northwest of PNM's River Pumping Station and 0.9 mile northeast of the nearest proposed pipeline alignment (Reach 2) and would not pose a significant health risk to the public or environment in relation to the project because of the distance to project facilities and thus the unlikelihood of potential contaminants being able to cross US Highway 64 and reach project infrastructure. The dumping site was reported to the NMED for cleanup. The Phase I ESA for the SJGS lands and facilities would be updated prior to acquisition.

If needed, Reclamation would complete a Phase II ESA to determine the extent of asbestos contamination from helium pipelines in the Reaches 4A and 4B project area and remediate asbestos-containing material within the project area to the appropriate mandated levels prior to project construction. No new significant impacts are anticipated, regardless of the outcome of the Phase II ESA, as Reclamation would identify hazardous infrastructure and avoid or remediate the hazard before construction, thus minimizing public and environmental health risks.

While Reclamation does not expect to dredge the SJGS Reservoir in the next fifty years, sediment concentrations and constituents could affect the type of sediment disposal required when or if the reservoir is dredged. Additional analysis pursuant to the NEPA would be completed if dredging the SJGS Reservoir is pursued in the future.

### **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences from this alternative would be the same as those described under the Proposed Action.

### **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Environmental consequences from this alternative would be the same as those described under the Proposed Action.



### **3.2.8 – Environmental Justice**

#### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with environmental justice outlined on pages V133-V134.

Executive Order 12898 (59 Federal Register 7629), Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that federal agencies identify and address, as appropriate, disproportionately high, and adverse human health or environmental effects of their programs and activities on minority and low-income populations.

The project area is in San Juan County, New Mexico. The county has a total population of 121,661 of which 41 percent are Native American. In 2020, the median household income was \$47,643, whereas the median household income for New Mexico was \$51,243. Approximately 21.7 percent of county residents are below the poverty level (USCB 2022). Within the NGWSP service area, Gallup is in McKinley County with a total population of 72,902 of which 78 percent are Native American. The median household income is \$36,179, and 35.2 percent of residents are below the poverty level (USCB 2022).

The 2009 NGWSP PR/FEIS noted that more than 40 percent of the Navajo people living in the proposed project service area have no access to piped water and, consequently, haul water sometimes from distant sources. Some of the water consumed is from non-potable sources and does not comply with water quality standards.

#### **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with environmental justice outlined on pages V133-V134.

#### **Environmental Consequences of the Proposed Action**

Environmental consequences from the Proposed Action related to environmental justice would not create any new significant site-specific effects nor contribute to cumulative significant effects that are not already described in the 2009 NGWSP PR/FEIS. The Proposed Action would not have a disproportionate effect on minority and low-income populations. Environmental justice issues would generally concern either socioeconomic conditions or health risk exposures.

The Proposed Action would benefit minority and low-income populations in the service area by providing access to a reliable, safe water supply. Additionally, short-term employment opportunities related to construction of the NGWSP would increase in the region, and the project's permanent facilities such as the SJLWTP would provide long-term employment opportunities.

Project construction would occur in proximity to farms and residences in the Fruitland and Waterflow area as well as some scattered Navajo residences. Noise from construction would be temporary and Reclamation would expedite construction and limit work to daytime hours (except for emergencies) near residences to minimize impacts, therefore impacts would not be significant.

## **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences on minority and low-income populations would be the same as those described under the Proposed Action.

## **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Environmental consequences on minority and low-income populations would be the same as those described under the Proposed Action.

### **3.2.9 – Cultural Resources**

#### **Affected Environment**

Chapter 5 of the 2009 NGWSP PR/FEIS described the affected environment of the NGWSP with cultural resources outlined on pages V134-V142. Cultural resources are physical or other expressions of past human activity or occupation. Such resources include culturally significant landscapes, prehistoric and historic aged archaeological sites, and isolated artifacts or features, structures, human burials, sacred sites, and traditional cultural properties (TCPs). TCPs are sites or areas of important cultural value to existing communities, which may or may not have actual physical remnants associated with their existence.

Following Navajo Nation policies, contemporary or recently abandoned residences and features or areas (in-use areas) on Navajo Nation land are also considered historic sites. Additionally, a number of contemporary Native American Tribal Nations have ancestral and traditional ties to the proposed project area. Archaeological data provide some information about prehistoric and historic use of the region; however, each Tribe or community has its own account of the area's traditional use.

Legislation mandates that federal agencies such as Reclamation are responsible for identifying and protecting cultural resources. In compliance with Section 106 of the NHPA of 1966, as amended, and its implementing legislation, CFR Title 36 Part 800, Reclamation is required to assess cultural resources that could potentially be affected by the Proposed Action. Historic properties are defined as properties determined eligible for listing on the National Register of Historic Places (NRHP).

The proposed alternatives lie in the San Juan River Basin, an area well known for its archaeology and contemporary/historical Native American culture. More than 10,000 years of human existence are represented in the area (Reclamation 2009). The cultural history of the area contains numerous historically overlapping cultural groups. The following summarizes the cultural history of the project area based on NGWSP cultural inventory reports.

**PaleoIndian:** The Paleoindian period dates between approximately 10,000 and 5,000 BC. Their presence across the landscape was presumably small and dispersed, and evidence of their occupation is nebulous.

**Archaic:** The region's archaic period is typified by an adaptation to new environmental conditions and change from a big-game hunting emphasis to the hunting of smaller, modern game and the intensive collection of plant foods. Most sites of this period date between 5000 and 1000 BP (Before Present).

**Basketmaker:** The Basketmaker culture was named for its finely woven baskets and lack of pottery. The Basketmaker II period is generally characterized as a more sedentary population than their Archaic forbearers, utilizing hunting and farming and gathering, occupying shallow pit houses, and utilizing food storage features. Basketmaker II sites appear to date between AD 200 and 400. The Basketmaker III period

(AD 400–700) marks the beginning of a more sedentary agricultural lifestyle and the use of ceramics, and the adoption of the bow and arrow.

**Pueblo I-IV:** The Pueblo I period (AD 750–900) is well represented, with small hamlets scattered across the proposed project area. During this period, surface structures, identified as pueblos, become increasingly common. The Pueblo II and Pueblo III periods (AD 900–1300) are characterized by larger pueblos that usually included masonry roomblocks and larger semicircular pit structures. They are the ruins familiar to most modern visitors to the area, such as the sites on display at Chaco Canyon National Historic Park. The Pueblo II and Pueblo III periods are well represented in the proposed project area. The end of the Pueblo III period is characterized by regional depopulation and drought extending into the Pueblo IV period.

**Protohistoric to Modern-Day:** The protohistoric Navajo occupation of northwestern New Mexico has been split into three phases: the Dinétah phase (AD 1500–1650), the Gobernador phase (AD 1650–1765), and the Cabezon phase (AD 1765–1863).

Multiple cultural resources survey efforts were completed for the Proposed Action. Records searches were conducted with the NNHHPD in Window Rock, Arizona and Class I survey, Class III survey, and ethnographic fieldwork was conducted between 2011 and 2021. Alpine Archaeological Consultants, Inc. (Alpine 2021) completed a Class III cultural resource inventory for the Reach 1 and 2 pipeline corridors, SJGS lands and facilities, and various spots on Reach 3 and 4B. Woods Canyon Archaeological Consultants, Inc. (Woods Canyon 2019a, 2019b) completed Class III inventories and ethnographic summaries for the Reach 4A and 4B realignments, pieces of the SJLWTP, and other added parcels. PaleoWest Archaeology (PaleoWest) completed a Class III inventory and ethnographic summary for Reaches 3-8 (PaleoWest 2015) and Class III inventory for Reach 3 and the SJLWTP (PaleoWest 2017). Additional surveys are planned to cover the entirety of the proposed land and infrastructure acquisitions associated with the SJGS, where no ground-disturbing actions are currently proposed. Additionally, supplemental cultural work and consultation would be required if features of the Proposed Action are modified before reaching final design.

**A summary of cultural sites, isolated occurrences, in-use sites, sites recommended eligible for inclusion in the NRHP, and management recommendations documented in and around the Proposed Action is summarized in Table 9. The table gives a summary of sites inventoried for various past and current NGWSP project features near but not necessarily within the area of potential effect for the currently Proposed Action, as well as additional sites and burial locations Reclamation was informed of during ongoing consultation efforts.**

**Table 9. Summary of Cultural Inventory Results Near the Proposed Action**

Source	Project Area	Cultural Sites	Isolated Occurrences	In-Use Sites	TCPs and Jishchaa'	Sites Recommended Eligible for Inclusion in National Register of Historic Places (NRHP)	Management Recommendations
Alpine (2021)	Reaches 1 and 2, SJGS lands and facilities, Spots on Reaches 3 and 4B	14	22	2	1 (San Juan River)	4	Avoidance or Mitigation
Woods Canyon (2019a)	Reaches 4A and 4B reroutes, SJLWTP, Other project features	16	-	1	5	10	Avoidance or Mitigation
Woods Canyon (2019b)	SJLWTP, Pumping Plant 2, Southern portion Reach 4B	4	17	3	1	4	Avoidance and Preservation
PaleoWest (2015)	Reaches 3 through 8, Hogback Diversion, Shiprock Connection (Reaches 4C-8 constructed and not part of Proposed Action)	150	431	43	36	Dependent upon treatment technique	Avoidance, Testing, Mitigation, or Preservation
PaleoWest (2017)	Reaches 1 (former) and 3, Shiprock Connection	4	80	8	4	13	Avoidance or Mitigation
Additional Consultation and Local Resident Input	Southern Portion of Reach 4B	-	-	-	3	-	Avoidance and Mitigation

## **Environmental Consequences of the No Action Alternative**

Chapter 5 of the 2009 NGWSP PR/FEIS described the environmental consequences of the NGWSP with cultural resources outlined on pages V134-V142.

## **Environmental Consequences of the Proposed Action**

Environmental consequences from the Proposed Action related to cultural resources would not create any new significant site-specific effects nor contribute to cumulative significant effects that are not already described in the 2009 NGWSP PR/FEIS. Reclamation would obtain cultural resources clearance prior to construction on the Navajo Nation and other lands.

Reclamation developed a Programmatic Agreement with the Advisory Council on Historic Preservation, New Mexico SHPO, Navajo Nation, BLM, and BIA that defined the process regarding the consideration and management of effects on historic properties arising from the construction of the NGWSP (Reclamation 2011). Reclamation and the Programmatic Agreement work group's preferred approach to the mitigation of adverse effects resulting from the construction of the NGWSP to historic properties and TCPs within the project ROW is through avoidance. Invasive archaeological investigations are proposed only if there is no other way to avoid direct effects on identified sites. Reclamation would have contracts in place for archaeological monitoring and discovery mitigation during construction. Pursuant to Reclamation's Programmatic Agreement, the area of potential effect for direct physical effects on historic properties includes all lands within 125 feet of the initially planned 150-foot construction ROW for a total width of 400 feet.

Following stipulations in Sections IV and V of Reclamation's Programmatic Agreement, historic properties and TCPs would be, to the extent possible, avoided with the implementation of design features such as but not limited to reduction of construction areas, temporary barriers, and site monitoring. If historic properties and TCPS cannot be avoided Reclamation or its contractors would prepare, in consultation with the consulting parties to the Programmatic Agreement, a treatment plan for all properties it determines are subject to adverse direct and indirect effects by the action and treatment would be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and with the Advisory Council on Historic Preservation's guidelines.

Per the NGWSP Programmatic Agreement, Reclamation developed a site-specific treatment plan and obtained cultural resources clearance for Reaches 4A and 4B, Pumping Plants 2 and 3, and the SJLWTP that limits testing and data recovery efforts while requiring site protection measures that include constricted ROW, avoidance fencing, archaeological monitoring, and potential unanticipated discovery mitigation during all NGWSP ground-disturbing activities. Impacts to TCP areas would be addressed by constricting the pipeline ROW, moving appurtenant pipeline features, fencing around the sites, monitoring, and horizontally directionally drilling the pipeline. This approach was recommended in consultation and coordination with the NNHHPD. Additional site-specific treatment plans would be developed for remaining project areas and cultural resources clearances would be obtained prior to construction. Therefore, for the reasons described above, impacts to cultural resources would be insignificant.

## **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences on cultural resources would be the same as those described under the Proposed Action.

## **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Environmental consequences on cultural resources would be the same as those described under the Proposed Action.

### **3.2.10 – Visual Resources**

#### **Affected Environment**

The BLM uses a visual resource process to inventory and manage the scenic quality of public lands. BLM Manuals 8400 (Visual Resource Management) and H-8410-1 (Visual Resource Inventory) describe how visual resources are inventoried and managed. The proposed Reach 2 pipeline on BLM managed land is a Class IV area and the Hogback Area of Critical Environmental Concern located directly west of the Reach 2 pipeline corridor is a Class III area. The objective of Class IV areas is to provide for management activities which require major modifications of the existing character of the landscape and the level of change to the characteristics landscape can be high. The objective of Class III areas is to partially retain the existing character of the landscape and the level of change to the characteristic landscape should be moderate. There are no visual resource guidelines for private, Navajo Nation, and other managed lands in the project area.

#### **Environmental Consequences of the No Action Alternative**

Visual resources were not explicitly analyzed in detail in the 2009 NGWSP PR/FEIS. Facilities at the SJLWTP would be located on private lands adjacent to PNM's existing San Juan River diversion and intake in an area of mixed commercial and residential development, while Pumping Plants 1 and 2 would be located on the Navajo Nation and adjacent to existing infrastructure and development. Reclamation would implement dark sky lighting specifications for the pumping plants and SJLWTP and use paint colors to match the surrounding environment. Impacts to the visual landscape from construction equipment and the disturbed pipeline ROW would be limited to the duration of construction and reclamation and would be temporary and insignificant. Therefore, for the reasons described above, impacts to visual resources would not be significant.

#### **Environmental Consequences of the Proposed Action**

Under the Proposed Action, the SJLWTP and Pumping Plants 1 and 2 would be relocated to various spots on the Navajo Nation that are adjacent to existing infrastructure and development. The Morgan Lake Surge Tank site would also be constructed on the Navajo Nation adjacent to Navajo Route N36. These project features would use the same lighting and paint methods as described in the No Action Alternative, and temporary impacts to the visual landscape from construction equipment and the disturbed pipeline ROW would be similar to what was previously described in the No Action Alternative. The proposed Reach 2 pipeline on and adjacent to BLM managed lands would result in a weak short-term contrast to the landscape and is consistent with the BLM's visual resource management goals for Class III and Class IV areas. Therefore, for the reasons described above, impacts to visual resources would not be significant.

#### **Environmental Consequences of the UF-NF Pretreatment Alternative**

Environmental consequences on visual resources would be similar to those described under the Proposed Action except that the SJLWTP's facilities would be modified for the UF-NF water treatment method. The SHLWTP facilities would use the same lighting and paint methods as described in the No Action Alternative, therefore, for the reasons described above, impacts to visual resources would not be significant.

## **Environmental Consequences of the Pumping Plant 1 Northern Alternative**

Environmental consequences on visual resources would be similar to those described under the Proposed Action except that Pumping Plant 1 would be located near the SJGS and adjacent to BLM managed lands. The project would be consistent with the BLM's visual resource management goals for Class III and Class IV areas. Therefore, for the reasons described above, impacts to visual resources would not be significant.

### **3.2.11 – Summary**

Table 10 summarizes environmental consequences of the Action Alternatives for the resources evaluated in these EA. As described in Chapter 3, environmental consequences of the Action Alternatives were not determined to be significant. Environmental consequences of the No Action Alternative were summarized in the 2009 NGWSP PR/FEIS on pages V158-V163.

**Table 10. Summary of Environmental Consequences for the Action Alternatives**

Resource	Proposed Action	UF-NF Pretreatment Alternative	Pumping Plant 1 Northern Alternative
Water Uses and Resources (Section 3.2.1)	<p>Reclamation would continue to operate Navajo Dam and Reservoir under the flow recommendations derived by the SJRBRIP and pursuant to the Navajo Reservoir Operations FEIS and ROD (Reclamation 2006).</p> <p>The diversion rate from the San Juan River would be increased to 71 cfs.</p> <p>Reclamation would contract with PNM to convey a maximum flow of 4 cfs (not to exceed 1,500 AF/year) to the SJGS Reservoir.</p>	The same as those described under the Proposed Action.	The same as those described under the Proposed Action.
Indian Trust Assets (Section 3.2.2)	Approximately 56.2 acres of tribal trust land would be converted to industrial use.	Approximately 44.1 acres of tribal trust land would be converted to industrial use.	<p>Approximately 54.1 acres of tribal trust land would be converted to industrial use.</p> <p>Pumping Plant 1 would be on private land.</p>
Water Quality (Section 3.2.3)	<p>Construction would temporarily increase turbidity (sediment) and increase the chance of equipment leak or spills into surface waters.</p> <p>Up to 6 percent of water to the SJLWTP would be used for treatment and discharged (with permit) off-site.</p> <p>Continuing operation of the SJGS Reservoir would not contribute to downstream surface water and groundwater contamination with PNM continuing operation of the groundwater recovery system as required as part of the Sierra Club and PNM consent decree.</p> <p>The SJLWTP would remove contaminants and meet applicable federal, state, and/or tribal water quality standards.</p> <p>Water treatment processes are expected to remove total organic carbon to at least 0.8 milligram/liter (mg/L) in the distribution system.</p>	<p>Construction effects on water quality, the ability to meet applicable water quality standards, and surface/groundwater near the SJGS would be the same as the Proposed Action.</p> <p>Up to 10 percent of water to the SJLWTP would be used for treatment and discharged (with permit) off-site.</p> <p>Water treatment processes are expected to remove total organic carbon to at least 0.9 milligram/liter (mg/L) in the distribution system.</p>	The same as those described under the Proposed Action.



Resource	Proposed Action	UF-NF Pretreatment Alternative	Pumping Plant 1 Northern Alternative
Vegetation Resources (Section 3.2.4)	<p>Up to 692 acres cleared of vegetation, of which approximately 56.2 would be permanently lost and the remaining reseeded and reclaimed.</p> <p>Noxious weeds may be introduced or spread within the project area during construction and operation.</p> <p>Approximately 0.08 acre of palustrine emergent wetland below the SJGS Reservoir Dam would be temporarily disturbed.</p>	The same as those described under the Proposed Action except for approximately 12.1 fewer acres of permanent vegetation loss.	The same as those described under the Proposed Action.
Special Status Species (Section 3.2.5) - Federally Listed Species	<p>Approximately 1.0, 0.7, and 0.2 percent potential entrainment of larval San Juan River pikeminnow during low, average, and high flows. Approximately 0.01 to 0.3 percent entrainment of non-larval pikeminnow. No adverse modification of designated critical habitat.</p> <p>Approximately 0.9, 0.2, and 0.06 percent potential entrainment of larval San Juan River razorback sucker during low, average, and high flows. Approximately 0.01 to 0.6 percent entrainment of non-larval razorback sucker.</p> <p>Approximately 3.2 acres of suitable and unoccupied Mesa Verde cactus habitat (no individual cacti) disturbed by construction.</p> <p>No effects on southwestern willow flycatcher.</p>	The same as those described under the Proposed Action.	The same as those described under the Proposed Action.
Special Status Species (Section 3.2.5) - Other Special Status Species	<p>Removal of approximately 56.2 acres of known or potential habitat for multiple species.</p> <p>Temporary disturbance effects during construction for multiple species.</p> <p>Reduced but continued potential for entrainment of fishes in the San Juan River.</p>	The same as those described under the Proposed Action except the SJLWTP would be smaller in size resulting in less habitat loss.	The same as those described under the Proposed Action.
Land Use (Section 3.2.6)	<p>Up to three private parcels (approximately 32.6 acres) may be acquired and one residence relocated.</p> <p>Approximately 56.2 acres of tribal trust land would be converted to industrial use.</p>	The same as those described under the Proposed Action except that approximately 44.1 acres of tribal	The same as those described under the Proposed Action except that approximately 54.1

Resource	Proposed Action	UF-NF Pretreatment Alternative	Pumping Plant 1 Northern Alternative
	<p>Temporary effects to Navajo farmlands along the Reach 2 pipeline near the San Juan River.</p> <p>Slight reduction in the amount of available livestock forage.</p>	<p>trust land would be converted to industrial use.</p>	<p>acres of tribal trust land would be converted to industrial use.</p>
<p>Hazardous Materials (Section 3.2.7)</p>	<p>Potential contaminants from uncontrolled dump site unlikely to reach project infrastructure.</p> <p>Asbestos-containing material would be remediated to the appropriate mandated levels before project construction.</p> <p>No dredging of SJGS Reservoir in next fifty years; additional NEPA analysis required if dredging pursued in future.</p>	<p>The same as those described under the Proposed Action.</p>	<p>The same as those described under the Proposed Action.</p>
<p>Environmental Justice (Section 3.2.8)</p>	<p>No disproportionate adverse effects on minority or low-income populations.</p> <p>Provides access to a reliable, safe water supply.</p> <p>Increase in short- and long-term employment opportunities.</p> <p>Temporary noise impacts during construction.</p>	<p>The same as those described under the Proposed Action.</p>	<p>The same as those described under the Proposed Action.</p>
<p>Cultural Resources (Section 3.2.9)</p>	<p>Cultural sites avoided to the maximum extent possible following the NGWSP's Programmatic Agreement.</p>	<p>The same as those described under the Proposed Action.</p>	<p>The same as those described under the Proposed Action.</p>
<p>Visual Resources (Section 3.2.10)</p>	<p>Facilities upgraded at PNM's San Juan River diversion and intake.</p> <p>SJLWTP and Pumping Plants 1 &amp; 2 relocated to areas on the Navajo Nation and to use dark sky lighting techniques and paint colors to match the surrounding environment.</p> <p>Temporary change in visual setting during pipeline construction and reclamation period.</p>	<p>The same as those described under the Proposed Action except for modified facilities at the SJLWTP.</p>	<p>The same as those described under the Proposed Action except that Pumping Plant 1 would be located near the SJGS.</p>

# CHAPTER 4 – ENVIRONMENTAL COMMITMENTS

This section discusses the environmental commitments developed to protect and limit impacts on resources. The environmental commitments will be included as appropriate in the contractor bid specifications for construction.

## 4.1 – 2009 NGWSP ROD

The ROD of the NGWSP PR/FEIS designates the environmental commitments for the NGWSP that would be followed (if applicable) for the Proposed Action. These environmental commitments were also described in Chapter VI (Environmental Commitments and Mitigation Measures) of the 2009 NGWSP PR/FEIS. These environmental commitments are hereby incorporated into the Proposed Action.

## 4.2 – Additional Environmental Commitments

Additional environmental commitments (in addition to those in the 2009 NGWSP ROD and PR/FEIS) were developed to lessen the potential adverse insignificant effects of the action alternatives and are listed in Table 11 below. This table summarizes and further details information previously mentioned or referenced in the EA.

**Table 11. Additional Environmental Commitments**

Resource Category	Commitment
General	<ul style="list-style-type: none"> <li>Reclamation will comply with all applicable federal, State of New Mexico, Navajo Nation, and local laws and regulations.</li> </ul>
Vegetation	<ul style="list-style-type: none"> <li>Where tree cutting is required, usable trees shall be removed and left on the roadside for local residents to collect and use as firewood or delivered to a nearby Navajo Chapter House. Smaller woody plants not suitable for use as firewood shall be chipped and spread on the ROW during the revegetation process.</li> </ul>
Wildlife	<ul style="list-style-type: none"> <li>To comply with the MBTA, vegetation removal will be completed outside the migratory bird nesting season of March 15 to August 15. If vegetation needs to be removed during this window, migratory bird nesting surveys will be conducted by a Reclamation approved individual(s) using the approved survey protocol for a maximum of 1 week before scheduled removal. If nests are found, the appropriate species buffer will be applied to the nest with no disturbance allowed in the buffer zone until approved by a Reclamation biologist. Nest monitoring may be required to determine nesting status.</li> <li>Reclamation or their project contractor would survey prairie dog burrows and towns prior to construction to document if they are actively occupied or are inactive. Clearing and grubbing and topsoil removal activities would not occur in</li> </ul>

Resource Category	Commitment
	actively occupied prairie dog areas during the breeding and reproduction season (March 1 to June 1) when young are not able to vacate the burrow.
Special Status Species	<ul style="list-style-type: none"> <li>If inventoried threatened or endangered species are discovered during construction, construction activities shall be halted in that area, and the contractor will move work as necessary until work can begin again.</li> </ul>
Land Use	<ul style="list-style-type: none"> <li>Reclamation will provide relocation assistance following federal laws for acquired private properties.</li> <li>Regarding the 2009 NGWSP PR/FEIS commitment of fencing the NGWSP pipeline ROW; Reclamation, the BIA, and Navajo Nation determined in the 2019 Revegetation Plan for the NGWSP (Reclamation 2019) that if acceptable ground cover conditions are not achieved within 3 years, fencing may be necessary to achieve ground cover criteria identified in the site-specific revegetation plan.</li> </ul>
Hazardous Materials	<ul style="list-style-type: none"> <li>Reclamation will assess hazardous materials present in the vicinity of the Proposed Action, and remediation efforts (if necessary) will be implemented before project construction.</li> </ul>
Air Quality and Noise	<ul style="list-style-type: none"> <li>Construction and reclamation activities near residences will be expedited and limited to 7 am to 7 pm working hours except in case of emergency.</li> </ul>
Cultural Resources	<ul style="list-style-type: none"> <li>All cultural resources stipulations will be followed. These stipulations may include, but are not limited to, temporary or permanent fencing or other physical barriers, monitoring of earth disturbing construction, Proposed Action area reduction and/or specific construction avoidance zones, and employee education. All employees, contractors, and sub-contractors of the project would be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 USC 470aa-mm).</li> <li>If in its operations, an operator/holder discovers any previously unidentified historic or prehistoric cultural resources, work in the vicinity of the discovery would be suspended and the discovery promptly reported to Reclamation and the NNHHPD. The NNHHPD would then specify what action is to be taken in accordance with Section VIII of the cultural resources Programmatic Agreement.</li> </ul>
Visual Resources	<ul style="list-style-type: none"> <li>New and existing acquired facilities will be lighted following dark sky lighting techniques to minimize skyglow, glare, and light trespass.</li> <li>Aboveground facilities such as water tanks and buildings will be painted to match the color of the surrounding environment.</li> </ul>
Public Health and Safety	<ul style="list-style-type: none"> <li>Reclamation will install safety signage on both sides of the San Juan River (fish ladder area and diversion/intake area) immediately upstream of the PNM diversion weir in accordance with Reclamation Safety and Health Standards ("Yellow Book") policy (in particular, Section 9 [Signs, Signals, and Barricades]). Signage will indicate the danger of the diversion weir and potential for death or serious injury.</li> </ul>

Resource Category	Commitment
	<ul style="list-style-type: none"> <li>Reclamation may install additional signage on the San Juan River further upstream of the PNM diversion weir as well as pursue the development of an official boat takeout upstream of the diversion weir to limit the long-term potential of river user incidents.</li> </ul>

### 4.3 – Requirements in the NGWSP Biological Opinion

The USFWS updated the NGWSP Biological Opinion (Appendix D) in September 2022 based on Reclamation’s April 2022 request to reinitiate formal consultation for the NGWSP to include the Proposed Action. No new significant effects to threatened or endangered species or their designated critical habitat would be caused by the action alternatives that are not already described in the 2009 NGWSP PR/FEIS. The Biological Opinion’s conservation measures, reasonable and prudent measures, terms and conditions, and conservation recommendations sections were updated and will be followed for the project.

### 4.4 – NNDFW Conditions of Compliance

The NNDFW issued a Biological Resources Compliance Form (BRCF; 21ees103; Appendix E) on August 30, 2022 that approved the Proposed Action with the reclamation measures described in Section 2.4.10.2 of this EA and with conditional approval following the conditions listed in the BRCF (see Appendix E). These measures serve to lessen the potential adverse insignificant effects of the action alternatives described in the EA.

## 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

In compliance with NEPA, the Draft EA was made available for public review and comment for a 30-day period in July-August of 2022. The Draft EA was hosted on Reclamation’s Upper Colorado Basin website that houses environmental documents ([www.usbr.gov/uc/DocLibrary/ea.html](http://www.usbr.gov/uc/DocLibrary/ea.html)). The NGWSP website (<https://www.usbr.gov/uc/progact/navajo-gallup/index.html>) provides additional information on the

overall status of the NGWSP. Reclamation distributed a letter to the individuals, organizations, and agencies listed in Appendix F notifying them of the Proposed Action, availability of the Draft EA, and details on how to comment on the project. Details on how to comment were also provided at the NGWSP’s quarterly Project Construction Committee meetings held on July 27-28. Publicly available electronic versions of the EA meet 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.

Public comments received during the comment window are included in Appendix H and Appendix G provides a summary of the comments along with their associated responses. Comments on the project’s BA/E were submitted by the NMSLO, several of which were relevant to the EA and were incorporated. The NMISC provided a comment letter and Dr. Christine Benally provided a series of comments (seven emails with prior email threads related to the NGWSP and numerous attachments). One comment request by the NMDOT was made for project maps. A private landowner requested a hard copy of the Draft EA, and another private landowner called Reclamation to ask about the project and how it would specifically affect her property.

## CHAPTER 6 – PREPARERS

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

**Table 12. List of Preparers**

Name	Title	Areas of Responsibility
Eric Creeden	General Biologist	NEPA, Biological Resources, Threatened and Endangered Species
Kristin Bowen	Environmental and Cultural Group Chief	Archaeology, Cultural Resources
Bart Deming	Construction Engineer	Action Alternatives, NGWSP Design
Myles Lytle	Planner and Environmental Specialist (BIA Navajo Region)	NEPA
Ryan Joyner	Planning & Environmental Coordinator (BLM FFO)	NEPA
Joey Herring	Senior Biologist (Ecosphere)	NEPA, Threatened and Endangered Species, Water Resources
Andrea Santoro	Geographic Information Systems Specialist (Ecosphere)	Mapping and analysis
Mike Fitzgerald	Environmental Specialist (Ecosphere)	Content Review
John Dodge	Biologist (Ecosphere)	Biological Resources
Jerusha Rawlings	Senior Biologist (Ecosphere)	Content Review Biological Resources
Cindy Lancaster	Technical Editor (Ecosphere)	Technical Editing

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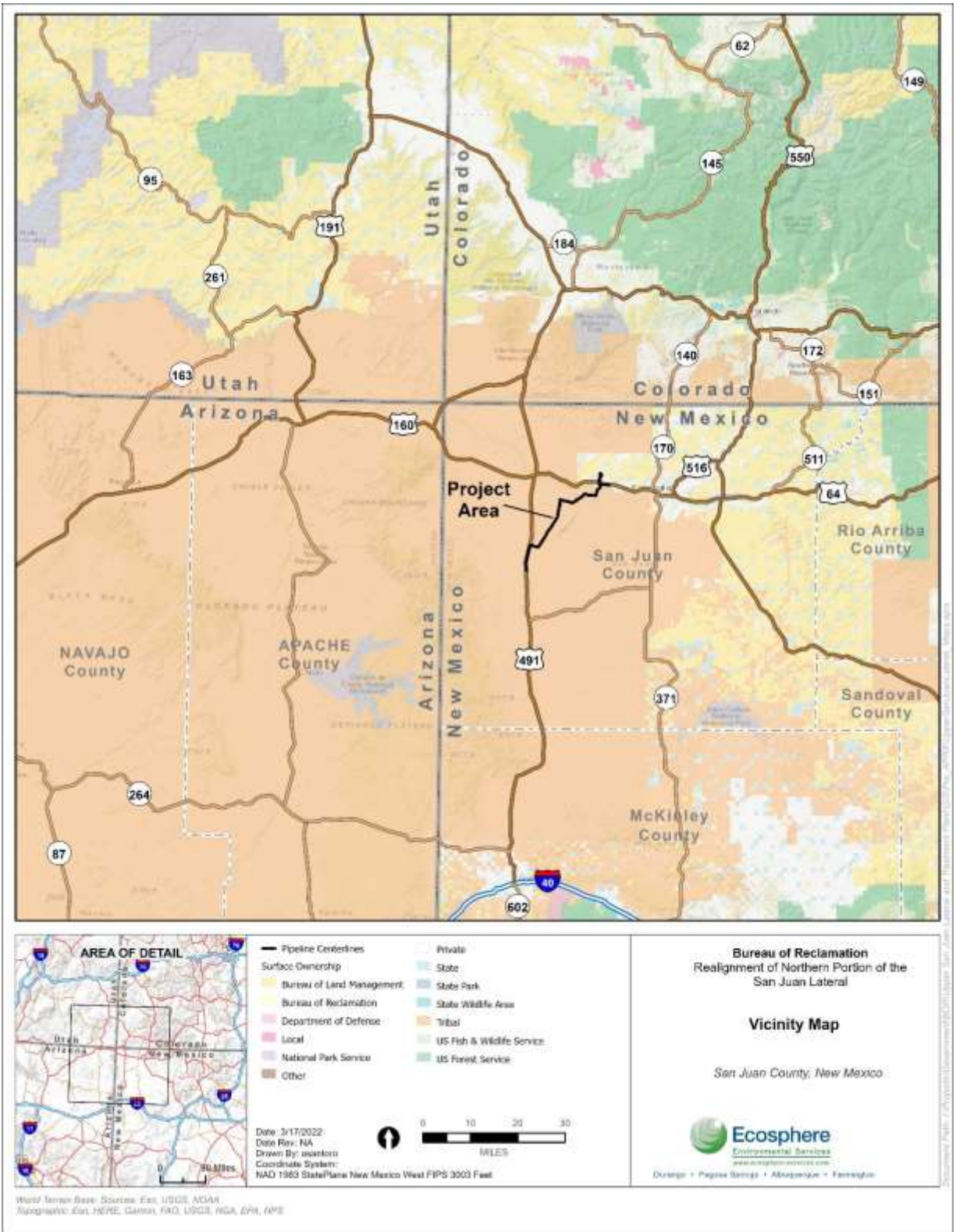
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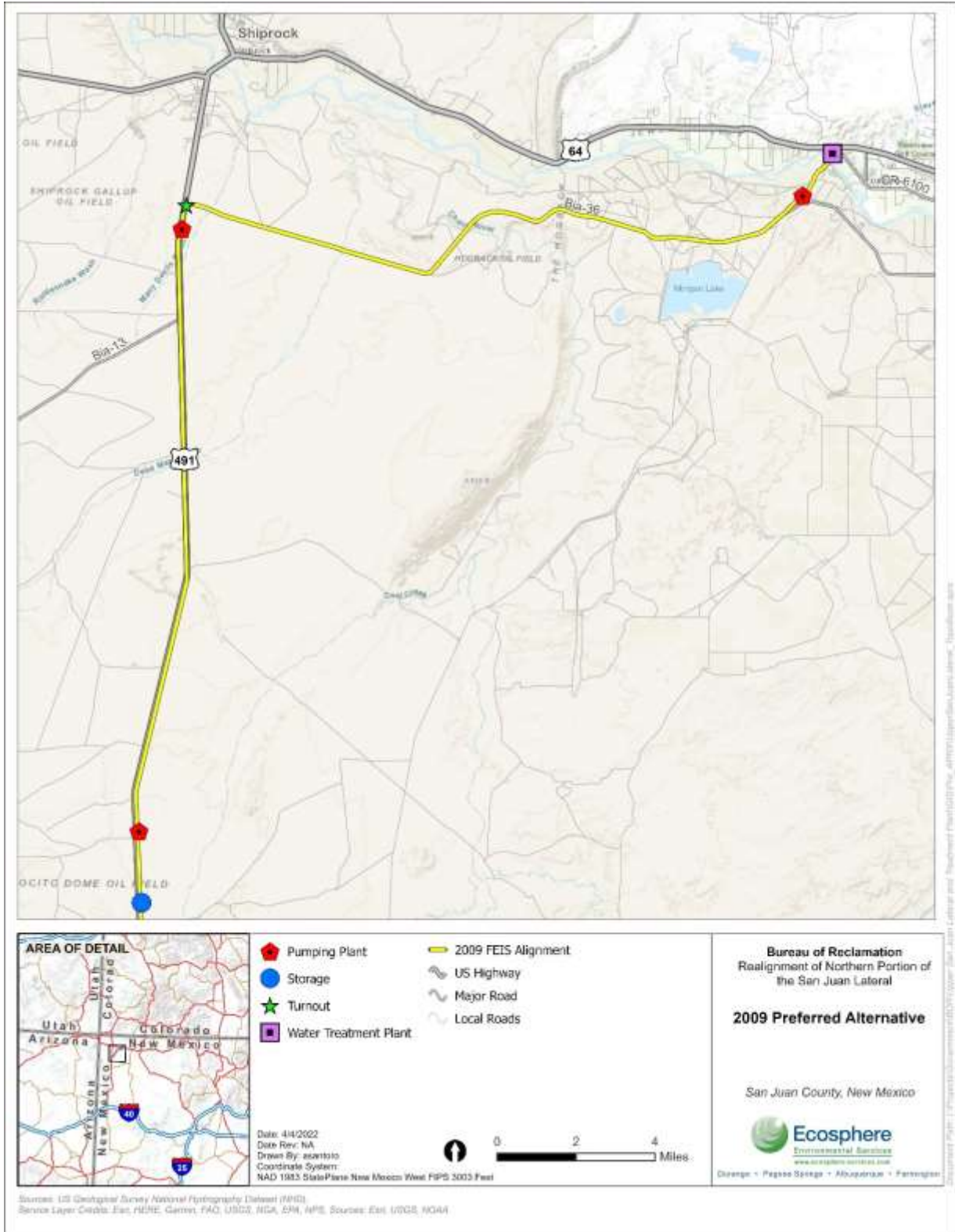
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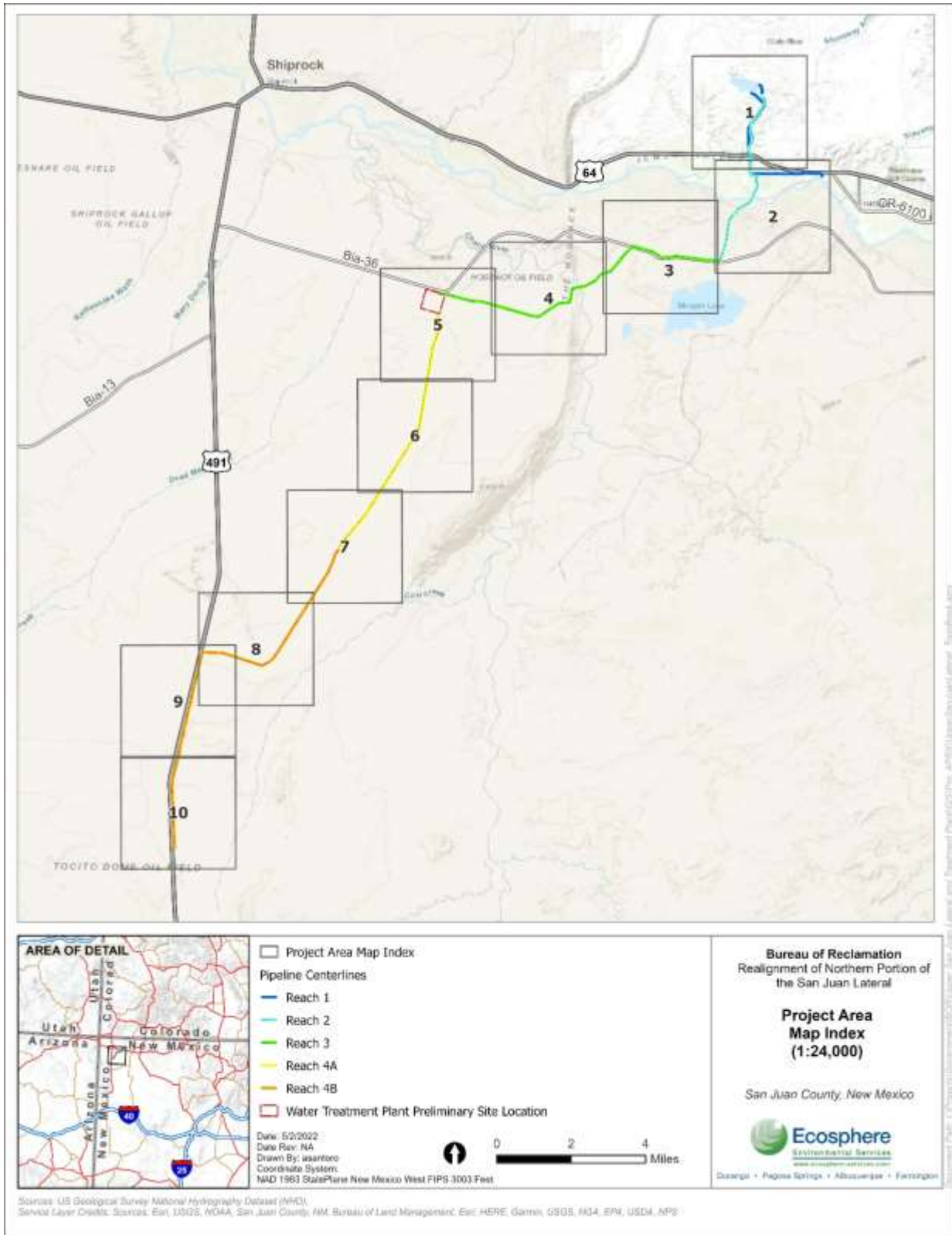
## **APPENDIX A – MAPS**



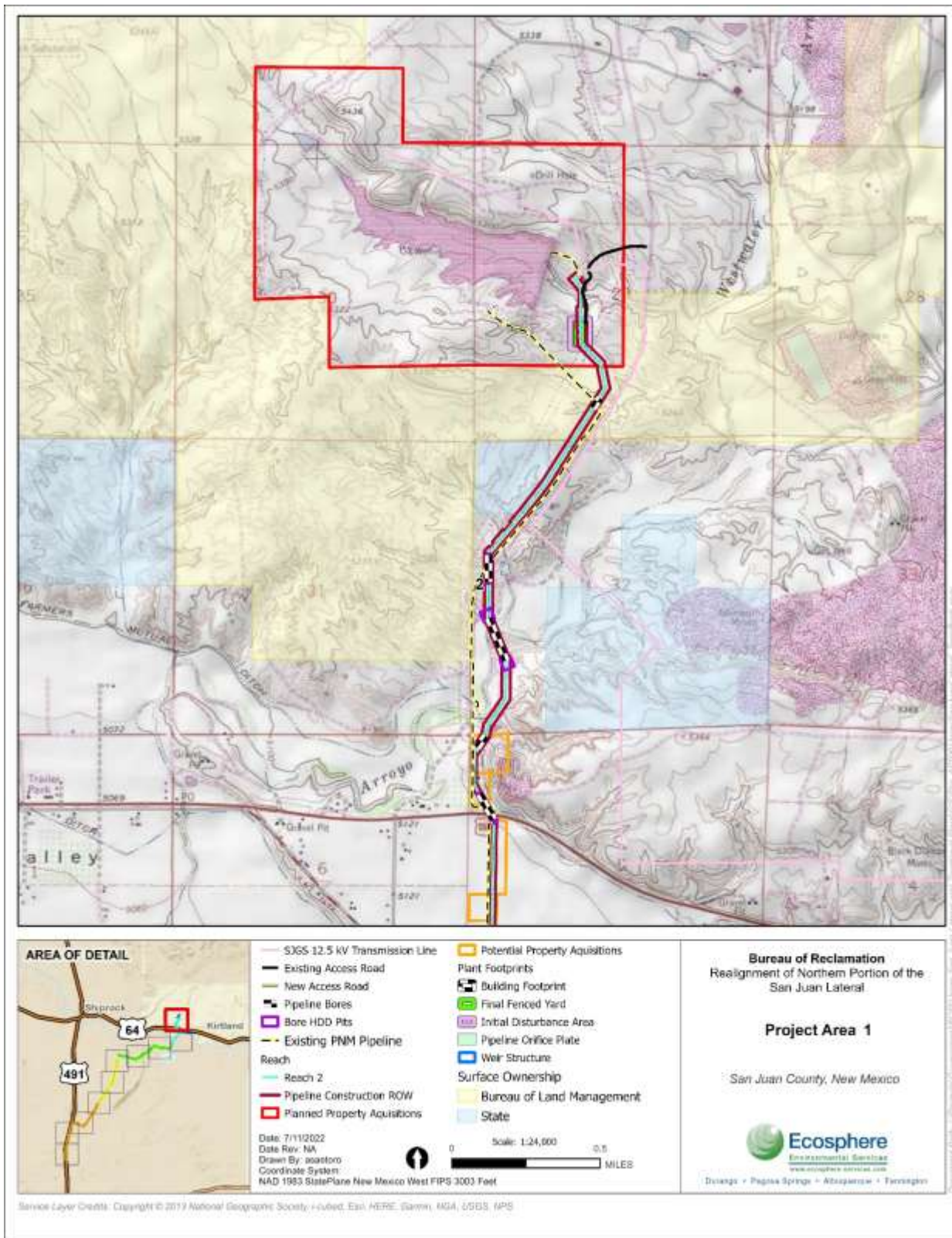
Map 1. Proposed realignment of the Northern Portion of the San Juan Lateral and Vicinity



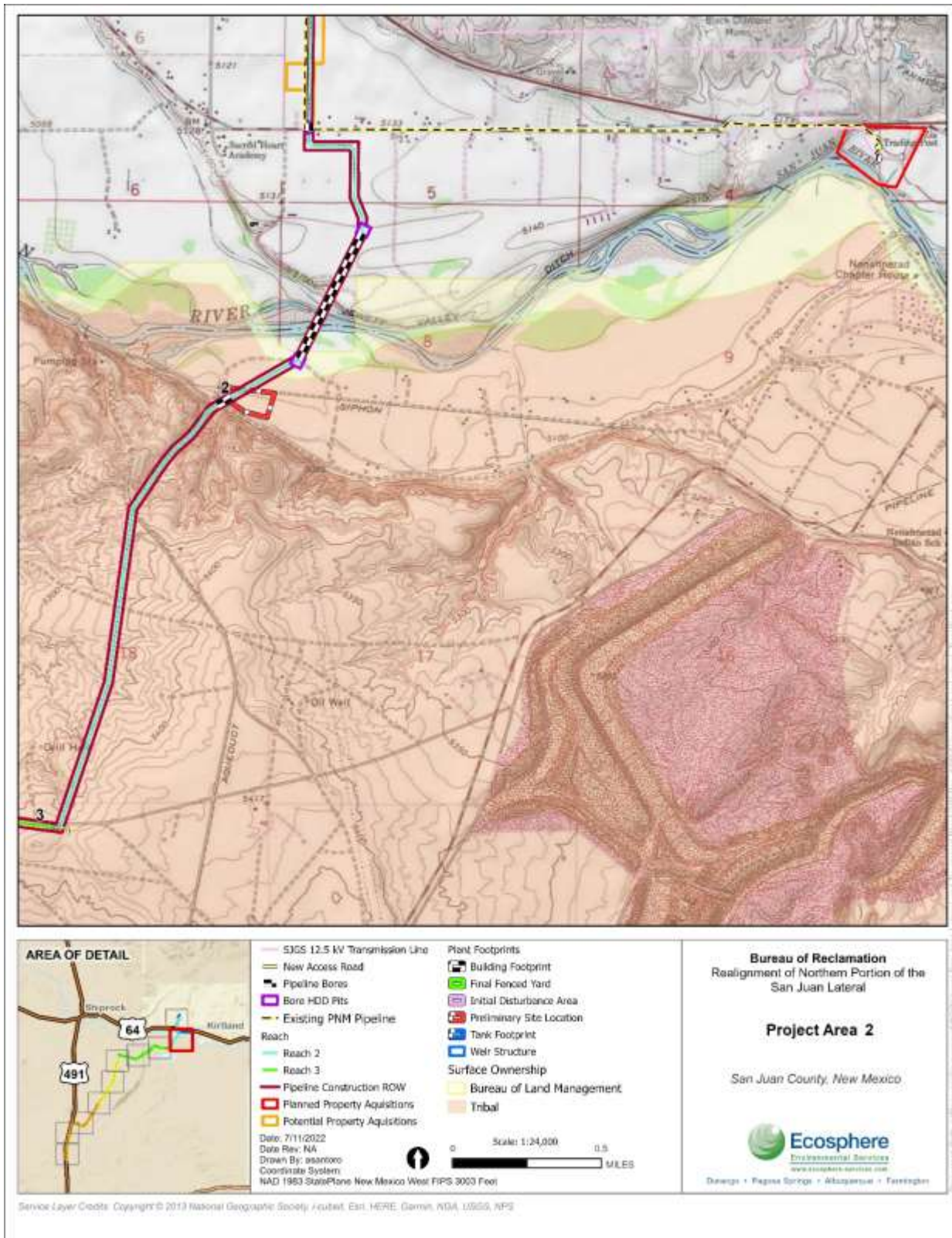
Map 2. 2009 Preferred Alternative for the San Juan Lateral



**Map 3. Proposed realignment of the Northern Portion of the San Juan Lateral Overview**

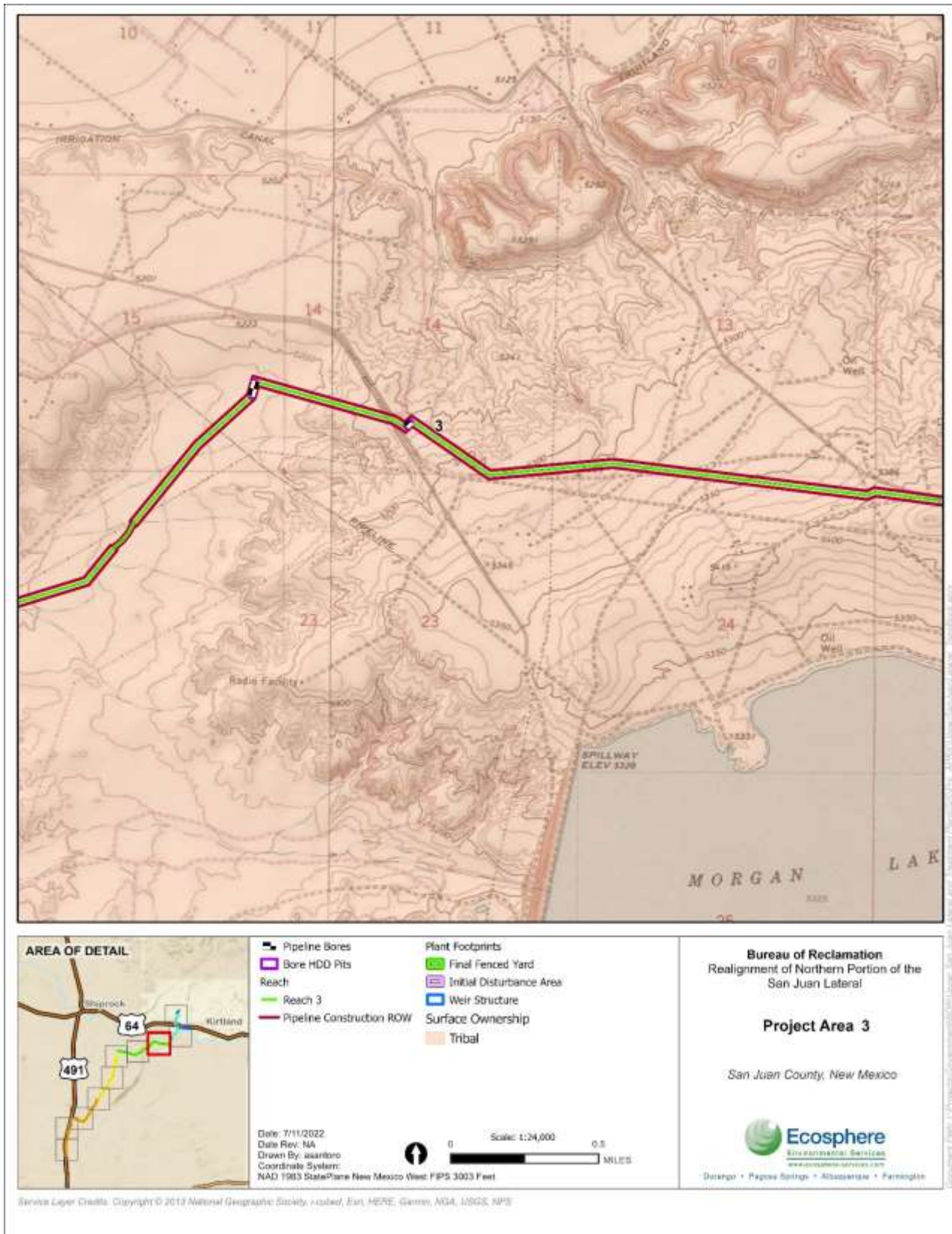


Map 4. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 1)

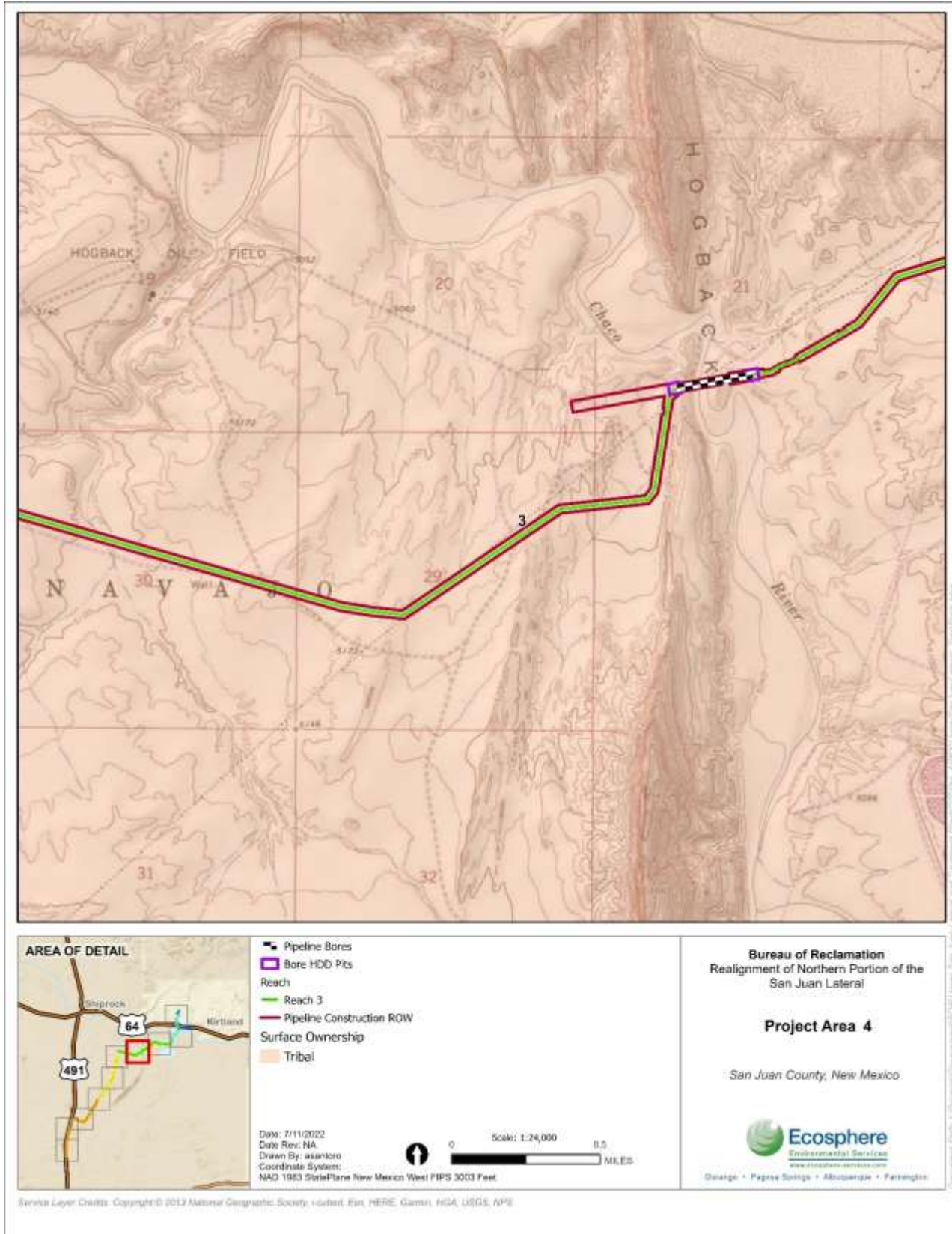


Map 5. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 2)

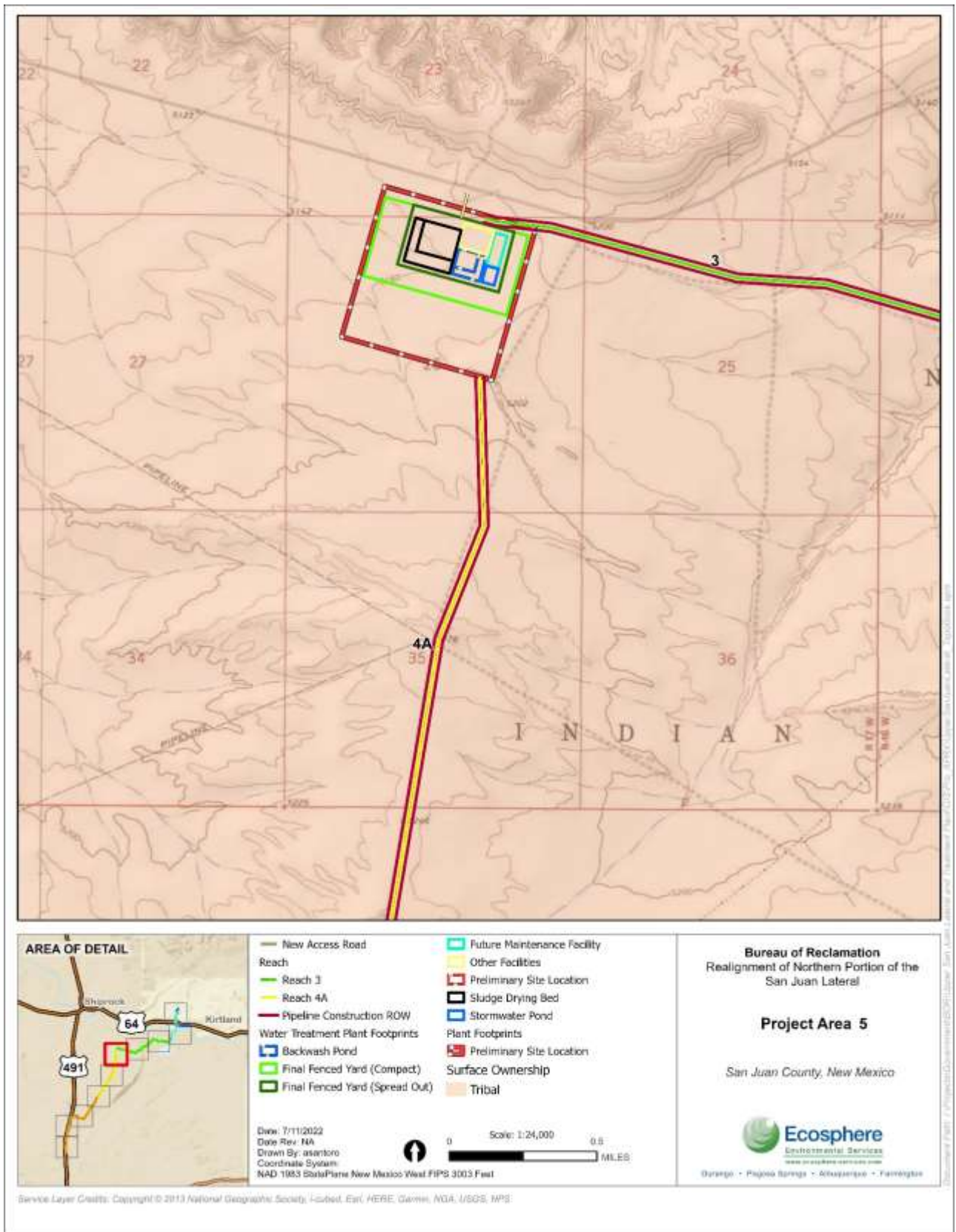




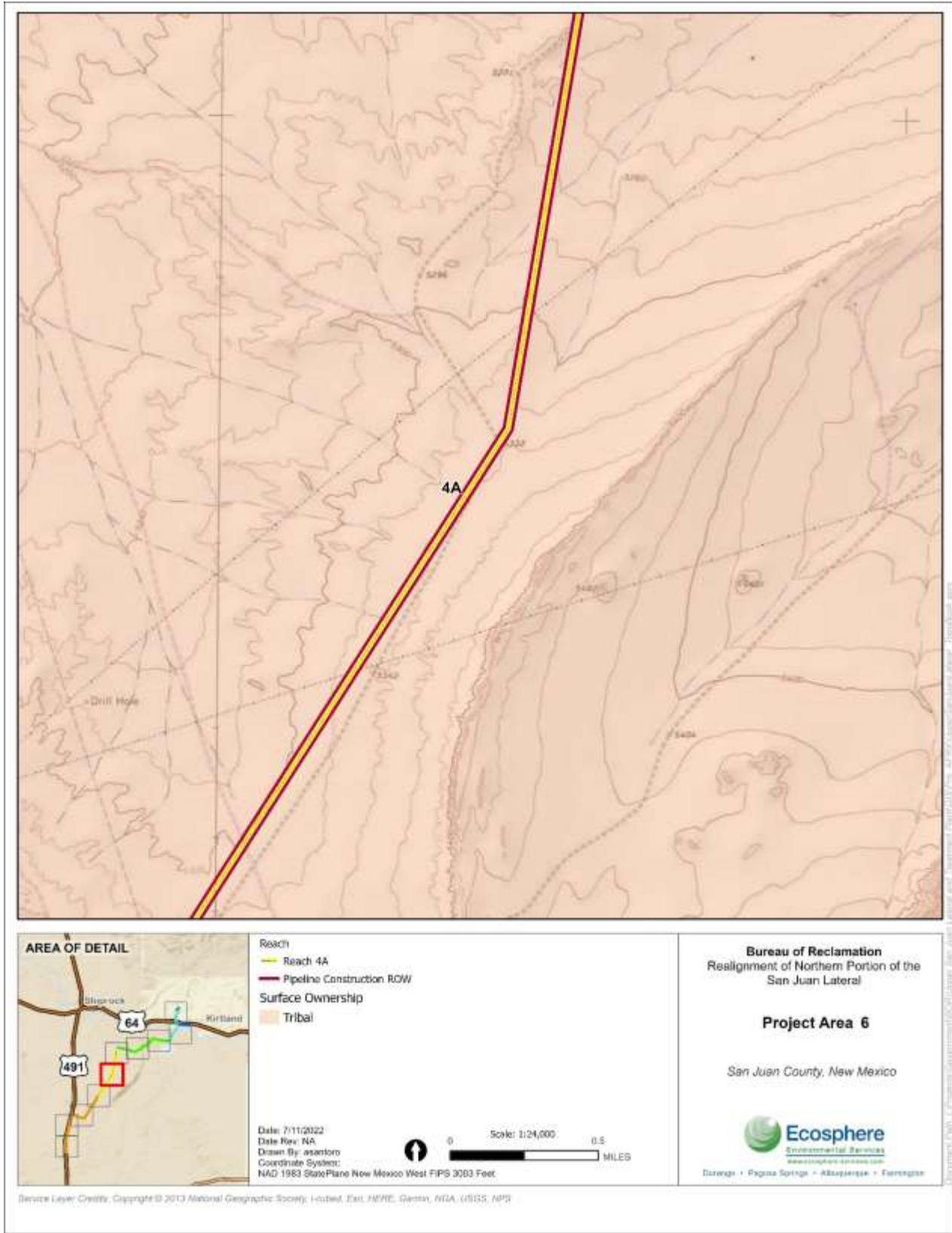
Map 6. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 3)



Map 7. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 4)



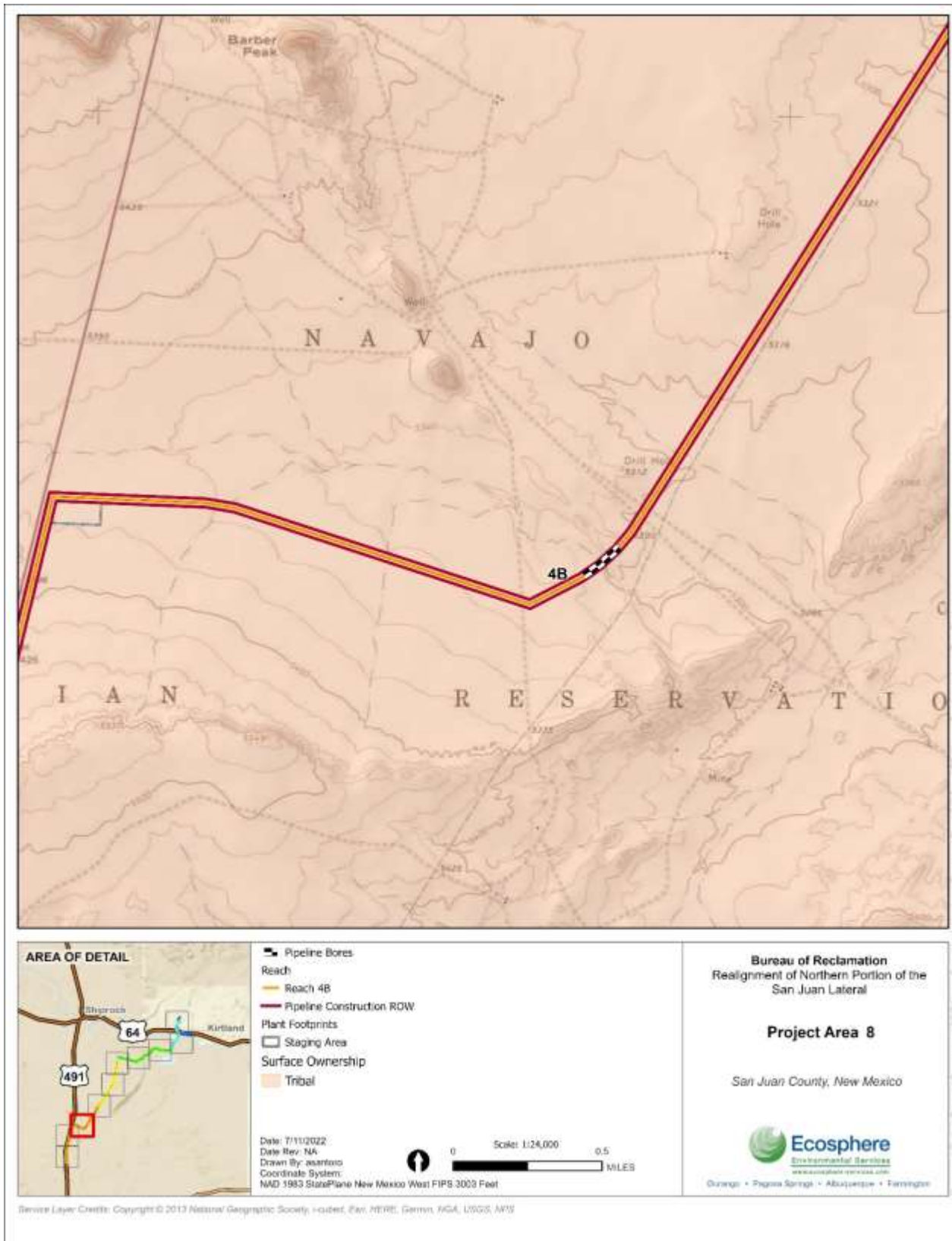
**Map 8. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 5)**



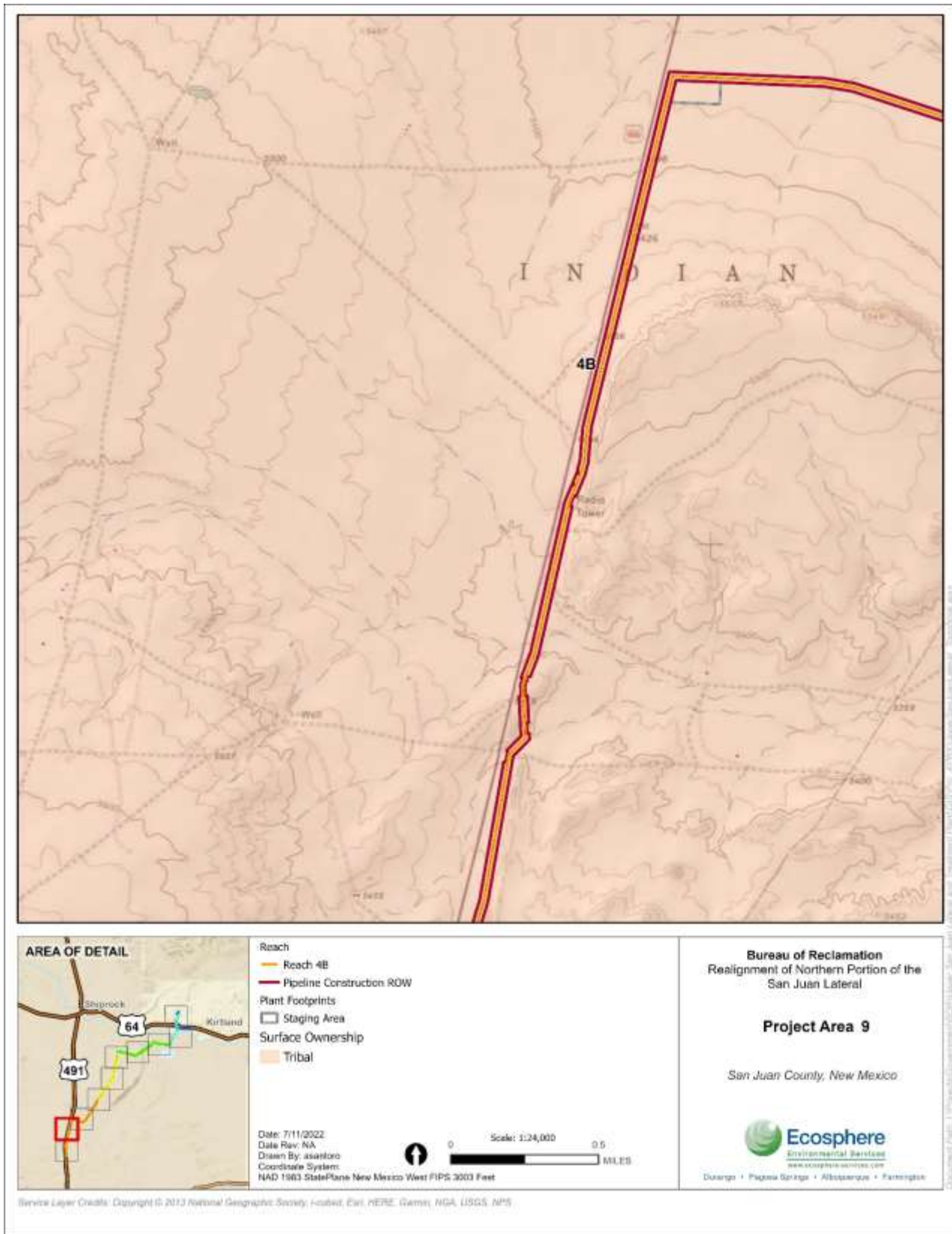
Map 9. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 6)



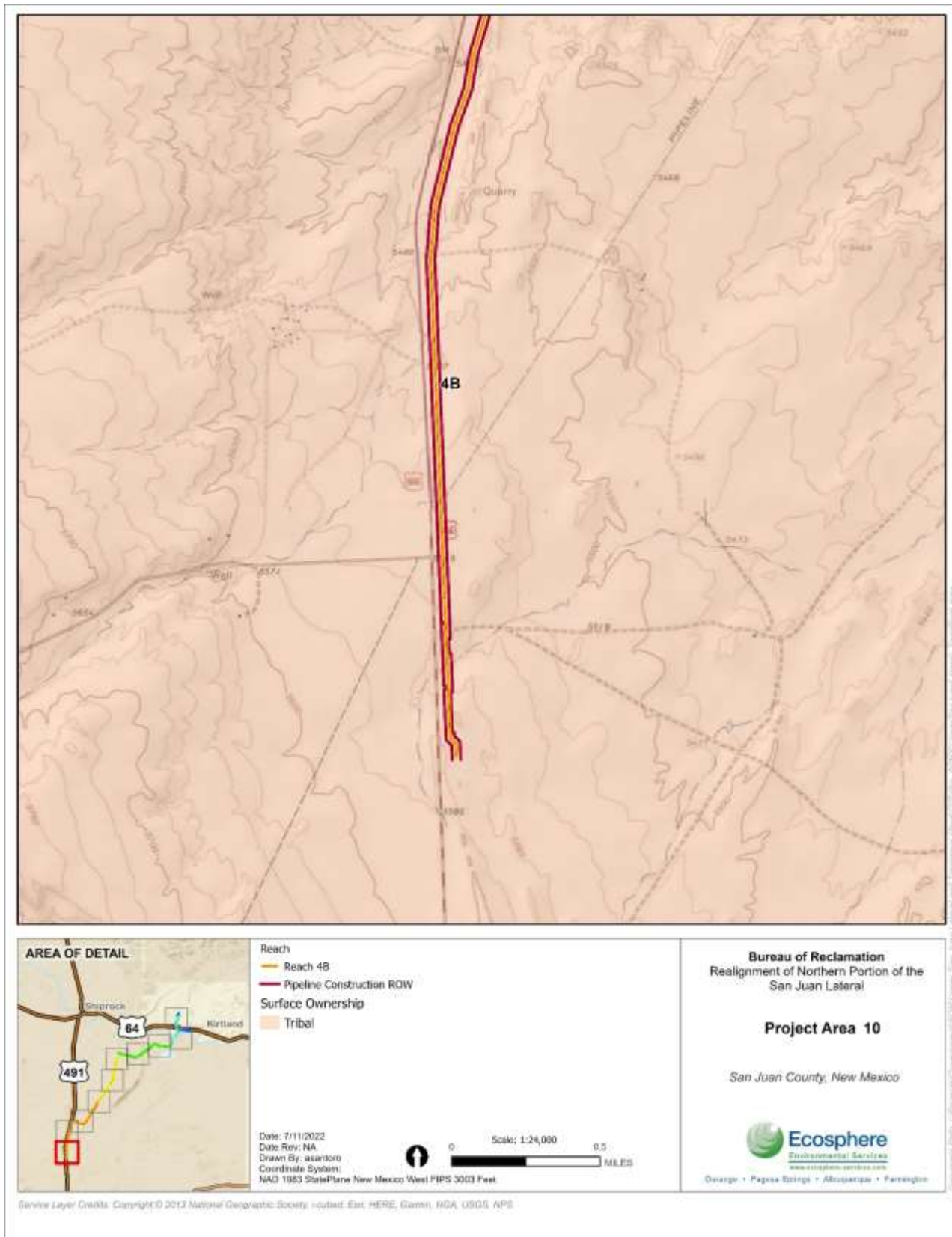
Map 10. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 7)



Map 11. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 8)



Map 12. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 9)



Map 13. Proposed realignment of the Northern Portion of the San Juan Lateral project area (page 10)



**APPENDIX B – BUREAU OF LAND MANAGEMENT  
INTERDISCIPLINARY TEAM CHECKLIST**

## INTERDISCIPLINARY (ID) TEAM CHECKLIST

*Farmington Field Office*

*(EAs & DNAs) - The purpose of this checklist is to document which resource issues need analysis in the NEPA document and to identify the ID team for the NEPA document. Responsible staff will make an initial determination and provide rationale for that determination, which is subject to manager review and concurrence. If warranted, issues or determinations may be changed during the NEPA process (e.g., after external scoping, during review, etc.), but changes must be documented and have Authorized Officer concurrence. All elements need a determination, assigned specialist, rationale, initials, and date. The ID team will include all specialists with a "PI" in the table below, and resources with a "PI" will be addressed in Ch. 3 of the EA.*

*(CXs) - The purpose of this checklist is to identify the ID team for the categorical exclusion (CX). The ID team will help the project lead develop mitigation measures and determine if extraordinary circumstances apply. DO NOT enter a determination, initials, or date for CX projects. Specialists may provide mitigation measures or extraordinary circumstances in the "Rationale for Determination" column, but it is not necessary at this time.*

**Project Title:** Reach 2 Navajo-Gallup Water Pipeline

**NEPA Number:** DOI-BLM-NM-F010-2022-0040-EA (IT4RM) & 2022-0025-EA (ePlanning)

**File/Serial Number:** NMNM 144245 (Pipeline) & NMNM 144245 01 (Short-Term ROW)

**Project Leader:** Monica Tilden

**DETERMINATION OF STAFF:** (Choose one of the following abbreviated options for the left column)

PI = Present with potential for relevant impacts that need to be analyzed in Ch. 3 in the EA.

NP = Not present in the area impacted by the proposed or alternative actions

NI = Present, but not impacted to a degree that analysis is required in Ch. 3 in the EA.

NC = (DNAs only) Actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determination	Resource	Assigned Specialist (X)	Rationale for Determination <sup>1</sup>	Initials <sup>2</sup>	Date <sup>3</sup>
<b>RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)</b>					
NI	Air Quality/	(X) W. Thomas ( ) J. Tafoya	Any air impacts due to dust during construction activities will be mitigated using a dust management plan additionally the proposed project is small in scale and therefore construction activities will be short lived. Due to the short duration of construction activities emissions associated with construction will be de minimis and therefore will not require any detailed analysis.	WT	3/15/2022
NI	Greenhouse Gas Emissions	(X) W. Thomas ( ) J. Tafoya	Due to the short duration of construction activities emissions associated with construction will be de minimis and therefore will not require any detailed analysis.	WT	3/15/2022
	Cultural Resources	( ) K. Adams ( ) E. Simpson ( ) C. Lowry	Waiting to receive cultural report	KA	2/22/2022
	Native American Religious and other Concerns	( ) K. Adams (X) E. Simpson ( ) C. Lowry	The project goes through known TCPs. We have notified BOR of this and are awaiting a response. BOR is lead agency for Section 106 on this project.	ES	4/15/2022
NI	Paleontology	( ) S. Landon (x) C. Wenman	The proposed pipeline is located in an area mapped as PFYC 5, meaning paleo resource occurrence potential is high based on the surface geologic formation. However, no mapped paleo localities exist within the project area. BOR has indicated in their design features that work will cease and BLM will be contacted if paleo resources are encountered during construction, which would minimize impacts in case of accidental discovery.	CW	3/2/2022
NI	Areas of Critical Environmental Concern	( ) S. Allison ( ) D. McKim (x) R. Joyner	There are no Areas of Critical Environmental Concern (ACECs) or Specially Designated Areas (SDAs) occurring within the project impact area.	RJ	3.10.22
NP	Lands with Wilderness Characteristics	(X) S. Allison ( ) D. McKim	Proposed project not in an area determined to be eligible for LWC during 2016 signed LWC Inventory.	SA	02/22/2022

## INTERDISCIPLINARY (ID) TEAM CHECKLIST

*Farmington Field Office*

Determination	Resource	Assigned Specialist (X)	Rationale for Determination <sup>1</sup>	Initials <sup>2</sup>	Date <sup>3</sup>
NP	Wilderness	<input checked="" type="checkbox"/> S. Allison <input type="checkbox"/> D. McKim	Proposed project not in proximity to either the Bisti/De-Na-Zin or Ah-shi-sle-pah Wilderness.	SA	02/22/2022
NI	Visual Resources	<input checked="" type="checkbox"/> S. Allison <input type="checkbox"/> D. McKim	Proposed project is a buried pipeline that will result in a weak short term visual contrast that is consistent with VRMIV goals.	SA	02/22/2022
NP	Recreation	<input checked="" type="checkbox"/> D. McKim <input type="checkbox"/> S. Allison	No impacts to dispersed recreation.	DM	02/16/2022
NP	Fuels/Fire Management	<input type="checkbox"/> J. Quintana <input type="checkbox"/> R. Joyner	No impacts to Fire/Fuels.	JQ	02/22/2022
NP	Geology	<input checked="" type="checkbox"/> C. Wenman	No geologic resources managed under the 2003 BLM FFO RMP exist within the proposed project area.	CW	3/2/2022
NI	Solid Mineral Resources	<input checked="" type="checkbox"/> C. Wenman	The project is located adjacent to the San Juan Underground Mine, and overlaps with their lease boundary. Ensure that the coal mine is aware of the project and attends the onsite if necessary to ensure the pipeline ROW does not interfere with coal mining operations and safety.	CW	3/2/2022
NI	Oil and Gas / Energy Production	<input type="checkbox"/> R. Joyner <input checked="" type="checkbox"/> C. Wenman	The proposed project overlaps existing oil and gas lease NMNM- 013959, which is currently held by production and has active wells on it. If the ROW is planned to avoid existing infrastructure then no impacts to current or future potential development of fluid minerals exist.	CW	3/2/2022
NI	Lands/Access	<input type="checkbox"/> V. Barber <input type="checkbox"/> M. Brown <input checked="" type="checkbox"/> M. Tilden	The proposed project area could possibly interfere with existing ROWs or Realty actions. Any proposals for future ROW projects within the proposed project area would be reviewed on a site-specific basis. Coordination with existing PNM ROW holder and application of standard operating procedures, design features, BMPs and stipulations would ensure protection of existing ROW corridors. The proposed H2O pipeline would follow existing PNM H2O pipeline ROW NMNM 018685, and cross PNM H2O pipeline ROWs NMNM 018685 & NMNM 125446. An existing access road would be utilized therefore lands or access would not be impacted.	MT	4/15/2022
NI	Wastes (hazardous or solid)	<input checked="" type="checkbox"/> W. Thomas <input type="checkbox"/> R. Joyner <input type="checkbox"/> C. Wenman	The proposed project will not produce any waste.	WT	3/15/2022
NP	Livestock Grazing	<input type="checkbox"/> B. Witmore <input type="checkbox"/> C. Gould <input checked="" type="checkbox"/> N. Craun <input type="checkbox"/> R. Culp	There are no livestock grazing allotments within the project area.	JNC	02/22/2022
NI	Public Land Health Standards	<input type="checkbox"/> B. Witmore <input type="checkbox"/> C. Gould <input checked="" type="checkbox"/> N. Craun <input type="checkbox"/> R. Culp	The reclamation plan is expected to mitigate any impact to Public Land Health Standards.	JNC	02/22/2022
NI	Invasive Species/ Noxious Weeds	<input checked="" type="checkbox"/> H. Perry	Noxious weeds will be treated if revegetation efforts are not successful. The project will follow the weed management outlined in the NGWSP Revegetation Plan. Any noxious weed that were not previously identified on site shall be managed for immediate eradication.	HP	4/13/2022
NI	Vegetation Excluding USFWS Designated Species	<input type="checkbox"/> B. Witmore <input type="checkbox"/> C. Gould <input checked="" type="checkbox"/> N. Craun <input type="checkbox"/> R. Culp	The project area contains badland/rock/wash and grassland vegetation communities. These communities are abundant in the surrounding area and the project Reclamation Plan is expected to be sufficient in restoring appropriate species to the project area upon project completion.	JNC	02/22/2022
NP	Special Status Plant Species and Animal Species	<input checked="" type="checkbox"/> J. Kendall	No known BLM sensitive species habitat known within PPA.	JK	4/19/22

## INTERDISCIPLINARY (ID) TEAM CHECKLIST

*Farmington Field Office*

Determination	Resource	Assigned Specialist (X)	Rationale for Determination <sup>1</sup>	Initials <sup>2</sup>	Date <sup>3</sup>
PI	Threatened, Endangered or Candidate Plant and Animal Species	(X) J. Kendall	Section 7 consultation under ESA required	JK	4/19/22
NI	Migratory Birds	(X) J. Kendall	Nesting habitat withing PPA is minimal. Active nests will be avoided	JK	4/19/22
NI	Wildlife	(X) R. McBee	This project not anticipated to have significant impact on big game wildlife.	RM	2/22/22
NI	Wildlife-aquatic	(X) R. McBee	This project not anticipated to have significant impact on aquatic wildlife.	RM	2/22/22
NP	Wetlands/Riparian Zones	(X) H. Perry	There are no wetlands or riparian areas identified in the project area.	HP	4/13/2022
NI	Water Resources/Quality (drinking/surface/ground)	(X) W. Thomas	The amount of water required to suppress dust during construction activities of the proposed project will be de minimis and therefore not require any detailed analysis.	WT	3/15/2022
NI	Soils	(X) W. Thomas	Soils will be mitigated through a reclamation plan that will stabilize soils and reduce potential of erosion during the reclamation activities.	WT	3/15/2022
NP	Wild Horses and Burros	( ) R. Culp ( ) B. Witmore ( ) C. Gould (X) N. Craun	There are no Congressionally-designated Wild Horses or Burros in the project area.	JNC	02/22/2022
NI	Socio-Economics	(X) R. Joyner	The impacts associated with implementation of the project are not anticipated to be directly linked with socio-economic conditions in the region.	RJ	3.10.22
PI	Environmental Justice	(X) R. Joyner	How will the introduction of greater access to water effect the quality of life for individuals living in impacted EJ communities?	RJ	3.10.22

<sup>1</sup> Rationale for Determination is required for all "NIs" and "NPs." Write brief issue statements for "PIs."

<sup>2</sup> The appropriate resource specialist or Authorized Officer or NEPA Coordinator entering the determination should enter their initials. Typically, the assigned specialist should enter initials. If a senior specialist or the Authorized Officer assigns a resource specialist to the NEPA project, the senior specialist or Authorized Officer shall enter their initials in this column after making a determination. If the assigned specialist is making the determination from an off-site location (i.e., state office), the project lead may enter their own initials as long as the determination is documented (i.e., email, conversation record, etc.). DO NOT enter someone else's initials.

<sup>3</sup> The date entered should be the date the determination was made by the assigned specialist, senior specialist, or Authorized Officer.

### PROJECT-ASSIGNED SPECIALISTS REVIEW:

Reviewer Title	Initials <sup>4</sup>	Date	Comments
NEPA Coordinator or Supervisor			

<sup>4</sup> Initials in this column indicates that the NEPA Coordinator has reviewed the assigned specialists column and agrees that the specialists that have been assigned or that have entered PIs (for EAs) will be included in the ID Team for the project. This section is typically initialed at the initial project presentation meeting.

### INITIAL DETERMINATION REVIEW (EA or DNA only):

Reviewer Title	Initials <sup>5</sup>	Date	Comments
NEPA Coordinator or Supervisor			

Project Title: Reach 2 Navajo Gallup Pipeline

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# INTERDISCIPLINARY (ID) TEAM CHECKLIST

*Farmington Field Office*

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<sup>5</sup> Initials in this column indicates that the Authorized Officer or NEPA Coordinator has reviewed the completed checklist after the ID Team entered initial determinations, and the project lead may continue the NEPA process. Initials will not be made here for categorical exclusions (CXs).

**APPENDIX C – SAN JUAN LATERAL WATER  
TREATMENT PLAN APPRAISAL LEVEL DESIGN**

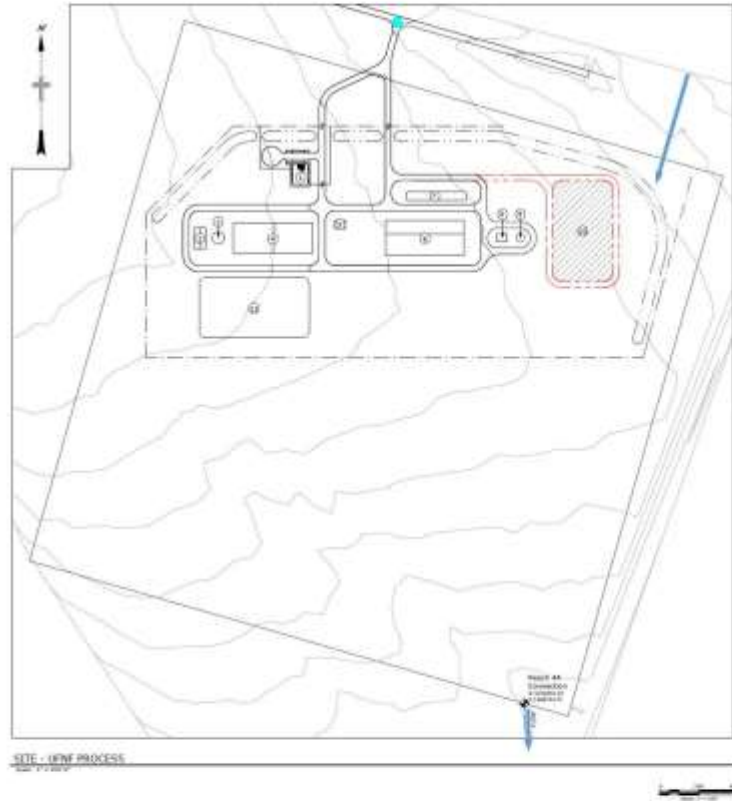
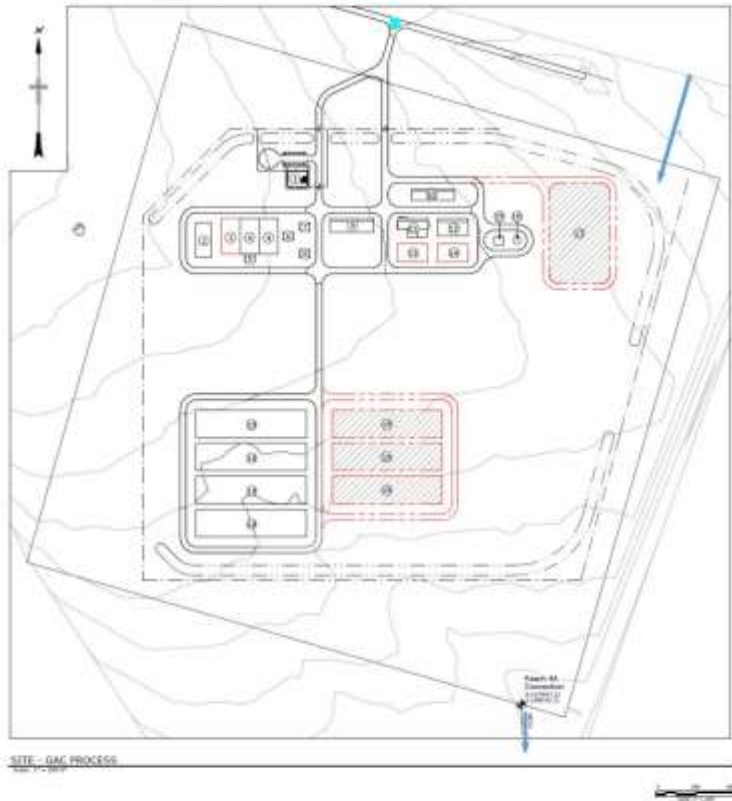


— BUREAU OF —  
RECLAMATION

# **SJLWTP Appraisal Level Design - Initial View of Site & Building Layout**

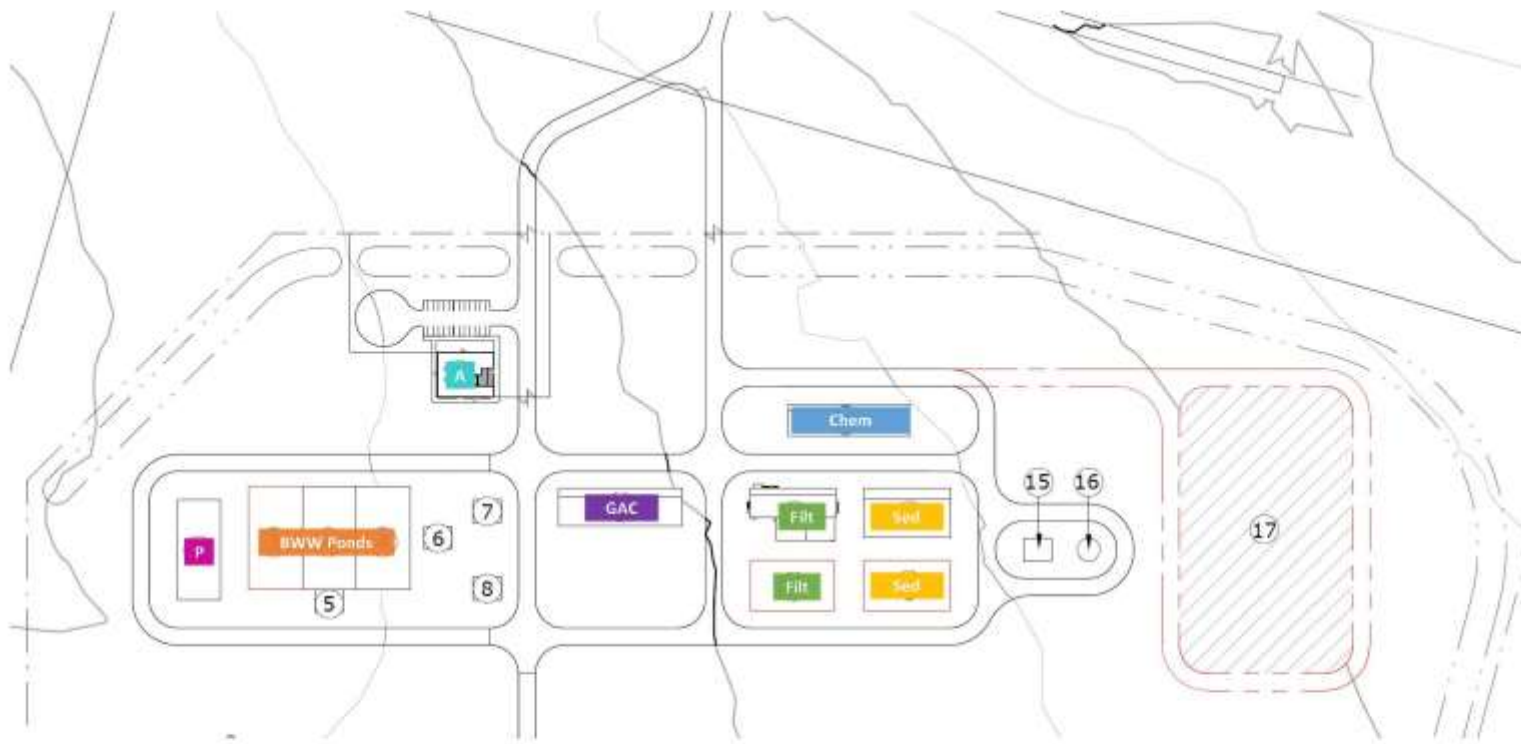
Steve Dundorf, Technical Service Center - Water Treatment  
& TSC Design Team

# Comparison

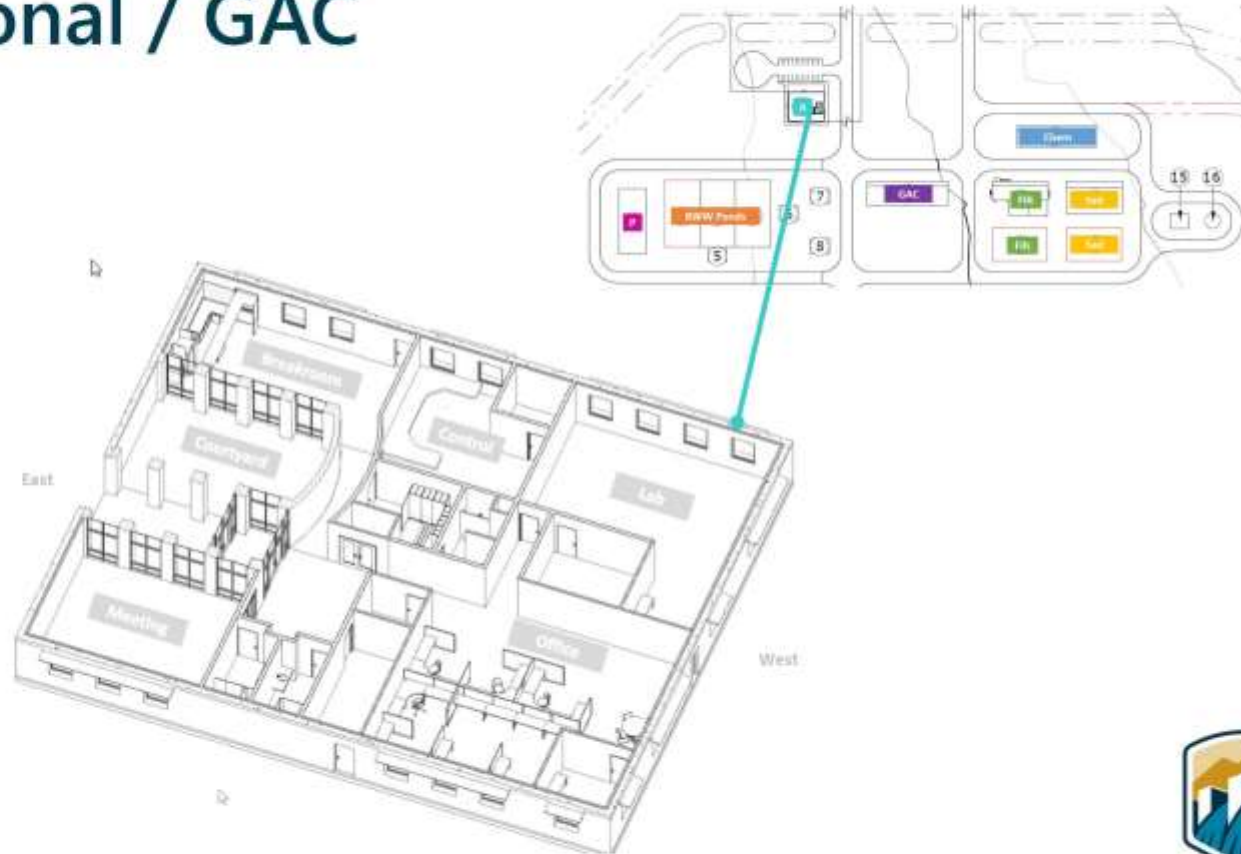




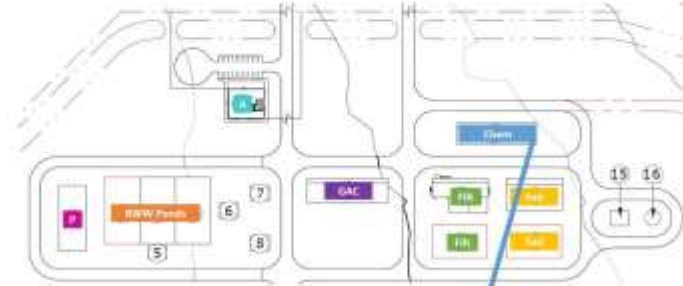
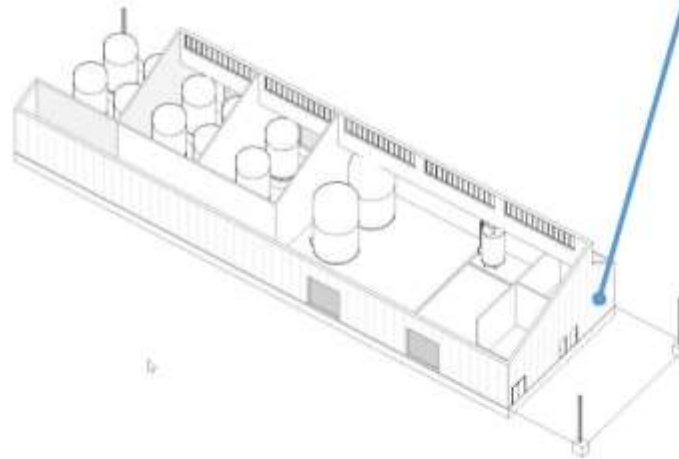
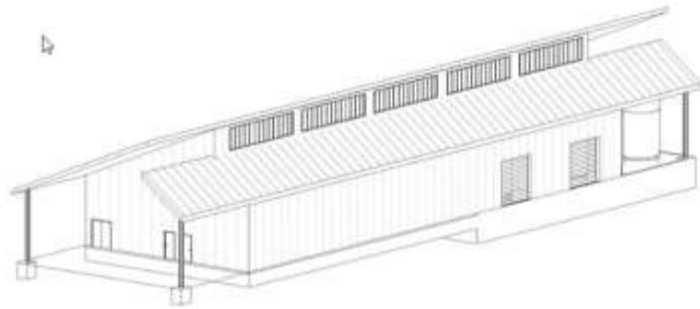
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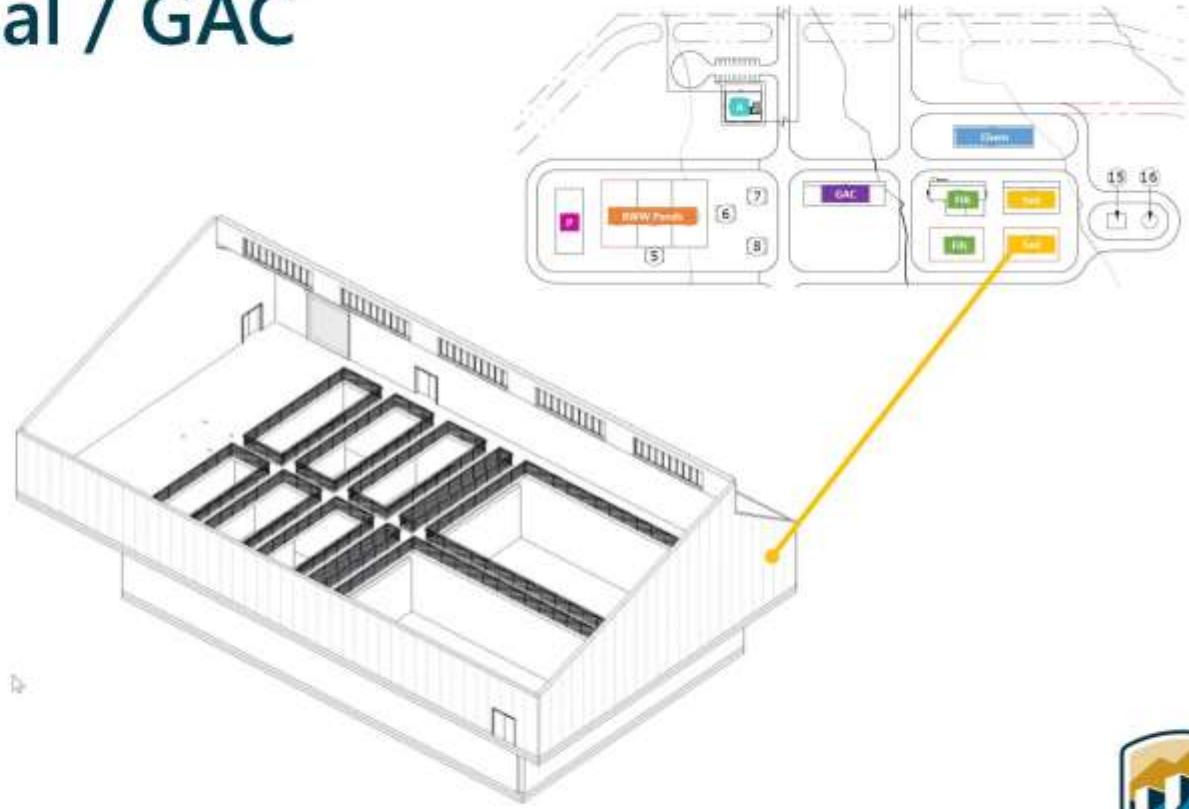
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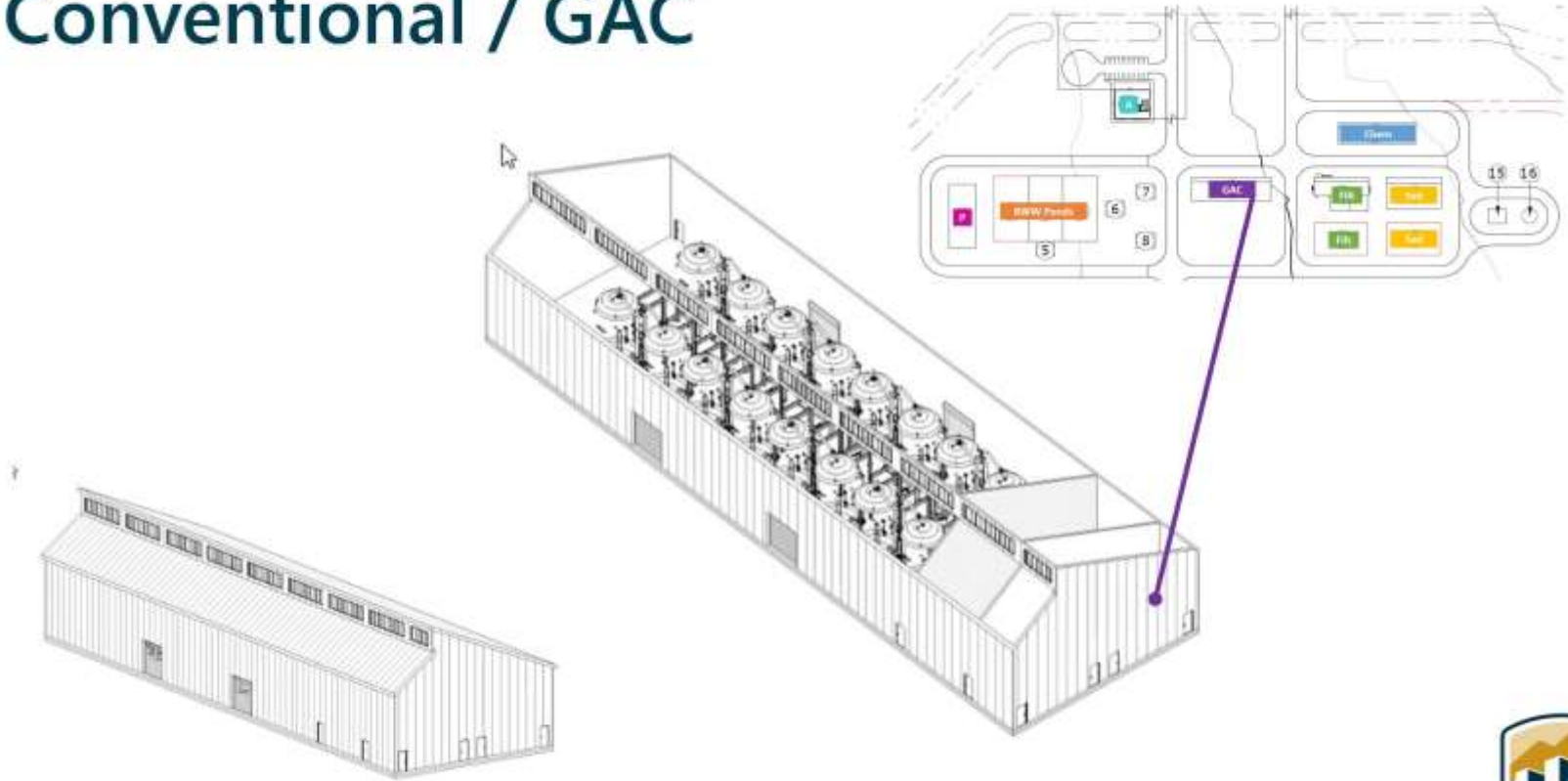
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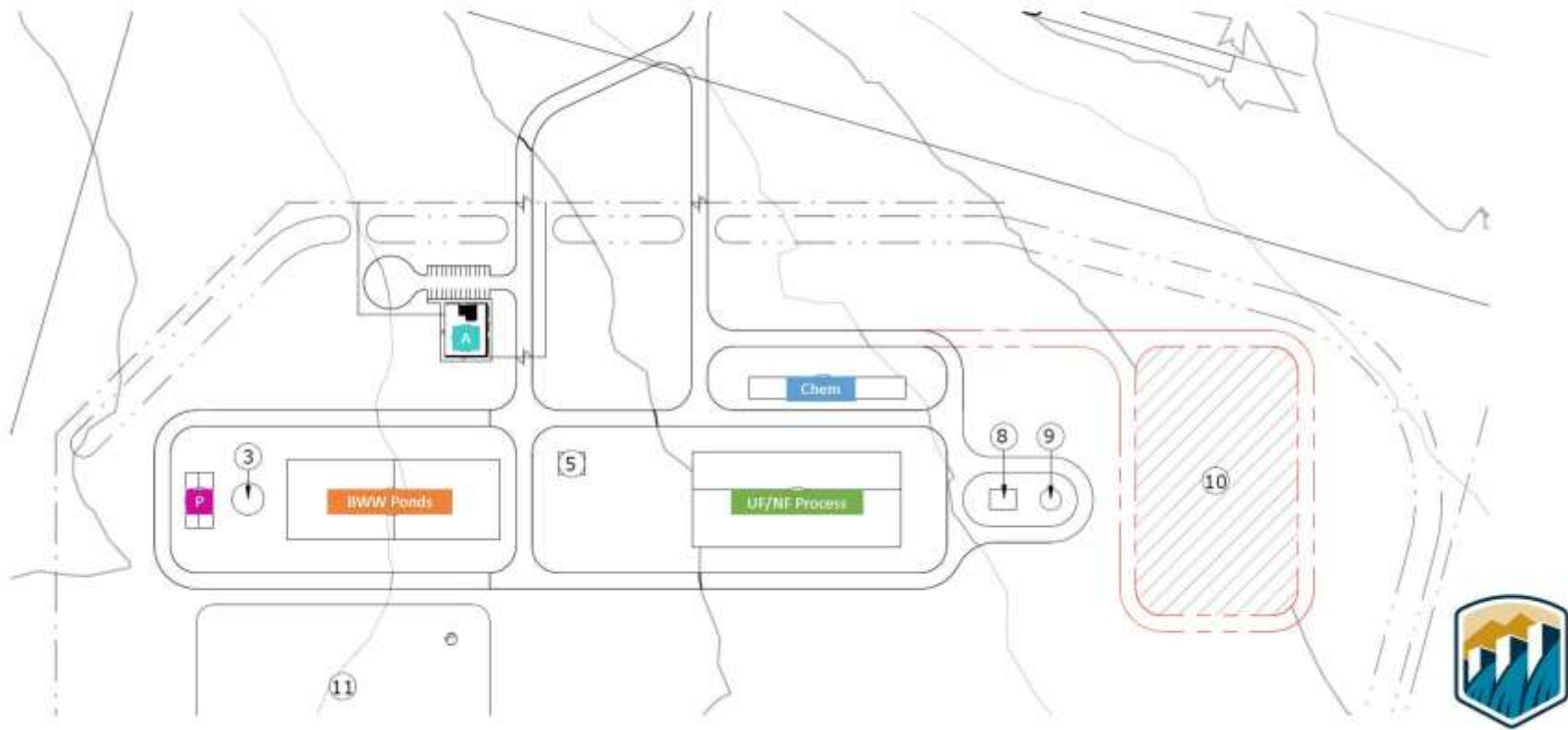
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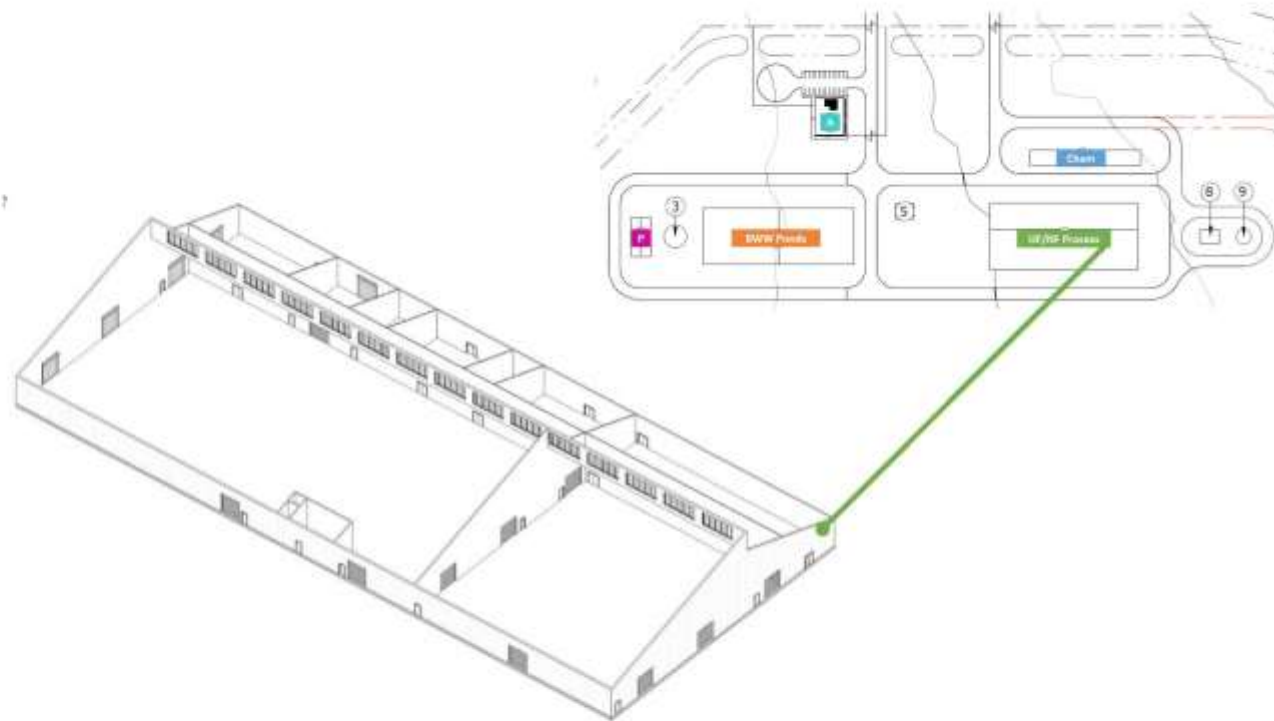
# Conventional / GAC



# UF / NF



# UF / NF



**APPENDIX D – ENDANGERED SPECIES ACT  
COMPLIANCE DOCUMENTATION**





# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

New Mexico Ecological Services Field Office  
2105 Osuna Road NE  
Albuquerque, New Mexico 87113  
Telephone 505-346-2525 Fax 505-346-2542  
[www.fws.gov/southwest/es/newmexico/](http://www.fws.gov/southwest/es/newmexico/)

In Reply Refer To:  
FWS/R2/ES/22420-2001-F-0532

September 21, 2022

Memorandum

ECOSphere Project Code 2022-0082912

To: Area Manager, Bureau of Reclamation, Western Colorado Office, Grand Junction,  
Colorado  
From: Field Supervisor, Fish and Wildlife Service, New Mexico Ecological Services,  
Albuquerque, New Mexico

**SHAWN SARTORIUS**

Digitally signed by SHAWN SARTORIUS  
Date: 2022.09.21 16:20:41 -0500

Subject: Final Biological Opinion for Navajo-Gallup Water Supply Project

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (BO) regarding effects of actions associated with the Bureau of Reclamation's (Reclamation) proposed Navajo-Gallup Water Supply Project (NGWSP) on federally listed species and their designated critical habitats in accordance with section 7(b) of the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 et seq.) and implementing regulations (50 CFR 402). The proposed action is a water development and supply project that would divert water from the San Juan River and Navajo Reservoir to the Navajo Nation, Jicarilla Apache Nation, and the City of Gallup, New Mexico. This BO reiterates effects of the proposed action covered in the 2009 BO (Consultation No. 22420-2001-F-0532) in addition to modifications to the NGWSP for the realignment of the northern portion of the San Juan Lateral not previously considered. This BO will remain in effect until consultation is reinitiated. Species affected by the proposed project are the endangered Colorado Pikeminnow (*Ptychocheilus lucius*) and its designated critical habitat; the endangered Razorback Sucker (*Xyrauchen texanus*) and its designated critical habitat; the endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and the threatened Mesa Verde Cactus (*Sclerocactus mesae-verdae*). Reclamation determined that effects from the proposed project may affect and are likely to adversely affect Colorado Pikeminnow, Razorback Sucker, and Mesa Verde Cactus and that the proposed project "may affect is not likely to adversely affect" the southwestern willow flycatcher or critical habitat for Colorado Pikeminnow and Razorback Sucker. The Service bases the determinations of this BO on the rationale provided in the BA and on subsequent Service review and analysis. We concur with your "may affect is not likely to adversely affect" determination the Southwestern Willow Flycatcher

Ed Warner, Reclamation

because of the limited suitable habitat for the species in the action area and lack of individuals documented during surveys conducted during the breeding season. In accordance with section 7 regulations effective January 15, 2009 (50 C.F.R. §402.13), further consultation for the Southwestern Willow Flycatcher is not included in this BO for the proposed action.

The BO describes the impacts of the proposed action of Colorado Pikeminnow, Razorback Sucker, and Mesa Verde Cactus and critical habitat for both fish species. This biological opinion relies on the revised regulatory definition of “destruction or adverse modification” of designated or proposed critical habitat from 50 Code of Federal Regulations (CFR) 402.02. As of February 11, 2016, the definition of “destruction or adverse modification” has been revised to align it with the conservation purposes of the Endangered Species Act of 1976, as amended (Act), and the Act’s definition of “critical habitat” (81 FR 7214). Specifically, the rule states: “Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.” The revised definition continues to focus on the role that critical habitat plays for the conservation of listed species and acknowledges that the development of physical and biological features may be necessary to enable the critical habitat to support the species recovery.

Ultimately, we found that the proposed action will not jeopardize the continued existence of the Colorado Pikeminnow, Razorback Sucker, or Mesa Verde Cactus. In addition, the proposed action is not likely to adversely modify or destroy critical habitat for either fish species. Working with Reclamation and others, we developed conservation measures within the proposed action, Reasonable and Prudent Measures (RPM), and Terms and Conditions that can be implemented in a manner consistent with the intended purpose of the proposed action, and that can be implemented consistent with the scope of the Federal agencies’ legal authorities and jurisdiction. The RPMs are economically and technologically feasible and we believe implementing them would minimize the effect of incidental take of Colorado Pikeminnow and Razorback Sucker as a result of the Proposed Action.

In accordance with section 7 of the Act and its implementing regulations, this BO represents the best scientific and commercial information available on the effects of the proposed action to federally listed species, including depletion, entrainment, fish passage, water quality and selenium accumulation in listed species in the San Juan River Basin. A complete administrative record of this consultation is on file at the Service’s New Mexico Ecological Services Field Office, in Albuquerque, New Mexico. Please contact the Service if the Proposed Action is changed and new information reveals effects of the Proposed Action to these species or critical habitat to an extent not addressed in the Biological Assessment or this attached BO. If you have questions regarding this consultation, please contact Scott Durst at (505) 761-4739.

Ed Warner, Reclamation

cc: (w/attach)

Navajo Nation, San Juan River Basin Recovery Implementation Program Coordination

Committee representative (tulley-cordova@navajo-nsn.gov)

Melvin Baker, Tribal Chairman, Sothern Ute Indian Tribe, P.O. Box 737 398 Ouray Drive,  
Ignacio, CO 81137

Ute Mountain Ute Tribe, San Juan River Basin Recovery Implementation Program Coordination

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Jicarilla Apache Nation, San Juan River Basin Recovery Implementation Program Coordination

Committee representative (jen@jjdfirm.com)

Upper Colorado River Endangered Fish Recovery Program Director (julie\_stahli@fws.gov)

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Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division,

Santa Fe, New Mexico (susan.torres@state.nm.us)

Endangered Species Act – Section 7 Consultation  
Final Biological Opinion

ECOSphere Project Code 2022-0082912

## Navajo-Gallup Water Supply Project

Agency: U.S. Bureau of Reclamation

Consultation Conducted By: U.S. Fish and Wildlife Service, New Mexico  
Ecological Services Field Office

Date Issued: 20 September 2022

Approved by:  
Shawn Sartorius  
Field Supervisor  
SHAWN SARTORIUS

ECOSphere Project Code: 2022-0082912

Digitally signed by SHAWN SARTORIUS  
Date: 2022.09.21 16:21:18 -0600

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## **INTRODUCTION**

This is the U.S. Fish and Wildlife Service's (Service) biological opinion (BO) regarding effects of actions associated with the U. S. Bureau of Reclamation's (Reclamation) proposed Navajo-Gallup Water Supply project (NGWSP) in San Juan County, New Mexico on Colorado Pikeminnow (*Ptychocheilus lucius*) and its designated critical habitat, Razorback Sucker (*Xyrauchen texanus*) and its designated critical habitat, and Mesa Verde Cactus (*Sclerocactus mesae-verdae*) in accordance with section 7(b) of the Endangered Species Act of 1973, as amended (Act, 16 U.S.C. 1531 et seq.), and implementing regulations at 50 CFR 402. This is a reinitiation of consultation for the NGWSP based on a modification to the proposed action, specifically the realignment of the northern portion of the San Juan Lateral not considered in the Services' 2009 BO (Service 2009).

A BO is a document that states the opinion of the Service as to whether a federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat. "*Jeopardize the continued existence of*" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02). "*Destruction or adverse modification*" is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species (50 CFR § 402.02; 84 FR 44976-45018). Please note that primary constituent elements (PCEs) of critical habitat are now referred to as physical and biological features (PBFs) based on the final rule implementing changes to regulations for designating critical habitat (81 FR 7414-7440). However, to maintain consistency with the final rules designating critical habitat for species addressed in this biological opinion, this document will use the term PCE where applicable. There is no designated or proposed critical habitat for Mesa Verde Cactus.

This BO is based on information provided in the Biological Assessment (BA), electronic mail and telephone conversations between our staffs, data in our files, literature review, and other sources of information. A complete administrative record of this consultation is on file at the New Mexico Ecological Services Field Office, Albuquerque, New Mexico. We received all the information necessary for formal consultation on 19 July 2022.

## **BACKGROUND**

Reclamation is proposing to construct a water supply project that would divert water from the San Juan River and Navajo Reservoir and deliver it to the Navajo Nation, Jicarilla Apache Nation, and the City of Gallup. The Service issued a BO for the Navajo-Gallup Water Supply project on 26 February 2009 (Service 2009) but Reclamation requested reinitiation of that consultation due to modification in project design that were not covered in the 2009 BO. This BO evaluates the effects of the modifications described in Reclamation's BA received on 19 July 2022 and reiterates description from the 2009 BO for aspects of project that remain unchanged.

The Proposed Action not covered in the 2009 BO, the Realignment of the Northern Portion of the San Juan Lateral, is located on private, State of New Mexico, New Mexico Department of Transportation (NMDOT), Navajo Nation Tribal Trust, and Bureau of Land Management (BLM)



land in San Juan County, New Mexico. The Proposed Action includes the following federal actions:

- Acquisition and upgrade of select lands and facilities associated with the Public Service Company of New Mexico's (PNM) San Juan Generating Station water intake, conveyance, and storage systems.
- A water conveyance agreement with PNM to convey a maximum flow of 4 cubic feet per second (cfs) not to exceed 1,500 acre-feet/year (afy) of non-NGWSP (non-project) water from the San Juan River to the San Juan Generating Station Reservoir and other points of delivery along the system.
- Acquisition of private lands and rights-of-way (ROW) easement agreements for the realignment and construction of the northern reaches of the NGWSP's San Juan Lateral water pipeline, including its associated pumping plants, water storage facilities, and water treatment plant.
- Connection of pumping plants, water storage facilities, and San Juan Lateral Water Treatment Plant (SJLWTP) to nearby transmission lines for project power.

Reclamation is approximately halfway through the construction of the NGWSP. The Cutter Lateral is near full completion and began delivering water to Navajo communities along the US Highway 550 corridor in 2021. The main trunk of the San Juan Lateral is being constructed south to north with current construction activities nearing the Navajo communities of Little Water and Sanostee. Branches of the San Juan Lateral that will deliver water to the communities in Crownpoint, New Mexico, and Window Rock, Arizona are in the planning and contracting phases of development.

Reclamation's July 2022 revised BA tiers to and incorporates information from Reclamation's 2005 Biological Assessment for the Navajo-Gallup Water Supply Project and 2008 Addendum to the Biological Assessment as well as the Service's 2009 Final Biological Opinion for Navajo-Gallup Water Supply Project, US Bureau of Reclamation, Durango, Colorado (Service 2009).

### **Consultation history**

General discussions between Reclamation and the Service regarding the NGWSP have occurred since the 2009 BO. Reclamation explored the potential of using the Hogback Canal diversion as a location for the NGWSP San Juan River intake and San Juan Lateral Water Treatment Plant from 2015 to 2019; however, Reclamation stopped evaluating this location because it was determined to be a high-risk/high-cost option. Informal discussions began in 2019 to reinstate consultation for the NGWSP based on a new project design of modifying Public Service Company of New Mexico's (PNM) existing San Juan River diversion for the NGWSP.

On 6 November 2019, Reclamation and the Service held a conference call to discuss the background of the NGWSP and the potential of using the existing PNM diversion facilities.

On 17 June 2021, an additional call was held to discuss including a fish weir and other design options for the Proposed Action.

On 16 December 2021, another meeting was held to discuss the design modification of the PNM intake.

On 21 January 2022, a site visit to the PNM diversion area with Reclamation and Service staff occurred.

On 23 February 2022, a Reclamation biologist presented the project and design to the San Juan River Basin Recovery Implementation Program (SJRIP) Biology Committee (BC) meeting.

On 7 April 2022, Reclamation requested reinitiation of formal consultation for the Realignment of the Northern Portion of the San Juan Lateral of the Navajo-Gallup Water Supply Project and provided a Biological Assessment/Evaluation for modifications not previously considered.

On 4 May 2022, the Service and Reclamation discussed the Navajo-Gallup Depletion Guarantee in the 2009 BO and determined removing that as part of the proposed action would not be part of this reinitiation.

On 24 May 2022, the Service provided comments on the BA and requested additional information before formal consultation could be initiated.

On 6 June 2022, the Service and Reclamation discussed questions raised in the review of the BA and how to best address those comments.

On 28 June 2022, the Service and Reclamation met to discuss and revise take calculations included in the BA.

On 11 July 2022, the Service and Reclamation discussed conservation measures that would be included as part of the proposed action compared to the 2009 BO.

On 19 July 2022, Reclamation clarified which of the three water contract scenarios described in the 2009 BO is currently being pursued to complete the NGWSP.

On 19 July 2022, Reclamation provided a revised Biological Assessment/Evaluation and the Service had all the information necessary to begin formal consultation. Reclamation will continue to coordinate with the Service and SJRIP on project design during the Proposed Action's formal consultation period through final design and subsequent construction.

## **DESCRIPTION OF THE PROPOSED ACTION**

Regulations implementing the Act (50 CFR 402.02) define "action" as "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies of the United States or upon the high seas."

### **Proposed Action**

The Navajo-Gallup Water Supply Project (NGWSP) is proposed to deliver treated municipal water from the San Juan River and Navajo Reservoir to selected Navajo communities, a portion of the Jicarilla Apache Nation, and the City of Gallup, New Mexico. The project is planned with adequate capacity to serve approximately 203,000 people in the New Mexico portion and the Window Rock area of the Navajo Nation, 1,300 people in the Jicarilla Apache Nation, and 47,000 people in Gallup.

### ***Cutter Lateral***

The Cutter Lateral will take water from the Cutter Reservoir, fed by the Navajo Indian Irrigation Project (NIIP) withdrawal from Navajo Reservoir (Figure 2). The Cutter Lateral would serve Huerfano, Nageezi, Counselor, Pueblo Pentado, Ojo Encino, Torreon and Whitehorse Chapters in the eastern portion of the Navajo Nation and a portion of the western Jicarilla Apache Nation, delivering up to 4,645 af of water per year. The water treatment and pumping plant will have a footprint of about three to four acres located downstream of Cutter Dam, in a previously disturbed area. The plant will have a capacity of 5.39 million gallons per day (mgd) or 8.34 cfs and will feed about 89 miles of buried pipeline ranging in diameter from 10 to 24 inches. Five re-lift pumps will be built along the route to maintain required delivery pressure, along with three community storage tanks and two regulating tanks. Much of the pipeline route is paralleled with an overhead electrical transmission line to power the pumping plants. The typical footprint for each re-lift pump and storage tank will be about one acre with no open water and enclosed in a chain link fence. The Cutter Lateral is near completion and began delivering water to Navajo communities along US Highway 550 in 2021. The effects of the Cutter Lateral portion of the proposed action were considered in the 2009 BO and remain unchanged.

### ***San Juan Lateral***

The San Juan Lateral diversion point will occur at the existing Public Service Company of New Mexico (PNM) diversion dam (Figure 3) and will deliver up to 33,118 afy of water via main and branching pipelines to the 36 Navajo Nation Chapters and the City of Gallup, New Mexico. As part of the proposed action not considered in the 2009 BO, Reclamation will acquire (and upgrade as necessary) existing facilities from PNM to provide additional water storage capability and improve the flexibility and resilience of the NGWSP. These facilities include: (1) the San Juan River diversion weir; (2) the San Juan River diversion and intake; (3) San Juan River pumping station; (4) the raw water pipeline, 12.5 kilovolt powerline, and fiber optic line from the San Juan River station to San Juan Generating Station Reservoir; and (5) the San Juan Generating Station Reservoir and dam.

The San Juan River diversion weir (i.e., PNM Weir) is 170-foot-long by 20-foot-wide concrete structure that spans the San Juan River to pool water upstream of the weir into the intake works. The San Juan River intake diverts water from the river that is subsequently pumped via the pipeline to the San Juan Generating Station Reservoir. The San Juan River diversion and intake is a large concrete structure where water is first diverted from the river through an outer trash rack with 8-inch bar spacing (Figure 4). This outer trash rack will be removed and replaced with a trash rack with 4-inch by 4-inch bar spacing. Before entering the main diversion channel, water flows into a small basin and through a 1.5-inch by 4-inch inner trash rack that will be removed. Water then flows through the main diversion channel until it is either sent to the River Station to be pumped to the San Juan Generating Station Reservoir (Reach 1) or is passed through the return channel and back to the San Juan River. Gate infrastructure will be added to the diversion channel to allow sluicing of the channel and limit water entering the intake channel during flood flows in the San Juan River. A 123-foot-long concrete weir will be installed in the main diversion channel allowing the top 4-inches of the water column to enter the pumping station while minimizing fish and sediment entrainment. Additional gates will be installed to ensure the appropriate water elevation in the diversion channel is maintained so the top 4-inches of water flows over the weir. Most diversion and intake improvements would occur within the existing

structure. Removal and replacement of the outer trash rack and construction of the bottom of the fish raceway would occur at the interfaces of the diversion and intake structure and the San Juan River. Temporary cofferdams would be installed around the outer trash rack (approximately 85 feet long by 15 feet wide [0.03 acre]) and bottom of the fish raceway (approximately 50 feet long by 15 feet wide [0.02 acre]) to exclude water during construction activities.

The fish barrier weir design would be similar to the weir used on the San Juan River at the Hogback Diversion Canal and would be designed for 71 cfs of water to pass over it for pumping to the San Juan Generating Station Reservoir. Water entering the diversion and intake structure and not passing overtop the weir (including fish, sediment, and debris) would flow into the return channel and back to the river. To maintain 71 cfs of water passing over the weir to the pumping station, 96 to 151 cfs would be diverted from the San Juan River at flows of 500 to 10,000 cfs, returning 25 to 80 cfs to the San Juan River through the return channel (Table 1). Through coordination with the San Juan River Basin Recovery Implementation Program (SJRIP), a remotely operated Passive Integrated Transponder (PIT) tag monitoring system may be installed during or after construction of the fish barrier weir to monitor endangered fish use of the intake and potential entrainment within the San Juan Generating Station water conveyance system. The Service, through the SJRIP would be responsible for the operation, maintenance, and data collection of the remote PIT-tag monitoring system.

Reclamation proposes to realign approximately 32 miles of the San Juan Lateral water pipeline from the southern terminus of Reach 4B to the northern terminus of Reach 2 at the San Juan Generating Station Reservoir (Figure 3). The water pipeline may vary from 36 to 54 inches in diameter and would be made of either cement mortar-lined steel, ductile iron, high-density polyethylene (HDPE), or polyvinyl chloride (PVC), depending on pressure. Where possible, the pipeline alignment was modified to avoid sensitive cultural and environmental resources and parallels existing roads, two-tracks, and other linear infrastructure. Sections of the pipeline would be bored or use horizontal directional drilling under wetlands, water features, roads, or ditches. Multiple pumping plants and water storage facilities would be required to collect, stage, and optimally pump the required amount of water through the NGWSP pipeline system.

Buried pipeline starting at the San Juan Generating Station Reservoir will head southwest for approximately 5.4 miles before crossing under the San Juan River and terminating at the proposed Morgan Lake Surge Tank (Reach 2). Pumping Plant 1 would be constructed at either a northern option (at the San Juan Generating Station Reservoir) or southern option (outside the San Juan River's floodplain along the bluffs south of the San Juan River). The northern option of Pumping Plant 1 would be a 12,000 square foot building with a footprint of 1.8 acres within an initial disturbance area of 4.4 acres for construction. The southern option of Pumping Plant 1 would be a 12,000 square foot building with a 2-acre footprint in a currently 6.8-acre fallow field. The buried water pipeline would continue at the proposed Morgan Lake Surge Tank site and travel westward along Navajo Route N36 before crossing the road southwest toward Chaco Wash and the Hogback for approximately 8.6 miles to the proposed location of the San Juan Lateral Water Treatment Plant (SJLWTP; Reach 3). The Morgan Lake Surge Tank has a capacity of 250,000 gallons with a 0.1-acre footprint within an initial disturbance area of 0.3 acres. The SJLWTP would consist of 5-6 buildings, 2-6 ponds, 3-6 water tanks, and a septic system with a 52.1-acre footprint at full buildout within an initial disturbance area of no more

than 100 acres. The water pipeline from the SJLWTP would run approximately 7 miles south to the proposed location of Pumping Plant 2 (Reach 4A). Pumping Plant 2 would be a 6,445 square foot building with a 1.6-acre footprint within an initial disturbance area of 4.6 acres. An approximately 11.2-acre staging area is proposed just west of Pumping Plant 2. The water pipeline from the proposed Pumping Plant 2 runs southwest for approximately 5.5 miles before reaching and paralleling US Highway 491 another 5.4 miles south (Reach 4B) before connecting into Reach 4C (under construction) and continuing along highway US Highway 491 through the City of Gallup. Additional branches of the San Juan Lateral serve Window Rock, Burnham, Gallup, and communities south of Gallup. Construction and testing of the facilities for the NGWSP are anticipated to be completed by 2029.

Construction of the pipeline trench would require 150-foot-wide corridor and reach a maximum depth of 20 feet in some areas (drainage crossings) but would typically average 6 to 7 feet in depth. The width of the trench would be approximately 20 feet wide but may vary depending on the depth of excavation, type of bedding, embedment requirements, and side slope safety requirements, including the use of trench boxes, benching, or other methods. Horizontal directional drilling and jack and boring would be used to pipe underneath wetland and riparian areas, near roads and other infrastructure, and avoid otherwise sensitive resources. Pipeline construction disturbs only a small area at a time and occurs primarily on previously disturbed lands. The pipeline corridor would have a permanent 50 to 80-foot right-of-way that may be further restricted to avoid disturbance to sensitive cultural and environmental resources and not interfere with adjacent infrastructure.

Construction of the plant facilities would include grading, excavation, sub-foundation earthwork, fabrication of water storage tanks and other facilities, and storage of materials and equipment. New facilities following dark sky lighting techniques would be lighted to minimize skyglow, glare, and light trespass. Surface water runoff and drainage from the tank sites would discharge to existing ditches/swales adjacent to the sites. Periodic discharges of chlorinated or non-chlorinated water from the tanks may occur when disinfecting, flushing, filling, or emptying the tanks and associated piping and would follow methods in the facilities' approved discharge, stormwater, and other permits. Areas disturbed during construction of the Proposed Action, except for project footprints needed for the continuous operation and maintenance of the project would be reclaimed and reseeded. Removal of riparian and wetland vegetation would not occur between 15 March and 15 August to avoid the potential effects on migratory nesting birds and the proposed action would temporarily impact 0.1 acres of habitat at the base of the San Juan Generating Station Reservoir dam. Impacted riparian or wetland habitat would include acre-per-acre replacement or enhancement of 3 acres for each acre lost.

### ***San Juan River water depletions***

The project is designed to divert a total of 37,764 afy of water from the San Juan River with a resulting depletion of 35,893 afy to the San Juan River Basin. The Cutter Lateral would divert 4,645 afy with no return flow to the San Juan River. The San Juan Lateral would take the remaining 33,119 afy of diversion. Of the total NGWSP diversion of 37,764 afy, the Navajo Nation will consumptively use up to 27,193 afy for its project uses in New Mexico and Arizona, the Jicarilla Apache Nation will consumptively use up to 1,200 afy for its project uses in New Mexico, and the City of Gallup, New Mexico, will consumptively use up to 7,500 afy, resulting

in a total depletion from the San Juan River of 35,893 afy. A new water depletion of 5,271 afy would occur as part of the NGWSP and was analyzed as part of the 2009 BO. Reclamation would continue to operate Navajo Dam and Reservoir under the SJRIP's Flow Recommendations to assist in conserving endangered fish in the San Juan River (Reclamation 2006). The description of total depletions to the San Juan River and the effect of those depletions has remained consistent with the 2009 BO. If at any point in the future the nature of depletions to the San Juan River deviate from the description herein, the effect of depletion will be based on baseline and current conditions at that time.

The City of Gallup will supply its water through the NGWSP by entering a subcontract with the Jicarilla Apache Nation for the delivery of up to 7,500 afy of water from the Navajo Reservoir supply under the Jicarilla's Settlement Contract approved by Congress in 1992. Plans for the Jicarilla Apache Nation Navajo River Water Supply Project (JANNRWSP) include the allowance to deliver all or part of the water allocated to the JANNRWSP to other uses, including the NGWSP. The NGWSP would consumptively use 6,570 afy of Navajo Reservoir supply water previously committed to the JANNRWSP, plus 170 afy of water associated with forbearance of Jicarilla Apache Nation historic use water rights. Thus, of the 8,700 afy of NGWSP depletion that would be sourced by the Jicarilla Apache Nation, 6,740 afy would be provided through changes in use of depletions already in the baseline, and 1,960 afy would be provided through new depletions that are in excess of the baseline and are approved by this BO (Table 2). Of the Navajo Nation's 27,193 afy depletion from the NGWSP, 6,411 afy would be provided through new depletions that are in excess of the baseline and are approved by this BO, and 20,782 afy would be met within the total threshold depletions for the San Juan River Basin described by the Depletion Guarantee (Table 2).

The Navajo Nation committed to a Depletion Guarantee to ensure that depletions for its uses under the NGWSP will be offset by unused Navajo Nation depletions in the San Juan River Basin, including forbearance of its uses on the Navajo Indian Irrigation Project (NIIP) as necessary, if and when the total of the depletions in the basin exceeds a threshold of 752,127 afy. So long as annual depletions in the hydrologic baseline, excluding the San Juan-Chama Project, plus all NGWSP uses does not reach a total depletion amount of 752,127 afy (854,370 afy for all depletions in the baseline, minus 107,514 afy average depletion by the San Juan-Chama Project, plus 5,271 afy of new depletions approved in the 2009 BO; Table 3), the full NGWSP depletion of 35,893 afy will be allowed. Depletions for projects added to the hydrologic baseline since the 2009 BO will not be included in this threshold (i.e., the 752,127 afy threshold will only be based on those projects included in Table 3 [except San Juan Chama] and the 5,271 afy new depletion for the NGWSP).

If at some point in the future the depletion threshold of 752,127 afy is reached, the Navajo Nation will reduce its total depletion in the basin by a maximum of 20,782 afy to reduce total depletions below the 752,127 afy threshold. The Navajo Nation could accomplish the reduction in depletion by changes in the operations of any of the Navajo projects that deplete water from the San Juan River. Changes in the SJRIP's Flow Recommendations for the San Juan River (Holden 1999) or in the status of listed species may result in reduction or removal of this Depletion Guarantee in the future, based upon reinitiation of consultation. No specific, detailed accounting of depletions will be required unless Reclamation determines the sum of NIIP and

Animas LaPlata Project (ALP) depletions reaches 290,000 afy (Table 3). If this condition is met, Reclamation will monitor and report depletions on a 5-year cycle to coincide with Reclamation's Consumptive Use and Loss report.

### ***Conservation Measures***

Reclamation will implement the following conservation measures for the Colorado Pikeminnow, Razorback Sucker and Mesa Verde Cactus with the intent to avoid and minimize adverse effects to these species resulting from the proposed action.

The following conservation measures are part of the Proposed Action. Conservation Measures are primarily derived from the 2009 BO with a few new additions and modifications relevant to the Proposed Action. Measures related to the modification of PNM's San Juan River diversion and intake are newly included. Former Mesa Verde Cactus conservation measures numbers 1 and 5 have been combined (now number 1), and numbers 4 and 10 (now number 9) have been modified.

#### Modification of PNM's San Juan River diversion and intake

1. Reclamation will modify PNM's San Juan River diversion and intake, including but not limited to the installation of a fish barrier weir, to minimize potential entrainment and impingement of San Juan River fish.
2. Reclamation will coordinate with the SJRIP to test and potentially install a remotely operated PIT tag monitoring system at PNM's San Juan Generating Station diversion and intake on the San Juan River to monitor endangered fish use of the structure and assess potential entrainment associated with the water conveyance system's newly installed fish barrier weir. The SJRIP will be responsible for any data management associated with the PIT tag monitoring system.
3. Reclamation will reconstruct PNM's existing San Juan River Station and diversion and intake structure without using variable speed infrastructure to not interfere with PIT tag systems.
4. Reclamation, in coordination with the SJRIP, will develop a basis of design for pumping water from the San Juan River that documents the ability to and plan for temporarily shutting down operations to reduce the potential entrainment of endangered fishes into PNM's San Juan Generating Station water conveyance system. The initial basis of design will be developed prior to San Juan Lateral water delivery and will be periodically updated by Reclamation (in coordination with the SJRIP) based on projected NGWSP water demands, fish population dynamics, water quality monitoring, and other relevant topics.
5. Reclamation will follow applicable San Juan River and Other Water Crossings conservation measures (described below) related to the modification of PNM's San Juan River diversion and intake.

#### San Juan River and other water crossings

1. Silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures will be used to prevent erosion from entering water bodies during construction.
2. Water quality parameters will be monitored before, during, and after construction to ensure compliance with State Water Quality Standards. In-water work will stop if State Water Quality Standards are exceeded at or below the worksite.

3. Construction of the cofferdam will be scheduled during minimal low flows to avoid and minimize direct or indirect effects on fish species. River flows up and downstream of construction areas will be maintained. Fish passage around dewatered construction areas will be maintained at all times.
4. A fish net barrier will be installed upstream and downstream of the construction site during construction to exclude fish from the work area during periods of in-water work.
5. Reclamation will coordinate with the Service to have a biologist(s) on-site to rescue any fish species stranded as a result of construction activities.
6. Concrete pours will occur in forms and/or behind cofferdams to prevent discharge into the river. Any wastewater from concrete-batching, vehicle wash-down and aggregate processing will be contained and treated or removed for off-site disposal.
7. Fuels, lubricants, hydraulic fluids, and other petrochemicals will be stored and dispensed outside the 100-year floodplain in an approved staging area. Equipment will be inspected daily for petrochemical leaks. Construction equipment will be parked, stored and serviced only at approved staging area, outside of the 100-year floodplain.
8. An oil spill response plan will be prepared for areas of work where spilled contaminants could flow into water bodies. All employees and workers, including those under separate contract, will be briefed and made familiar with this plan. The plan will be developed prior to the initiation of construction. Oil spill response kit, which includes appropriate-sized spill blankets, shall be easily accessible and on-site at all times.
9. On-site supervisors and equipment operators will be trained and knowledgeable in the use of spill containment equipment.
10. Appropriate Federal and State authorities will be immediately notified in the event of any contaminant spill.
11. Disturbed areas within the wetted channel will be covered with clean cobble or quarry stone from an upland source. Disturbed areas adjacent to the wetted channel will be stabilized and planted with native riparian vegetation.

#### Mesa Verde Cactus

1. Prior to the completion of final design, Reclamation will inventory/survey known populations of Mesa Verde Cactus and suitable Mesa Verde Cactus habitat within 500 feet of the proposed project footprint to help inform project design. Surveys will be conducted in the cactus' blooming period to increase detection probability. All areas that may be affected (directly or indirectly) by construction, operation, or maintenance will be surveyed. Additional pre-construction cactus surveys will be conducted in the blooming period of the year preceding the initiation of construction activities to identify any new cacti. The locations of any additional cacti identified during pre-construction surveys will be incorporated into a Mesa Verde Cactus Construction Plan. Appropriate mitigation measures will be developed in consultation with the Service and the Navajo Nation if impacts to these new plants cannot be avoided.
2. Based on the results of these inventories, Reclamation will develop a detailed Mesa Verde Cactus Construction Plan (Construction Plan) for the purposes of avoiding and minimizing disturbance to Mesa Verde Cactus and suitable habitat to the greatest extent possible. The Construction Plan will be submitted to the USFWS and Navajo Nation for review and comments 30 days prior to any construction activities occurring. Specific locations of Mesa Verde Cactus will be kept confidential and no Universal Transverse



Mercator (UTM) coordinates or similar location data will be included in the final report available to the general public.

3. Construction areas, including pipeline alignments, pumping plants, temporary and permanent access roads, staging areas, etc., will be located in coordination with project engineers and Reclamation resource specialists to avoid individual cactus and habitat identified during the inventories. To the extent practicable, impacts to Mesa Verde Cactus and/or suitable Mesa Verde Cactus habitat will be minimized. Existing roads and previously disturbed areas (i.e., power lines, fence lines, prior construction staging areas) will be utilized where possible to minimize impacts. If temporary construction access roads are needed that will be sited closer than 50 feet from known individual cactus locations, these plants will be monitored during road use. The edges of these access roads will be flagged in the field.
4. When construction is complete, temporary access roads and staging areas within suitable Mesa Verde Cactus habitat will be closed and hand-raked to remove tire tracks.
5. Reclamation will develop an education program for all Reclamation field staff and all contractor employees regarding identification and conservation of the Mesa Verde Cactus. The program will include information about the legal and biological status of the Mesa Verde Cactus, the importance of habitat preservation, the occurrence of cactus and suitable habitat in the area, the Mesa Verde Cactus Construction Plan, fines for damaging or removing Mesa Verde Cactus, and procedures for reporting Mesa Verde Cactus not previously identified.
6. All sites where Mesa Verde Cactus are present will be fenced or flagged as detailed in the Construction Plan and monitored daily by Reclamation resource specialists when construction activities are ongoing in the vicinity. Fencing will extend 200 feet in both directions along access roads beyond the limits of each site. Where possible, fencing will include a 50 feet buffer around any known cacti during construction activities. All fencing will be inspected daily and maintained as needed to ensure adequate protection. All construction contracts will have “stop work clauses” if new cacti are discovered. Any disturbance to Mesa Verde Cactus observed by construction personnel will be reported immediately to Reclamation. A written account including a map, extent of the disturbance, the number of cacti, and the circumstances surrounding the disturbance will be submitted to the Service and Navajo Nation within 48 hours.
7. All traffic will be limited to routes specified in the Construction Plan via designated work area and access roads and previously inventoried for Mesa Verde Cactus. Cross-county travel within occupied and/or suitable Mesa Verde Cactus habitat will be strictly prohibited.
8. To reduce the likelihood of noxious plants, cleaning of construction equipment will be required before entry into occupied or suitable Mesa Verde Cactus habitat.
9. Routine post-construction inspections of the pipeline in suitable Mesa Verde Cactus habitat will be performed using defined access roads. Additional surveys for Mesa Verde Cactus in suitable habitat will be required prior to any ground-disturbing activity for maintenance.
10. Where features cannot be re-routed or moved to avoid impacts on individual Mesa Verde Cactus, the Mesa Verde Cactus will be transplanted in suitable habitat in cooperation with the Service and the Navajo Nation as described in the Construction Plan. Transplanted Mesa Verde Cactus will be monitored for a minimum of 5 years. Applicable

permits from the USFWS and Navajo Nation will be obtained prior to transplanting Mesa Verde Cactus.

11. Noxious weeds will be continually controlled within disturbed areas.

As part of the Terms and Conditions, the Service requires documentation and reporting on the implementation of the conservation measures will occur within 6 months after completion of the project. Annually, thereafter for a period of 5 years, documentation and reporting will occur on the status of transplanted and relocated Mesa Verde Cactus and control of noxious weeds within the disturbed sites.

### **Description of the action area**

The San Juan River originates in the San Juan Mountains of southwestern Colorado. It flows approximately 31 miles south to the Colorado/New Mexico border, 190 miles westward to the New Mexico/Arizona border, and 136 miles into Lake Powell reservoir, at the western edge of the action area (Figure 1). The San Juan River has few perennial tributaries (the Animas River is the largest) and numerous ephemeral drainages that receive substantial seasonal summer flows. In 1962, Reclamation constructed Navajo Dam on the mainstem of the San Jan River just south of the Colorado border in New Mexico to store flows from the San Juan, Los Pinos, and Piedra Rivers (Reclamation 2000).

The action area is defined at (50 CFR 402.02) as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. The Service has determined that the action area for this project includes the diversion points at the Navajo Indian Irrigation Project (NIIP) main canal at Cutter Reservoir and at the Public Service Company of New Mexico (PNM) diversion dam on the San Juan River approximately 3 miles west of Fruitland, NM. The project extends from the San Juan Generating Station (SJGS) south to US Highway 491 to Gallup, NM. The action area includes most of the Navajo Nation in New Mexico and the Window Rock area of Arizona, the Jicarilla Apache Nation in New Mexico, and Gallup (Figure 2).

## **ANALYTICAL FRAMEWORK FOR THE JEOPARDY AND ADVERSE MODIFICATION DETERMINATIONS**

### **Jeopardy determination**

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on four components in our evaluation for each species: (1) the *Status of the Species*, which evaluates the species’ range-wide condition, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the consequences of the proposed Federal action on the species that are reasonably certain to occur as a result of the proposed action; and, (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species’ current status, taking into

account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the species and the role of the action area in the survival and recovery of the species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

### **Adverse modification determination**

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: 1) the *Status of Designated Critical Habitat*, which evaluates the range-wide condition of designated critical habitat for the species in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the designated critical habitat overall; 2) the *Environmental Baseline*, which evaluates the condition of the designated critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; 3) the *Effects of the Action*, which determines the consequences of the proposed Federal action on the PCEs that are reasonably certain to occur as a result of the proposed action and how they will influence the recovery role of affected designated critical habitat units; and, 4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the PCEs, and how they will influence the recovery role of affected designated critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on the designated critical habitat are evaluated in the context of the condition of the designated critical habitat unit, taking into account any cumulative effects, to determine if the designated critical habitat unit would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the species.

## **STATUS OF THE SPECIES AND CRITICAL HABITAT**

### **Colorado Pikeminnow**

The Colorado Pikeminnow is the largest cyprinid (member of the minnow family, Cyprinidae) native to North America and evolved as the top predator in the Colorado River system. It is an elongated pike-like fish that once grew as large as 1.8 m length and weighed nearly 45 kilogram (kg) (Behnke and Benson 1983); such fish were estimated to be 45-55 years old (Osmundson et al. 1997). Today, Colorado Pikeminnow rarely exceeds 1 m in length or weighs more than 8 kg. The mouth of this species is large and nearly horizontal with long slender pharyngeal teeth (located in the throat), adapted for grasping and holding prey. Subadult and adults greater than 200 millimeter (mm) total length (TL) tend to occur in turbid, deep, and strongly flowing water (Sublette et al. 1990).

Colorado Pikeminnow is predatory but there is some discrepancy as to the onset and extent of piscivory. Stomach samples collected from Colorado Pikeminnow 80 to 100 mm TL captured in the Green River consisted almost entirely of other fishes (Vanicek and Kramer 1969). In the San Juan River, the trophic position of this sized Colorado Pikeminnow was lower than predicted,

signifying they were not entirely reliant on fish as prey (Franssen et al. 2019). It is unknown if this is a historical representation of the species' diet, a result of the species' current conditions in the San Juan River or linked to the hatchery origination of most age-0 fishes (Franssen et al. 2019). Roundtail Chub (*Gila cypha*), a potential prey item, used to be abundant in the San Juan River but is mostly extirpated from the system (Carman 2006).

Colorado Pikeminnow was once found throughout warm water reaches of the entire Colorado River Basin down to the Gulf of California, including reaches of the upper Colorado River, the Green River, and the San Juan River including each river's major tributaries, and the Gila River system in Arizona (Seethaler 1978, Platania 1990, Houston et al. 2010). Colorado Pikeminnow was not documented in colder, headwater areas. The species was abundant in suitable habitat throughout the entire Colorado River Basin prior to the 1850s (Seethaler 1978). By the 1970s, they were extirpated from the entire lower basin (downstream of Glen Canyon Dam) and from portions of the upper basin as a result of major alterations to the riverine environment. Having lost approximately 75-80% of its former range, the Colorado Pikeminnow was federally listed as an endangered species in 1967 (Service 1967, Miller 1961, Moyle 1976, Tyus 1991, Osmundson and Burnham 1998).

#### ***Colorado Pikeminnow critical habitat***

Critical habitat was designated for the Colorado Pikeminnow in 1994 within the 100-year floodplain of the species' historical range in the following areas of the San Juan River Basin (Service 1994): San Juan County, New Mexico, and San Juan County, Utah, including the San Juan River from the New Mexico State Route 371 Bridge in Township 29 North, Range 13 West, section 17 (of the New Mexico Principal Meridian), to the full pool elevation at the mouth of Neskahai Canyon on the San Juan arm of Lake Powell reservoir in Township 41 South, Range 11 East, in section 26, approximately 227 miles (Figure 5). The primary constituent elements (PCEs) of critical habitat, the same for both Colorado Pikeminnow and Razorback Sucker, are listed below.

1. Water: a quantity of water of sufficient quality (i.e., temperature, dissolved oxygen, lack of contaminants, turbidity, etc.) that is delivered to a specific location in accordance with a hydrologic regime that is required for the particular life stage for the species;
2. Physical habitat: areas of the Colorado River system that are inhabited or potentially habitable for spawning, feeding, rearing, as a nursery, or corridors between these areas, including oxbows, backwaters, and other areas in the 100-year floodplain which when inundated provide access to spawning, nursery, feeding, and rearing habitats; and,
3. Biological environment: adequate food supply and ecologically appropriate levels of predation and competition.

In general, critical habitat for Colorado Pikeminnow in the San Juan River suffers from multiple impairments. Due to the effects of an on-going drought and poor hydrology, spring peak flows are not attained at the recommended frequency and magnitude in critical habitat resulting in habitat degradation that likely impedes the recruitment of wild-spawned individuals (Service 2021). While baseflows are typically within recommended ranges (500-1,000 cfs), passage barriers limit access to all river reaches and numerous diversions pose entrainment risk, especially for small fish (Service 2022).

### ***Colorado Pikeminnow life history***

As a fish native to the Colorado River Basin, the life history of Colorado Pikeminnow is intrinsically connected to this snowmelt-driven hydrologic system. In response to large spring peak flows, Colorado Pikeminnow can make spawning migrations of hundreds of kilometers to and from spawning areas (Tyus 1990; Irving and Modde 2000). Colorado Pikeminnow spawn in the summer over cobble and gravel that have been recently cleaned by spring peak flows. Colorado Pikeminnow eggs adhere to the river bottom and settle within the substrate's interstitial spaces where they remain until hatch (Bestgen and Hill 2016). Given warm water temperatures (18-30°C), eggs hatch within four to seven days, and recently hatched larvae linger within the interstitial spaces between gravel and cobble for another 4-8 days before emerging into the current. Thus, the incubation period from egg deposition until emergence and dispersal is relatively long (8-15 days). As larvae drift, grow, and develop stronger swimming ability, they tend to occupy low velocity nursery habitat, created and maintained by the river's spring peak flow and inundated by adequate summer base flow. In these nursery habitats, the larvae prey upon small invertebrates until they transform into juveniles (Vanicek 1967; Jacobi and Jacobi 1981, Snyder et al. 2016).

Young Colorado Pikeminnow predominantly consume aquatic invertebrates until they are age-1 and approximately 100-150 mm TL when they begin a transition to piscivory (Vanicek and Kramer 1969). Colorado Pikeminnow from the San Juan River appear to attain larger sizes at the same age as fish in the Colorado and Green River subbasins either due to age-0 fish being stocked at a larger size than their wild counterparts, or warmer water temperatures in the San Juan River (Durst and Franssen 2014). In addition, the transition to becoming fully piscivorous may happen more slowly in the San Juan River and not until after age-2 (Franssen et al. 2019).

As they become sexually mature (as early as age-6 or 7 at approximately 450 mm TL) and predominantly piscivorous, Colorado Pikeminnow establish a home range and make longer movements to foraging habitat maintained by high spring flows; pools, deep runs, and eddies (Osmundson et al. 1998). Larger fish were more abundant in upstream reaches, possibly to take advantage of more abundant prey resources, while downstream reaches contained larger numbers of juvenile and sub-adults (Osmundson et al. 1998). Smaller Colorado Pikeminnow tend to move upstream (Osmundson et al. 1998) and juvenile Colorado Pikeminnow in the San Juan River show a general upstream migration from spring to summer and downstream over winter (Durst and Franssen 2014). These movements may be associated with maximizing growth along longitudinal and seasonal temperature regimes (Durst and Franssen 2014). Tributaries are important in some subbasins, apparently as foraging habitat by juvenile, subadult, and adult life stages (Tyus 1991, Holden 2000). In the San Juan River subbasin access to portions of some tributaries is restricted due to dewatering or passage barriers (Holden 2000) but when available Colorado Pikeminnow use habitat in the Animas and Mancos Rivers and the McElmo Creek drainage (Ryden and Ahlm 1996, Zimmerman. 2005, Fresques et al. 2013).

Age at first reproduction (sexual maturity) appears to vary by sex. While females may have higher growth rates than males, males have been documented to mature earlier (Osmundson 2006), as young as age-6 (Vanicek and Kramer 1969). However, it is probably not until age-8 (~486 mm TL) that most males become active spawners (Osmundson 2006). Females may become sexually mature as early as age-7 but most probably do not spawn until 9–10 years of

age (Osmundson 2006). Like many freshwater fishes, Colorado Pikeminnow is relatively fecund and 9 to 10 year-old females induced to spawn can produce, on average, 77,400 eggs (Hamman 1986). Individuals likely spawn multiple times during a lifetime, and there is evidence they may spawn annually (Tyus 1990; Irving and Modde 2000; Osmundson 2006).

#### ***Colorado Pikeminnow population dynamics***

During five years during the mid-1990s, 19 (17 adult and 2 juvenile) wild Colorado Pikeminnow were collected in the San Juan River between RM 142 (the former Cudei Diversion) and Four Corners at RM 119 (Ryden 2000a, Ryden and Ahlm 1996). Population estimates in the 1990s suggested that there were fewer than 50 adult Colorado Pikeminnow (Ryden 2000a). Starting in 2002, the Colorado Pikeminnow population in the San Juan River has been augmented by stocking hatchery produced fish. Since 2002 nearly 6 million Colorado Pikeminnow of various life stages have been stocked in the San Juan River (Furr 2020). These stocking efforts have resulted in a slowly increasing adult population indicating the survival and recruitment of hatchery-reared fish (Figure 6; Saltzgiver and Mussmann 2022, Schleicher et al. 2022). The adult Colorado Pikeminnow population has successfully spawned every year since 2013 (Farrington et al. 2022), however, recruitment of wild fish to the juvenile life stage has been inconsistent (Barkalow and Zeigler 2022).

#### ***Colorado Pikeminnow status and distribution***

Because of range contraction and population declines, Colorado Pikeminnow was included in the 1967 List of Endangered Species (Service 1967). Colorado Pikeminnow's status remained listed as "endangered" under the Endangered Species Act of 1973, as amended, throughout its historical range in Arizona, California, Colorado, New Mexico, Nevada, Utah, and Wyoming (Figure 5). In the mid-1980s, two experimental, nonessential populations were proposed in the lower Colorado River basin. One was designated for two rivers (Salt and Verde Rivers) in the Gila River subbasin (Service 1985) and another was proposed but not finalized for the mainstem lower Colorado River between Parker and Imperial dams (Service 1987). In 1994 a total of 1,148 miles of river were designated as critical habitat in three Upper Colorado River subbasins: the Green, upper Colorado, and San Juan (Service 1994). Critical habitat has not been designated for Colorado Pikeminnow in the lower basin. A recovery plan for the species was approved in 1991 and amended by the 2002 Colorado Pikeminnow Recovery Goals (Service 2002a). The most recent 5-year status review was completed in 2020 and recommended that Colorado Pikeminnow remain listed as an endangered species (Service 2020).

Changes in the flow regime as a result of water development throughout the Colorado River basin led to initial declines in Colorado Pikeminnow populations. Spring peak flows to create and maintain spawning and nursery habitats have been reduced and base flows necessary for habitat connectivity are not always adequate. In some cases, this development created barriers to movement in the form of dams and diversions, which have fragmented river reaches and limited access to historical habitats. Diversions can also entrain fish into water delivery systems and lead to direct mortality. Large dams can alter water temperatures through hypolimnetic releases, creating conditions too cold for Colorado Pikeminnow growth and reproduction. Predation and competition from invasive, nonnative fishes reduces survival and recruitment of Colorado Pikeminnow in all life stages. Contaminants that impact water quality can reduce reproduction and survival of individuals or lead to population reductions in the case of large, toxic spills.

Lastly, climate change and extended drought reduces streamflow in many river reaches, which strains efforts to manage flows to benefit Colorado Pikeminnow (Service 2022).

In the Green River, the Colorado Pikeminnow population has been declining at least since 2000 at a rate of 1.7-5.5% per year (Miller 2018, Bestgen et al. unpublished data). Similarly, from 2005 to 2015, populations in the upper Colorado River declined 7% annually (Miller 2018). While the adult population in the San Juan has been slowly increasing, it is dependent on hatchery augmentation because wild recruitment only rarely occurs (Miller 2018). Wild Colorado Pikeminnow have been extirpated from the lower Colorado River basin since the mid-1970s (Moyle 1976; Smith et al. 1979; Minckley 1985; Mueller and Marsh 2002) and attempts to reestablish populations through hatchery augmentation have been unsuccessful (Hendrickson 1993; Hyatt 2004).

On-going management dedicated to the recovery of Colorado Pikeminnow in the Upper Colorado River Basin (Colorado, Green, and San Juan River subbasins) is necessary to sustain populations long-term given reduced habitat suitability, barriers to movement, competition and predation from nonnative fishes, degraded water quality, and the physical changes associated with climate change (Miller 2018, Service 2022). Correspondingly, increased stressors (such as decreased water availability because of future water development and/or climate change or increased nonnative fish pressures) or a reduced effectiveness of conservation actions (because of reduced or lapsed funding) would likely result in extirpation of populations within 40 years (Miller 2018, Service 2022).

### **Razorback Sucker**

The Razorback Sucker (family Catostomidae) is a fish endemic to the warm-water portions of the Colorado River basin of the southwestern United States. Razorback Sucker are found throughout the basin in both lotic and lentic habitats, but are most common in low-velocity habitats such as backwaters, floodplains, flatwater river reaches and reservoirs. Juveniles and adults use habitats ranging from backwaters and floodplains to deep and slow-moving pools, but nonnative fishes are also found in such habitats. The species is tolerant of wide-ranging temperatures, high turbidity and salinity, low dissolved oxygen and wide-ranging flow conditions. Razorback Sucker typically become sexually mature between three and four years of age, can live for more than 40 years, and spawn multiple times over a lifespan. Razorback Sucker consume a large array of food items depending on the environment in which they live.

The historical range of the Razorback Suck includes most of the Colorado River basin, from Wyoming onto the delta in Mexico, including the states of Colorado, Utah, New Mexico, Arizona, Nevada and California, and Mexican states of Baja and Sonora. Throughout the basin dam construction reduced peak flows, changed temperature regimes, and disconnected floodplains from the mainstem. Reduced peak flows and altered flow regimes allowed vegetation encroachment that degraded habitat and a variety of nonnative fishes flourished in this environment that prey upon and competed with Razorback Sucker. These changes resulted in a cessation of Razorback Sucker recruitment and populations comprised of solely older adults. Abundances of adult began to decline as mortality was not offset by natural recruitment and wild individual were brought into captivity to establish hatchery augmentation program. Stocking of hatchery-reared fish has successfully restored fish to much of their previously occupied habitat,

however, on-going augmentation is necessary to sustain these populations given the widespread absence of wild recruitment. Razorback Sucker was listed as endangered under the Act in 1991 (Service 1991), due to the lack of natural recruitment and declining numbers of adult fish. Threats identified at listing were diversion and depletion of water, introduction of nonnative fishes, and construction and operation of dams. While populations of hatchery-reared fish are robust, recruitment of wild-spawned Razorback Suckers to the juvenile life stage continues to be rare.

### ***Razorback Sucker critical habitat***

Critical habitat was designated in 1994 within the 100-year flood plain of the Razorback Sucker historical range in the following areas of the San Juan River Basin (Service 1994): San Juan County, New Mexico and San Juan County, Utah, including the San Juan River from the Hogback Diversion in Township 29 North, Range 16 West, in section 9 to the full pool elevation at the mouth of Neskahai Canyon on the San Juan arm of Lake Powell reservoir in Township 41 South, Range 11 East, in section 26, approximately 206 miles (Figure 7). The primary constituent elements of critical habitat are the same as those described earlier for Colorado Pikeminnow.

In general, critical habitat for Razorback Sucker in the San Juan River suffers from multiple impairments. Due to the effects of an on-going drought and poor hydrology, spring peak flows are not attained at the recommended frequency and magnitude in critical habitat resulting in habitat degradation that likely impedes the recruitment of wild-spawned individuals (Service 2021). While baseflows are typically within recommended ranges (500-1,000 cfs), passage barriers limit access to all river reaches and numerous diversions pose entrainment risk, especially for small fish (Service 2018a).

### ***Razorback Sucker life history***

Razorback Sucker's spawning season varies latitudinally, and thus between basins. In Upper Basin riverine habitats, spawning occurs over cobble or gravel substrates in the main channel, flooded lowlands, or tributary confluences from mid-April to mid-June when temperatures reach 14-16°C as spring flows increase (McAda and Wydoski 1980, Tyus 1987; Osmundson and Kaeding 1989a; Osmundson and Kaeding 1989b; Bestgen 1990; Tyus and Karp 1990a; Tyus and Karp 1990b; McAda 1977; McAda and Wydoski 1980; Modde and Irving 1998). In Lower Basin reservoirs spawning generally occurs between January and April when water temperatures are at least 10°C in relatively shallow shoreline areas over clean gravel and cobble (Bestgen 1990, Albrecht et al. 2008). Razorback Sucker also exhibit fidelity to spawning sites (Mueller 1989; Holden et al. 2001; Abate et al. 2002; Welker and Holden 2004; Modde et al. 2005).

Successful Razorback Sucker egg incubation occurs from 9.5 to 20°C (Minckley and Gustafson 1982; Bozek et al. 1990). Egg mortality has been attributed to fluctuating water levels, current scouring and/or wave action, suffocation due to silt deposition, nonnative predation, low dissolved oxygen, and high salinity (Minckley 1983; Bozek et al. 1984; Stolberg 2012a; Stolberg 2012b). Razorback Sucker larvae disperse from spawning bars during high spring runoff. In lotic environments, larval Razorback Sucker are often associated with backwater and in-channel slackwater-type habitats with low velocities (Tyus 1987; Muth et al. 1998). Many nursery habitats have been lost due to altered flow regimes and channelization or have abundant



nonnative fishes that prey on and compete with young Razorback Sucker (Osmundson and Kaeding 1991; Minckley et al. 1991; Mueller 1995; Tyus and Saunders 1996; Modde et al. 2005). However, Razorback Sucker can also complete its life cycle within lentic environments with similar larval habitats as lotic environments (Albrecht et al. 2010).

Razorback Sucker hatch at 7-9 mm and can reach 23 mm TL within 2 months (Papoulias and Minckley 1990). Larvae transition to the juvenile life stage at 27-35 mm TL. (Snyder et al. 2016). At water temperatures above 25°C larvae reach the juvenile life stage more rapidly, reducing their susceptibility to predation (Bestgen 2008). Habitat preferences for juvenile Razorback Sucker remain relatively understudied (Tyus 1987; Bestgen 1990; Service 2002b; Albrecht et al. 2009; Shattuck et al. 2011). Juvenile Razorback Sucker are found in river margins, backwaters, and floodplain wetlands that are warmer than main channel habitats allowing for faster growth and refuge from predators (Sigler and Miller 1963; Modde et al. 2001; Snyder et al. 2016; Schelly and Breen 2015).

Fish reach sexual maturity at 350-450 mm TL at 2-6 years of age (Bestgen 1990; Muth et al. 2000; Albrecht et al. 2009). Fecundity increases with size and for a 450 mm Razorback Sucker fecundity ranges from 56,000 to 90,000 ova (Minckley 1983). Adult Razorback Sucker long distances movements (Durst and Francis 2016) may be related to spawning, but adult fish use a wide variety of habitats in both lotic and lentic systems, including pools and slow eddies, mid-channel cobble riffles and run/riffles, shoreline cobble-shoal-run type habitats, backwater habitats, tributaries, and inundated vegetation (Osmundson and Kaeding 1989a; Ryden 2000b; Albrecht et al. 2008).

### ***Razorback Sucker population dynamics***

Wild Razorback Sucker were apparently extirpated from the San Juan River by the 1990s and the current population was established through stocking of hatchery-reared fish (Holden 1999). Over 200,000 Razorback Sucker have been stocked into the San Juan River Basin since 1994 although annual augmentation goals were not regularly reached until 2005 (Figure 8; <https://streamsystem.org/>). Razorback Sucker are typically stocked at sub-adult sizes (>300 mm TL; Furr 2022) and increased catch rates have indicated survival of these stocked individuals to the adult life stage ( $\geq 400$  mm TL; Schleicher 2018; Figure 9). The adult population appears to have stabilized around 3,000 individuals since 2011 (Saltzgeber and Mussmann 2022, Schleicher et al. 2022; Figure 9). Razorback Sucker spawning has occurred consistently in the San Juan River since 1998 over a larger spatial extent with generally increased density of larval fish captured through time (Farrington et al. 2022). However, the percentage of adults participating in spawning in any given year is low but slowly increasing through time (Diver et al. 2021). Age at maturity in the San Juan River is unknown but the low proportion of individuals successfully contributing to annual spawning could be explained by older age at maturity and slow accumulation of reproductive adults (Diver et al. 2021). Densities of native larval suckers are similar but recruitment of Razorback Sucker to subsequent life-stages is rare in the San Juan River in contrast to Flannelmouth Sucker and Bluehead Sucker (Figure 10). This apparent recruitment bottleneck could be explained by high emigration to Lake Powell, the limited number of spawning adults, or a lack of available rearing habitat and research is on-going in the

San Juan River Basin to address these hypotheses. Given the lack of wild recruitment, the San Juan River Basin population of Razorback Sucker, like most other populations, remains reliant on hatchery augmentation of their persistence.

***Razorback Sucker status and distribution***

Razorback Sucker populations exhibited a lack of recruitment, dwindling numbers of adults, and occupation of only 25% of historical range due to construction of dams and reservoirs, introduction of nonnative fishes, and removal of large quantities of water from the Colorado River Basin that resulted with them being listed as endangered on October 23, 1991 (Service 1991). Dams on the main channel of the Colorado River and its tributaries have fragmented populations, blocked migration routes. Additionally, habitats downstream of dams were degraded through altered flow regimes, decreased water temperatures, and simplification of channel geomorphology. In some cases, this degraded environment is no longer suitable for breeding, feeding, sheltering, or nursery habitats. Nonnative fish introduced to this modified environment have thrived, leading to predation on and competition with Razorback Sucker. Historically, Razorback Sucker were widely distributed in warm-water reaches of larger rivers of the Colorado River Basin from Mexico to Wyoming (Bestgen 1990). Platania (1990) documented occurrence of wild Razorback Sucker in an off-channel irrigation pond of the San Juan River in 1976 and in the main channel of the San Juan River in 1988. Razorback Sucker likely occurred in the main channel as far upstream as Rosa, New Mexico (now inundated by Navajo Reservoir) (Ryden 1997). Following significant range-wide population declines and extirpation in some reaches, reintroduction and repatriation efforts have bolstered Razorback Sucker throughout the much of its historic range (Service 2018a).

In the Upper Colorado River Basin, populations of stocked adults use fish passage facilities to access previously unavailable habitat, successful reproduction is common in all populations and signs of survival to later life stages are increasing but have not reached levels of self-sustainability. Similarly, most Razorback Sucker populations in the Lower Colorado River Basin rely on conservation and management actions that continue to reintroduce Razorback Sucker and actively develop off-channel habitat for their persistence. The Lake Mead population is self-sustaining but has low abundance. Across the Colorado River Basin conservation efforts have bolstered populations and prevented extirpation, but substantial management efforts remain necessary to sustain Razorback Sucker on the landscape (Bestgen 1990, Platania 1990, Platania et al. 1991, McCarthy and Minckley 1987, Osmundson and Kaeding 1989b, Modde et al. 1996). Primary threats to Razorback Sucker populations continue to be streamflow regulation and habitat modification caused by dam construction (including cold-water releases, direct habitat loss, and blockage of migration corridors); competition with and predation by nonnative fish species; hybridization with nonnative suckers; parasites and diseases; and degraded water quality and quantity. Future threats to Razorback Sucker viability are intrinsically linked to adequate stream flows to sustain habitats that will be affected by water demands and management, and climate change and potentially increasing abundance or number of nonnative species (Service 2018a). Any increased threats to Razorback Sucker viability will likely need to be countered with increased conservation management given the species current reliance on these activities for its persistence.

## **Mesa Verde Cactus**

### ***Species description***

The Mesa Verde Cactus is a small globose, usually single-stemmed plant, and 3.2-9 cm in diameter. Each stem has 13 to 17 ribs. Stem diameter growth is about 2.6 mm in years of normal precipitation (Colorado Natural Areas Program 2005). Once the stems reach about 9 cm, they stop growing larger and tend to increase or decrease as much as 1.5 cm in diameter in response to wet and dry years (Colorado Natural Areas Program 2005). The spines are 6-13 mm long in clusters of 8-11. The flowers are about 2 cm in diameter, cream to yellow-colored, and bloom in late April or early May.

Mesa Verde Cactus density varies greatly among populations and grows in clay soils derived from shales of the Mancos and Fruitland formations. These formations erode easily forming low rolling hills. The soils have high alkalinity, are gypsiferous, and have shrink-swell properties that make them harsh sites for plant growth. The sparse vegetation in the area is dominated by two species of saltbush (*Atriplex corrugata* and *A. nuttallii*) on the uplands, and several species of forbs and grasses (*Chrysothamnus greenii*, *Sphaeralcea coccinea*, *Abronia elliptica*, *Sporobolus cryptandrus*, and *Hilaria jamesii*) in the drainages.

### ***Life history***

Mesa Verde Cactus is a slow growing, long-lived perennial (over 50 years; Coles et al. 2012). The flowers possess both stamens and ovaries and are partially self-compatible. Vegetative reproduction also occurs through stem sprouts. Pollinators appear to be primarily hymenopterans in the family Halictidae. Stems begin producing flowers when they are approximately 2.0 cm in diameter and the number of buds, flowers, and fruits are positively correlated with stem diameter (Coles 2003). The Mesa Verde Cactus produces an average of 200 black 2.5-3 mm seeds and approximately 20-30 seeds per fruit (Heil 1984). Seeds are distributed through rain runoff; but wind and ants are also important seed distributors (Ladyman 2004). Seeds ripen in late May to early June but the seed coat must be scarified before germination will occur. It is thought that freezing and thawing cracks the seed coat (Ladyman 2004). Germination and successful seedling establishment occur during years of normal or better than average annual precipitation, but seed mortality is high during periods of severe drought (Sivinski 2003, Coles 2003). Stems begin producing flowers when they are about 2 cm in diameter or about 8 years old and begin to flower each year after reaching 4 cm in diameter (NMSFD 2007).

### ***Population dynamics***

The 1984 Mesa Verde Cactus Recovery Plan estimated a global population of between 5,000-10,000 individuals in 1984 (of which 1,000 individuals were estimated in southwest Colorado on Ute Mountain Ute lands). Most individuals are located on the Navajo Nation, near Shiprock, New Mexico. While there have been several efforts to estimate range-wide population size since the 1984 Recovery Plan (Ladyman 2004; Coles et al. 2012; Hazelton 2013; Roth 2016), there has not been any comprehensive range-wide estimate or survey conducted since then.

There are several monitoring sites throughout the range of the Mesa Verde Cactus. One is on BLM land near Waterflow, New Mexico, and has been monitored since 1986. Roth (2020) reported 34 years of monitoring data at this site. The population at this site declined between 1999 and 2003, and had recovered some in 2016, but not to pre-drought numbers. However, in 2018, another severe mortality event was recorded, and was attributed to rodent predation that

occurred between 2016 and 2018. The number of plants at this site has ranged from a high of 235 plants in 1999 to a low of 7 plants in 2018. The El Malpais monitoring site is northwest of Shiprock, New Mexico, on Navajo Nation lands and has been monitored annually (besides 2010 and 2016) since 2008. Talkington (2021) has reported 11 years of monitoring data at this site. The number of live Mesa Verde Cactus at this site varied between 82 to 100 between 2008 and 2017, but has gradually increased since 2017. The number of Mesa Verde Cactus at this site has ranged from a high of 170 plants in 2019 to a low of 82 plants in 2013. Predation by rodents and insects has been observed at the El Malpais monitoring site, but occurs at a lower frequency than observed at other sites. Coles et al. (2012) sampled three populations in Colorado (Ute Mountain Ute lands) for 20 years (1985-2005), a total of 659 plants were detected during the survey period, and all three plots demonstrated a population growth rate greater than 1 over the survey period indicating stable populations.

Monitoring data has shown normal fluctuations in natural populations until 2002-2003 when a significant die-off of adult Mesa Verde Cactus occurred. A long-term drought began in the early 2000s, which resulted in increased insect attacks on the species. Cactus borer beetle, (*Moneilema semipunctatum*) causes significant fluctuations in the Mesa Verde Cactus populations and the army cutworm (*Euxoa* sp.) has also been associated with predation on Mesa Verde Cactus. From 2002 to 2003, Mesa Verde Cactus populations declined by 80% in New Mexico (Ladyman 2004). Coles (2003) documented a less severe reduction of 20.4-36% of Mesa Verde Cactus numbers in Colorado.

Continued monitoring indicates that relatively slow recovery of Mesa Verde Cactus has been documented during subsequent periods of average to above average precipitation (Ladyman 2004, Colorado Natural Areas Program 2005, Roth 2008). However, recruitment of new seedlings has been less than expected possibly due to the limited recovery of nurse plants like mat saltbush (*Atriplex corrugata*, *A. gardneri*, *A. confertifolia*) from the drought or Mesa Verde Cactus' short-lived seed bank (Colorado Natural Areas Program 2005).

The 1984 Mesa Verde Cactus Recovery Plan recommended development of artificial propagation techniques, providing cactus for commercial use, and salvaging individual Mesa Verde Cactus that are threatened with destruction (Heil 1984). Mesa Verde Cactus has proved to be difficult to cultivate (Service 2008) and as many as 90% of the plants collected from the wild die within the first year (Heil 1984). It is difficult to assess the long-term success of cactus transplantation because these projects were heavily affected by the drought and insect predation.

### ***Status and distribution***

The distribution of Mesa Verde Cactus encompasses a roughly rectangular area extending north to south from about 15 miles north of the Colorado-New Mexico border to the vicinity of Sheep Springs, New Mexico, and east to west from the vicinity of Waterflow, New Mexico, to about 15 miles west of Shiprock, New Mexico. Plants can occur sporadically anywhere that soils are suitable, but there appear to be five areas of concentration. These areas are near the base of the Mesa Verde Escarpment in Montezuma County, Colorado, near the Colorado-New Mexico state line, in the vicinity of Shiprock, in the vicinity of Sheep Springs (although the current condition of this population is unknown), and north of Waterflow. Approximately 95% of Mesa Verde

Cactus populations are on tribal lands (predominantly Navajo Nation lands in New Mexico, but also Ute Mountain Ute lands in Colorado) the other 5% occurs on adjacent BLM, NMSLO, and private lands (Roth 2020).

The Mesa Verde Cactus was federally listed as threatened on 30 October 1979 (Service 1979). No critical habitat was designated. When listed, existing or potential threats included coal, oil, and gas exploration and production; commercial and residential development; road, powerline, and pipeline construction; commercial and private collecting; ORV impacts; livestock trampling; and natural threats of disease and predation. Climate change is an additional threat not considered when the plant was listed. Highly specialized or endemic species, like Mesa Verde Cactus, are likely to be most susceptible to the stresses of changing climate.

Surveys occurred within the action area and a 100-foot buffer. Surveys in 2021 detected 156 Mesa Verde Cactus within the project footprint, north of U.S. Highway 64. Surveys also detected 3.2 acres of suitable unoccupied habitat within the project footprint. Following the 2021 surveys, the pipeline centerline and corresponding right-of-way were modified to avoid inventoried Mesa Verde Cactus.

## **ENVIRONMENTAL BASELINE**

Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

## **Factors Affecting Species Environment within the Action Area**

### ***Colorado Pikeminnow and Razorback Sucker***

The San Juan River is a tributary to the Colorado River and drains a basin of approximately 25,000 square miles located in Colorado, New Mexico, Utah, and Arizona (Reclamation 2003). From its origins in the San Juan Mountains of southwestern Colorado at an elevation exceeding 13,943 feet, the river flows westward through New Mexico, Colorado, and into Lake Powell, Utah. The area of influence for the proposed action begins at the inflow areas of Navajo Reservoir, and extends west from Navajo Dam approximately 224 miles along the San Juan River to Lake Powell. The major perennial tributaries in the project area are the Los Pinos, Piedra, and Navajo (upstream of Navajo Dam), Animas, La Plata, and Mancos Rivers, and McElmo Creek - downstream of Navajo Dam (Figure 1). There are also numerous ephemeral arroyos and washes that contribute little flow to the San Juan River, but large sediment loads.

### **Dam construction and operation**

Dams affect the physical, chemical, and biological components of a stream ecosystem (Williams and Wolman 1984, Collier et al. 2000, Mueller and Marsh 2002). Some of these effects include

direct loss of riverine habitat and fish passage caused by dams and reservoirs; degradation of downstream habitat and loss of connectivity between the river and its flood plain due a armoring of river banks with nonnative vegetation, a reduction in lateral channel migration and narrowing, and changes in channel morphology; and changes in water temperature and timing and magnitude of high and low flows (Sherrard and Erskine 1991, Power et al. 1996, Kondolf 1997, Polzin and Rood 2000, Collier et al. 2000, Shields et al. 2000). Navajo Dam is operated and maintained to store water for consumptive uses, provide irrigation, flood control, generate hydroelectric power, and provide recreational and fishery activities (Reclamation 2003). The installation of Navajo Dam (occurring from 1957-1963) and its subsequent reservoir physically altered the San Juan River and surrounding terrain and modified the pattern and quality of flows downstream (Holden 1999; Reclamation 2002, Reclamation 2006; Service 2006). The San Juan River downstream of the dam became clearer due to sediment retention and became colder because water is released from the hypolimnial layer deep in the reservoir. The disruption of natural patterns of flow resulted favored the establishment of nonnative Russian olive that armored banks resulting in changes to channel morphology and simplification of habitat (Reclamation 2006).

Historical fish collections in the San Juan River drainage indicated Colorado Pikeminnow once inhabited reaches as far upstream as Rosa, New Mexico, currently inundated by Navajo Reservoir (Platania and Young, 1989) and Razorback Sucker likely occurred similarly upstream (Ryden 1997). Both species are no longer present upstream of Navajo Dam due to the blockage of fish passage caused by the construction of Navajo Dam and resultant habitat changes caused by Navajo Reservoir. Inundation of the downstream reaches of the San Juan River in Lake Powell due to the construction of Glen Canyon Dam resulted in further habitat loss. Although adult Razorback Sucker use portions of Lake Powell and make transbasin (Colorado River to San Juan River) movements (Platania et al. 1991, Durst and Francis 2016), the inundated reach likely lacks suitable habitat for all life stages of both fish (Holden 2000). The reduction in the length of the San Juan River between the Navajo Dam and Lake Powell (from 325 miles to 225 miles), not only reduces the amount of available habitat for Colorado Pikeminnow and Razorback Sucker but their larvae have less distance to find suitable low-velocity nursery habitat (Holden 2000; Farrington et al. 2022).

Releases of hypolimnetic water from Navajo Dam, have resulted in colder summer and warmer winter water temperatures in the San Juan River compared to the pre-dam conditions. Lower water temperatures may restrict habitat use by Colorado Pikeminnow and Razorback Sucker as well as limit spatial and temporal extent of spawning habitat in the San Juan River (Holden 1999, Cutler 2006, Lamarra 2007). Cold water typically decreases food consumption, decreases assimilation efficiency, decreases growth rate, and increases the time to sexual maturity (Lagler et al. 1977). Development time of Colorado Pikeminnow and Razorback Sucker embryos is inversely related to temperature, and survival is reduced at temperatures lower than 20°C (Bulkley et al. 1981, Hamman 1982, Bestgen 2008). A delay in spawning (reducing the length of time larval fish can grow before winter) and overall colder water temperatures (resulting in slower growth) could lead to smaller, less fit juveniles and reduced survival. Fast larval growth may be linked to higher survival rates because the faster the larval fish grow, the less time they are highly susceptible to predation.

Typical of rivers in the Southwest, the San Juan River was originally characterized by large spring snowmelt peak flows, low summer and winter base flows, and high-magnitude, short-duration summer and fall storm events (Holden 1999). Historically, flows in the San Juan River were highly variable, ranging from a low of 44 cfs in September 1956, to a high of 19,790 cfs in May 1941 (mean monthly values; USGS gauge Shiprock, NM). For the 49 years prior to the completion of Navajo Dam, a peak spring flow greater than 15,200 cfs occurred 13 times (25% of the time). However, the flows during this time do not represent a “natural” condition because water development began in the basin near the turn of the century and many irrigation projects that diverted and depleted water from the San Juan River were already in place. Completion of Navajo Dam in 1962 and subsequent dam operations through 1991 reduced the magnitude of spring flows 54% but elevated base flows 168%, resulting in an overall flatter hydrograph of the San Juan River (Holden 1999). Additionally, the timing of the annual spring peak shifted earlier in wet years to create space in the reservoir to store runoff (Holden 1999).

Per the Animas-La Plata Project BO (Service 2000), Reclamation committed to operate Navajo Reservoir to benefit endangered fishes as a conservation measure. From 1991-1997 the SJRIP developed flow recommendations that were intended to mimic a more natural flow regime characterized by variability in flow, spring peak flow, and low base flows by releasing water to meet specific flow targets thought necessary to develop and maintain the habitat and hydrologic conditions needed for native fishes in the San Juan River (Figure 11; Holden 1999). Since the implementation of the flow recommendations in 1998, a more natural hydrograph has been mimicked but the recommended frequency criteria for higher flow targets have not been achieved and in some cases the maximum frequency criteria have been exceeded (Table 3). In 2018, the SJRIP revised the decision tree for operating Navajo Reservoir to meet the high targets more regularly by increasing the frequency of long duration releases and minimizing short duration releases (SJRIP 2018). When sufficient water is available, longer duration releases from Navajo Reservoir are more likely to match the Animas River peak, typically a requirement to meet the magnitude, duration, and frequency of high flow targets (i.e., 8,000 and 10,000 cfs). Because of hydrologic variability, it will take several years of operating Navajo Reservoir under this revised decision tree to determine if it is more effective in meeting flow recommendation targets.

High flows are one of the SJRIP’s primary management actions to develop and maintain habitat and the inability to reach high flow targets at the recommended frequency has contributed to a degraded habitat condition in the San Juan River (Lamarra and Lamarra 2016, SJRIP 2018). More regularly reaching high flow targets would likely result in reversing the long-term declines in important low velocity habitats used as nurseries for larval and juvenile Colorado Pikeminnow and Razorback Sucker (Lamarra and Lamarra 2020, SJRIP unpublished data). In general, attaining higher spring flows creates and maintains important rearing habitats for Colorado Pikeminnow and Razorback Sucker in the San Juan River (Lamarra and Lamarra 2020, SJRIP unpublished data). Higher baseflows appeared to be associated with larger size of off-channel backwaters and increased frequency of flowing secondary channels (SJRIP unpublished data). However, in 2019 when low velocity habitat was measured at two different baseflows, there was twice as much low velocity habitat at 685 cfs compared to 1,431 cfs (Lamarra and Lamarra 2020), suggesting additional research is needed to understand the effects of how other managed

releases could be used to sustain habitat in the absence of higher spring flows. However, we are optimistic that the revised operating procedures for Navajo Reservoir will result in more frequently meeting the 8,000 cfs and 10,000 cfs high flow targets.

Habitat loss and degradation is one of the leading hypothesized mechanisms for declines in native fish occurrence and abundance in the Colorado River basin. Since the completion of Navajo Dam in 1962, the geomorphology of the San Juan River has been severely affected by altered flow regime and the subsequent proliferation of nonnative riparian vegetation has resulted in channel simplification, narrowing, and loss of aquatic habitat. The reduction of high spring flows likely reduced the ability of streams to demonstrate channel migration and facilitated the encroachment of nonnative vegetation, further reducing channel heterogeneity through bank armoring (Tickner et al. 2001). In the San Juan River, Russian olive (*Elaeagnus angustifolia*) has armored the banks contributing to habitat simplification to the detriment of native fishes (Stamp et al. 2006; Bassett 2015; Franssen et al. 2015). Many secondary channels that supported backwater rearing habitat for larval endangered fish and other low-velocity habitats juvenile native fishes (Archer et al. 2000; Barkalow and Zeigler 2022, Farrington et al. 2022) are now disconnected from the main channel and are choked with nonnative vegetation (Stamp et al. 2006). In the San Juan River subbasin, nonnative vegetation has increased by nearly 70% since the 1930s (Bassett 2015) resulting in a greater than 50% loss of backwaters and secondary channel habitats between 1998 and 2005 (Miller 2006). While high spring flows provide low velocity habitats needed for early life stage survival and recruitment, these flows do not occur at the recommended frequency to sustain these habitats long-term. In the absence of adequate high flows to reverse declining trends in low velocity habitat, large-scale habitat restoration and creation may be necessary to support recovery in the San Juan River.

#### Blockage of fish passage

In 2002 as water elevation in Lake Powell declined, a large waterfall at Piute Farms formed in the lower San Juan River (Cathcart et al. 2018). The waterfall is impassable to fish (Ryden and Ahlm 1996, Durst and Francis 2016). Thus, fish and larvae that do drift into and survive in Lake Powell cannot return upstream to the San Juan River (Durst and Francis 2016). Native fish that enter Lake Powell may be at high risk of mortality due to predation by several predatory fish species not native to the San Juan and Colorado River basins. However, the waterfall does limit upstream movement of nonnative fish from Lake Powell into the mainstem San Juan River. The waterfall is passable when Lake Powell elevation rises enough to inundate it (at 85% capacity) but since 2002 this has only occurred during two weeks in 2011 (Durst and Francis 2016).

Navajo Dam also reduced the range of Colorado Pikeminnow and Razorback Sucker by blocking upstream fish passage. Native fish are now confined to a relatively short reach of ~225 miles of riverine habitat between Navajo Dam and the inflow of the San Juan River with Lake Powell reservoir. In addition to Navajo Dam and the Piute Farms waterfall near Lake Powell, five diversion structures within the San Juan River have impeded or restricted fish passage. These included Fruitland Diversion (RM 178.5); Public Service Company of New Mexico Weir (PNM Weir; also known as San Juan Generating Station Weir; RM 166.6); Arizona Public Service Company Weir (APS Weir; also known as Four Corners Generating Station Weir; RM 163.3); Hogback Diversion (RM 158.6); and Cudei Diversion (RM 142.0). In the San Juan River's major tributary, the Animas River (confluence at RM 180), Animas Pump Station #2 (also known as



Penny Lane) and Farmers Ditch Diversion (located 9.2 and 21.9 river miles upstream of the San Juan River confluence, respectively) were identified as locations that were at least partial barriers to upstream movement for native Flannelmouth Sucker (*Catostomus latipinnis*) and Bluehead Sucker (*Catostomus discobolus*) (Francis 2007).

Efforts to ameliorate the impacts of many of these movement barriers have been conducted since 2002. Access to 36 miles of critical habitat was restored in 2002 when a nonselective fish passage was constructed at Hogback Diversion and Cudei Diversion was replaced with a subsurface siphon (Davis and Coleman 2004). In 2003, a selective fish passage operated by Navajo Nation Department of Fish and Wildlife was built around the PNM Weir to allow native fish access to upstream habitat. Since 2018, PNM fish passage has been operated non-selectively during spring to improve passage efficiency when there are few nonnatives so more Colorado Pikeminnow and Razorback Sucker can access upstream habitats (SJRIP unpublished data). Additionally, modifications to improve fish passage at the APS Weir and Fruitland Diversion Weir were included in recent BOs (Service 2015, Service 2018b). Experimental translocation of Razorback Sucker from downstream of the Piute Farms Waterfall upstream to the San Juan River has occurred since 2016 (Pennock et al. 2020; Bogaard et al. 2022; <https://streamsystem.org>). While most Razorback Sucker translocated upstream of the waterfall subsequently returned downstream of the waterfall, allowing fish even temporary access to the San Juan River provides an opportunity to spawn and potentially contribute to successful recruitment (Pennock et al. 2020). Finally, the City of Farmington modified the Penny Lane diversion in the winter of 2017-2018 to improve boat passage, with the added benefit that this modification may also increase fish passage in the Animas River. To date there have been 7 Colorado Pikeminnow and 14 Razorback Sucker individuals remotely detected from June to September in 2018 and 2019 at this structure (<https://streamsystem.org>), indicating at least seasonal use and access to this portion of the Animas River.

### Water depletions

Water development and associated depletions play a major role in limiting the amount of water available for achieving the SJRIP's Flow Recommendations. Navajo Reservoir provides water for irrigation that has resulted in large agricultural development including Navajo Indian Irrigation Project (NIIP), the Hammond Irrigation Project, and many smaller irrigation projects. NIIP is authorized to deplete 280,600 afy of water from the reservoir for irrigation south of Farmington (Service 2009). Additionally, significant depletions of San Juan River flows have occurred from the development of major projects including Animas-La Plata, Fruitland-Cambridge, Hogback-Cudei, and San Juan-Chama. By 1999, water development had reduced average annual flows in the San Juan at Bluff, Utah by 30% (Holden 1999). Similarly, water development has reduced flows in the Green and Colorado Rivers by 20% (at Green River) and 32% (at Cisco), respectively (Holden 1999). These depletions likely contributed to the decline in Colorado Pikeminnow and Razorback Sucker populations and use of San Juan River water is expected to increase in the future as full development of water rights and water projects occurs, resulting in decreased water availability (Reclamation 2002). As these projects are fully implemented, the amount of water available to support populations of Colorado Pikeminnow and Razorback Sucker will decrease. Increased water depletions can reduce habitat availability, possibly impeding fish passage, increasing entrainment and reduced flows decrease water quality as there is less water available to dilute contaminants (Abell 1994, BIA 1999, Service 2009).

### Water of sufficient quality

Poor water quality is a concern in the San Juan River Basin and potentially contributed to Razorback Sucker and Colorado Pikeminnow population declines (Quartarone and Young 1995). The San Juan River and its tributaries are impaired for many constituents, including metals, sediment, salinity, temperature, fecal matter, dissolved oxygen, fossil fuel residuals (e.g., polycyclic aromatic hydrocarbons (PAHs)), and pesticides (Wilson et al. 1995, Simpson and Lusk 1999, Service 2006). Major sources of pollution within the basin are agriculture and mining (EPA 1979, Abell 1994, Thomas et al. 1997, Thomas et al. 1998, Reclamation 2002). Water quality has declined through time, in 1998 selenium was the only toxic element with concentrations high enough to cause concern for humans, fish, and wildlife (Thomas et al. 1998), but in 2012 a fish consumption advisory for mercury was issued in the San Juan River Basin (NMED 2012).

Selenium is a natural component of coal and soils in the San Juan River Basin and can be released to the environment by the irrigation of selenium-rich soils and the burning of coal in power plants with subsequent emissions to air and deposition to land and surface water (EPRI 2014). Navajo Indian Irrigation Project (NIIP) and other irrigated agricultural projects increase selenium concentration in their return flows to the San Juan River (Blanchard et al. 1993; Thomas et al. 1998). At toxic levels selenium can elicit a wide range of adverse effects in fish including mortality, reproductive impairment, effects on growth, and developmental deformities (Hamilton 2004, Holm et al. 2005). Hamilton (1999) hypothesized that historic selenium contamination of the upper and lower Colorado River basins contributed to the decline of these endangered fish by affecting their overall reproductive success, including loss of eggs and larvae.

The biological uptake of mercury is complex (EPA 1997, Lorey 2001, Wiener et al. 2007, EPRI 2014), but methylmercury bioaccumulates in aquatic food chains with the greatest impacts to top predatory fishes like Colorado Pikeminnow (Osmundson and Lusk 2019). Mercury concentrations in water and fish tissue are expected to increase in the San Juan River Basin because of continued atmospheric mercury deposition in the foreseeable future (EPRI 2014). Mercury bioaccumulation acts as potent neurotoxin that affects endangered fish in the San Juan River through their fitness and reproductive health (Crump and Trudeau 2009). In addition to neurological damage, mercury can impair reproduction, inhibit growth, produce developmental abnormalities, cause mortality, and alter behavior (Beckvar et al. 1996, Beckvar et al. 2005, Dillon et al. 2010).

### Diversion structures

In addition to blocking upstream movement of adult fish, diversion dams may also reduce recruitment by entraining fish. There are numerous points of water diversion in the San Juan River and most structures do not have screens or other devices to minimize fish entrainment (Holden 2000; Lyons et al. 2016). A total of four and nine sites within Colorado Pikeminnow and Razorback Sucker occupied habitat in the San Juan and Animas Rivers, respectively, pose some level of entrainment risk (Lyons et al. 2016; Schleicher 2018). In 2013 a weir wall was installed in the Hogback Canal to reduce entrainment into the irrigation canal. Efforts are ongoing to install similar structures at the Fruitland (Service 2018b) and PNM diversions (as part of the Proposed Action herein). While the recovery threat posed by entrainment remains unknown, Colorado Pikeminnow and Razorback Sucker are more abundant in upstream reaches

(Schleicher 2018), they spawn further upstream (Farrington et al. 2022), and stocking of age-0 Colorado Pikeminnow has occurred upstream of some diversions (Furr 2020), suggesting this risk has increased since the last entrainment assessment was conducted (Renfro et al. 2006). Furthermore, if entrainment risk is proportion to the volume of flow diverted, numerous diversions each taking 10-20% of river flow could represent substantial cumulative risk to multiple life stages of Colorado Pikeminnow and Razorback Sucker (Lyons et al. 2016).

#### Nonnative fish

Concomitant with these changes to the riverine environment from the construction and operation of dams in the San Juan River Basin were the expansion of intentionally and unintentionally introduced nonnative species fish species (Reclamation 2002). Nearly 70 nonnative fish species have been introduced into the Colorado River system over the last 100 years and these potential predators, competitors, and vectors for parasites and disease (Tyus et al. 1982, Lentsch et al. 1996, Pacey and Marsh 1999) are thought to have contributed to the decline of native fishes in the Colorado River Basin (Service 2002b). Channel Catfish was first introduced in the upper Colorado River Basin in 1892 (Tyus and Nikirk 1990) and remains one of the most abundant nonnative fish in the San Juan River despite many years of management intended to reduce their populations (Franssen et al. 2014). While Common Carp catch rates have declined in response to management efforts, the impact of removal on Channel Catfish populations has been ambiguous, with densities decreasing in some river reaches but not others (Franssen et al. 2014). The observed decrease in the size structure of Channel Catfish and high variation in catch rates may indicate a compensatory response to removal efforts (Pennock et al. 2018) and this management activity has not resulted in a positive population response of native San Juan River fishes (Franssen et al. 2014).

#### Climate change

The potential impacts of climate change are deviations in precipitation patterns, including the timing, intensity, and type of precipitation received; runoff patterns based on the amount of precipitation falling as snow and when snowmelt occurs; and atmospheric temperatures, which exhibit a strong influence on water temperatures. These changes over the coming decades and centuries have the potential to affect Razorback Sucker and Colorado Pikeminnow, and their associated Critical Habitat. The upper Colorado River Basin has warmed 1.2°C in the last century (Service 2018c) and median temperature increases of 2.8-3.9°C are projected for the western United States depending on location (Reclamation 2016). Increased air temperature will increase evaporation from reservoirs in the San Juan River Basin. Furthermore, climate change is projected to result in streamflow declines of 8-45% in the Colorado River Basin (Christensen and Lettenmaier 2006, Hoerling and Eischeid 2007, Seager et al. 2007, Udall 2007, Ray et al. 2008). This reduction in water availability will make it increasingly challenging to meet the Flow Recommendations for the San Juan River, especially the high-flow targets that create and maintain habitat for Colorado Pikeminnow and Razorback Sucker. Under current climate conditions, Reclamation has rarely been able to provide the recommended number of days of at the highest flow targets (Table 4). Warming in the western United States has also shifted the timing of spring snowmelt and runoff 1-4 weeks earlier compared to 50 years ago (Stewart et al. 2005) and further warming in the future could shift snowmelt driven runoff as much as an additional two months earlier (Rauscher et al. 2008). It is difficult to predict how a change in the timing of runoff will affect the endangered fishes. If earlier runoff results in earlier

successful fish spawning, larvae may have a longer growing season. Because the hypolimnetic releases from Navajo Reservoir suppress water temperature in the San Juan River in spring and summer, a longer growing season could have a positive effect on recruitment of endangered fish.

### ***Mesa Verde Cactus***

Mesa Verde Cactus occurs sporadically within a rectangular area of about 75 miles by 30 miles in the Four Corners Region of northwestern New Mexico and southwestern Colorado.

#### Energy and mineral development

Energy and mineral development is extensive in the area occupied by Mesa Verde Cactus and associated impacts include the loss of habitat and individual plants from the creation and expansion roads, pipelines, powerlines, oil and well pads, and associated facilities. Oil and gas exploration and development has resulted in extensive habitat destruction for Mesa Verde Cactus (Service 2008, Roth 2008).

Additionally, oil and gas well construction has resulted in a variety of unauthorized roads; random turnouts and turnarounds; and multiple pipelines, all of which further degrade cactus habitat over large areas (Ladyman 2004). These negative effects continue to be a source of cactus mortality (Service 2010).

#### Urbanization and associated impacts

Commercial and residential development threatens Mesa Verde Cactus on private and Tribal lands (Service 2009). Since the species was listed, Mesa Verde Cactus habitat has been increasingly impacted from urban development on Navajo Nation lands (Ladyman 2004). Impacts from urban development include habitat loss, fragmentation, and degradation, along with other factors relating to soil, vegetation, and hydrologic disturbances. These impacts not only directly damage Mesa Verde Cactus, but can also make occupied and potentially usable habitat inhospitable to Mesa Verde Cactus and result in the decline of individuals and populations.

Additionally, increased off-highway vehicle (OHV) use in the Navajo Nation and San Juan County negatively impacts Mesa Verde Cactus and its habitat (Service 2010). When a vehicle runs over a Mesa Verde Cactus, the growing tip is often damaged resulting in a failure to flower and set seed as well as an increased vulnerability to desiccation, herbivory, and pathogens. Mesa Verde Cactus can also be directly uprooted or irreversibly damaged from OHVs or any other form of forceful contact. In addition to these direct impacts to the cactus, indirect effects from OHV riding also occur such as damage or destruction of annual and perennial plants, destruction of fragile soil crusts, soil erosion and compaction, alteration of drainage patterns, formation of dust, and proliferation of weeds (Brooks and Lair 2009; Lei 2009).

Surface disturbance from OHV activity can cause erosion and large amounts of dust to be discharged into the air (Service 2010). Recent studies addressing surface dust impacts on gas exchanges of desert shrubs showed that plants encrusted by dust have reduced photosynthesis and decreased water-use efficiency, which may decrease primary production during seasons when photosynthesis occurs (Wijayratne et al. 2005; Sharifi et al. 1997). Sharifi et al. (1997) also

showed reduction in maximum leaf conductance, transpiration, and water-use efficiency due to dust. These effects may impact desert plants including Mesa Verde Cactus.

Repeated OHV trail use leads to new routes that are not included in road databases (Brooks and Lair 2009). As a result, continual unauthorized OHV use, especially off-trail riding, can create conditions less and less supportive for a habitat specialist such as this cactus species.

#### Livestock grazing

Livestock grazing occurs across most of Mesa Verde Cactus occupied habitat and nearly all surveys record some disturbance by livestock (Service 2010). Impacts from trampling, such as uprooted Mesa Verde Cactus, partially or entirely crushed Mesa Verde Cactus, and soil disturbance immediately adjacent to Mesa Verde Cactus individuals are regularly observed. Cattle have also been observed eating Mesa Verde Cactus (Service 2010). More recently, feral horses are a concern because of large herd sizes compacting soils in Mesa Verde Cactus habitat (Roth 2008).

High intensity grazing associated with fenced private or Tribal residences is likely to result in the permanent loss of Mesa Verde Cactus through trampling and soil compaction (Service 2009). On larger fenced areas, ranchers may also drive their trucks and OHVs off-road, tracking or herding their livestock. Likewise, during capture of feral horse herds on the Navajo Nation, soils have become compacted within Mesa Verde Cactus habitat (Service 2010).

#### Climate change

Climate change may also affect the environmental baseline of Mesa Verde Cactus. Global warming and associated effects on regional climatic regimes are not well understood, but weather predictions for the southwestern United States include less overall precipitation, longer periods of drought, and increased temperatures. The Colorado River basin has seen an annual mean air surface temperature increase of approximately 1°C over the last two decades compared to the 20<sup>th</sup> century average (Lukas and Payton 2020).

New Mexico precipitation changes show more variation than temperature changes, with increases in precipitation anticipated in Summer and Autumn and decreases in precipitation anticipated in winter and spring. The spatial heterogeneity of drought, as defined by temperature, and particularly precipitation, is extremely variable in the state of New Mexico (Enquist and Gori 2008). Since 2000, there have been four instances of Exceptional Drought Conditions in portions of San Juan County, New Mexico, where the New Mexico populations of Mesa Verde Cactus are located (NDMC 2022). The most recent instance of Exceptional Drought Conditions to occur in San Juan County occurred between October 2020 and August 2021. Impacts from notable drought conditions anticipated by the 2005 Potential Effects of Climate Change on New Mexico report (Agency Technical Work Group 2005) include decreases in soil moisture availability, increases in evapotranspiration, and decreases in plant productivity.

Because germination and recruitment improves in years of normal or above normal precipitation, it is expected that recovery from the population decline in the early 2000s will be slow under current conditions of below average precipitation. Hazelton (2013) demonstrated a significant positive relationship between winter precipitation and population reproductive output. Coles et

al. (2012) found a significant correlation between April precipitation and seedling recruitment. Additionally, Coles et al. (2012) highlighted the problem of reduced recruitment capacity and differential predation on reproductive adults as a result of drought and increased overwinter temperature. If climate change leads to increased severity or frequency of drought, it would likely have a negative impact on the plant in the future. Narrow endemics, like Mesa Verde Cactus, often have very specific habitat requirements. Because plants are unable to move, a change in climate that causes mortality to exceed reproduction and recruitment, could lead to the extirpation of Mesa Verde Cactus. Climate changes could also lead to the establishment or spread of nonnative plants detrimental of Mesa Verde Cactus, and that warmer winter temperatures could increase the probability of longhorn cactus beetle (*Moneilema semipunctatum*) outbreaks as well as their frequency and severity (Coles et al. 2012). Because other recognized threats to the species such as development and livestock use continue, the additional threat of climate change further imperils this species.

### **EFFECTS OF THE ACTION**

In accordance with 50 CFR 402.02, effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of all other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see §402.17).

The effects of the Navajo-Gallup Water Supply Project were analyzed in the 2009 BO. Effects from aspects of the proposed action that remain unchanged from the 2009 BO are reiterated here but effects of the realignment of the northern portion of the San Juan Lateral that was not considered in the 2009 BO are analyzed herein. The proposed action does not alter the river-wide PNM weir or PNM fish passage on the opposite side of the river the from the proposed intake facility, thus fish passage remains unchanged due to completion of the northern portion of the San Juan Lateral for the Navajo-Gallup Water Supply Project. Overall, apart from the effects of the water depletion itself, the effects of the water diversion are minimized from current conditions (because water is currently being diverted for the San Juan Generating Station without a fish weir barrier) due to the proposed installation of the fish weir barrier inside the intake structure. However, direct effects to the endangered fish and their critical habitat may still occur. Project activities whose analysis indicated an adverse effect could occur are categorized and explained below.

### **Effects of the action on Colorado Pikeminnow and Razorback Sucker and their Critical Habitat**

#### ***Modification of the intake structure and impingement of Colorado Pikeminnow and Razorback Sucker***

Removal of the existing trash rack at the intake facility with 8-inch by 16-inch spacing and replacing it with a new trash rack with 4-inch by 4-inch spacing would require construction activities within the San Juan River. This activity would occur during low-flow periods in the winter outside of Colorado Pikeminnow and Razorback Sucker spawning periods. An 85-foot by 15-foot work area (0.03 acres) would be dewatered at the intake structure with cofferdams and barriers would be placed to exclude endangered fish from the work area but any stranded fish

would be netted and returned to the river. Additionally, a 50-foot by 15-foot coffer dam (0.02 acres) would be temporarily installed at the return channel to reduce sediment input and other water quality impairments. Other modification to the intake structure and installation of the proposed fish weir will occur within the existing concrete facility and not result in any impact to the endangered fish or their habitat. Replacement of the trash rack will involve equipment in the dewatered river channel creating a potential for direct water-quality impacts from temporary increases in turbidity (sediment), equipment leaks, or spills. Cofferdams should minimize any water quality impairment apart from temporary increase in turbidity due to additional sediment that should dissipate within 1,750 feet downstream of the construction area. Because the decrease in water quality will be undetectable, the effect to Colorado Pikeminnow and Razorback Sucker will be insignificant and discountable. Furthermore, based on the installation of similar sized trash rack (with 4 by 4-inch spacing) at the upstream Fruitland-Cambridge canal, fish that are too large to fit through the spacing on the trash rack risk being impinged (Service 2018b). However, given expected water velocities at the trash rack and Colorado Pikeminnow and Razorback Sucker swimming speeds, impingement should be rare and temporary

### ***Entrainment of Colorado Pikeminnow and Razorback Sucker***

The current and proposed diversion intake structure for the northern portion of the San Juan Lateral of the Navajo-Gallup Water Supply Project has the potential to entrain all life-stages of Colorado Pikeminnow and Razorback Sucker resulting in injury or death. In general, entrainment of larval endangered fish is based on the proportion of adults present in the vicinity of the PNM Weir and Fish Passage that could potentially spawn upstream of the intake facility and the proportion of flows entering the intake during spawning season. Entrainment of other life stages is broadly based on the proportion of total endangered fish population in the vicinity of the PNM Weir and Fish Passage and the proportion of flow entering the intake facility throughout the year. The effects of entrainment of Colorado Pikeminnow and Razorback Sucker are minimized compared to the current operations of the diversion to provide water for the San Juan Generating Station due to the proposed installation of the fish barrier weir inside the intake structure. Further minimization of entrainment could occur as a result of shutting down the River Station pumping operations during critical periods of endangered fish activity in the vicinity of the intake facility. Specific details of any shut down of pumping operation will follow future coordination between Reclamation, the Service, and SJRIP.

From 2014 to 2021 an average of 37 adult Colorado Pikeminnow were annually detected in the PNM fish passage or at the PNM Weir (<https://streamsystem.org/>), this represents approximately 20.6% of the adult Colorado Pikeminnow population (average of 180 adult Colorado Pikeminnow in the San Juan River, 2011-2018; Service 2022). Average flows in the San Juan River from 2010 to 2020 during Colorado Pikeminnow's July and August spawning period were 1,212 cfs but averaged as high as 3,702 cfs in July and as low as 761 cfs in August ([https://waterdata.usgs.gov/usa/nwis/uv?site\\_no=09365000](https://waterdata.usgs.gov/usa/nwis/uv?site_no=09365000)). Under those flows, Reclamation estimates diverting 96-100 cfs into the intake structure (Table 1), 98 cfs during average July-August flows (8.1% of river flows), 100 cfs during high July flows (2.7%), and 96 cfs under low August flows (12.6%). Without construction of a weir wall to minimize entrainment of larvae (i.e., the existing diversion) diverted from the river to the River Station pumping plant and operation of the pumping station full-time, approximately 0.6-2.6% of larval Colorado Pikeminnow in the San Juan River would be lost due to diversion and pumping water at this

facility. Installation of the weir wall to minimize fish entrainment could reduce the proportion of fish reaching the River Station pumping plant 39% based on a similar structure installed at the Hogback Diversion (Brandenburg et al. 2017), resulting in a reduction of the total proportion of Colorado Pikeminnow larvae lost at this facility to 0.2-1.0% (assuming full-time pumping).

From 2014 to 2021 an average of 309 adult Razorback Sucker were annually detected in the PNM fish passage or at the PNM Weir (<https://streamsystem.org/>), this represents approximately 10.7% of the adult Razorback Sucker population (average of 2,892 adult Razorback Sucker, 2019 and 2021; Schleicher et al. 2020, Schleicher et al. 2022). Average flows in the San Juan River from 2010 to 2020 during Razorback Sucker's March to July spawning period were 1,828 cfs but flows averaged as high as 7453 cfs in June and as low as 463 cfs in March ([https://waterdata.usgs.gov/usa/nwis/uv?site\\_no=09365000](https://waterdata.usgs.gov/usa/nwis/uv?site_no=09365000)). Under those flows, Reclamation estimated diverting 96-110 cfs into the intake structure (Table 1), 102 cfs during average March-July flows (6.6%), 110 cfs during high June flows (1.5%), and 96 cfs under low March flows (20.8%). Without construction of a weir wall to minimize entrainment of larvae (i.e., the existing diversion) diverted from the river to the River Station pumping plant and operation of the pumping station full-time, approximately 0.2-2.2% of larval Razorback Sucker in the San Juan River would be lost due to diversion and pumping water at this facility. Installation of the weir wall to minimize fish entrainment could reduce the proportion of fish reaching the River Station pumping plant 39% based on a similar structure installed at the Hogback Diversion (Brandenburg et al. 2017), resulting in a reduction of the total proportion of Razorback Sucker larvae lost at this facility to 0.06-0.86% (assuming full-time pumping).

From 2014 to 2021, an average of 176 Colorado Pikeminnow and 598 Razorback Sucker of all age-classes were annually detected in the PNM fish passage or at the PNM Weir (<https://streamsystem.org/>), this represents approximately 9.9% of the Colorado Pikeminnow and 17.3% of the Razorback Sucker populations in 2019 and 2021, respectively (average of 1,772 Colorado Pikeminnow; average of 3,462 Razorback Sucker; Schleicher et al. 2020, Schleicher et al. 2022). Average annual flows in the San Juan River from 2010 to 2020 were 1,353 cfs ([https://waterdata.usgs.gov/usa/nwis/uv?site\\_no=09365000](https://waterdata.usgs.gov/usa/nwis/uv?site_no=09365000)) and Reclamation estimated an average annual diversion of 98 cfs from the San Juan River. Because the large size of the trash rack on the intake structure, we assumed no fish would be excluded from the intake. Without construction of a weir wall to minimize entrainment of fish (i.e., the existing diversion) diverted from the river to the River Station pumping plant and operation of the pumping station full-time, approximately 0.7% of Colorado Pikeminnow and 1.3% of Razorback Sucker in the San Juan River older than larval fish would be lost due to diversion and pumping water at this facility. Installation of the weir wall to minimize fish entrainment could reduce the proportion of fish reaching the River Station pumping plant 0.7-47% based on a similar structure installed at the Hogback Diversion (Brandenburg et al. 2017), resulting in a reduction of the total proportion of fish lost at this facility for Colorado Pikeminnow to 0.01-0.34% and for Razorback Sucker to 0.01-0.59% (assuming full-time pumping).

### ***Depletion of water from the San Juan River***

Depletion of the San Juan River for irrigation other water development projects results in a reduction of river flows that potentially decrease the quantity and quality of spawning, nursery, and foraging habitat for Colorado Pikeminnow and Razorback Sucker. At full build-out the



Navajo-Gallup Water Supply Project will result in a total water depletion of 35,893 afy from the San Juan River. Of this total depletion, 5,271 afy is a new depletion that was not previously accounted for in the hydrologic baseline for the San Juan River (Service 2000). For the Service's 2009 Biological Opinion for the Navajo-Gallup Water Supply Project, Reclamation evaluated the effects of the proposed new depletion of 5,271 afy on the ability to attain flow targets outlined in the SJRIP's Flow Recommendations using its Riverware Hydrology Model (Service 2009). The model indicated this new depletion will result in not meeting the 2,500 cfs flow target by 12% for 3 days for one year during the 65-year model run (i.e., less than 0.01% of the time). The Flow Recommendations call for spring flows at the 2,500 cfs target for 10 days in 80% of years and a maximum of two years of not reaching this target (Holden 1999). The modelled 5,271 afy new depletion did not impact the other high flow targets and the baseflow target of 500-1,000 cfs was reduced by only < 3% in any month and < 0.5% on average (Service 2009). These minor effects to flows because of the increased depletion are not expected to have a measurable adverse effect for the endangered fish or adverse modification to their critical habitat or preclude recovery of the two species. Any depletion above 35,893 afy for this project would result in incidental take.

The life histories of Colorado Pikeminnow and Razorback Sucker are closely tied to the magnitude, duration, and timing of the natural hydrograph and the SJRIP developed its Flow Recommendations to mimic the natural hydrograph to create and maintain key habitats necessary for endangered and native fish (Figure 11; Holden 1999). However, due to persistent drought and poor hydrological conditions since 1998, the recommended frequency criteria for higher flow targets have not been achieved and in some cases the maximum frequency criteria have been exceeded (Table 4). We are optimistic that the revised operating procedures for Navajo Reservoir implemented in 2018 will result in more frequently meeting the 8,000 cfs and 10,000 cfs high flow targets. Reaching these high flow targets at the recommended magnitude and frequency is the SJRIP's primary tool to create and maintain habitat for Colorado Pikeminnow and Razorback Sucker and not attaining these high flows has likely contributed to the degraded habitat condition in the San Juan River (Lamarra and Lamarra 2016, SJRIP 2018). The small size of the new proposed depletion likely has little impact on reaching Flow Recommendation targets based on the analysis in the 2009 BO. The development of the new proposed depletion would likely have limited impact on further degradation of habitat conditions caused in part by the inability to attain high flow targets.

### **Effects of the Action on Mesa Verde Cactus**

Surveys were conducted during the summer of 2021 to map and inventory Mesa Verde Cactus and suitable habitats within 500 feet of the proposed pipeline that may be disturbed by construction, operation, or maintenance of the project. One population, north of US Highway 64, was encountered within the project footprint. The proposed action would potentially remove 3.2 acres of suitable but unoccupied habitat. Although no Mesa Verde Cactus were observed in the suitable habitat, surveys were likely unable to locate all plants because of their cryptic appearance and small size.

The proposed action may result in the loss of Mesa Verde Cactus within the proposed project area. In order to minimize impacts to individual Mesa Verde Cactus, Reclamation revised the alignment of Reach 2 of the northern portion of the San Juan Lateral to avoid Mesa Verde Cactus recorded in 2021 and the area where Mesa Verde Cactus were observed will be clearly marked

and protected by a 50-foot buffer to avoid direct effects. Additionally, pre-construction surveys will occur prior to construction during the Mesa Verde Cactus blooming period (April-May) to detect any Mesa Verde Cactus that may have been missed by the 2021 survey. However, as stated above, pre-construction surveys will likely be unable to locate all plants because of their cryptic appearance and small size. In some cases, it will not be possible to construct structures and facility to avoid all Mesa Verde Cactus. Based on implementation of the conservation measures and locating the facilities to avoid the Mesa Verde Cactus, we anticipate adverse effects to no more than 3 individual Mesa Verde Cactus. This number is based on the proposed location of the San Juan lateral and associated facilities and the possibility that effects to Mesa Verde Cactus in this area may be unavoidable. Additionally, approximately 3.2 acres of suitable but unoccupied habitat occurs within the project footprint. If Mesa Verde Cactus previously occupied this area, it presumably contains a seedbed. Soil disturbance in suitable but unoccupied habitat could result in a loss of seed viability and decrease the success of recolonization in the action area.

Adverse effects include disturbance due to fugitive dust, water from dust abatement activities, physical damage to cacti, and the potential transplantation of Mesa Verde Cactus individuals that cannot be avoided, following identification during pre-construction surveys. Fugitive dust from construction activities could settle on plants resulting in decreased photosynthesis and reduced survivorship. Additionally, dust from construction activities may cover plants inhibiting pollinators access to plants. Dust and noise from construction activities may also cause pollinators to avoid the area. Ground disturbance could result in Mesa Verde Cactus injury or mortality and may alter natural drainage patterns in and adjacent to the construction area. Disturbed soils would also be subject to greater erosion, which could impact nearby individuals by exposing roots or by smothering stems. Soil disturbance could also increase the spread or introduction of noxious weeds with negative impacts to Mesa Verde Cactus. Best Management Practices (BMPs) will be implemented to minimize adverse effects including erosion and application of excessive water to control fugitive dust and Reclamation developed a Mesa Verde Cactus Construction Plan for the NGWSP to avoid and minimize disturbance to Mesa Verde Cactus and suitable habitat. As new seedlings emerge within the right-of-way over the lifetime of the project, they also may be directly impacted, as these individuals will be small and may not be detected by the monitors.

The proposed action will result in the loss or modification of Mesa Verde Cactus habitat from construction activities that disturb and compact soil. The number of plants that would not be established due to these soil alterations cannot be estimated. We do not expect increased grazing because fencing to exclude livestock. Although most vehicles will likely stay on roads, effects of the project will likely result in Mesa Verde Cactus being crushed by vehicles or personnel during construction the proposed pipeline. We do not expect increased OHV use because the pipeline parallels existing roads. The proposed project is designed to serve a future population of approximately 250,000 people by the year 2040 (Reclamation 2007). Although the proposed project would provide water for future residential or commercial development within the action area, most of the area is not cactus habitat. The proposed project connects to existing water delivery systems and additional residential development is expected to be limited to those areas,

however, it is unknown if development would occur within occupied Mesa Verde Cactus habitat. If future development would occur within cactus habitat and adversely affect the species, this consultation must be reinitiated.

If more than 3 Mesa Verde Cactus are damaged, destroyed, or transplanted during construction activities, this would constitute new information about the extent of the effects of the action not considered in this biological opinion and may necessitate reinitiation of consultation per the Reinitiation Notice.

### **CUMULATIVE EFFECTS**

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the Action Area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

#### **Colorado Pikeminnow and Razorback Sucker**

##### ***Coalbed methane development***

The San Juan basin in southwestern Colorado and northwestern New Mexico is rich in coalbed methane, and development of this resource has increased rapidly in the last ten years. There are currently more than 3,000 coalbed methane wells in the San Juan basin in the Fruitland Coal Formation. Historically, one well per 320 acres was allowed in this area; however, the Colorado Oil and Gas Commission approved an increase of the well spacing to one well per 160 acres. Potentially more than 700 additional wells may be drilled and approximately 250 of these could occur on private or State land. Coalbed methane development requires the extraction of groundwater to induce gas flow. It was estimated that the wells would be drilled by 2013, but because of slow groundwater movement water depletion effects would not be incurred until at least 2025. Development of this resource would reduce discharge in the Animas, Pine, Florida and Piedra Rivers that provide inflow to the San Juan River and Navajo Reservoir. Future section 7 consultations are not expected for coalbed methane development on private or State lands; therefore, these water depletions are considered a cumulative effect that is reasonably certain to occur within the action area. Prior to development of coalbed methane in the Fruitland Formation, approximately 205 afy of water was discharged to the San Juan River and existing wells currently deplete 74 afy and additional development would deplete a maximum of 200 afy by 2050.

##### ***Other depletions and diversions from the San Juan River basin***

The Service believes most San Juan River basin depletions are accounted for in the environmental baseline depletions. Irrigation ditches and canals below Navajo Dam could entrain Colorado Pikeminnow and Razorback Sucker, including Citizens, Hammond, Fruitland, Four Corners Power Plant, Jewett Ditch, and Hogback. Increased urban and suburban use of water, including municipal and private uses, will increase demands for water. Further use of surface water from the San Juan River will reduce river flow and decrease available habitat for the Razorback Sucker and Colorado Pikeminnow. Livestock grazing may adversely impact Razorback Sucker and Colorado Pikeminnow by reducing base flows from removal of water for drinking and reduction in floodplain soil's water holding capacity. Increase in development and urbanization in the historical floodplain reduces the ability to release the maximum discharge

from Navajo Reservoir because of flooding threats. The inability to reach high targets in the Flow Recommendation limits overbank flooding and creation of low velocity habitats that the Razorback Sucker and Colorado Pikeminnow need to complete their life history.

***Nonnative fish species in Lake Powell***

The presence of nonnative predatory fish like Striped Bass, Walleye and Channel Catfish in Lake Powell constitutes a future threat to Colorado Pikeminnow and Razorback Sucker in the San Juan River. When the water elevation of Lake Powell inundates the Piute Farms Waterfall, Striped Bass, Walleye, Channel Catfish, and other nonnative fish species can enter the San Juan River. Recreational activity in the San Juan River basin is expected to increase as the human population increases with potential impacts including angling pressure and potential harassment of endangered fishes, non-point source pollution, increased fire threat, and the introduction of nonnative species.

***Contamination of the water (e.g., sewage treatment plants, runoff from feedlots, residential development and roads)***

Decreased water quality due to future development and increase human population size or accidental discharge of hazardous material could adversely affect the Razorback Sucker and Pikeminnow, and their critical habitat.

***Gradual change in floodplain vegetation from native riparian species to nonnative species (e.g., Russian olive)***

On-going channel narrowing as a result of river bank armoring from expansion of nonnative vegetation in the floodplain leads to a deeper channel with higher water velocity. Colorado Pikeminnow and Razorback Sucker larvae require low velocity habitats to survive and changes in channel morphology would reduce the availability of this critical habitat and make it less likely that high flow from Navajo Reservoir would create these habitats in the future

**Mesa Verde Cactus**

The amount of non-federal future development within the action area that may occur is unknown. The growth of Shiprock, NM has affected plants in the vicinity of the town, however, most development on the Navajo Nation typically involves a Federal action, so effects to Mesa Verde Cactus would be subject to section 7 consultation. The open clay badlands where Mesa Verde Cactus occurs are attractive for recreation vehicles and expected population growth would likely increase recreational use in Mesa Verde Cactus habitat. There are few commercial sources of Mesa Verde Cactus because it is difficult to cultivate, that could result in illegal collection and direct loss of the plants and future reproductive potential.

**CONCLUSION**

*Jeopardize the continued existence of* is defined as to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02).

*Recovery* is defined as the improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act (50 CFR 402.02).

### **Colorado Pikeminnow and Razorback Sucker**

After reviewing the current status of the Colorado Pikeminnow and Razorback Sucker, the Environmental Baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the proposed action, as described, is not likely to jeopardize the continued existence of the Colorado Pikeminnow and Razorback Sucker. This determination was reached because the proposed action will result in a reduction of endangered fish entrainment at the diversion intake facility and the remaining effects are minimal enough to not result in jeopardy to either species. Without the installation of the fish weir barrier in the intake structure (i.e., current condition), we expect up to 2.6% of larval Colorado Pikeminnow and 2.2% of larval Razorback Sucker spawned in the San Juan River and 0.7% of older life stages of Colorado Pikeminnow and 1.3% of older life stages of Razorback Sucker would be entrained at the facility (resulting in mortality of entrained individuals). But with the completion of the proposed action and installation of the fish weir barrier, a maximum 1% of larval Colorado Pikeminnow and 0.86% of larval Razorback Sucker spawned in the San Juan River and 0.34% of older life stages of Colorado Pikeminnow and 0.59% of older life stages of Razorback Sucker would be entrained at the facility. Also, impingement of larger individuals at the trash rack entrance to the intake facility is possible but unlikely. Further coordination between the Service and Reclamation to shut down pumping operation at critical times for the endangered fishes will eliminate risk of entrainment during those periods. Any water quality impairments as a result of in-river construction activities would be limited to temporary increased sediment with insignificant and discountable effects to Colorado Pikeminnow and Razorback Sucker that would not jeopardize either species. The new depletion to the San Juan River as part of the proposed action of 5,271 afy (and total depletion of 35,893 afy) was estimated to prevent the SJRIP's Spring Peak Flow Recommendations from being met less than 0.01% of the time and reduced baseflow targets by less than 3% in any month and less than 0.5% on average. These minor effects to flows because of the increased depletion are not expected to have a measurable adverse effect for the endangered fish or adverse modification to their critical habitat or preclude recovery of the two species. However, since 1998 the recommended frequency criteria for higher flow targets have not been achieved and in some cases the maximum frequency criteria have been exceeded. Reaching these high flow targets at the recommended magnitude and frequency is the SJRIP's primary tool to create and maintain habitat for Colorado Pikeminnow and Razorback Sucker and not attaining these high flows has likely contributed to the degraded habitat condition in the San Juan River but the development of the new proposed depletion would likely have limited impact on further degradation of habitat condition caused in part by the inability to attain high flow targets.

In addition, the proposed action is not likely to adversely modify or destroy designated critical habitat for either species because the proposed action is estimated to impact only 0.05 acres temporarily during in river construction and any permanent modification would occur with the existing concrete intake structure. Designated critical habitat that is temporarily disturbed and permanently modified is less than 1% of designated critical habitat within the San Juan River. This small percentage of impacted designated critical habitat does not rise to the level of an adverse modification because the PCEs for both Colorado Pikeminnow and Razorback Sucker are still available in the vast majority of critical habitat areas and provide for life-history processes that are essential to the conservation of both species.

The SJRIP continues to make progress toward recovering Colorado Pikeminnow and Razorback Sucker in the San Juan River Basin based on the improved status of fishes in the system. However, the SJRIP has yet to establish the conditions to allow the endangered fish to complete all stages of their life history. Wild recruitment is rarely observed and both populations rely on augmentation with hatchery-reared for their persistence. A major factor likely impeding self-sustaining populations is the inability to meet the high flow targets in the Flow Recommendations that are intended to create and maintain the habitats necessary for Colorado Pikeminnow and Razorback Sucker. If releases from Navajo Reservoir continue to be unable to meet high flow targets at the recommended frequency in the San Juan River, the SJRIP will need to explore options to protect and potentially acquire flows necessary for recovery or develop non-flow alternatives to provide the same habitats provided by high flows. Given the lack of wild-recruitment, research to determine and mitigate impediments will be crucial to achieve self-sustaining populations. Additionally, continued efforts to expand range and provide passage at barriers would allow Colorado Pikeminnow and Razorback Sucker to use the full extent of suitable habitat available in the San Juan River. Implicit in these efforts in the continuation of the SJRIP at full funding and partner commitment to implement necessary recovery activities.

### **Mesa Verde Cactus**

After reviewing the current status of the cactus, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that implementation of the action, as proposed, is not likely to jeopardize the continued existence of the Mesa Verde Cactus. No critical habitat has been designated for this species; therefore, none will be affected.

We base this conclusion on the following factors:

1. Most activities will take place outside of occupied Mesa Verde Cactus habitat.
2. Direct effects from the action by the San Juan Lateral pipeline and associated infrastructure will be minimized through application of conservation measures as part of the proposed action.
3. Continued monitoring will occur to determine if cumulative effects related to population growth enabled by the proposed action cause increased impacts to Mesa Verde Cactus.
4. When activities occur in occupied Mesa Verde Cactus habitat, all extant individuals will be flagged, avoided, or transplanted.
5. Aside from habitat within the project footprint, no additional permanent habitat loss is anticipated for Mesa Verde Cactus.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as

take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The Reasonable and Prudent Measures described below are non-discretionary, and must be undertaken by Reclamation, as appropriate so that they become binding conditions of any grant or permit issued to any applicants, as appropriate, for the exemption in section 7(o)(2) to apply. Reclamation have a continuing duty to regulate the activity covered by this incidental take statement. If Reclamation fails to assume and implement the terms and conditions, or fails to require applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Reclamation must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

### **Amount or Extent of Take**

#### ***Depletion***

The proposed new 5,271 afy depletion does not impact the ability for the San Juan River Flow Recommendations to be met, but any amount of new depletion above 5,271 afy would result in incidental take.

The implementation of the SJRIP is intended to minimize impacts of water depletions and therefore, implementation of the SJRIP will serve as reasonable and prudent measures for minimizing the take that result from the withdrawal of 71 cfs of river flow into the River Station pumping facility over the fish barrier weir. Any amount of water withdrawal above this level would exceed the anticipated level of incidental take.

#### ***Entrainment of Colorado Pikeminnow and Razorback Sucker***

Based on the best available information concerning the habitat needs of this species, the project description, and information furnished by Reclamation, the Service anticipates that Colorado Pikeminnow larvae will be taken as a result of this proposed action. This incidental take is expected to be in the form of harm, harass, and kill as the result of entrainment of larvae during the spawning season. Following the construction of the proposed fish weir barrier in the intake structure, we estimate a loss of 0.2-1% of Colorado Pikeminnow larvae produced in the San Juan River. Furthermore, the replacement trash rack at the intake structure will only exclude the largest individuals resulting in an estimated loss of 0.01-0.34% of Colorado Pikeminnow in older age classes.

Based on the best available information concerning the habitat needs of this species, the project description, and information furnished by Reclamation, the Service anticipates that Razorback Sucker larvae will be taken as a result of this proposed action. This incidental take is expected to be in the form of harm, harass, and kill as the result of entrainment of larvae during the spawning season. Following the construction of the proposed fish weir barrier in the intake structure, we estimate a loss of 0.06-0.86% of Razorback Sucker larvae produced in the San Juan River.

Furthermore, the replacement trash rack at the intake structure will only exclude the largest individuals resulting in an estimated loss of 0.01-0.59% of Razorback Sucker in older age classes.

### ***Mesa Verde Cactus***

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of federally listed endangered plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law). Thus, in this biological opinion, we will not be addressing amount or extent or incidental take, reasonable and prudent measures, nor terms and conditions for the Mesa Verde Cactus.

### **EFFECT OF THE TAKE**

In this BO, the Service determined that the level of anticipated take is not likely to result in jeopardy to the Colorado Pikeminnow and Razorback Sucker or result in the destruction or adverse modification of their critical habitat. The proposed action is likely to have adverse effects on individuals but those effects are not anticipated to result in any long-term consequences on the population. Incidental take of both Colorado Pikeminnow and Razorback Sucker will result from harassment during in-river construction, impingement, and entrainment during water diversion operation.

### **REASONABLE AND PRUDENT MEASURES**

Reasonable and prudent measures, and implementing terms and conditions, are designed to minimize the effects of incidental take that might otherwise result from the action. In addition to the Conservation Measures already proposed as part of the project description. The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the Razorback Sucker and Pikeminnow. These were developed during the formulation of the 2009 BO and remain unchanged.

1. Reclamation will continue to support and participate in the implementation of the SJRIP.
2. Through the SJRIP, Reclamation shall implement measures to create and maintain habitat complexity and to minimize loss and long-term degradation of habitat for the endangered fishes within the San Juan River.
3. To project future flow regimes in the San Juan River, through the SJRIP, Reclamation will be responsible for the maintenance and application of the San Juan Hydrology Model to evaluate proposed projects on the San Juan River.

### **TERMS AND CONDITIONS**

Compliance with the following terms and conditions must be achieved in order to be exempt from the prohibitions of section 9 of the Act. The terms and conditions implement the reasonable and prudent measures described above and remain consistent with those developed in the 2009 BO. The terms and conditions also outline required reporting/monitoring requirements. The terms and conditions are non-discretionary.



The following term and condition is established to implement Reasonable and Prudent Measure Number (1) Reclamation will continue to support and participate in the implementation of the SJRIP: Reclamation will continue to seek and provide funding, as authorized, for the implementation of the SJRIP

The following term and condition is established to implement Reasonable and Prudent Measure Number (2) Through the SJRIP, Reclamation shall implement measures to create and maintain habitat complexity and to minimize loss and long-term degradation of habitat for the endangered fishes within the San Juan River:

1. Investigate the use of habitat manipulation such as nonnative vegetation removal, mechanically opening the mouths of secondary channels, or reconnecting the river with the floodplain in appropriate sites to augment the function of high flows. Any appropriate options should be implemented and funded through the SJRIP.
2. Continue to monitor habitat response to the Flow Recommendations.
3. Monitor the response of actions taken to increase habitat complexity.

The following term and condition is established to implement Reasonable and Prudent Measure Number (3) To project future flow regimes in the San Juan River, through the SJRIP, Reclamation will be responsible for the maintenance and application of the San Juan Hydrology Model to evaluate proposed projects on the San Juan River:

1. To track potential climate changes and how these changes may affect the Colorado Pikeminnow and Razorback Sucker and their designated critical habitats, Reclamation in cooperation with the SJRIP, will begin monitoring to:
  - a. Determine changes in the timing of runoff.
  - b. Determine if average annual runoff is decreasing and a timeframe in which a change may affect the ability of the Flow Recommendations to be met.
  - c. If, from the monitoring activities completed in (a) and (b) above, it is determined that climate change is affecting water availability in the San Juan River, this would be considered as new information that may affect listed species or designated critical habitat. Reclamation would reinitiate consultation with the Service, consistent with Section 7.0 D (2) of the "Principles for Conducting Endangered Species Act Section 7 Consultations on Water Development and Water Management Activities Affecting Endangered Fish Species in the San Juan River Basin" adopted by the Recovery Program on June 19, 2001. Reclamation in consultation with the Service would evaluate the changes in water availability and determine if the changes would have an adverse effect on listed species and if the SJRIP is sufficient to serve as the reasonable and prudent alternative or measure.
2. To ensure the integrity, consistency, and scientific rigor in regard to water project depletions, Reclamation working through the SJRIP will:
  - a. Continue maintenance and upgrades of the San Juan Hydrology Model using the best available science.
  - b. Conduct project analysis for water depletion projects on the San Juan River as needed.

## **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and

threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's section 7(a)(1) responsibility for these species. In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species and their habitats, we request notification of the implementation of the conservation recommendations. We suggest the following conservation recommendations be implemented:

1. We recommend regular communication between the Reclamation and the Service before and after completion of the project in order to determine the necessity and applicability of any further conservation measures, which will be developed collaboratively.
2. Any collection of Mesa Verde Cactus within the action area should be reported to the Service.
3. Work should occur outside of the Mesa Verde Cactus reproductive season of late April to mid-June in areas where the species occurs, to avoid pollination disruption.
4. We recommend that Reclamation participate in the development, approval and management of the Mesa Verde Cactus Conservation Areas.
5. Installation of PIT tag detection antenna in conjunction with the fish weir barrier in the intake structure would be beneficial to monitoring entrainment into the Pumping Station. However, existing concrete and rebar-reinforcement in the intake structure may prevent antennas from effectively detecting PIT-tagged fish.

## **REPORTING REQUIREMENTS**

Documentation and reporting on the implementation of the conservation measures and terms and conditions will occur within six months after completion of the proposed action and annually thereafter for a period of five years. The nearest Service Law Enforcement Office must be notified within 24 hours in writing should any listed species be found dead, injured, or sick. Notification must include the date, time, and location of the carcass, cause of injury or death (if known), and any pertinent information. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence associated with the specimen is not unnecessarily disturbed. If necessary, the Service will provide a protocol for the handling of dead or injured listed animals. In the event Reclamation suspects that a species has been taken in violation of Federal, State, or local law, all relevant information should be reported in writing within 24 hours to the Service's New Mexico Law Enforcement Office (505/883-7814) or the New Mexico Ecological Services Field Office (505/346-2525).

## **REINITIATION NOTICE**

This concludes formal consultation on the proposed Navajo-Gallup Water Supply Project. As required by 50 FR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner

that causes an effect to the listed species or critical habitat that was not considered in this opinion; (4) a new species is listed or critical habitat designated that may be affected by the action; or (5) if the SJRIP ceases to exist or if funding levels are reduced so that critical deadlines for specified recovery actions are not met. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Actions of the SJRIP are expected to result sufficient progress toward recovery for the Colorado Pikeminnow and Razorback Sucker in the San Juan River. Therefore, reinitiation of section 7 consultation would be required for all projects dependent on the SJRIP, including the subject action if at some point in the future the SJRIP is no longer making sufficient progress toward recovery. If reinitiation is required, the Service will follow the procedures regarding reinitiation of consultation pursuant to the “Principles for Conducting Endangered Species Act Section 7 Consultations on Water Development and Water Management Activities Affecting Endangered Fish Species in the San Juan River Basin”.

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**TABLES AND FIGURES**

Table 1. Reclamation’s modeling results for amount of diversion needed from the San Juan River and return flow to the river to maintain a constant 71 cfs flow of the fish barrier weir under variable San Juan River discharges.

River Q (cfs)	Intake Q (cfs) resulting in 12-inch opening on 9-ft-wide radial gate	Pumping Q (cfs)	Return Q (cfs)	Gate Opening (ft)	Gate Note	Velocity in Return Channel (ft/s)	Depth in Return Channel (ft)
500	96	71	25	0.75	Only left LOPAC gate is open 0.75 ft; right LOPAC gate remains shut. All flow in D/S return channel is confined in the 2-ft guide wall section.	5.6	1.7
950	96	71	25	0.75	Only left LOPAC gate is open 0.75 ft; right LOPAC gate remains shut. All flow in D/S return channel is confined in the 2-ft guide wall section.	5.6	1.7
4,000	111.7	71	40.7	1.25	Only left LOPAC gate is open 1.25 ft; right LOPAC gate remains shut. All flow in D/S return channel is confined in the 2-ft guide wall section.	5.3	2.6
7,000	140.5	71	69.5	6.0	Only left LOPAC gate is open 6 ft; right LOPAC gate remains shut. All flow in D/S return channel is confined in the 2-ft guide wall section.	7.5	3.3
10,000	151.1	71	80.1	2.5	Each LOPAC gate is open 1.25 ft, for total LOPAC opening of 2.5 ft. Flow in D/S return channel is split on either side of the guide wall. Note: 1D HEC-RAS computes a single water surface elevation for the cross section, so the flow split on either side of the guide wall is not accurately represented by the model. Depth and velocity results for the 10k cfs scenario are likely not accurate for this reason.	0.7	4.4

Note: Discharge calculated as  $Q=C_D L H^{3/2}$ , with  $C_D = 3$  and  $L = 123$  ft

Table 2. Summary of parties responsible for depletions (acre feet/ year) at full development of the Navajo-Gallup Water Supply Project. Three water supply scenarios were described in the 2009 BO and water contracts among Navajo Nation, City of Gallup, and Jicarilla Apache Nation have followed Scenario 1 (detailed below and page 13).

<b>Water Provider</b>	<b>Change in Use of Baseline Depletion</b>	<b>Return Flows</b>	<b>New Depletion</b>	<b>Met Within Threshold Depletion<sup>1</sup></b>	<b>Total</b>
<b>Jicarilla Apache Nation</b>	<b>(6,740)<sup>2</sup></b>		<b>(1,960)<sup>3</sup></b>	<b>0</b>	<b>(8,700)</b>
<b>Navajo Nation</b>	<b>0</b>		<b>(6,411)</b>	<b>(20,782)</b>	<b>(27,193)</b>
<b>NGWSP Sub-totals</b>	<b>(6,740)</b>	<b>+3,100</b>	<b>(8,371)</b>	<b>(20,782)</b>	<b>(35,893)</b>
<b>Total NGWP</b>	<b>(6,740)</b>		<b>(5,271)<sup>4</sup></b>	<b>(20,782)</b>	<b>(32,793)<sup>4</sup></b>

<sup>1</sup> See Depletion Guarantee description.

<sup>2</sup> Includes forbearance by the Jicarilla Apache Nation of 6,570 afy of consumptive use on the Jicarilla Apache Nation Navajo River Water Supply Project (JANNRWSP) and 170 ac-ft of consumptive use under Jicarilla water rights for historic uses. This planning assumption does not preclude the alternative of the Navajo Nation forbearing an equivalent amount or more of consumptive use on the Navajo Indian Irrigation Project or other projects for which depletions are included the baseline, and changing the use of the amount forborne to the NGWSP. The City of Gallup may subcontract with either the Jicarilla Apache Nation or the Navajo Nation, or both in combination, for the diversion of up to 7,500 af of water per year total from the Navajo Reservoir supply for its NGWSP uses.

<sup>3</sup> This Biological Opinion shall not establish any right in the Jicarilla Apache Nation to retain approval for 1,960 afy of new depletions in excess of the baseline depletions listed in Table 3 should this amount of Jicarilla water rights, over and above the change in use of 6,740 ac-ft of baseline depletion, not be required for NGWSP purposes due to the City of Gallup subcontracting with the Navajo Nation, rather than subcontracting solely with the Jicarilla Apache Nation, for water for the City's NGWSP uses (see note 2).

<sup>4</sup> By the time the Navajo Nation's water demands under the NGWSP reach the full 27,193 afy of depletion, the return flows from the Navajo Indian Irrigation Project (NIIP) to the San Juan River are anticipated to have increased by approximately 3,100 afy, on average, over and above the current rate of return flows from the NIIP. This increase in return flows from the NIIP offsets an equivalent amount of new depletion by the NGWSP, and reduces the net new depletion from the river in this Biological Opinion from 8,371 afy to 5,271 afy.

Table 3. Baseline<sup>1</sup> and current depletion summary in the San Juan River Basin analyzed in the 2009 NGWSP BO. Note that because the proposed action in the reinitiation of that consultation did not change the depletion to the San Juan River, no new analysis was conducted and volumes presented here may not represent the latest values.

Depletion Category	Riverware Baseline (afy)	Estimated Current (afy)	Presently Unused (afy)
<b><i>New Mexico Depletions</i></b>			
Navajo Lands Irrigation Depletion			
Navajo Indian Irrigation Project	280,600 <sup>1</sup>	160,330	120,270
Hogback	12,100	9,535	2,565
Fruitland	7,898	6,147	1,751
Cudei	900	715	185
<b>Subtotal</b>	<b>301,498</b>	<b>176,727</b>	<b>124,771</b>
<b><i>Non-Navajo Lands Irrigation Depletion</i></b>			
Above Navajo Dam - Private	738	575	163
Above Navajo Dam - Jicarilla	2,190	350	1,840
Animas River	36,711	24,878	11,833
La Plata River	9,808	8,470	1,338
Upper San Juan	9,137	6,680	2,457
Hammond Area	10,268	7,507	2,761
Farmers Mutual Ditch	9,532	7,457	2,075
Jewett Valley	3,088	2,379	709
Westwater	110	110	0
<b>Subtotal</b>	<b>81,582</b>	<b>58,406</b>	<b>23,176</b>
<b>Total NM Irrigation Depletion</b>	<b>383,080</b>	<b>235,133</b>	<b>147,949</b>
<b><i>Non-Irrigation Depletions</i></b>			
Navajo Reservoir Evaporation	27,350	29,235	-1,885
Utah International	39,000	31,388	7,612
San Juan Power Plant	16,200	16,200	0
Industrial Diversions near Bloomfield	2,500	2,500	0
Municipal and Industrial Uses	8,453	7,443	1,010
Scattered Rural Domestic Uses	1,400 <sup>2</sup>	1,400	0
Scattered Stockponds & Livestock Uses	2,200 <sup>3</sup>	2,200	0
Fish and Wildlife	1,400 <sup>3</sup>	1,400	0
<b>Total NM Non-Irrigation Depletion</b>	<b>98,503</b>	<b>91,766</b>	<b>6,735</b>

<sup>1</sup> Includes 10,600 afy of annual groundwater storage. At equilibrium this drops to 270,000 afy, based on irrigation of the full 110,630 acres every year. The proposed schedule of anticipated depletions prepared by the New Mexico Interstate Stream Commission to reflect the Navajo Water Rights Settlement Agreement includes an equilibrium depletion for NIIP of 256,500 AF based on an average fallow acreage of 5%. While including fallow land in the depletion calculation is reasonable, the larger number is used here to be consistent with the NIIP Section 7 consultation and the full capacity of the project.

<sup>2</sup> Indicates offstream depletion accounted for in calculated natural gains.



**Table 3 (Continued)**

<b>Depletion Category</b>	<b>Riverware Baseline (afy)</b>	<b>Estimated Current (afy)</b>	<b>Presently Unused (afy)</b>
San Juan-Chama Project Exportation	107,514	107,514	0
Unspecified Minor Depletions	4,5003	2,500	2,000
JANNRWSP	6,5704	0	6,570
<b>Total NM Depletions (Excluding ALP)</b>	<b>600,168</b>	<b>436,914</b>	<b>163,254</b>
<b><i>Colorado Depletions - Upstream of Navajo</i></b>			
Upper San Juan	10,858	9,270	1,588
Navajo-Blanco	7,865	6,972	893
Piedra	8,098	6,892	1,206
Pine River	71,671	69,775	1,886
<b>Subtotal</b>	<b>98,492</b>	<b>92,909</b>	<b>5,583</b>
<b><i>Colorado Depletions - Downstream of Navajo</i></b>			
Florida	28,607	27,749	858
Animas	25,119	24,099	1,020
La Plata	13,245	13,049	196
Long Hollow	1,339	0	1,339
Mancos	19,532	15,516	4,016
<b>Subtotal</b>	<b>87,842</b>	<b>80,413</b>	<b>7,429</b>
<b>Total CO Depletions (Excluding ALP)</b>	<b>186,334</b>	<b>173,322</b>	<b>13,012</b>
<b>Total CO &amp; NM Combined Depletions</b>	<b>786,502</b>	<b>610,236</b>	<b>176,266</b>
ALP	57,133 <sup>5</sup>	1,620	55,513
<b>Subtotal</b>	<b>843,635</b>	<b>611,856</b>	<b>231,779</b>
McElmo Basin Imports	-11,769	-11,769	0
Utah Depletions	9,140 <sup>6</sup>	9,140	0
Arizona Depletions	10,010 <sup>5</sup>	10,010	0
<b>NET NM, CO, UT, AZ Depletion</b>	<b>851,016</b>	<b>619,237</b>	<b>231,779</b>
<b><i>NM Off River Depletions</i></b>			
Chaco River	2,832 <sup>5</sup>	2,832	0
Whiskey Creek	523 <sup>5</sup>	523	0
<b>GRAND TOTAL</b>	<b>854,371</b>	<b>622,592</b>	<b>231,779</b>

<sup>3</sup> 1500 afy of depletion from minor depletions approved of SJRIP in 1992. 3,000 afy from 1999 Intra-service consultation, a portion of which may be in Colorado

<sup>4</sup> Biological Opinion lists this depletion as 6,654 afy, but model configuration shows 6,570. Model configuration used.

<sup>5</sup> Actual approved depletion is 57,100 afy. Small changes in reservoir evaporation between runs results in small variation from actual project depletion. Exact match would require multiple iterations because of model limitations.

<sup>6</sup> 1,705 afy San Juan River depletion, 7,435 afy off stream depletion

Table 4. Number of days per year at the four spring flow targets (highlighted days in grey represent target was attained) as outlined in the San Juan River flow recommendations (Holden 1999). Table and flow statistics courtesy of S. Behery.

<b>Flow target (cfs)</b>	<b>Annual duration (number of days meeting target)</b>			
	<b>10,000</b>	<b>8,000</b>	<b>5,000</b>	<b>2,500</b>
<b>Minimum duration criteria</b>	<b>5 days</b>	<b>10 days</b>	<b>21 days</b>	<b>10 days</b>
<b>Recommended frequency criteria</b>	<b>20% of years</b>	<b>33% of years</b>	<b>50% of years</b>	<b>80% of years</b>
<b>Maximum frequency criteria</b>	<b>10 years</b>	<b>6 years</b>	<b>4 years</b>	<b>2 years</b>
1998	0	4	35	66
1999	0	1	31	72
2000	0	0	6	40
2001	0	4	36	56
2002	0	0	0	0
2003	0	0	0	14
2004	0	0	1	26
2005	11	18	52	85
2006	0	0	8	24
2007	0	3	21	56
2008	6	25	62	121
2009	0	0	20	41
2010	0	0	0	19
2011	0	7	12	29
2012	0	0	6	10
2013	0	0	0	0
2014	0	0	0	22
2015	0	1	16	38
2016	0	7	35	53
2017	0	7	49	73
2018	0	0	0	0
2019	6	9	25	63
2020	0	0	0	0
2021	0	0	0	4
2022	0	0	0	3

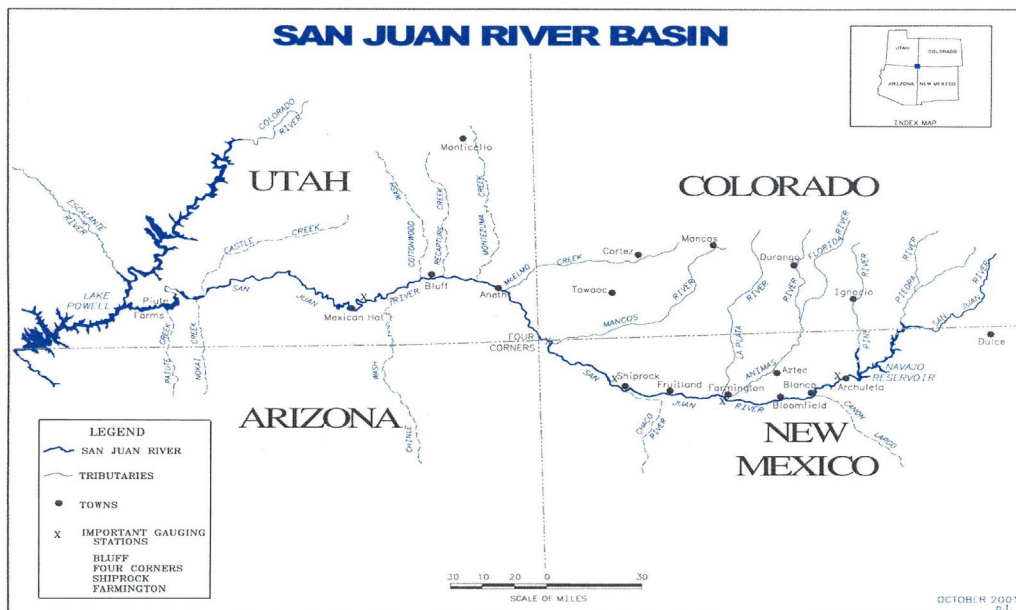


Figure 1. Overview of the San Juan River Basin including Lake Powell and tributaries to Navajo Reservoir.

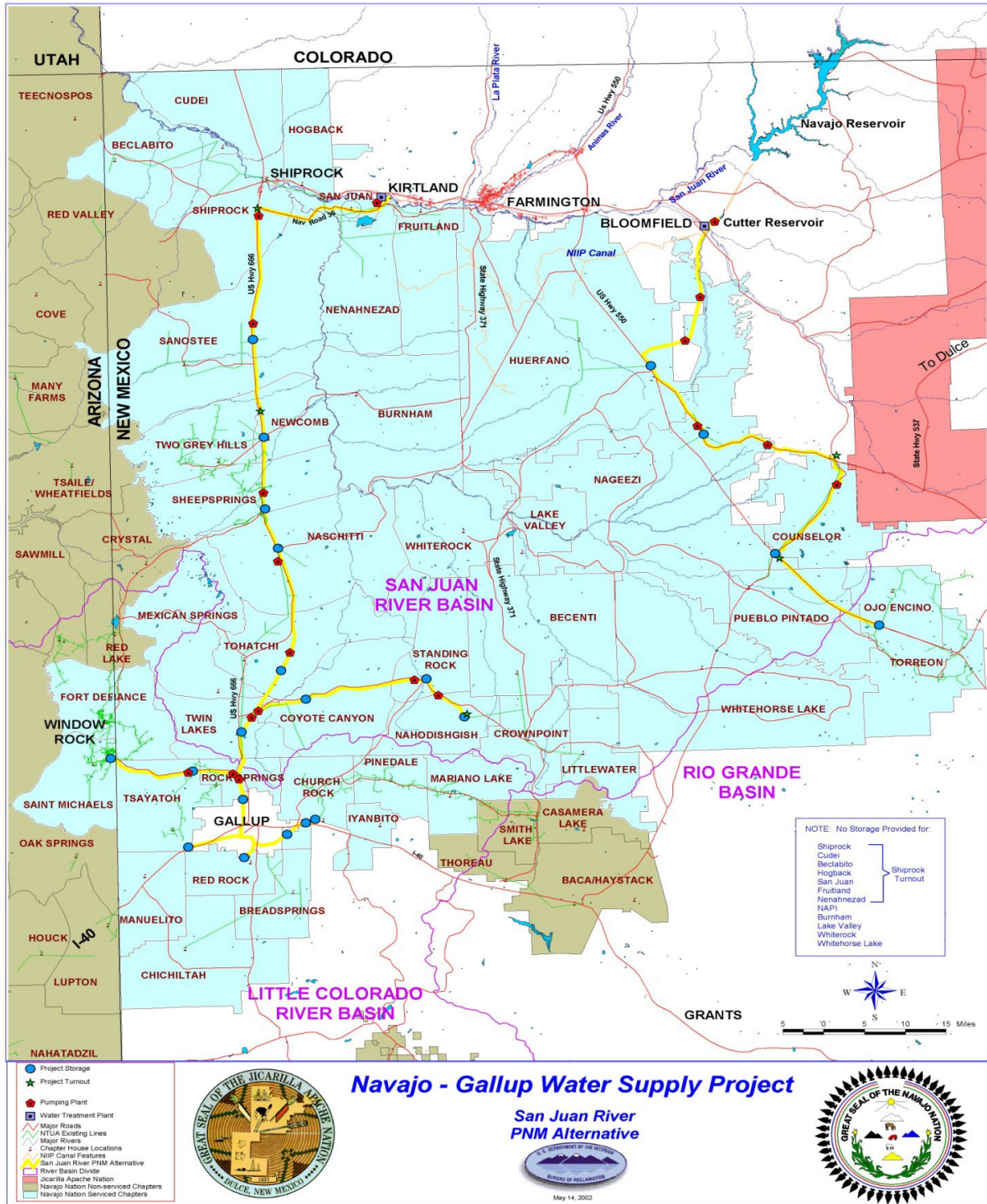


Figure 2. Navajo-Gallup Water Supply Project service area and project layout.

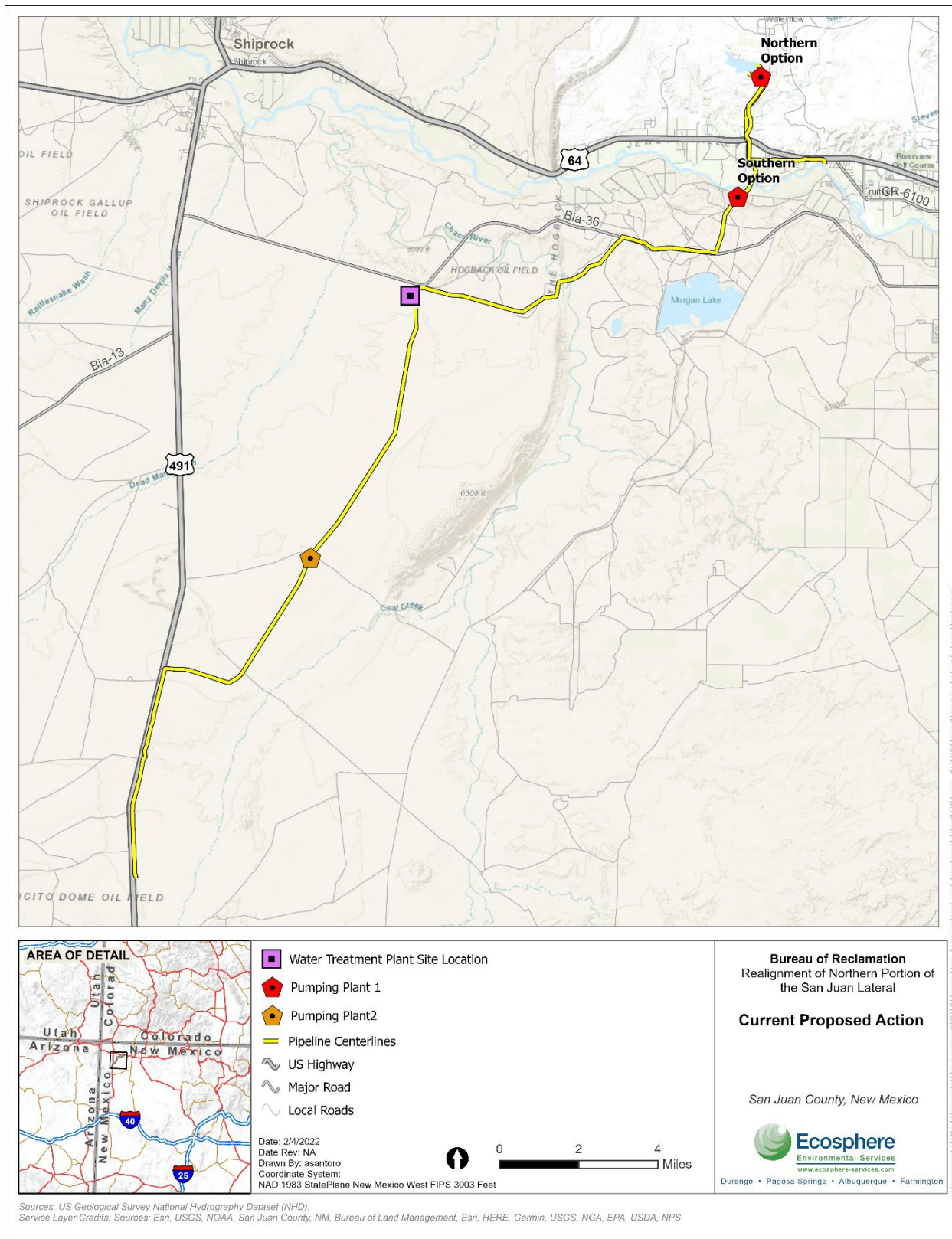


Figure 3. Overview of the realignment of the northern portion of the San Juan Lateral of the Navajo-Gallup Water Supply Project.

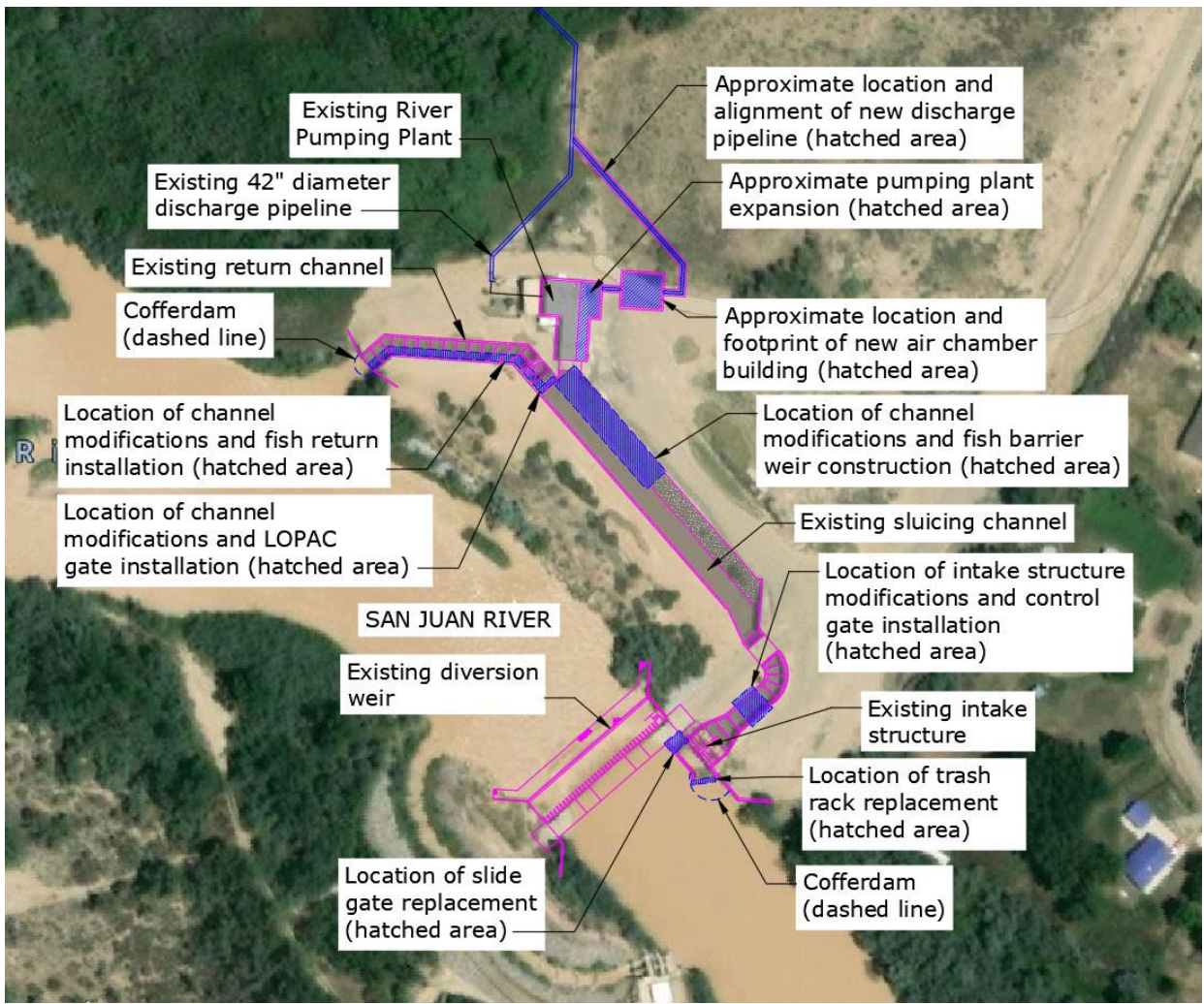


Figure 4. Detailed overview of San Juan Lateral river intake and pumping plant.

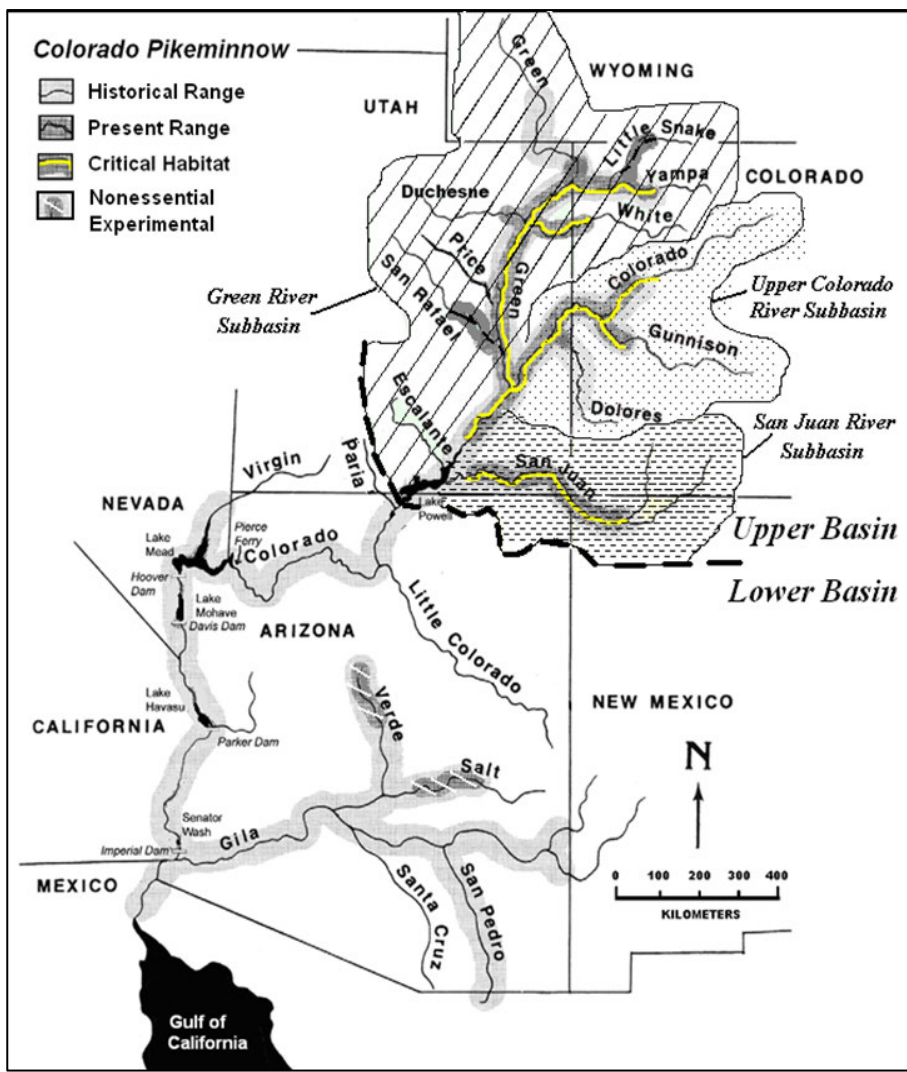


Figure 5. Historical, current range, and critical habitat distribution for Colorado Pikeminnow.

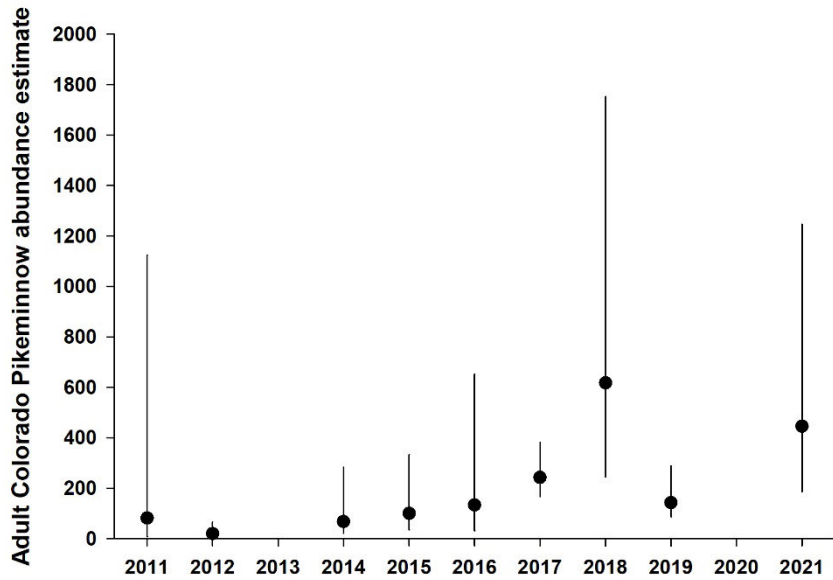


Figure 6. Annual abundance estimates of adult Colorado Pikeminnow (and 95% CI) from a variety of mark-recapture data through time. Estimates were based on five passes from RM 147.9-52.9 from 2011-2017, three passes from RM 147.9-52.9 in 2018 (Saltzgeber and Mussmann 2022), and three passes from RM 147.9-76.5 in 2019 and 2021 (Schleicher et al. 2020, Schleicher et al. 2022)



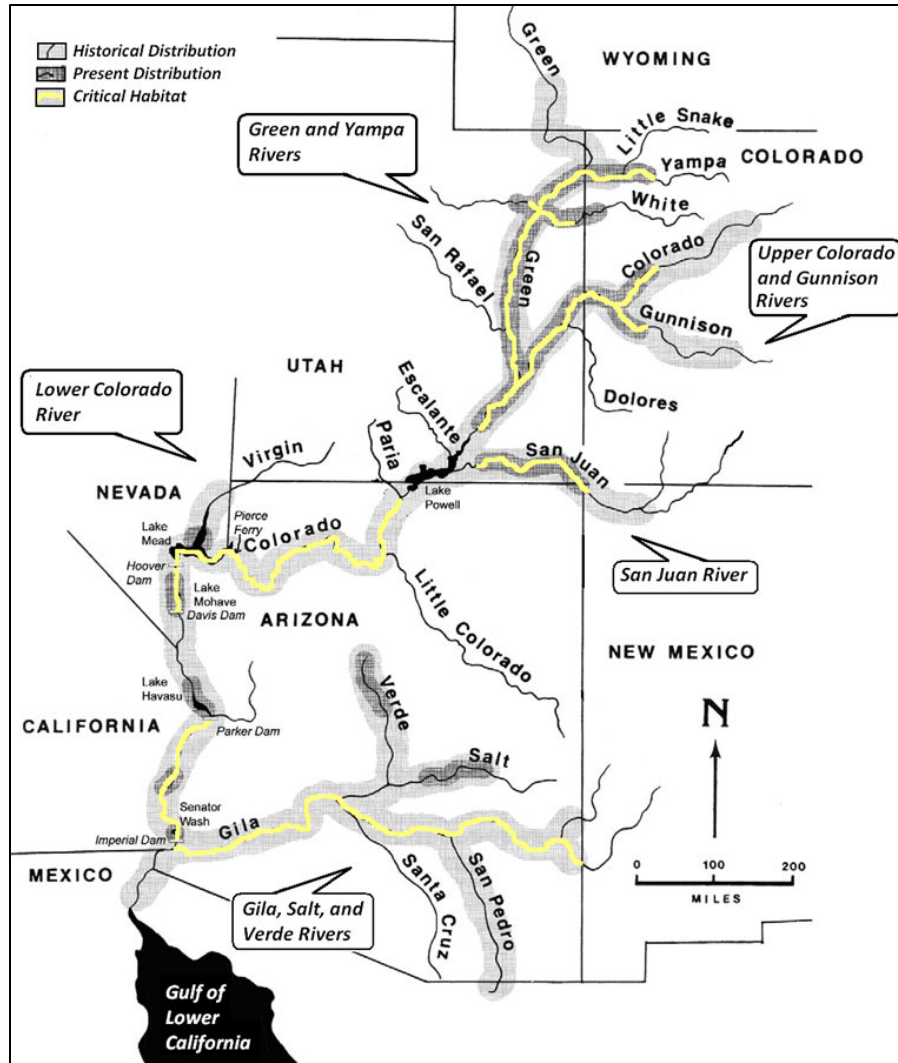


Figure 7. Historical, current range, and critical habitat distribution for Razorback Sucker.

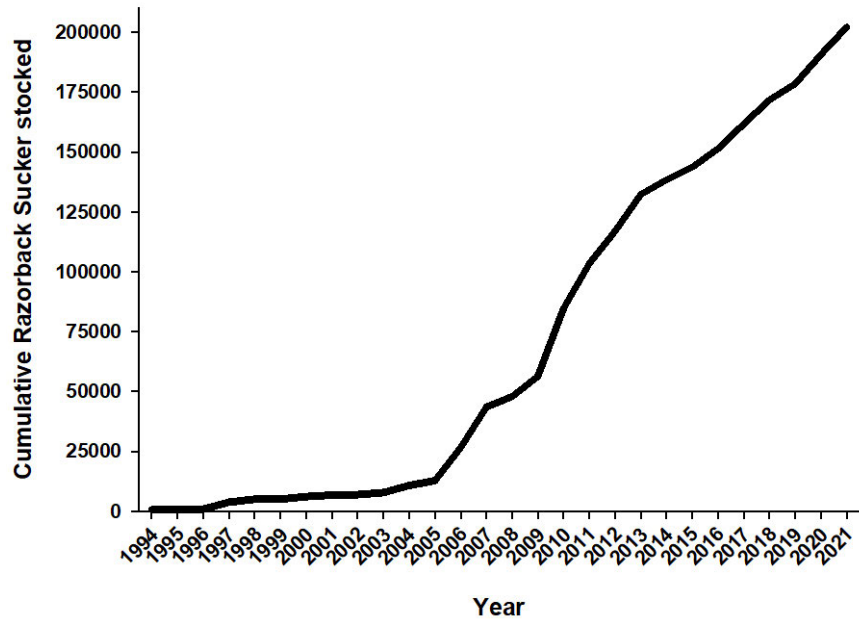


Figure 8. Cumulative number of Razorback Sucker stocked into the San Juan River Basin, 1994-2021 ([www.streamsystem.org](http://www.streamsystem.org)).

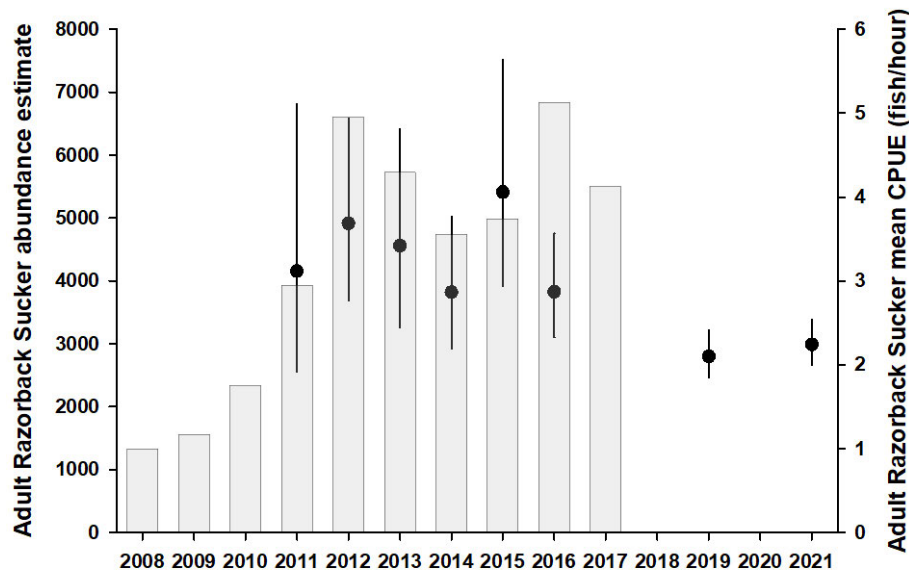


Figure 9. Adult Razorback Sucker abundance estimates from 2011-2016, 2019, 2021 based on mark-recapture models (black circle with 95% CI). Estimates were based on five passes from RM 147.9-52.9 from 2011-2016 (Saltzgeber and Mussmann 2022) and three passes from RM 147.9-76.5 in 2019 and 2021 (Schleicher et al. 2020, Schleicher et al. 2022). Adult Razorback Sucker mean catch rate (CPUE, fish/hour) was based on standardized single pass monitoring from RM 180-76.5 (transparent bars; Schleicher et al. 2018).

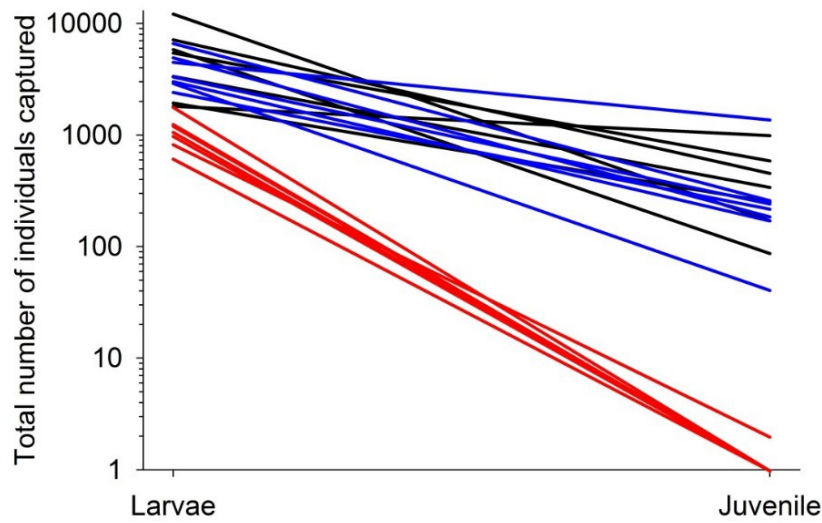


Figure 10. Annual number of larvae and juvenile Sucker species captured in the San Juan River during larval (Farrington et al. 2017) and small-bodied fish monitoring (Zeigler and Ruhl 2017) 2010-2016. Each line represents a single year, Flannelmouth Sucker in black, Bluehead Sucker in blue, and Razorback Sucker in red. To facilitate plotting on a Log10 scale on y-axis, 1 was added to each values.

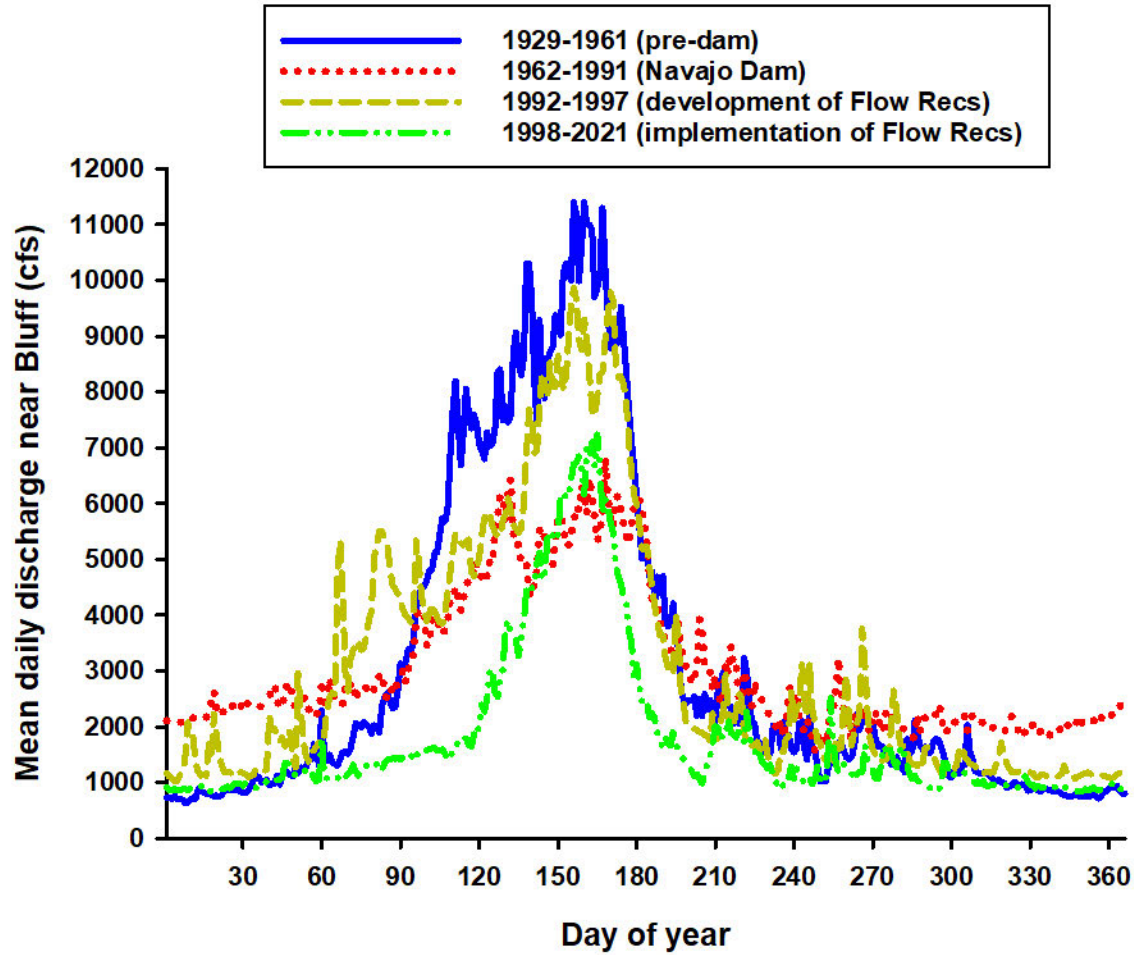


Figure 11. San Juan River mean daily discharge at USGS gage near Bluff, UT (09379500) prior to completion of Navajo Dam (1929-1961), during operation of Navajo Reservoir prior to development of SJRIP Flow Recommendations (1962-1991), during research period to develop SJRIP Flow Recommendations (1992-1997), and since the implementation of SJRIP Flow Recommendations (1998-2021).

**APPENDIX E – BIOLOGICAL RESOURCES  
COMPLIANCE DOCUMENTATION**

**BIOLOGICAL RESOURCES COMPLIANCE FORM  
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE  
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480**

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

**PROJECT NAME & NO.:** Bureau of Reclamation Navajo Gallup Water Supply Project Upper San Juan Lateral and Water Treatment Plant - Realignment of the Northern Portion of the San Juan Lateral

**DESCRIPTION:** The Bureau of Reclamation is proposing to analyze site-specific resource issues for a portion of the Navajo Gallup Water Supply Project. This site specific project proposes to construct a new San Juan River intake and develop a water treatment plant and pumping station adjacent to the existing San Juan River intake and develop a water treatment plant and pumping station adjacent to the existing Public Service Company of New Mexico (PNM) San Juan river intake and pumping station.

**LOCATION:** Quadrangles: Fruitland, Little Water, Sulpher Spring, Table Mesa, and The Hogback North, Waterflow, New Mexico

T29N, R17W, Sections 4, 13, 23, 24, 26, and 35

T29N, R16W, Sections 7, 8, 9, 17, and 18

T28N, R17W, Sections 12, 13, 23, 24, 26, 34, and 35

T27N, R17W, Sections 3, 4, 9, 16, 17, 19, and 20

T27N, R18W, Sections 24, 25, 26, 35, and 36

T26N, R18W, Sections 2, 11, 14, 23, 26, and 35

T25N, R18W, Section 2

**REPRESENTATIVE:** Joey Herring, Ecosphere Environmental Services

**ACTION AGENCY:** Bureau of Reclamation and Navajo Nation

**B.R. REPORT TITLE / DATE / PREPARER:** Biological review and compliance / 4 April 2022 / Joey Herring, Ecosphere Environmental Services

**SIGNIFICANT BIOLOGICAL RESOURCES FOUND:** Area 1, 2, and 3.

**POTENTIAL IMPACTS**

**NESL SPECIES POTENTIALLY IMPACTED:** (1) *Aquila chrysaetos* (Golden Eagle) G3; (2) *Astragalus humillimus* (Mancos Milk-vetch) G2; (3) *Astragalus naturitensis* (Naturita Milk-vetch) G3; (4) *Asclepias sanjuanensis* (San Juan Milkweed) G4; (5) *Athene cunicularia* (Burrowing Owl) G4; (6) *Buteo regalis* (Ferruginous Hawk) G3; (7) *Corynorhinus townsendii* (Townsend's Big-eared Bat) G4; (8) *Empidonax*

traillii extimus (Southwestern Willow Flycatcher) G2; (9) Porzana carolina (Sora) G4, (10) Sclerocactus mesae-verdae (Mesa Verde Cactus) G2.

FEDERALLY-LISTED SPECIES POTENTIALLY IMPACTED: (1) Astragalus humillimus (Mancos Milk-vetch) FE; (2) Empidonax traillii extimus (Southwestern Willow Flycatcher) FE; (3) Sclerocactus mesae-verdae (Mesa Verde Cactus) FT.

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES:

(1) Reclamation Plan - All areas disturbed by the construction of the project shall be reclaimed following provisions in Section 3.10 Reclamation.

CONDITIONS OF COMPLIANCE\*:

(1) Raptor Safe Utility Poles - All above ground utility poles shall conform to a design standard(s) that comply with the Raptor Electrocution Prevention Regulations, RCS-43-08, September 10, 2008. This is to avoid unintentional electrocution of raptors that may perch on the utility pole.

(2) Pre-construction surveys for Buteo regalis (Ferruginous hawk)

a. Pre-construction surveys for Buteo regalis (Ferruginous hawk) shall occur if work is proposed within 1.0 km (0.62 miles) of suitable nesting habitat during the species breeding and chick rearing seasons (March 1 - July 31, of any year). Surveys may be avoided if all construction activity occurs outside the breeding and chick rearing seasons for this species, August 1 - February 28, of any year. All active nests that occur within 1.0 km of the project area shall be buffered, based on anticipated noise level (see Ferruginous Hawk nest protection document) and work shall not occur within that buffer zone until the end of the breeding season of that year.

(3) Pre-construction survey for Athene cunicularia (Burrowing Owl)

a. Pre-construction surveys for Athene cunicularia (Burrowing Owl) shall occur if work is proposed during the species active season (15 March – August 31, of any year). Surveys shall occur within 0.4 km (1/4 mi) of the project location. Surveys shall follow survey protocols described in the Arizona's Burrowing Owl Project Clearance Protocols to locate active burrows. Pre-construction surveys need not be implemented if all construction activities occur during the species migratory season (15 September – March 15).

(4) Den site protections for Vulpes macrotis (Kit Fox)

a. All identified fox dens shall be buffered by 0.2km (1/8 mi) and no work shall occur within the buffered areas from December 1 – August 31, of any year. Unless a survey is conducted to document the den is inactive. No den may be destroyed or altered unless a survey proves it is inactive. Please contact the NNHP Zoologist for details on how to properly document den site activity.

(5) San Juan River Fish Protections

If in-water work occurs and work zones need to be dewatered an onsite biologist, familiar with San Juan River fish, shall be onsite to safely remove any trapped fish from the dewatered areas. Fish shall be immediately and safely relocated to the river. Within 30-days of completion of the fish removal work a written report shall be submitted to NNHP including the number, species, and PIT tag ID or other information as needed to properly document this activity.

1. Fish passage shall be maintained at all times during the construction of the project, unless the waterway is dry.



2. Any area of disturbed soil below the bank full width shall be stabilized with properly installed soil stabilization techniques and maintained throughout the construction time period.
3. Prior to the end of construction all disturbed areas shall be reseeded with a locally appropriate (e.g., native to county) seed mix. All seeded areas shall be properly watered and mulched/straw to ensure successful seed germination.

(6) Mesa Verde Cactus:

1. Follow all Mitigation Measures (1-11) outlined on pages 23-24 of the BE.
2. Additions to Mitigation Measure 1: Pre-construction Mesa Verde cactus inventory/surveys shall be performed by experienced botanists when plants are in flower (late April-May) during the year preceding the initiation of construction activities. Transect distances shall be spaced at 3m intervals in suitable habitat. Surveys should include a minimum 200ft buffer around project areas and ROW's, including all temporary use areas. NNHP requests that survey tracts (GPS data) from field surveyors be included with all survey reports. The Mesa Verde cactus construction plan shall be submitted to NNHP for review and approval prior to construction activities taking place. The Mesa Verde cactus construction plan should also include mitigation for indirect effects to this species as a result of habitat fragmentation, including mitigation for 1) disrupted pollination, 2) destruction of seedbank, 2) increased fugitive dust and invasive species due to construction activities and ongoing maintenance over the life of the project.
3. Additions to Mitigation Measure 11: Native reseeding is to be used in tandem with spot treating invasive weeds with herbicide if necessary. Spot and mechanized herbicide spraying can only occur at least 200ft from identified Mesa Verde cactus locations. Water would be used to control fugitive dust from construction activities in all project areas occurring in occupied Mesa Verde cactus habitat.

(7) *Astragalus naturitensis*:

1. NHP disagrees with decision to eliminate from further consideration. Potential habitat exists within slickrock on the hogback section of the realignment (Map 8 of the BE). Known populations occur just 700 ft. south of the proposed line. Pre-construction surveys required within potential habitat when plants are fruiting in late April-May. Surveys should include a minimum 200ft buffer around project areas and ROW's, including all temporary use areas.

FORM PREPARED BY / DATE: Leanna Begay / 30 AUG 2022

COPIES TO: (add categories as necessary)

\_\_\_\_\_

\_\_\_\_\_

**2 NTC § 164 Recommendation:**

**Approval:**

**Conditional Approval (with memo):**

Bureau of Reclamation Navajo Gallup Water Supply Project Upper San Juan Lateral and Water Treatment Plant - Realignment of the Northern Portion of the San Juan Lateral

**Pending (with memo):**

**Disapproval (with memo):**

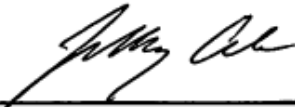
**Categorical Exclusion (with request letter):**

**None (with memo):**

Gloria M. Tom, Director

Navajo Nation Department of Fish and Wildlife

Signature:



Date 8/30/22

\*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature

Date

# THE NAVAJO NATION

JONATHAN NEZ | PRESIDENT MYRON LIZER | VICE PRESIDENT



August 30, 2022

21ees103

Joey Herring  
Ecosphere Environmental Services  
4801 N. Butler Ste. 15101  
Farmington, NM 87401

Dear Joey,

The Navajo Nation Department of Fish and Wildlife (NNDFW) reviewed Ecosphere Environmental Services' request for review and compliance on the "Bureau of Reclamation Navajo Gallup Water Supply Project Upper San Juan Lateral and Water Treatment Plant - Realignment of the Northern Portion of the San Juan Lateral". The purpose of this letter is to inform you that we are granting the proposed project **Conditional Approval**.

The project area intersects with **potential and known habitat** for several Navajo Endangered Species listed plant and animals. The following are the Conditions of Compliance:

- (1) **Raptor Safe Utility Poles** - All above ground utility poles shall conform to a design standard(s) that comply with the Raptor Electrocutation Prevention Regulations, RCS-43-08, September 10, 2008. This is to avoid unintentional electrocution of raptors that may perch on the utility pole.
- (2) **Pre-construction surveys for Buteo regalis (Ferruginous hawk)**
  - a. Pre-construction surveys for Buteo regalis (Ferruginous hawk) shall occur if work is proposed within 1.0 km (0.62 miles) of suitable nesting habitat during the species breeding and chick rearing seasons (March 1 - July 31, of any year). Surveys may be avoided if all construction activity occurs outside the breeding and chick rearing seasons for this species, August 1 - February 28, of any year. All active nests that occur within 1.0 km of the project area shall be buffered, based on anticipated noise level (see Ferruginous Hawk nest protection document) and work shall not occur within that buffer zone until the end of the breeding season of that year.
- (3) **Pre-construction survey for Athene cunicularia (Burrowing Owl)**
  1. Pre-construction surveys for Athene cunicularia (Burrowing Owl) shall occur if work is proposed during the species active season (15 March – August 31, of any year). Surveys shall occur within 0.4 km (1/4 mi) of the project location. Surveys shall follow survey protocols described in the Arizona's Burrowing Owl Project Clearance Protocols to locate active burrows. Pre-construction surveys need not be implemented if all construction activities occur during the species migratory season (15 September – March 15).
- (4) **Den site protections for Vulpes macrotis (Kit Fox)**
  1. All identified fox dens shall be buffered by 0.2km (1/8 mi) and no work shall occur within the buffered areas from December 1 – August 31, of any year. Unless a survey is conducted to document the den is inactive. No den may be destroyed or altered unless a survey proves it is inactive. Please contact the NNHP Zoologist for details on how to properly document den site activity.
- (5) **San Juan River Fish Protections**

If in-water work occurs and work zones need to be dewatered an onsite biologist, familiar with

NAVAJO NATION OFFICE OF THE PRESIDENT AND VICE PRESIDENT

POST OFFICE BOX 7440 · WINDOW ROCK, AZ 86515 · PHONE: (928) 871-7000 · FAX: (928) 871-4025

San Juan River fish, shall be onsite to safely remove any trapped fish from the dewatered areas. Fish shall be immediately and safely relocated to the river. Within 30-days of completion of the fish removal work a written report shall be submitted to NNHP including the number, species, and PIT tag ID or other information as needed to properly document this activity.

1. Fish passage shall be maintained at all times during the construction of the project, unless the waterway is dry.
2. Any area of disturbed soil below the bank full width shall be stabilized with properly installed soil stabilization techniques and maintained throughout the construction time period.
3. Prior to the end of construction all disturbed areas shall be reseeded with a locally appropriate (e.g., native to county) seed mix. All seeded areas shall be properly watered and mulched/straw to ensure successful seed germination.

There are significant concerns for Mesa Verde cactus for this realignment. The proposed realignment crosses through a significant portion of Mesa Verde cactus habitat and could lead to direct detrimental impacts to individuals as well as indirect effects to the species from fragmentation of habitat, loss of pollinator connectivity, invasive species, fugitive dust, erosion, soil compaction, etc. Due to declines in Mesa Verde cactus numbers across the specie's range, the Navajo Natural Heritage Program considers translocation of cacti to be a "last resort" effort, and we strongly prefer project realignment and any additional avoidance measures to translocation wherever possible.

(6) **Mesa Verde Cactus** - Follow all mitigation measures (1-11) outlined on pages 23-24 of the BE for Mesa Verde Cactus.

1. **Additions to Mitigation Measure 1:** Pre-construction Mesa Verde cactus inventory/surveys shall be performed by experienced botanists when plants are in flower (late April-May) during the year preceding the initiation of construction activities. Transect distances shall be spaced at 3m intervals in suitable habitat. Surveys should include a minimum 200ft buffer around project areas and ROW's, including all temporary use areas. NNHP requests that survey tracts (GPS data) from field surveyors be included with all survey reports. The Mesa Verde cactus construction plan shall be submitted to NNHP for review and approval prior to construction activities taking place. The Mesa Verde cactus construction plan should also include mitigation for indirect effects to this species as a result of habitat fragmentation, including mitigation for 1) disrupted pollination, 2) destruction of seedbank, 2) increased fugitive dust and invasive species due to construction activities and ongoing maintenance over the life of the project.
2. **Additions to Mitigation Measure 11:** Native reseeded is to be used in tandem with spot treating invasive weeds with herbicide if necessary. Spot and mechanized herbicide spraying can only occur at least 200ft from identified Mesa Verde cactus locations. Water would be used to control fugitive dust from construction activities in all project areas occurring in occupied Mesa Verde cactus habitat.

(7) **Astragalus naturitensis**

1. NHP disagrees with decision to eliminate from further consideration. Potential habitat exists within slickrock on the hogback section of the realignment (Map 8 of the BE). Known populations occur just 700 ft. south of the proposed line. Pre-construction surveys required within potential habitat when plants are fruiting in late April- May. Surveys should include a minimum 200ft buffer around project areas and ROW's, including all temporary use areas

(8) **Reclamation Plan** - All areas disturbed by the construction of the project shall be reclaimed following provisions in Section 3.10 Reclamation.

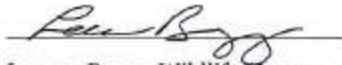
Survey protocols and habitat descriptions for the species listed above can be found in the species

accounts available on NNHP's website at [https://www.nndfw.org/nnhp/sp\\_account.htm](https://www.nndfw.org/nnhp/sp_account.htm). Surveys must be conducted during the appropriate time of year (for plants, during the fruiting/flowering season) by an experienced biologist who is permitted by the Navajo Nation. See here for a list of permitted consultants ([https://www.nndfw.org/bi\\_consult\\_list\\_2022.pdf](https://www.nndfw.org/bi_consult_list_2022.pdf)).

Survey reports need to be sent to NNHP prior to construction activities taking place. The survey contractor shall consult with the NNHP botanist and zoologist for positive identification and development of mitigation strategies if NESL plants and or wildlife species are found during surveys.

Please contact me via email at [lbegay@nndfw.org](mailto:lbegay@nndfw.org) with any questions that you have concerning the review of this project.

Sincerely,



Leanna Begay, Wildlife Manager  
Navajo Natural Heritage Program  
Department of Fish and Wildlife

**CONCURRENCE**



Gloria Tom, Director  
Department of Fish and Wildlife

8/30/22

Date

# **APPENDIX F – ENVIRONMENTAL ASSESSMENT DISTRIBUTION LIST**

- Navajo-Gallup Water Supply Project Cooperating Agencies
  - Bureau of Indian Affairs Navajo Region
  - City of Gallup, New Mexico
  - Indian Health Service Navajo Area
  - Jicarilla Apache Nation
  - Navajo Nation
    - Office of the President and Vice President
    - Washington Office
    - Department of Water Resources
    - Heritage and Historic Preservation Department
    - Environmental Protection Agency
    - Department of Justice
    - Department of Natural Resources
    - Water Rights Commission
    - Navajo Tribal Utility Authority
    - Department of Fish and Wildlife
  - Northwest New Mexico Council of Governments
  - State of New Mexico
- Cooperating Federal Agencies (Proposed Action)
  - Bureau of Land Management Farmington Field Office
- Associated Federal Agencies
  - US Army Corps of Engineers Albuquerque District
  - US Environmental Protection Agency Regions 6 and 9
  - US Fish and Wildlife Service New Mexico Ecological Services
  - US Fish and Wildlife Service San Juan River Basin Recovery Implementation Program
  - US Geological Survey New Mexico Water Science Center
  - Western Area Power Administration
- Associated State Agencies
  - New Mexico Office of the State Engineer
  - New Mexico Interstate Stream Commission
  - New Mexico Environment Department
  - New Mexico State Lands Office
  - New Mexico Department of Transportation
  - New Mexico Historic Preservation Department
  - New Mexico Energy, Minerals, and Natural Resources Department Forestry Division
- Local Government / Navajo Nation Chapters
  - City of Farmington
  - San Juan County

- Town of Kirtland
- Unincorporated communities of Waterflow and Fruitland
- Nenahnezad, Upper Fruitland, Tse Daa K'aan (Hogback), San Juan, Shiprock, and Tse Alnaozti'i' (Sanostee) Chapters of the Navajo Nation
- Agencies and Tribes Participating in the NGWSP Cultural Programmatic Agreement (if not already listed)
  - Signatories
    - Advisory Council on Historic Preservation
    - New Mexico State Historic Preservation Office
  - Concurring Parties
    - Hopi Tribe
    - Pueblo of Acoma
    - Pueblo of Jemez
    - Pueblo of Zuni
    - Santa Clara Pueblo
    - Ute Mountain Ute Tribe
  - Other Consulting Parties
    - Hualapai Tribe
    - Pueblo of Ohkay Owingeh
    - Pueblo of Pojoaque
    - Pueblo of Santa Ana
    - Pueblo of Zia
    - Southern Ute Indian Tribe
- Other Entities
  - DePauli Engineering
  - Enchant Energy
  - Farmington Electric Utility System
  - Greater Gallup Economic Development Corporation
  - Lower Valley Water Users
  - Public Service Company of New Mexico
  - San Juan River Dineh Water Users, Inc.
  - San Juan Water Commission
  - Souder, Miller & Associates
  - Stelzner Law Firm
  - Wood
- Adjacent landowners
  - Dr. Christine Benally
  - Emma Saul
  - Tracey Irwin



- Nancy Dickerson and Garan Shaw
- Justin and Amanda Decker
- Marilyn Perez
- Marcela Valencia
- Carol Onita Romine
- Valeria Duran
- Robin Ridgeway
- Damian Duran Arias
- Regina and Donald J. Chitty, Sr.
- Larry Don Chitty
- Open Bible Baptist Church
- Lou Brandy
- Ryan Vincent Mitchell Aragon
- Johnson and Joanne Muskett
- Perry and Rena Joe
- Deborah Mitchell
- James and Mary Rogers
- Eugene and Betty Frank
- Zach and Jamie Lyn Rogers
- Leroy and Velda Ortiz
- Michael and Jennifer Sanisya
- Joshua Benally and Stephanie Hamm
- Victoria Anderson
- Damita Clawson
- Sean Bekis
- Rex and Margie Ogden
- Uriah Simpson
- Silvia Garcia
- Vince Tsosie
- Tommy and Treva Lee
- Jim and Ethel Clyde
- Percella Nagle
- Lingley Thomas
- Donald and Carol Lasley
- Anne Donato
- Wesley Cobb
- Brent and Jenelle Young
- Luis Adan Vargas
- Fred and Janice Hennrich
- Everett and Suzanna Tsosie
- Maurice Martinez

- Dennis and Phoebe Carlson
- Tashina and Charlie Vance
- Corey and Kymberlie Topaha
- Justin and Carrie Bowman
- Erica and Ronson Clani
- Donald Paul Hetrick
- Tileda Harry
- William Bruce Jr.
- Nolan Silversmith

**APPENDIX G – SUMMARY OF THE PUBLIC COMMENTS  
RECEIVED ON THE DRAFT EA WITH RESPONSES**

Several comment documents were received during the public comment period for the project's Draft Environmental Assessment (EA). The New Mexico Department of Transportation (NMDOT) requested project maps from the Bureau of Reclamation (Reclamation). The New Mexico Interstate Stream Commission (NMISC) provided a comment letter generally in support of the Navajo-Gallup Water Supply Project (NGWSP) with a specific comment targeted at public safety for boaters on the San Juan River. Dr. Christine Benally provided a series of comments (seven emails with prior email threads related to the NGWSP and numerous attachments) that were broken down into nine distinct categories. In compliance with 40 CFR 1503.4, possible responses to these comments include:

- Modifying alternatives including the proposed action.
- Developing and evaluating alternatives not previously given serious consideration by the agency.
- Supplementing, improving, or modifying its analyses.
- Making factual corrections.
- Explaining why the comments do not warrant further agency response, recognizing that agencies are not required to respond to each comment.

Reclamation and cooperating agencies reviewed the submitted comments and documents and classified them according to comment or category in the below table. Responses to comments are provided. Submitted comments and documents from NMDOT, NMISC, and Dr. Christine Benally are included in Appendix H. Changes were made to supplement, improve, or modify the EA as a result of these comments and the reader is referred to the section of the EA where the changes occurred.

**Table of Public Comments and Responses**

Comment Number	Commenter	Affiliation	Comment	Response
NMDOT-1	Marcos Herrera	NMDOT	The commentor requested project maps.	Reclamation provided project maps via email and discussed the project over the phone. No changes were made to the EA in response to this comment.
NMISC-1	Ali Effati	NMISC	The NMISC supports the proposed realignment under this draft EA, but notes that the existing weir/drop structure is a safety hazard for boaters. The NMISC would like to suggest consideration of the following for the final EA: <ol style="list-style-type: none"> <li>1. inclusion of signage warning boaters of the hazard ahead and the need to take out and portage around the structure before getting back on the river, and/or</li> <li>2. construction of a boat ramp to make it safer for boaters to take out at this location to portage around the structure.</li> </ol>	Reclamation agrees with the NMISC about the existing safety hazard to San Juan River users associated with the Public Service Company of New Mexico's San Juan River diversion weir. Details on safety signage and other measures along the San Juan River near the diversion weir were added to the Proposed Action (Section 2.4.1.1) and incorporated into the project's environmental commitments (Section 4.2). As discussed in Section 2.4.1.1 of the EA, a boat ramp/portage area is not planned at the diversion weir, although Reclamation may pursue development of a boat takeout upstream of the diversion weir in the future.
DCB-1	Dr. Christine Benally	Private Individual	<p><b>Category 1: Project Alignment and Design</b></p> <p><b>Summary of Comment:</b> The commenter requests that the NGWSP Reaches 4C and Reach 4B pipeline alignment be rerouted to the west and into the US Highway 491 right-of-way from mile marker 70 to 72. The commenter also requests that Pumping Plant 3 be moved south of mile marker 70 and across from the Little Water store.</p> <p>The commenter also states that no lights, fences, stakes, tanks, or pump stations are to be installed between US Highway 491 mile markers 70 and 72, and no heavy duty equipment traffic be allowed on the east side of the US Highway 491 right-of-way in this area.</p>	<p>Comment noted. The location of Pumping Plant 3 and the constructed Reach 4C pipeline (up to mile marker 71) are not part of the Proposed Action and are outside the scope of the project. The alternative of rerouting the proposed Reach 4B pipeline to within the US Highway 491 ROW was added to Section 2.2 of the EA (Alternatives Considered but Not Carried Forward).</p> <p>Details of project construction are provided in Chapter 2 of the EA and environmental commitments are listed in Chapter 4 which further describe lighting, fencing, facilities, and other project details.</p>
DCB-2	Dr. Christine Benally	Private Individual	<p><b>Category 2: Traditional Cultural Properties/Sacred Sites/Ceremonial Areas/Natural Formations</b></p> <p><b>Summary of Comment:</b> The commenter notes the presence of sacred sites (Traditional Cultural Properties), ceremonial areas, and natural formations generally located on the east side of US Highway 491 between mile markers 70 and 72. The commentor describes that the sites should never have been disturbed (during construction of the Reach 4C pipeline and geotechnical data collection) and that the area should be protected. Horizontal directional drilling of pipeline underneath sacred sites is considered by the commentor to be a desecration to the sites and undermines patients who have received treatment there. The commenter compares protection measures for Bears Ears National Monument by Interior Secretary Deb Haaland and Navajo Nation President Jonathan Nez to the Proposed Action.</p> <p>The commenter attached maps and photos of the sacred site areas and natural formations, resolutions from the Diné Medicine Men Association, Inc. and Diné Hataalii Association, Inc. supporting the protection of sacred sites in the project area, an essay about Indigenous habitat, and a sign in sheet of those in support of protections. The commentor notes that the NNHHPD and other programs are minimizing, dismissing, and ignoring their concerns and requests and violating primal laws and Navajo Nation Code, Title One.</p>	<p>Comment noted. The location of Pumping Plant 3 and the constructed Reach 4C pipeline (up to mile marker 71) are not part of the Proposed Action and are outside the scope of the project.</p> <p>The southern terminus of the proposed Reach 4B pipeline was modified in coordination with the Navajo Nation to avoid and limit impacts to resource concerns identified by the commenter (described in Section 3.2.9 in the EA). No changes were made to the EA in response to this comment.</p>

Comment Number	Commenter	Affiliation	Comment	Response
DCB-3	Dr. Christine Benally	Private Individual	<p><b>Category 3: Communication and Consent</b></p> <p><b>Summary of Comment:</b> The commenter states that she and most of the people in Little Water, including permittees, did not consent to the NGWSP. The commenter goes on to say that communication with the residents and people along US Highway 491 is needed and that communication with the Navajo Nation and Chapter does not mean consultation, consent, and public comment is obtained. The commenter also states that the Sanostee Chapter president is not from the area and that chapter elected people and committee members are paid and part of the government and, are not community members, and do not represent the people.</p> <p>The commenter attached a Refuse to Consent form for the NGWSP.</p>	<p>Comment noted. No changes were made to the EA in response to this comment. Reclamation follows the Navajo Nation and BIA Navajo Region's processes for obtaining right-of-way on Navajo Nation tribal trust lands.</p> <p>Reclamation and cooperating agencies have conducted numerous outreach efforts to local communities and Chapter Houses in the area of the Proposed Action since the development of the project's PR/FEIS. Reclamation received permission from the Navajo Land Department to conduct surveys and collect engineering design data over and across Navajo Nation tribal trust lands related to the Proposed Action and located within the boundaries of the Shiprock, Sanostee, Two Grey Hills, Newcomb, Sheepsprings, Nashcitti, Tohatchi, and Twin Lakes Chapters in October of 2016. Sanostee Chapter Resolution No. TAT 17-05-47 (May 21, 2017) documented the support for and approval of the design, construction, and implementation of the NGWSP. No changes were made to the EA in response to this comment.</p>
DCB-4	Dr. Christine Benally	Private Individual	<p><b>Category 4: Water Uses and Sources</b></p> <p><b>Summary of Comment:</b> The commenter says that the people of Little Water were told that the location of NGWSP Pumping Plant 3 was to be across from the Little Water store so water could be used for households, livestock, and farming, and that the location of the pumping plant should be moved back to that location.</p> <p>The commenter notes that NGWSP water from the San Juan River is tainted and she and other people do not want NGWSP water in their homes. The commenter states that people should have the option to remain on their existing groundwater system.</p> <p>The commenter attached Sanostee Chapter Resolution No. TAT 19-03-43 (March 10, 2019) regarding the local community's opposition to any tapping into the existing water table related to where the NGWSP San Juan Lateral would be placed as well as not approving local watering sources being moved along the pipeline away from the community.</p>	<p>Comment noted. The location of Pumping Plant 3 and the potential to connect existing community water systems to the San Juan Lateral are not part of the Proposed Action and are outside the scope of the project.</p> <p>Reclamation has been directed to construct the NGWSP in substantial accordance with the 2009 NGWSP PR/FEIS by Public Law 111-11 with water for the San Juan Lateral pipeline sourced from the San Juan River. Sec. 10603(a)(1) of Public Law 111-11 states that "... water supply from the Project shall be used for municipal, industrial, commercial, domestic, and stock watering purposes."</p> <p>Details on a Navajo Blessing Ceremony for the water to be transported through the San Juan Lateral and associated facilities was added to Section 3.2.1 of the EA.</p> <p>Reclamation is aware of Sanostee Chapter Resolution No. TAT 19-03-43 (March 10, 2019). Details of the resolution and geotechnical data collection and groundwater were added to Section 3.2.1 of the EA.</p>
DCB-5	Dr. Christine Benally	Private Individual	<p><b>Category 5: NGWSP Work Opportunities</b></p> <p><b>Summary of Comment:</b> The commenter states that family members signed NGWSP related consent forms under the impression that they would be able to work on the project and family members and others have been denied work.</p>	<p>Comment noted. NGWSP construction contractors are subject to the Navajo Preference in Employment Act which has been added to Section 2.7.4 of the EA.</p>
DCB-6	Dr. Christine Benally	Private Individual	<p><b>Category 6: Litter and Waste</b></p> <p><b>Summary of Comment:</b> The commenter documents and provides images of numerous incidents of NGWSP associated litter (primarily plastic end covers on staged sections of pipeline) being blown outside of the NGWSP pipeline right-of-way and into the commentator's grazing and housing area. The commentator also notes the presence of other trash and concrete waste in the NGWSP Reaches 4C-8 construction area. The commentator provides a Navajo Nation Environmental Protection Agency Complaint Record Form</p>	<p>Comment noted. The Reaches 4C-8 projects are not part of the Proposed Action and are outside the scope of the EA.</p> <p>NGWSP construction contract specification requirements related to use of site, cleaning and waste management, disposal of excavated materials, and submittal of a waste production and disposal plan were added to Section 2.4.8.4 of the EA to better describe the project's litter and waste related measures.</p>

Comment Number	Commenter	Affiliation	Comment	Response
			submitted in 2021 detailing trash and waste. The commenter further says that litter and waste reports and complaints have not been acted upon by various agencies.	
DCB-7	Dr. Christine Benally	Private Individual	<p><b>Category 7: Traffic safety</b></p> <p><b>Summary of Comment:</b> The commenter describes an incident between a cement truck and their personal vehicle on the Route 8760 road in August of 2022 in which the cement truck did not properly yield to the commentator on the narrow road.</p>	<p>Comment noted. This incident was not related to the Proposed Action and is outside the scope of the EA.</p> <p>NGWSP construction contract specification requirements related to vehicular access and parking, traffic control, traffic control plans, required permits, and safety programs were added to Sections 2.4.8 and 2.4.8.6 of the EA to better describe the project's traffic safety measures.</p>
DCB-8	Dr. Christine Benally	Private Individual	<p><b>Category 8: Construction Worker and Other Worker Complaints</b></p> <p><b>Summary of Comment:</b> The commenter state that people working on the project disregard residents by littering, being non-transparent about the NGWSP, not listening, and belittling; as well as being hazardous and not local to the region. The commentator says that “foreigners” are working in the community and desecrate without regard to lives, culture, and habitat.</p>	<p>Comment noted. Reclamation will follow all applicable federal contracting laws and policies for Proposed Action. This information was added to Section 2.7.4 of the EA.</p>
DCB-9	Dr. Christine Benally	Private Individual	<p><b>Category 9: Wildlife, Medicinal Plants, and Revegetation</b></p> <p><b>Summary of Comment:</b> The commenter states that animal, insect, and other living being habitat between US Highway 491 mile markers 70 and 72 is to remain undisturbed or restored if already impacted by the NGWSP. The commenter also states that no clearing of medicinal plants or grass in this region is to occur and all cleared areas need to be revegetated with medicinal and native plants and grass.</p>	<p>Comment noted. No changes were made to the EA in response to this comment. The location of Pumping Plant 3 and the constructed Reach 4C pipeline (up to mile marker 71) are not part of the Proposed Action and are outside the scope of the project.</p> <p>Effects to vegetation resources and special status species from the project are discussed in Sections 3.2.4 and 3.2.5 of the EA, respectively. Effects on wildlife were deemed to be similar in scope and effect as previously analyzed in the 2009 NGWSP PR/FEIS (pages V50 to V56). Chapter 4 of the EA and the 2009 NGWSP PR/FEIS include environmental commitments for limiting impacts to migratory birds, raptors, and other special status species.</p> <p>Project construction and reclamation methods are described in Section 2 of the EA and further describe methods of topsoil management, erosion control and stormwater management, site recontouring and soil preparation, reseeding, mulching, and noxious and invasive weed control to help with revegetation efforts. A native, weed-free seed mix (Table 4 of the EA) was developed based on locally occurring native species and includes several species (galleta [<i>Pleuraphis jamesii</i>] and narrowleaf penstemon [<i>Penstemon angustifolius</i>]) identified as having traditional and medicinal uses by the NNHHPD based on previous consultations with Reclamation. Sterile triticale was removed from the general seed mix (Table 4 of the EA) and replaced with blue grama (<i>Bouteloua gracilis</i>), and Bailey’s yucca (<i>Yucca baileyi</i>) was added to the seed mix, both of which are considered as having traditional and medicinal uses by the NNHHPD.</p> <p>No changes were made to the EA in response to this comment.</p>

**APPENDIX H – PUBLIC COMMENTS  
RECEIVED ON THE DRAFT EA**



**New Mexico Department of Transportation  
– Comment Email**

**From:** [Herrera, Marcos, NMDOT](#)  
**To:** [Creeden, Eric P](#)  
**Subject:** RE: [EXTERNAL] Availability of DRAFT Environmental Assessment for the Realignment of the Northern Portion of the San Juan Lateral of the Navajo-Gallup Water Supply Project  
**Date:** Wednesday, July 13, 2022 1:39:53 PM  
**Attachments:** [image001.png](#)

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Eric,

Do you have the password so I may detach the maps.

Thank you,

**Marcos G. Herrera**  
Utility Permit Agent  
NMDOT District 5  
Traffic Section  
(505) 690-1524  
P.O. Box 4127  
Santa Fe, NM 87502

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**From:** Creeden, Eric P <[ecreedden@usbr.gov](mailto:ecreedden@usbr.gov)>  
**Sent:** Wednesday, July 13, 2022 1:25 PM  
**To:** Herrera, Marcos, NMDOT <[Marcos.Herrera@state.nm.us](mailto:Marcos.Herrera@state.nm.us)>  
**Subject:** RE: [EXTERNAL] Availability of DRAFT Environmental Assessment for the Realignment of the Northern Portion of the San Juan Lateral of the Navajo-Gallup Water Supply Project

Hi Marcos,

Appendix A (page 72-85) of the referenced EA has maps of the project. Here's the direct link to the EA: <https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20220700-RealignmentNorthernPortionSanJuanLateral-DraftEA-508-WCAO.pdf>. In general, the project area near NMDOT roadways in the Kirtland area.

Eric

**Eric Creeden** | General Biologist  
Bureau of Reclamation - Western Colorado Area Office  
Environmental & Cultural Group  
185 Suttle Street, Suite 2 - Durango, CO 81303  
970-385-6577 (office)  
[ecreedden@usbr.gov](mailto:ecreedden@usbr.gov)



— BUREAU OF —  
RECLAMATION

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**From:** Herrera, Marcos, NMDOT <[Marcos.Herrera@state.nm.us](mailto:Marcos.Herrera@state.nm.us)>

**Sent:** Wednesday, July 13, 2022 1:19 PM

**To:** Creeden, Eric P <[ecreeden@usbr.gov](mailto:ecreeden@usbr.gov)>; CFiles, BOR-DUR <[rec-DUR-CFiles@usbr.gov](mailto:rec-DUR-CFiles@usbr.gov)>; Ludwick, Timothy J <[timothy\\_ludwick@fws.gov](mailto:timothy_ludwick@fws.gov)>; Hayes, Charles L <[charles\\_hayes@fws.gov](mailto:charles_hayes@fws.gov)>; Durst, Scott <[scott\\_durst@fws.gov](mailto:scott_durst@fws.gov)>; Mata, Melissa <[melissa\\_mata@fws.gov](mailto:melissa_mata@fws.gov)>; [Wyatt.T.Medley@usace.army.mil](mailto:Wyatt.T.Medley@usace.army.mil); Ramos, Adam <[Ramos.Adam@epa.gov](mailto:Ramos.Adam@epa.gov)>; Sallach, Andrew <[Sallach.Andrew@epa.gov](mailto:Sallach.Andrew@epa.gov)>; [restivo.angela@epa.gov](mailto:restivo.angela@epa.gov); [garnett.desean@epa.gov](mailto:garnett.desean@epa.gov); [bromley.eugene@epa.gov](mailto:bromley.eugene@epa.gov); [sheth.gary@epa.gov](mailto:sheth.gary@epa.gov); [gambatese.jason@epa.gov](mailto:gambatese.jason@epa.gov); [lugo-figueroa.jose@epa.gov](mailto:lugo-figueroa.jose@epa.gov); Moreno, Miguel <[Moreno.Miguel@epa.gov](mailto:Moreno.Miguel@epa.gov)>; [atkins.blake@epa.gov](mailto:atkins.blake@epa.gov); [osiek@wapa.gov](mailto:osiek@wapa.gov); Blake, Johanna M <[jmtblake@usgs.gov](mailto:jmtblake@usgs.gov)>; Joyner, Ryan N <[rjoyner@blm.gov](mailto:rjoyner@blm.gov)>; Tilden, Monica J <[mtilden@blm.gov](mailto:mtilden@blm.gov)>; Simpson, David (Erik) <[dsimpson@blm.gov](mailto:dsimpson@blm.gov)>; Daugherty, Sean I <[sdaugher@blm.gov](mailto:sdaugher@blm.gov)>; Lytle, Myles <[Myles.Lytle@bia.gov](mailto:Myles.Lytle@bia.gov)>; Keedah, Rudy F <[Rudy.Keedah@bia.gov](mailto:Rudy.Keedah@bia.gov)>; Tsosie, Lester K <[Lester.Tsosie@bia.gov](mailto:Lester.Tsosie@bia.gov)>; Begay, Robert M <[Robert.Begay1@bia.gov](mailto:Robert.Begay1@bia.gov)>; Begaye, Michelle L <[Michelle.Begaye@bia.gov](mailto:Michelle.Begaye@bia.gov)>; Ustick, Maryann <[mustick@gallupnm.gov](mailto:mustick@gallupnm.gov)>; sganesan; [attorney@gallupnm.gov](mailto:attorney@gallupnm.gov); [jdeyoung@gallupnm.gov](mailto:jdeyoung@gallupnm.gov); [chaves@gallupnm.gov](mailto:chaves@gallupnm.gov); [jwheeler@gallupnm.gov](mailto:jwheeler@gallupnm.gov); [amarufo@gallupnm.gov](mailto:amarufo@gallupnm.gov); [janwaterguy@gmail.com](mailto:janwaterguy@gmail.com) <[janwaterguy@gmail.com](mailto:janwaterguy@gmail.com)>; [jen@jdfirm.com](mailto:jen@jdfirm.com); Jonathan Nez <[jonathannez@navajo-nsn.gov](mailto:jonathannez@navajo-nsn.gov)>; [leonard.tsosie@navajo-nsn.gov](mailto:leonard.tsosie@navajo-nsn.gov); [slewis@nnwo.org](mailto:slewis@nnwo.org); [mlewis@nnwo.org](mailto:mlewis@nnwo.org); [jasonjohn@navajo-nsn.gov](mailto:jasonjohn@navajo-nsn.gov); [robertkirk@navajo-nsn.gov](mailto:robertkirk@navajo-nsn.gov); Natanya Garnenez; [tulley-cordova@navajo-nsn.gov](mailto:tulley-cordova@navajo-nsn.gov) <[tulley-cordova@navajo-nsn.gov](mailto:tulley-cordova@navajo-nsn.gov)>; [r.begay@navajo-nsn.gov](mailto:r.begay@navajo-nsn.gov); [timothy\\_begay@yahoo.com](mailto:timothy_begay@yahoo.com); [valinda.shirley@navajo-nsn.gov](mailto:valinda.shirley@navajo-nsn.gov); [ybarney@navajopublicwater.gov](mailto:ybarney@navajopublicwater.gov); [lyelloweagle@nndoj.org](mailto:lyelloweagle@nndoj.org); Daniel Moquin; [myazzie@nndoj.org](mailto:myazzie@nndoj.org); Stanley Pollack <[smpollack@nndoj.org](mailto:smpollack@nndoj.org)>; [rudyshebala@navajo-nsn.gov](mailto:rudyshebala@navajo-nsn.gov); [ashley.joelynn@gmail.com](mailto:ashley.joelynn@gmail.com); [bidtahb@ntua.com](mailto:bidtahb@ntua.com); David Shoultz <[davids@ntua.com](mailto:davids@ntua.com)>; [walyc@ntua.com](mailto:walyc@ntua.com); [Derrick.Garcia@ihs.gov](mailto:Derrick.Garcia@ihs.gov); [dewayne.chee@ihs.gov](mailto:dewayne.chee@ihs.gov); [sanostee@navajochapters.org](mailto:sanostee@navajochapters.org); [nenahnezad@navajochapters.org](mailto:nenahnezad@navajochapters.org); [sanjuan@navajochapters.org](mailto:sanjuan@navajochapters.org); [tsedaakaan@navajochapters.org](mailto:tsedaakaan@navajochapters.org); [shiprock@navajochapters.org](mailto:shiprock@navajochapters.org); upperfruitland <[upperfruitland@navajochapters.org](mailto:upperfruitland@navajochapters.org)>; Roth, Daniela, EMNRD <[Daniela.Roth@state.nm.us](mailto:Daniela.Roth@state.nm.us)>; [Christina.Noftsker@state.nm.us](mailto:Christina.Noftsker@state.nm.us); [rolf.schmidt@state.nm.us](mailto:rolf.schmidt@state.nm.us); Effati, Ali, OSE; [Colleen.Cunningham@state.nm.us](mailto:Colleen.Cunningham@state.nm.us); Work, Dominique, OSE <[Dominique.Work@state.nm.us](mailto:Dominique.Work@state.nm.us)>; Singer, Arianne, OSE <[arianne.singer@state.nm.us](mailto:arianne.singer@state.nm.us)>; Martinez, Joe, ENV <[Joe.Martinez@state.nm.us](mailto:Joe.Martinez@state.nm.us)>; Shea, Erin, ENV <[erin.shea@state.nm.us](mailto:erin.shea@state.nm.us)>; Dean, Levi, ENV <[Levi.Dean@state.nm.us](mailto:Levi.Dean@state.nm.us)>; [djohnson@slo.state.nm.us](mailto:djohnson@slo.state.nm.us); krose <[krose@slo.state.nm.us](mailto:krose@slo.state.nm.us)>; deck\_contact <[deck@slo.state.nm.us](mailto:deck@slo.state.nm.us)>; Pappas, Jeff, DCA <[Jeff.Pappas@state.nm.us](mailto:Jeff.Pappas@state.nm.us)>; Estes, Bob, DCA <[Bob.Estes@state.nm.us](mailto:Bob.Estes@state.nm.us)>; Ensey, Michelle, DCA <[michelle.ensey@state.nm.us](mailto:michelle.ensey@state.nm.us)>; [mduncan@kirtlandnm.org](mailto:mduncan@kirtlandnm.org); [hadair@fmtn.org](mailto:hadair@fmtn.org); [jbreakell@fmtn.org](mailto:jbreakell@fmtn.org); [sjrdwu\\_inc@yahoo.com](mailto:sjrdwu_inc@yahoo.com); [sjwcoffice@sjwc.org](mailto:sjwcoffice@sjwc.org); Marc DePauli <[mdepauli@depauliengineering.com](mailto:mdepauli@depauliengineering.com)>; Kurt Spolar <[kuspolar@depauliengineering.com](mailto:kuspolar@depauliengineering.com)>; [bacadiazi@aol.com](mailto:bacadiazi@aol.com); [john.leeper@woodpic.com](mailto:john.leeper@woodpic.com); [patty@gallupcdc.com](mailto:patty@gallupcdc.com); [nwinter@stelznerlaw.com](mailto:nwinter@stelznerlaw.com); Robertson, Andrew <[andrew.robertson@soudermiller.com](mailto:andrew.robertson@soudermiller.com)>; [Mike.Greene@pnmresources.com](mailto:Mike.Greene@pnmresources.com); [Brent.Heffington@pnm.com](mailto:Brent.Heffington@pnm.com); [Madonna.Bixby@pnmresources.com](mailto:Madonna.Bixby@pnmresources.com); [bobvane@enchantenergy.com](mailto:bobvane@enchantenergy.com); [herring@ecosphere-services.com](mailto:herring@ecosphere-services.com); skoyiyumptewa <[skoyiyumptewa@hopi.nsn.us](mailto:skoyiyumptewa@hopi.nsn.us)>; [tmorgart@hopi.nsn.us](mailto:tmorgart@hopi.nsn.us); [jnicholas@hopi.nsn.us](mailto:jnicholas@hopi.nsn.us); Timothy L. Nuvangyaoma, Chairman <[tnuvangyaoma@hopi.nsn.us](mailto:tnuvangyaoma@hopi.nsn.us)>; [janthpo@gmail.com](mailto:janthpo@gmail.com); [joannavigil@jan.nsn.com](mailto:joannavigil@jan.nsn.com); [sean.omearaheritage@gmail.com](mailto:sean.omearaheritage@gmail.com); Nation, Jicarilla <[qnotsinneh@janadmin.com](mailto:qnotsinneh@janadmin.com)>; [kanschuetz@comcast.net](mailto:kanschuetz@comcast.net); Vicente, Randall <[governor@poamail.org](mailto:governor@poamail.org)>; TPasqual <[TPasqual@poamail.org](mailto:TPasqual@poamail.org)>; SConcho <[SConcho@poamail.org](mailto:SConcho@poamail.org)>; [ctoya@jemezpuablo.org](mailto:ctoya@jemezpuablo.org); [paul.clarke@jemezpuablo.org](mailto:paul.clarke@jemezpuablo.org); Toledo, Lynn <[ltoledo@jemezpuablo.org](mailto:ltoledo@jemezpuablo.org)>; [larry.phillips@ohkay.org](mailto:larry.phillips@ohkay.org);

Aguino, Joseph <[governor@ohkay.org](mailto:governor@ohkay.org)>; bbernstein <[bbbernstein@pojoaque.org](mailto:bbbernstein@pojoaque.org)>; Talachy, Joseph <[governor@pojoaque.org](mailto:governor@pojoaque.org)>; Monica.Murrell <[Monica.Murrell@santaana-nsn.gov](mailto:Monica.Murrell@santaana-nsn.gov)>; [jarrett.lujan@santaana-nsn.gov](mailto:jarrett.lujan@santaana-nsn.gov); Montoya, Lawrence <[governors@santaana-nsn.gov](mailto:governors@santaana-nsn.gov)>; bchavarria <[bchavarria@santaclarapueblo.org](mailto:bchavarria@santaclarapueblo.org)>; [ddnaranjo@santaclarapueblo.org](mailto:ddnaranjo@santaclarapueblo.org); Chavarria, J. Michael <[governor@santaclarapueblo.org](mailto:governor@santaclarapueblo.org)>; [kdongoske@cablone.net](mailto:kdongoske@cablone.net); Panteah, Val <[val.panteah@ashiwi.org](mailto:val.panteah@ashiwi.org)>; Atencio, Cassandra <[catencio@southernute-nsn.gov](mailto:catencio@southernute-nsn.gov)>; Whyte, Sunshine <[swhyte@southernute-nsn.gov](mailto:swhyte@southernute-nsn.gov)>; tknight\_contact <[tknight@utemountain.org](mailto:tknight@utemountain.org)>; Heart, Manuel <[manuel.heart@utemountain.org](mailto:manuel.heart@utemountain.org)>; thpo <[thpo@ziapueblo.org](mailto:thpo@ziapueblo.org)>; Galvan, Gabriel <[governor@ziapueblo.org](mailto:governor@ziapueblo.org)>; [jeddins@achp.gov](mailto:jeddins@achp.gov); [damon.clarke@hualapai-nsn.gov](mailto:damon.clarke@hualapai-nsn.gov); [peter.bungart@hualapai-nsn.gov](mailto:peter.bungart@hualapai-nsn.gov)  
**Cc:** Deming, Bart W <[bdeming@usbr.gov](mailto:bdeming@usbr.gov)>; Sterling Acree <[sterlingacree@gmail.com](mailto:sterlingacree@gmail.com)>; Bowen, Kristin L <[kbowen@usbr.gov](mailto:kbowen@usbr.gov)>; Wernke, Mark A <[MWernke@usbr.gov](mailto:MWernke@usbr.gov)>  
**Subject:** RE: [EXTERNAL] Availability of DRAFT Environmental Assessment for the Realignment of the Northern Portion of the San Juan Lateral of the Navajo-Gallup Water Supply Project

Mr. Creeden,

Can you inform me of the location of this project? Is there a location map available?

Thank you,

**Marcos G. Herrera**  
Utility Permit Agent  
NMDOT District 5  
Traffic Section  
(505) 690-1524  
P.O. Box 4127  
Santa Fe, NM 87502

---

**From:** Creeden, Eric P <[ecreedeen@usbr.gov](mailto:ecreedeen@usbr.gov)>  
**Sent:** Wednesday, July 13, 2022 12:13 PM  
**To:** CFiles, BOR-DUR <[rec-DUR-CFiles@usbr.gov](mailto:rec-DUR-CFiles@usbr.gov)>; Ludwick, Timothy J <[timothy\\_ludwick@fws.gov](mailto:timothy_ludwick@fws.gov)>; Hayes, Charles L <[charles\\_hayes@fws.gov](mailto:charles_hayes@fws.gov)>; Durst, Scott <[scott\\_durst@fws.gov](mailto:scott_durst@fws.gov)>; Mata, Melissa <[melissa\\_mata@fws.gov](mailto:melissa_mata@fws.gov)>; [Wyatt.T.Medley@usace.army.mil](mailto:Wyatt.T.Medley@usace.army.mil); Ramos,Adam <[Ramos.Adam@epa.gov](mailto:Ramos.Adam@epa.gov)>; Sallach,Andrew <[Sallach.Andrew@epa.gov](mailto:Sallach.Andrew@epa.gov)>; [restivo.angela@epa.gov](mailto:restivo.angela@epa.gov); [garnett.desean@epa.gov](mailto:garnett.desean@epa.gov); [bromley.eugene@epa.gov](mailto:bromley.eugene@epa.gov); [sheth.gary@epa.gov](mailto:sheth.gary@epa.gov); [gambatese.jason@epa.gov](mailto:gambatese.jason@epa.gov); [lugo-figueroa.jose@epa.gov](mailto:lugo-figueroa.jose@epa.gov); Moreno, Miguel <[Moreno.Miguel@epa.gov](mailto:Moreno.Miguel@epa.gov)>; [atkins.blake@epa.gov](mailto:atkins.blake@epa.gov); [osiek@wapa.gov](mailto:osiek@wapa.gov); Blake, Johanna M <[jmtblake@usgs.gov](mailto:jmtblake@usgs.gov)>; Joyner, Ryan N <[rijoyner@blm.gov](mailto:rijoyner@blm.gov)>; Tilden, Monica J <[mtilden@blm.gov](mailto:mtilden@blm.gov)>; Simpson, David (Erik) <[dsimpson@blm.gov](mailto:dsimpson@blm.gov)>; Daugherty, Sean I <[sdaugher@blm.gov](mailto:sdaugher@blm.gov)>; Lytle, Myles <[Myles.Lytle@bia.gov](mailto:Myles.Lytle@bia.gov)>; Keedah, Rudy F <[Rudy.Keedah@bia.gov](mailto:Rudy.Keedah@bia.gov)>; Tsosie, Lester K <[Lester.Tsosie@bia.gov](mailto:Lester.Tsosie@bia.gov)>; Begay, Robert M <[Robert.Begay1@bia.gov](mailto:Robert.Begay1@bia.gov)>; Begaye, Michelle L <[Michelle.Begaye@bia.gov](mailto:Michelle.Begaye@bia.gov)>; Ustick, Maryann <[mustick@gallupnm.gov](mailto:mustick@gallupnm.gov)>; sganesan; [attorney@gallupnm.gov](mailto:attorney@gallupnm.gov); [jdeyoung@gallupnm.gov](mailto:jdeyoung@gallupnm.gov); [chaves@gallupnm.gov](mailto:chaves@gallupnm.gov); [jwheeler@gallupnm.gov](mailto:jwheeler@gallupnm.gov); [amarrufo@gallupnm.gov](mailto:amarrufo@gallupnm.gov); [janwaterguy@gmail.com](mailto:janwaterguy@gmail.com) <[janwaterguy@gmail.com](mailto:janwaterguy@gmail.com)>; [jen@jdfirm.com](mailto:jen@jdfirm.com); Nez, Jonathan <[jonathannez@navajo-nsn.gov](mailto:jonathannez@navajo-nsn.gov)>; [leonard.tsosie@navajo-nsn.gov](mailto:leonard.tsosie@navajo-nsn.gov); [slewis@nnwo.org](mailto:slewis@nnwo.org)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Dear Interested Party,

Please see the attached letter detailing the availability of a Draft Environmental Assessment (EA) for the **Realignment of the Northern Portion of the San Juan Lateral** project associated with the Navajo-Gallup Water Supply Project (NGWSP). This letter is being sent to you because you have been identified as having an interest in activities in the project area in northwestern New Mexico and the Navajo Nation. Reclamation is informing you of the Proposed Action and invites you to comment on the Draft EA. A 30-day public comment period for the project will be open through August 15, 2022.

The attached letter includes additional details about the project and how to comment on the Draft EA document. If you have further questions on the project please feel free to reach out to Sterling Acree ([jacree@usbr.gov](mailto:jacree@usbr.gov); 505-324-5004) as Project Manager. For questions about the Draft EA please reach out to Eric Creeden as General Biologist ([ecreedden@usbr.gov](mailto:ecreedden@usbr.gov); 970-385-6577).

The Draft EA is available on Reclamation's Upper Colorado Basin website:

[www.usbr.gov/uc/DocLibrary/ea.html](http://www.usbr.gov/uc/DocLibrary/ea.html).

For more information about the NGWSP, please visit: <https://www.usbr.gov/uc/progact/navajo-gallup/index.html>.

Thank you,  
Eric

*You received this email as you have been involved with the NGWSP in the past. Feel free to ignore if no longer applicable.*

**Eric Creeden** | General Biologist  
Bureau of Reclamation - Western Colorado Area Office  
Environmental & Cultural Group  
185 Suttle Street, Suite 2 - Durango, CO 81303  
970-385-6577 (office)  
[ecreedden@usbr.gov](mailto:ecreedden@usbr.gov)



— BUREAU OF —  
RECLAMATION

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

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Thank you,  
Eric

*You received this email as you have been involved with the NGWSP in the past. Feel free to ignore if no longer applicable.*

**Eric Creeden** | General Biologist  
Bureau of Reclamation - Western Colorado Area Office  
Environmental & Cultural Group  
185 Suttle Street, Suite 2 - Durango, CO 81303  
970-385-6577 (office)  
[ecreeden@usbr.gov](mailto:ecreeden@usbr.gov)



— BUREAU OF —  
RECLAMATION

**New Mexico Interstate Stream Commission –  
Comment Letter**

**From:** [Effati, Ali, OSE](#)  
**To:** [NGWSP Realign, BOR-DUR](#)  
**Cc:** [rolf.schmidt@state.nm.us](mailto:rolf.schmidt@state.nm.us); [Colleen.Cunningham@state.nm.us](mailto:Colleen.Cunningham@state.nm.us); [Christina.Noftsker@state.nm.us](mailto:Christina.Noftsker@state.nm.us)  
**Subject:** [EXTERNAL] NMISC Comments on the Draft EA  
**Date:** Friday, August 5, 2022 5:08:43 PM

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To Whom it May Concern:

Thank you for the opportunity to comment on the Draft Environmental Assessment (EA) for the **Realignment of the Northern Portion of the San Juan Lateral** that is associated with the Navajo-Gallup Water Supply Project (NGWSP). The New Mexico Interstate Stream Commission (NMISC) is very much in support of the overall NGWSP as evidenced by our Commission's vote on September 21, 2021 to concur with Reclamation's recommendation to select the San Juan Generating Station water conveyance facilities as the intake location of the San Juan Lateral, and on August 5, 2022 to support an extension of the completion date for the NGWSP from 2024 to 2029 pursuant to Section 10701(e)(1)(B) of Public Law 111-11.

The NMISC supports the proposed realignment under this draft EA, but notes that the existing weir/drop structure is a safety hazard for boaters. The NMISC would like to suggest consideration of the following for the final EA:

[Comment 1](#)

1. inclusion of signage warning boaters of the hazard ahead and the need to take out and portage around the structure before getting back on the river, and/or
2. construction of a boat ramp to make it safer for boaters to take out at this location to portage around the structure.

Please feel free to reach out to me by phone or email If you have any questions.

Regards,

**Ali Effati**

*Colorado River Basin Bureau Chief  
New Mexico Interstate Stream Commission  
Cell: 505-614-4636*



## **Dr. Christine Benally – Comment Email #1**

Thank you for the update.

From: Rudolph R. Shebala <rudyshbala@navajo-nsn.gov>

Sent: Thursday, October 8, 2020 10:24 PM

To: kris benally <cb@hottmail.com>; Rm yazze21@frontiernet.net <Rm yazze21@frontiernet.net>; Elouise Brown <thebrownmachine@hotmail.com>; katherine jim <kijimasani@yahoo.com>; Amber K. Crotty <acrotty@navajo-nsn.gov>; Sanotsee Chapter <sanotsee@navajochapters.org>; Page, Patrick J <PPage@ustr.gov>; Timothy Begay <tbegay@navajo-nsn.gov>; Gerald Henderson <gerald.henderson@navajochapters.org>; Frank Smith <manyhogan\_666@yahoo.com>; Jonathan Nez <jonathannez@navajo-nsn.gov>; poqueen rivera@state.nm.us <poqueen.rivera@state.nm.us>; larry maynard@state.nm.us <larry.maynard@state.nm.us>; michael.sandoval@state.nm.us <michael.sandoval@state.nm.us>; chelseamoore@navajochapters.org <chelseamoore@navajochapters.org>; Begay, Becky BAB <BBegay@ustr.gov>; Begay, Robert M <Robert.Begay@bia.gov>; Arif Kazmi@state.nm.us <Arif.Kazmi@state.nm.us>; tyeweng@gmail.com <tyeweng@gmail.com>; Cc: Kristalyn Antonio <kristalynantonio@gmail.com>; looshjim@gmail.com <looshjim@gmail.com>; Tonn Clichee <tonnerciac@gmail.com>; Zane Speck <zspeckAU@gmail.com>

Subject: [EXTERNAL] RE: Relocation of water line and pumping plant

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Thank you.

Sent via the Samsung Galaxy Note, an AT&T 5G Evolution capable smartphone

----- Original message -----

From: kris benally <cb@hottmail.com>

Date: 10/8/20 10:00 PM (GMT-07:00)

To: Rmyazze21@frontiernet.net, Elouise Brown <thebrownmachine@hotmail.com>, katherine jim <kijimasani@yahoo.com>, 'Amber K. Crotty' <acrotty@navajo-nsn.gov>, Sanotsee Chapter <sanotsee@navajochapters.org>, 'Page, Patrick J' <PPage@ustr.gov>, Timothy Begay <tbegay@navajo-nsn.gov>, 'Rudolph R. Shebala' <rudyshbala@navajo-nsn.gov>, Gerald Henderson <gerald.henderson@navajochapters.org>, Frank Smith <manyhogan\_666@yahoo.com>, Jonathan Nez <jonathannez@navajo-nsn.gov>, poqueen rivera@state.nm.us, larry maynard@state.nm.us, michael.sandoval@state.nm.us, chelseamoore@navajochapters.org, 'Begay, Becky BAB' <BBegay@ustr.gov>, Robert Begay@bia.gov, Arif Kazmi@state.nm.us, tyeweng@gmail.com, Cc: Kristalyn Antonio <kristalynantonio@gmail.com>, looshjim@gmail.com, Tonn Clichee <tonnerciac@gmail.com>, Zane Speck <zspeckAU@gmail.com>

Subject: Relocation of water line and pumping plant

October 8, 2020

Mr. Page, Mr. Begay, et al,

I find some areas of misinformation and areas of severe concern in your letter, dated September 29, 2020. I inserted the previous email correspondences below.

The letter states that Mr. Etatty recommended moving the pumping station 100 meters. This is an untrue statement, and not what we agreed upon. I called Mr. Etatty to confirm my understanding was correct and consistent with his, and with Dr. Yazze. Our collective understanding and recollection is that, during the July 23, 2020 meeting, we all agreed to move the pumping station to the south of mile marker 70 and near mile marker 69.5, run the pipeline into the right of way from just south of 70 to 72, and from there, run the pipeline back out of the right of way. This is what I've continuously requested since 2018 and it has not changed. I don't know how many times this has been communicated. We refer to the area of the meeting as *Isesh*, not *Toilisa* that is located southwest of the Littlewater Store in the arroyo/wash, over three miles south.

Comment Cat. 1

The Bureau of Reclamation ("BoR") representatives were going to request the use of the NM DOT right of way to run the pipeline. A meeting was scheduled and held on July 23, 2020, was the first time a map was available to show the location of the pumping plant. All those present at this meeting were initially told that the plant would be located north toward mile marker 72. Then, they admitted they misread the map and it was by the hills and knob. At no time during the process, were we provided any documentation of the plans. I asked for the soil sample that was taken in February 2020 to be returned; so far nothing has been returned. One woman, I didn't get her name, at the meeting said some Navajos allow construction at sacred sites then afterwards they return to use the site as before. I told her some people as us are more respectful to the prayers, offerings, songs and other practices, unlike others do not and function haphazardly (*diideidiniin*, *lashiee'os shoshingo*).

Comment Cat. 2

During the second meeting on September 18, 2020, we were finally provided maps and illustrations of the proposed plant and pipeline, but they were not in the locations as was requested and agreed upon as per previous meetings. This was the first time I was provided any specific material. Also present was Irvin Tyler, a hataali and traditionalist, and whose mother Rose, also a hataali, said the area is considered sacred and established where the sound of the drum and singing is conducted, which may be a mile radius. The archeologist said he worked on this for years and this is the first he heard about it. I told him I expressly stated this back in 2018. In addition, Mr. Tyler confirmed this by and stated that I brought up this matter at one of the meetings in Sanotsee. His mother Rose also concerned that these sites should be holy and should remain so unharmed. Instead of listening, the person from BoR kept repeating himself and got loud. This response clearly illustrated his failure to reasonably communicate effectively with the public and failure to exercise his due diligence in identifying these sacred sites; or at the very least give credence to the information that sacred sites existed in the project area. Instead, he became upset and disregarded the required physical distancing and got too close to me. I had to hold out my hand and said to stand further away from me. According to other community members, they expressed these very concerns previously. I think people pick and choose what they want (as the 500 feet), and minimize and disregard the rest (as my repeated request to move the station and pipeline).

Comment Cat. 1

Also at the September 18, 2020 meeting, I asked the status of the request to the state for the use of the right of way. Apparently, that had not been done, so that's why I contacted the state myself and discovered nothing had been done. As a result, several weeks passed and there was no progress. This inaction promoted me as citizens to take action where the government has failed us. We are well within our rights to voice our disagreements and obtain information that impacts our lives, particularly in light of the fact, that we are misinformed about the project, or that it misrepresented to us orally.

Initially, the people (Ronald Begay, Ronald's late mother, Lillie Barber, Howard Martinez, and others) were told years ago a pumping station would be placed at Littlewater near the store. This was to support the farms on either side of US Highway 491. The people were to be provided water to irrigate their fields. This was what they were expecting; that they would have water for their farm and livestock. Not only were they disappointed this is not the case, but feel completely defrauded because it now appears this was never the intention from the outset. So, this was brought up years ago not a few months ago.

Comment Cat. 4

Mr. Howard Martinez approached me at the July 5, 2018 District 12 Grazing Officials meeting at the Sheep Springs Chapter to sign a consent form. I told him I did not want to and I needed more information and if he would meet with me and my family. My relatives, Dr. Rena M. Yazze, Harrison Toosa, and I met with Mr. Martinez in July 9, 2018. At that time, Mr. Martinez requested consent and said he would be able to get water from the pipeline to fill the earthen dams for livestock and to use for irrigation for the surrounding community. I asked him for the documents and plans to support his claims. He refused and left. I wanted to keep the paperwork he initially showed us, but he said he couldn't do that and he took it.

Comment Cat. 3

I requested these plans again at a meeting in Tohatchi on also in August 7, 2018. I told them of how we were treated. Although I did not know the plans, I voiced that we did not want a plant near us. The person from the Navajo Nation said it was over a hundred pages and asked if I was going to read it. That was the purpose for my request. I was not given anything until the September 18, 2020 meeting, which is long after my request and well within the project period.

Later, our grazing official wanted a statement to memorialize our positions regarding the project. So I signed a refusal statement primarily due to the lies, misinformation, lack of information and non-transparency. It was witnessed by Dr. Yazze. I gave it to our grazing official. I don't know if it was turned in, to who, or what happened to the statement.

Ms. Helen Henderson, Hataali, who also never consented, along with her sons from Littlewater vehemently oppose the pipeline and also suggested to move the pumping station south of mile marker 70 and to run the pipeline within the New Mexico Department of Transportation ("NM DOT") right of way due to the sites and trail, preferably closer to the Littlewater store where we were originally told it would be placed. Ms. Henderson also confirmed she stated this at previous meetings. She said all of the land, animals, plants, and whatever is on earth are our *Ni'ne* (that that gives us life and livelihood). The government has restricted us by imposing the grazing permits how homestead leases as means to control us. She said the *Ni'ne* is not to be disturbed, abused, stabbed, cut, drilled, dug. She made it clear that what should not be disturbed are the grounds of the ceremonies and the corn pollen path between them, from 70 to 72 mile markers, as it represents the horse and people carrying the pollen given and out on the horses. To our disappointment, she instead reported that the people working on the project are rude and very disrespectful. She stressed that the leaders we elect and those in Window Rock and Chapter should be speaking on our behalf and wonders what happened to them. Where did they go and we don't see them?

Comment Cat. 2

Comment Cat. 9

I spoke with a number of patients, those who received the staff, or participated in any manner. They oppose the disturbance of this area in fear that their health and life may be adversely affected, no matter how minor the disturbance may be. They worry that if the ground is disturbed in any way, it would void the ceremony benefits, and negative affect their health. If this were to happen, who is going to provide remedy for them? The people are more concerned about the health and wellbeing of all involved versus an aesthetic view. By simply digging up the earth, placing the pipes in the ground and allowing the area to revegetate, does not negate the damage already done. By doing so, only illustrates there is a complete disregard for our traditions, beliefs and well-being of the citizens who have lived and occupied this area for generations. It is hard to imagine our own tribe and leadership thinks so little of their people to allow this to happen.

Comment Cat. 2

Lastly, to state that I am somehow not allowed to voice my concerns on behalf and for my community is an outright violation of my freedom to do so. I find such a claim to be a narcissistic and misogynistic attempt of silence valid concerns and is a form of abuse. No one has the authority to say that to another person. Just because I do not work for the Navajo Nation does not mean I don't have a voice. I vote, pay taxes and otherwise a responsible citizen. As such, when I witness events or situations that negatively impact my home and my community, not only am I permitted to question these decisions and the decision-makers, it's my duty to do so. I remind you, if the project managers truly took our concerns seriously and did the right thing, we would not be engaging the discussions currently at hand. Instead, you have chosen to misrepresent, misdirect and attempt to use subversive tactics to impose your will on this community. That is something we cannot tolerate, particularly in the light of our nation's current divisive environment. My father was a Navajo Code Talker. He spoke and fought for us, so we could speak freely and for ourselves so I will not have anyone silence us regardless of their position or role. If it was not for my father and others, they would not be in those positions. I do not appreciate it such degradation of my father and my family.

Comment Cat. 3

I hold the grazing permit in this area that was once held by my father, my nani grandparents. Those who practiced and held sacred the traditions, and ancestors before. I will speak on their behalf as they did for us. As Mrs. Henderson said, they also respected *ni'ne* and should avoid harm and interference. From the perspective of the offended party, my family, some community members, and I are experiencing violence in several forms including verbal (slandering, talking over us, not listening), silence, minimizing, dismissing, deflecting, intimidation, psychological (fear, afraid), lying, harming children, sexual, land, mistakes, property damage, and intentionally making things difficult. The result include trauma, shut down, isolation, distrust. You may think it is insubstantial but such trauma impacts overall health of this community and is far reaching.

Our community has already suffered in the past. It is dissected by the Highway 491, then it was widened and fenced, and then a weight station installed. Lots of trash from the weigh station ends up blowing away and spreading everywhere, which requires periodic contact with the NM DOT to remove. However, they do not bother with the trash that blows over the fence that runs along the highway. It would futile to contact the Navajo Nation to do the cleanup, so we are compelled to reach out to the state of New Mexico for help.

Comment Cat. 6

My family, relatives and other community members have utilized this area for daily and ceremonial purposes. It is not intent to request a halt to the water project, but to instead, to implement a simple remedy: to have the pipelines relocated into the right of way, so as to leave the area between mile markers 70 and 72 undisturbed. In addition, we want the pumping station to be relocated south of mile marker 70, close to the Littlewater store as the people were told initially. As stated before, the proposed resolution is not a drastic deviation from the current plans, and more importantly, only represents what the community was originally told.

Comment Cat. 1

**From:** cbl@sal...  
**To:** ...  
**Subject:** ...  
**Date:** ...

**This email has been received from outside of DOI. Use caution before clicking on links, opening attachments, or responding.**

Response to the draft EA in Littlewater. Images will follow.

The sacred sites from 70 and the trail north of from 70 to 72 should never have been disturbed; all areas on the west and east side along 491 is to be protected. Drilling under the sacred site is desecration and undermines those patients, including veterans who sacrificed their lives to serve this country. So, the drilling needs to stop immediately and reroute the pipeline in the 491 right of way.

Comment Cat. 2  
Comment Cat. 1

Reroute the pipeline to inside the U.S. highway 491 right of way from milemarker 70 to 72. The NM DOP said okay. Move the pump station to Littlewater, across the store. **This is what the people were told so they could wait for their household, livestock, and farm irrigation. Most of the people in Littlewater did not consent.**

Comment Cat. 4  
Comment Cat. 3

Some of people, including my family, do not want this chemical/chemical waste water coming into their homes. We should be given the option to remain on the existing groundwater system.

Comment Cat. 4

Additionally, the Navajo Historic Preservation and other programs disregard the people's and the Healed and Medicine Men associations requests by resolution. This is an absolute violation of our tribal laws, Navajo Nation Code, Title One.

Comment Cat. 2

My cousin said when he signed the consent, he said he and his family to work on the pipeline. They and others who requested work has been denied.

Comment Cat. 5

Concrete was dumped on 8700 feet end of the cattle guard. I tried to request it be removed but only the spit in the gravel part was removed. The plastic on the ends of the pipes were left unattended and they blew over into the grazing area. I come across pipes over 2 miles away. They need to be collected and discarded properly. I told the workers left areas at the shift office, and reported it to the EPA, but to no avail.

Comment Cat. 6

On August 3, 2022 while entering the highway from 8780 Road which is on the way and a person already on the road should be yielded to, but a cement truck did not yield to me and about 100 m in over. The cement truck turned off the highway and it should have waited there until I passed where the pavement widens.

Comment Cat. 7

These people working on the line disregard the residents with their litter, non-compliance, and hazards, many with Texas plates.

Comment Cat. 8

Christine Benally  
505-435-8967

**From:** cbl@sal...  
**Sent:** Saturday, April 17, 2022 11:31 AM  
**To:** ...  
**Subject:** ...

To: Department of Interior Secretary Huelskamp

Comment Cat. 2  
Comment Cat. 1

We want your help to protect sacred sites we are actively using presently in Littlewater, San Juan county, NM by rerouting the Navajo waterline to within NM highway 491 right-of-way mile marker 70-72, and to locate cleanup station and water tanks south of mile 70, and opposite cemetery at Table Mesa. Our sacred and religious areas are currently being desecrated by the Bureau of Reclamation. The archeologist and other workers mounded us and claimed not knowing even though people told them years ago. The support of the traditional practitioners (medicine men and women) are being dismissed and dismissed.

Thank you for your immediate attention and resolution in protecting the area from nm 70 to 72 and keeping it undisturbed.

Christine J. Benally  
505-435-8967  
Littlewater

----- Original message -----  
From: cbl@sal...  
Date: 4/15/21 11:49:32MT-07:00  
To: ...  
Subject: ...

Date: April 15, 2022

Yves Lee, Members of the Navajo Nation Council, Mr. Page, et al.

**Our directors are to review the pipeline and to release the pump stations and water tanks, not opposed as implied per your memo.**

Comment Cat. 1

As I stated in my previous correspondence, there is a serious violation of the fundamental law in protection of indigenous habitats, our historical and sacred sites, and culturally, but actively being used by my family and the people today. The new leaders are pressing the protection of cultural and historical areas as at Bears Ears (see below) and Chaco Canyon (2). The United Nations Declaration on Indigenous Rights is also being violated by the Navajo Nation by disregarding and dismissing the directors of the project by means rolling without consent and disrespecting and dismissing the recommendations by the members of the Dine' Bantah' Association and Dine' Medicine Men's Association (attached).

Comment Cat. 2

**It was mentioned Senator Chapter and Navajo Nation approved. This is not true and nothing was presented in writing. Further, Senator officials have no authority especially without consent. I told them from March 22, and March 24, 2021. At the end of the meeting on March 22, 2021, Patrick Page said they would work with us and they are not, another lie.**

Comment Cat. 3

**Apparently, there were changes over the years and the people need to be fully educated to their responsibilities prior to consent at the initial and each stage of change of what you plan to do. Anything that is presented to the people needs to be in writing, signed by whoever presented it on an official business letter head. People were misled, coerced into consent, not informed, not updated, and other fraudulent acts.**

**We want official legal documents detailing all the information regarding the project. And if status of sensitive may not be disclosed as Doreen McPaul states, we want that in writing. We also gave a verbal statement that we were in writing for the drilling, disregarding the protection of the sacred area and indigenous habitat that violates the fundamental law and bantah' directions.**

Comment Cat. 2

**The people at the drill site told us regarding the protection of the sacred area, burial grounds, petroglyphs, and graves especially during these times of stress drought. It is not necessary for every article with every file direct to be done over the terrain when there are not made. The Bureau of Reclamation, archeologist agree was solely checking that for his report based on a sacred site in that area. They were told by the grazing officer 4 or 5 years ago as the sacred site in July and September 2020 as stated in my report.**

Comment Cat. 9

Comment Cat. 8

The Navajo Nation (of old and good) and partners don't see any problem destroying and desecrating our sacred and prayer sites/areas but it sure is out there talking about protecting them. We have many areas threatened and endangered from the oil, gas, and helium extraction and the Gallup water line. These are outrageous habits and atrocities/land-purges and our future at risk for genocide. We are very much tied to the land through prayers, songs, drums, and food. The historic preservation office say they are protecting yet are misconstructing (lying) on behalf of the projects.

Comment Cat. 2

Thank you,  
Christine

**President Nao calls for the protection of 1.9 million acres of land under the Bears Ears National Monument in meeting with Interior Secretary Henshaw**

BLUFF, Utah — During a meeting between U.S. Secretary of the Interior Deb Haaland and tribal leaders on Wednesday in Bluff, Utah, Navajo Nation President Jonathan Nao was joined by Navajo Nation Attorney General Doreen McPaul, as he called for the full restoration as an expansion of the Bears Ears National Monument to 1.9 million acres.

"It was an honor to meet with Secretary Haaland. It was truly a historic moment to have a Native American woman, serving in such a high position, at the head of the table discussing these important issues with leaders that represent the First People of this country. Her willingness to meet personally on this issue is meaningful, and shows that she is willing to take time to meet with tribal leaders as well as other stakeholders in the Bears Ears region before providing her recommendation to President Biden," said President Nao.

He added, "This was an opportunity to share with Secretary Haaland the significance of Bears Ears to the Navajo people. The landscape is home to many historical and cultural sites, plants, water, traditional medicines, and teachings for our people. It also provided refuge for our people in times of conflict. One of our most notable leaders, Chief Manabito, was born there, but it is more than that. Bears Ears is sacred and it deserves to be protected."

The Navajo Nation, members of the tribes that also included the Ute Indian Tribe, the Moenai Ute, Hoge Tribe, and Zuni Tribe that led a coalition to advocate for the protection of the 1.9 million acres known as Bears Ears, located in southeastern Utah, from the threats of logging, residential, and energy development. The landscape is the ancestral home of many southwestern tribes and the heartland of Navajo Headmen Manabito. Tribal values depend on the land within the region to sustain their traditional livelihoods and cultural practices, such as hunting, gathering, and ceremony.

On Dec. 28, 2016, former President Obama designated 1.95 million acres of land under the Bears Ears National Monument, in accordance with the Antiquities Act of 1906. President Trump later reduced the size of the designation by 85-percent, or 200,000 acres, which continue to be contested in court by several tribes including the Navajo Nation.

"When the Obama Administration designated the Bears Ears National Monument, it received years of careful and thoughtful discussion and consultation with our tribes and other stakeholders. However, the actions of the Trump Administration to reduce the size of the national monument were politically driven and completely disregarded the years of work and support of tribes and other supporters. I wholeheartedly support the restoration of the Bears Ears National Monument and the expansion of it to 1.9 million acres," said President Nao.

Navajo Nation Attorney General Doreen McPaul also called for support for the Bears Ears National Monument and added that she looks forward to working with Secretary Haaland and other stakeholders.

"After more than three years of litigation against the federal government to reestablish national monument protections for Bears Ears, we certainly welcome the efforts of the Biden-Harris Administration to promote this important matter. Secretary Haaland's ratification that the new Administration treats our culture, history, and way of life with dignity and honor, and respects the Nation enough to hear our views is our top priority. We are going forward," said Attorney General McPaul.

In 2021, the Navajo Nation Council unanimously approved a resolution supporting the designation. On Nov. 30, 2020, the Navajo Utah Commission also passed a resolution supporting the full protection of 1.9 million acres of land under the Bears Ears National Monument. President Nao said he will continue to support the local communities and officials and look forward to discussing the Bears Ears National Monument with the Biden-Harris transition team.

Secretary Haaland's visit also included meetings with other stakeholders and a planned site visit to the Bears Ears area on Thursday.

**2. DPW PROTECT CHACO CANYON REGION**

**"We are descended from the Chaco Canyon area. We are connected to the lands spiritually. The voices of our ancestors live in this area and any disturbance to this area is culturally and morally unacceptable," said President Nao.**

<https://www.navajonation.gov/news/2023/03/01/DPW-PROTECT-CHACO-CANYON-REGION-THROUGH-INDIGENOUS-COLLABORATION-AND-TRADITIONAL-VALUES>  
<https://www.navajonation.gov/news/2023/03/01/DPW-PROTECT-CHACO-CANYON-REGION-THROUGH-INDIGENOUS-COLLABORATION-AND-TRADITIONAL-VALUES>

"Thank you to the House Natural Resources Committee, under the leadership of Congressman Raúl Grijalva and Congressman Henshaw, for supporting the position of the Navajo Nation and helping to preserve this sacred area for our future generations." stated President Nao.

<https://www.navajonation.gov/news/2023/03/01/DPW-PROTECT-CHACO-CANYON-REGION-THROUGH-INDIGENOUS-COLLABORATION-AND-TRADITIONAL-VALUES>

**FOR IMMEDIATE RELEASE - Bill to protect Chaco Canyon advances through the House Natural Resources Committee - Navajo Nation**

FOR IMMEDIATE RELEASE: July 11, 2023. Bill to protect Chaco Canyon advances through the House Natural Resources Committee. PHOTO: Right to Life Navajo Nation Vice-President M'lori, Lead, U.S. House Resident Speaker Bart Ray Lopez, and

[www.navajonation.gov](https://www.navajonation.gov)

I appreciate your assistance and your attention regarding this matter.

Regards,

Christine J. Besally, PhD

Additional courtesy copies to:

Helen Henderson and team

Roy and Irvin Tyler

Ronald Segay and family

David Yazze

.

From: Richard M. Segay <rsegay@nrajo-nm.gov>

Sent: Thursday, October 1, 2020 12:14 AM

To: Christine Besally <cbj@tntel.com>; Timothy Segay <tsegay@nrajo-nm.gov>; rjyazze01@frontier.net; rjyazze02@frontier.net; katherine.jen.ik@usa.net; katherine.jen.ik@usa.net@yahoo.com

CC: Ernest Phares <erphares@ndr.gov>; Richard K. Wallace <rdwallace@nrajo-nm.gov>; Page, Patrick J <ppage@ndr.gov>

Subject: FW: Pumping plant

Good morning,

Please carefully review the letter I sent to you several days ago. In that letter I specifically stated the construction will continue as planned so I've addressed your concerns.

This is NOT an authorized representation of the Navajo Nation government, or the Bureau of Reclamation, and you do not have the authority to contact the NM Department of Transportation to re-route the right-of-way for the Navajo-Gafo Water Supply Project.

Thank you,

Richard M. Segay, TWC

Navajo Nation

---

From: Richard M. Segay <rsegay@nrajo-nm.gov>

Sent: Wednesday, September 30, 2020 1:54 PM

To: Segay, Emily S <esegay@ndr.gov>; erphares@ndr.gov; rjyazze01@frontier.net; Page, Patrick J <ppage@ndr.gov>

CC: Christine Besally <cbj@tntel.com>; Timothy Segay <tsegay@nrajo-nm.gov>; Katherine Jen. Ik <katherine.jen.ik@usa.net>

Subject: FW: Pumping plant

Emily,

See email below.

Richard

---

From: Christine Besally <cbj@tntel.com>

Sent: Friday, September 25, 2020 8:54 AM

To: Segay, Emily S <esegay@ndr.gov>; rjyazze01@frontier.net; rjyazze02@frontier.net; katherine.jen.ik@usa.net; Catherine Brown <cbrown@tntel.com>

Subject: FW: Meeting for the Navajo Pumping Plant Location

Good morning,

Comment Cat. 1

The meeting set for today at 9 am is cancelled.

I talked to Mr. Kern, Assistant District Engineer, Excavate, NMDOT DIST. SIX. He is unaware of any request on the NMDOT right of way and will help us in the request to run the water pipe line in the NMDOT right of way.

We need to have the US agency (B-RE).

- 1) to make the request permission for the Right of Way to your NMDOT point of contact,
- 2) to make sure District 5 NMDOT is aware of the request, and
- 3) to keep us in informed with courtesy copies.

We can re-evaluate when we get a response from us direct with NMDOT.

Thank you,

Christine

---

From: Christine Besally <cbj@tntel.com>

Sent: Wednesday, September 30, 2020 1:52 PM

To: Richard M. Segay <rsegay@nrajo-nm.gov>; Timothy Segay <tsegay@nrajo-nm.gov>; rjyazze01@frontier.net; katherine.jen.ik@usa.net; katherine.jen.ik@usa.net@yahoo.com

Subject: FW: Pumping plant

Good afternoon,

We were scheduled to meeting last Friday, but we didn't get a call number. In addition, the NMDOT said they are willing to work with us but the agency (Bof) needs to contact them to request for the right of way. NMDOT wasn't aware of a request.

Comment Cat. 1

So, we thought it would be best to wait on a meeting until a request is sent to NMDOT with a courtesy copy to us and the District 5 Engineer.

I relayed that information to Bof. We'll wait to hear about the meeting with NMDOT.

Thank you,

Christine

---

From: Ernest, Art NMDOT <erf.kern@data.nm.gov>

Sent: Monday, September 21, 2020 1:36 PM

To: Christine Besally <cbj@tntel.com>

CC: Majumdar, Larry O., NMDOT <larry.majumdar@data.nm.gov>

Subject: RE: EX7 Pumping plant

Good Afternoon Ms. Christine J. Besally,

Thank you for reaching out to NMDOT District Six, District Engineer Mr. Larry Majumdar. I am responding on his behalf.

DMDOT is not doing the project that you have expressed concern for.

Please work with the OS Agency who is doing the pipeline and the pump project in your area. They, if plan to go thru anyone's property, including State's, may request permission for the Right of Way.

Thank you,  
Arlene Kanni P.K., PMP  
Assistant District Engineer, Revenue  
DMDOT (407) 335

From: Office of Governor (a)en (mailto:en@state.nm.gov)  
Sent: Sunday, September 20, 2020 8:09 AM  
To: cpl@hctel.net (mailto:cpl@hctel.net)  
Subject: Governor (a)en (mailto:en@state.nm.gov) responding to your message (mailto:Governor (a)en@state.nm.gov)

Dear Christian,

Thank you for contacting my office with your request for assistance. In order to being working on your behalf, please provide as much information as possible to explain your situation, as well as the assistance you need from the office.

Please return the information by mail, fax, email, or in person to my office located at 450 Old Santa Fe Trail, Room 400, Santa Fe, New Mexico 87501.

As soon as we receive the information, we will contact the appropriate agency on your behalf and work toward a resolution of your case. We will be in touch with you with updates as we make progress.

I appreciate the opportunity to be of assistance. Please feel to contact my office if you have any questions, comments, or concerns at 505-476-2200.

Sincerely,  
Arlene Kanni P.K., PMP

Please do not reply to this email. The matter is unattended.  
Do not use this email address for any other purpose.

From: Info be ailly (mailto:ab@hctel.net)  
Sent: Sunday, September 20, 2020 12:12 PM  
To: Patricia Brown (mailto:pbrown@hctel.net), jared@nraa@nraa.nm.gov, jared@nraa@nraa.nm.gov, Arthur H. O'Neil (mailto:arthurh@nraa.nm.gov), christina@nraa@nraa.nm.gov, christina@nraa@nraa.nm.gov, David Hernandez (mailto:davidh@nraa.nm.gov), Katherine (mailto:katherine@nraa.nm.gov), Peter Yack (mailto:pyack@hctel.net), jason@hctel.net, jason@hctel.net, jason@hctel.net, jason@hctel.net, jason@hctel.net, jason@hctel.net  
Subject: Pumping plant

Dear Sirs,

As time a project is proposed, it should start with the people directly impacted as the zoning permits and those using such thing as the area. Also it is respectful to let people know you are you going to be present in their area so they are not alarmed.

Comment Cat. 3

I object to the location of the pumping plant. It's going to impact several sites, there is the marker 70 to 72. I told the planners to move it south of the garage, not 70. The road this is several weeks ago but apparently my concerns are not considered serious and not forwarded. My father is a Range Cook-Taker defended the area so it should remain undisturbed.

Comment Cat. 2

I want a message to the NM governor to allow the land to be used with the right of way below the old road from Hwy 70 to 72 that isn't used, as it has not been used for at least two decades.

Comment Cat. 1

Because of the fence, we already lost use of the land on the west side of the road already.

Further, it's gonna be to take the area, in addition to the track after from the west side. I have to continue to remove the state to remove the fence that flows across the road. They don't remove those that flow onto our grazing area.

Comment Cat. 6

They want to install gates that will only allow light pollution.

Comment Cat. 1

The area south of Hwy 70 is already accessible, but with less vegetation.

We met with Howard Martinez a couple of weeks ago. He told us we see the line for farming and livestock. I asked him for documentation that stated that and it was never provided. So, in 2015 I signed my objection due to lack of information and representation.

Comment Cat. 3

Today, was the first time illustrations were provided to us.

Comment Cat. 1

Does that anyone wants to see pictures from there. We are a range as we are off road trail riding, high out of rodents, and hoppers while there is lack of public safety and justice.

Comment Cat. 6

Please allow the pipe line to be laid below the old road from Hwy 70 to 72.

Comment Cat. 1

Thank you,  
Christian L. Benally  
SN4482967

From: Info be ailly (mailto:ab@hctel.net)  
Sent: Tuesday, September 15, 2020 2:54 PM  
To: Egey, Becky (mailto:becky@nraa.nm.gov)  
Cc: jared@nraa@nraa.nm.gov, jared@nraa@nraa.nm.gov, Timothy Egey (mailto:tegey@nraa.nm.gov), David (mailto:david@nraa.nm.gov), Paige Patrick (mailto:ppatrick@nraa.nm.gov), Dennis Bart W (mailto:dennis@nraa.nm.gov), Howard (mailto:howard@nraa.nm.gov), jason@hctel.net, jason@hctel.net, jason@hctel.net, jason@hctel.net, jason@hctel.net  
Subject: Re: [EXTERNAL] Re: Waiting for the NTHRP Pumping Plant Location

Good afternoon,

What was decided was that the plant will be located at -69.5 scale marker. The pipeline will cross the fence south of 70, run on the west side of the fence, and go back out north of marker 72.

Comment Cat. 1

Thanks,

Christine

Sent via the Downing Safety SL on AT&T 4G LTE smartphone

----- Original message -----

From: "Begy, Becky BAB" <BBegy@ubr.gov>  
Date: 9/15/20 15:24 (GMT-07:00)  
To: liz@heavily.com  
Cc: r.begy@nps.gov, Timothy Begy <tbegy@nps.gov>, Hollie <hhollie@nps.gov>, "Page, Patrick J" <PJPage@ubr.gov>, "Dering, Bart W" <Bdering@ubr.gov>, "Hessene, Ernest R" <erhessene@ubr.gov>, Emily@211@frontier.net, kathema.jen <kjennaman@yahoo.com>  
Subject: RE: [EXTERNAL] Re: Meeting for the NOWSP Pumping Plant Location

Dr. Benali,

Thank you for responding to the email. We were asked to set up this meeting at the behest of Navajo Nation Heritage & Historic Preservation Dept. (NWHHPD) so that they can obtain any additional information from you about the status of the ceremonial areas. This will help them to better manage and protect the sites you are concerned about during Navajo Gallup construction. Reclamation and NWHHPD representative would also like to walk out with you to the site of Pumping Plant #2 just south of the hill. We would like to show you and Mr. Aron Elerts (if he is attending the meeting) where on the ground the pumping plant is currently situated and better understand what types of effects it may have on the ceremonial areas you have identified. At our last meeting Mr. Elerts told us that we needed to avoid that hill by at least 50 yards all around, and we'd like to go out and have him show you on the ground so we can ensure there is a sufficient buffer.

Way to and wof,  
Becky Begy

From: liz@heavily.com

Sent: Tuesday, September 15, 2020 2:30 PM  
To: Becky, liz@heavily.com  
Cc: r.begy@nps.gov, Timothy Begy <tbegy@nps.gov>, Hollie <hhollie@nps.gov>, Page, Patrick J <PJPage@ubr.gov>, Dering, Bart W <Bdering@ubr.gov>, Hessene, Ernest R <erhessene@ubr.gov>, Emily@211@frontier.net, kathema.jen <kjennaman@yahoo.com>  
Subject: Re: [EXTERNAL] Re: Meeting for the NOWSP Pumping Plant Location

Hi,

Please share the purpose of the meeting. What information do you need in addition to what we already provided?

Thank you,  
Christine

Sent via the Downing Safety SL on AT&T 4G LTE smartphone

----- Original message -----

From: "Begy, Becky BAB" <BBegy@ubr.gov>  
Date: 9/15/20 15:24 (GMT-07:00)  
To: liz@heavily.com  
Cc: r.begy@nps.gov, Timothy Begy <tbegy@nps.gov>, Hollie <hhollie@nps.gov>, "Page, Patrick J" <PJPage@ubr.gov>, "Dering, Bart W" <Bdering@ubr.gov>, "Hessene, Ernest R" <erhessene@ubr.gov>, Emily@211@frontier.net, kathema.jen <kjennaman@yahoo.com>  
Subject: RE: [EXTERNAL] Re: Meeting for the NOWSP Pumping Plant Location

Dr. Benali,

Thank you for the email. The NWHHPD Office will be able to attend the meeting to discuss options concerning the location of the NOWSP Pumping Plant this Friday, September 18 at 9:00am. Will Mr. Aron Elerts be attending the meeting? Please email or call me (505-224-5044) if you have any questions or would like to be added to the meeting.

Way to!  
Becky Begy

From: Begy, Becky BAB

Sent: Friday, September 11, 2020 11:42 AM  
To: liz@heavily.com  
Cc: r.begy@nps.gov, Timothy Begy <tbegy@nps.gov>, Hollie <hhollie@nps.gov>, Page, Patrick J <PJPage@ubr.gov>, Dering, Bart W <Bdering@ubr.gov>, Hessene, Ernest R <erhessene@ubr.gov>, Emily@211@frontier.net, kathema.jen <kjennaman@yahoo.com>  
Subject: FW: [EXTERNAL] Re: Meeting for the NOWSP Pumping Plant Location

Dr. Benali,

I received an email from the NWHHPD Office. They will not be able to make it on the morning of the Friday, September 18 at 9:00am. They want to know if you are able to meet on the September 17 or earlier in the week? Please email me at your earliest convenience.

Thank you,  
Becky Begy

From: liz@heavily.com

Sent: Thursday, September 10, 2020 10:50 PM  
To: Becky, liz@heavily.com  
Cc: r.begy@nps.gov, Timothy Begy <tbegy@nps.gov>, Hollie <hhollie@nps.gov>, Page, Patrick J <PJPage@ubr.gov>, Dering, Bart W <Bdering@ubr.gov>, Hessene, Ernest R <erhessene@ubr.gov>, Emily@211@frontier.net, kathema.jen <kjennaman@yahoo.com>  
Subject: [EXTERNAL] Re: Meeting for the NOWSP Pumping Plant Location

**The email has been removed from outside of DOW. See status below. Ability to view, provide attachments, or respond.**

Good evening,

We can meet you on Friday, Sept 18, 2020 at 9 am at the same location.

Christine

From: Begy, Becky BAB <BBegy@ubr.gov>

Sent: Wednesday, September 9, 2020 12:30 PM  
To: liz@heavily.com  
Cc: r.begy@nps.gov, Timothy Begy <tbegy@nps.gov>, Hollie <hhollie@nps.gov>, Page, Patrick J <PJPage@ubr.gov>, Dering, Bart W <Bdering@ubr.gov>, Hessene, Ernest R <erhessene@ubr.gov>

**Subject:** Meeting for the HAWSP Freezing Plant Location

Dr. Daniels,

Hi there, good after noon. I hope you and your family are doing well and staying safe. The Waipoua Native Heritage and Historic Preservation Department (NHNHPD) asked me to set up a meeting with you as a follow up to the meeting held a few weeks ago. They would like to meet with you to discuss some options that my office has developed to address your concerns about the status of the HAWSP Freezing Plant. Are you available to meet next week or following week between September 14-20? Please email or call (505-224-4244) me to let me know what day/time might work for you, and/or if you have any questions.

Thank you,  
Tasha Dege



**Dr. Christine Benally – Comment Email #1 –  
Attachment #1**



**Dine' Medicine Men Association, Inc.  
Diné Bi Nahagha' Yee Da' Ahoota'  
P.O. Box 4574  
Gallup NM 87301**

**Supporting Resolution to Protect the Sacred Sites at Littlewater, Mile Marker 70 to 72,  
From Gallup-Navajo Waterline Construction and Pump House, by Routing the Gallup-  
Navajo Waterline Construction to Within the US Highway 491 and Locating Pump House  
South of Mile Marker 70; and to Select an Alternative Site for a Cemetery Away from  
Table Mesa and Other Sacred Site Areas.**

Comment Cat. 1  
& 2

Whereas:

1. The Dine Medicine Men Association, Inc. (Dine Bi Nahaga Yee Da'ahoota) is a non-profit organization incorporated with the Navajo Nation of Commerce and has been in existence since the early 1970's; and
2. Dine traditional medicine-people always have the commitment to teach, preserve and protect the welfare of the Dine people as well as the welfare of the Dine Nation through providing exceptional protocol of the traditional knowledge of the distinctive oral philosophy of indigenous way of life on the basis of the Dine Ancient Oral Sacred Philosophy of the Spiritual Belief Foundation. Hence, it always has been the moral principle that guided the ceremonial sacred songs, prayers, and sites interwoven with intellectual and oral proceeding of planning and teaching with dignity and integrity which is still the effectual foundation of Dine life way since time immemorial; and
3. We reaffirm our sacred duty to protect by the virtue of the Holy People and to continue supporting The Fundamental Laws of the Dine Title 1 General Provisions

Chapter 1. The Foundation of the Dine', Dine' Law and Dine' Government § 1. Dine' Bi Beehaz'aanii Bitse Silei-Declaration of the Foundation of Dine' Law

We, the Dine', the people of the Great Covenant, are the image of our ancestors and we are created in connection with all creation. Dine' Bi Beehaz'aanii Bitsi Silei The Holy People ordained, Through songs and prayers, That Earth and universe embody thinking, Water and the sacred mountains embody planning, Air and variegated vegetation embody life, fire, light, and offering sites of variegated sacred stones embody wisdom. These are the fundamental tenets established. Thinking is the foundation of planning. Life is the foundation of wisdom. Upon our

creation, these were instituted within us and we embody them. Accordingly, we are identified by: Our Dine' name, Our clan, Our language, Our life way, Our shadow, Our footprints. Therefore, we were called the Holy Earth-Surface-People. From here growth began and the journey proceeds. Different thinking, planning, life ways, languages, beliefs, and laws appear among us, but the fundamental laws placed by the Holy People remain unchanged. Hence, as we were created with living soul, we remain Dine' forever; and

4. The United States war against the Navajo people brought hunger, enslavement, experimentation, suffering, violence, murder, and death, then coerced into a treaty in 1869, while their land was taken and placed on a limited amount of land as reservation, a federal trust land, created a foreign form of government, forced assimilation by taking of children to schools and young adult into cities and laborious jobs; an act that presently contributes to poverty, institutionalization, minimization of culture and language; and,

3. Diné Medicine Men Association has always strongly advocated that Diné People maintain our sacred language, cultural, and historical as part of their daily lifestyle and in every aspects of their livelihood, behavior, and interaction with other; and

4. The Diné Medicine Men Association recently learned the Navajo Nation is drafting an Action Plan using the Twins and Monsters which restricted to share during certain time of the year and circumstances, and not to be shared on public media year-round, otherwise may cause distress in the people's health, fairness, safety, learning, and raise concerns and fear for their safety, further in stressed the amount of impacted people as the number of medicine people dwindles; and;

5. The Dine Action Plan uses the twins and monster slayer to address the problems that violence, suicide, and substance abuse is causing the people, yet it does not identify the true monsters as the offenders.

6. The Diné Medicine Men Association, Inc., is aware of sacred sites where people hold the alchinigee (second night) of the nidaa ceremonies, the path where the ceremonial staff is carried by the horses blessed with corn pollen, and sites for gem and rock offerings located on the east side of U.S. highway 491 from mile marker 70 to 72, of the highway. **Wildlife also live in this area.** The Navajo Nation and Bureau of Reclamation wants to run the Gallup-Navajo water pipeline and build a pump house at the special sites. They moved and minimized the affected areas on their maps, a misrepresentation. The people voice opposition but were not taken seriously. They were told they could tap the water line to fill earthen dams for livestock and irrigate crops. Based on these fabrications, some, not all, consented and with regret, wished they had signed.

Comment Cat. 1

Comment Cat. 9

Comment Cat. 2

Comment Cat. 3

7. The Sanostee Chapter plans for a cemetery just south of Table Mesa, a sacred site representing the nidaa ceremony, too. The resident's cattle graze there from October to May. The people who live in the area and whose livestock graze there are opposed to the cemetery. The Chapter created a land use plan without consent.

8. The people in the affected areas described in 5. and 6. were not consulted and they did not consent, or were misinformed and coerced into consent which they regret.

Comment Cat. 3

**NOW THEREFORE BE IT RESOLVED THAT:**

The Diné Medicine Men Association strongly opposes the Gallup-Navajo water line current course on the east side of the U.S. highway 491 right of way and the location of the pump station, but it firmly supports rerouting the water line alternatively within the U.S. highway 491 right of way, on the west side of the fence mile marker 70 to 72, and relocate the pump station south of mile marker 70 to protect the sacred sites, wildlife habitat, and plants of any disturbance; and

Comment Cat. 1

Furthermore, Diné Medicine Men Association strongly opposes locating a cemetery at Table Mesa and other sacred sites, and recommends Sanostee Chapter to select an alternative location for a cemetery; and

Finally, the Diné Medicine Men Association strongly encourages the Navajo Nation, Sanostee Chapter, federal agencies, and other entities to be transparent and truthful of projects with the people, to consult, respect, and consider the affected people's concerns and position without disregard, and provide correct information to the affected people for complete understanding prior to obtaining consents without coercion.

Comment Cat. 3

**CERTIFICATION**

I, hereby, certify that the following resolution was duly considered by the Diné Medicine Men Association at a duly called conference call meeting at which a quorum was present and that the same was passed by a vote of 19 in favor, 0 opposed, and 0 abstained this 14<sup>th</sup> day of **March 2021**.

Motion by Sterling Manuelito Second by Bruce Chavez

Leland Grass [Signature]  
President, Dine Medicine Men Association Inc.

Elvin Keeswood [Signature]  
Vice President, Dine Medicine Men Association Inc.

**Dr. Christine Benally – Comment Email #1 –  
Attachment #2**



## Resolution: The Diné Hataalii Association, Inc.

SUPPORTING RESOLUTION TO PROTECT THE SACRED SITES AT LITTLEWATER, MILE MARKER 70 TO 72, BY ROUTING THE GALLUP-NAVAJO WATERLINE CONSTRUCTION TO WITHIN THE US HIGHWAY 491 AND LOCATING PUMP HOUSE SOUTH OF MM 70; AND TO SELECT AN ALTERNATIVE SITE FOR A CEMETERY AWAY FROM TABLE MESA AND OTHER SACRED SITE AREAS. # DHA 21-04-03

Comment Cat. 1  
and 2

### Whereas:

1. The Diné Hataalii Association, Inc., is a distinguished non-profit organization comprised of Diné (Navajo) medicine men and women who work to maintain balance and harmony with the natural world, both within and beyond the four cardinal sacred mountains; AND
2. The Diné Hataalii Association, Inc., is regarded by the Diné people as qualified to speak with authority on matters of cultural protocol, philosophy, language, ceremonies, history, customs, and concerns; AND
3. The Diné Hataalii Association, Inc., is a unique, authentic, and distinguished “grassroots” Diné-based organization comprised of medicine men and women who serve as members, executive officers and board of directors from the six (6) Navajo regions: 1) Crownpoint, 2) Fort Defiance, 3) Chinle, 4) Tuba City, 5) Shiprock, and 6) Aneth, Utah Extension; AND
4. The Diné Hataalii Association, Inc., is responsible for protecting, promoting, perpetuating, maintaining and sustaining the integrity of the Diné way of life, ceremonies and sacred holdings stipulated in its mission, philosophy, and vision statements; AND
5. The Diné Hataalii Association, Inc., is aware of sacred sites including former ceremonial sites such as the alchinijee (second night) of the n’daa (enemy way) ceremonies, the path where the n’daa ceremonial staff is carried by the horses and blessed with corn pollen, and sites for sacred gem and rock offerings located on the east side of U.S. highway 491 from mile marker 70 to 72, of the highway. **Wildlife also live in this area.** The Navajo Nation and Bureau of Reclamation proposes to install the Gallup-Navajo water pipeline and build a pump house on and around these sacred Diné spiritual sites. The NN and the Bureau of Reclamation has been made aware of the sacred sites and the request of local Diné residents to reroute the

Comment  
Cat. 2

Comment  
Cat. 9

Comment  
Cat. 2

proposed water line and find an alternate location for the water shed. Despite being information, the NN and the Bureau of Reclamation disregard the request made by local Diné residents. In their proposal, the NN and Bureau of Reclamation misconstrued, moved, and minimized the geographic size of the sacred areas on their maps; a misrepresentation. The Diné residents voice and opposition to the proposed plans have not been taken seriously. The local Diné residents were told they could tap the water line to fill earthen dams for livestock and irrigate crops. Based on these fabrications, some, not all, consented and with regret, wished they had not signed.

Comment  
Cat. 2

Comment  
Cat. 3

6. The Sanostee Chapter plans for a cemetery just south of Table Mesa, a sacred site which is also a former n'daa ceremonial site. Local Diné residents with grazing permits graze cattle there from October to May. The Diné residents who live in the area and whose livestock graze there oppose the cemetery. The Chapter created a land use plan without obtaining initial community consent and consensus for the proposed plan.
7. The Diné residents/community members in the affected areas described in (5.) & (6.) were not consulted, nor did they consent and were misinformed and coerced into consent which they regret, some tearfully.

Comment  
Cat. 3

#### **NOW THEREFORE BE IT RESOLVED THAT:**

The Diné Hataalii Association strongly opposes the currently proposed course designated for the water on the east side of the U.S. highway 491 highway right of way and the current proposed location of the pump station, but it firmly supports rerouting the water line alternatively within the U.S. highway 491 right of way, on the west side of the fence mile marker 70 to 72, and the relocation of the pump station south of mile marker 70 to protect the Diné sacred ceremonial sites, wildlife habitat, and plants of any disturbance; and

Comment  
Cat. 1

Furthermore, the Diné Hataalii Association strongly opposes locating a cemetery at Table Mesa and on the aforementioned sacred sites, and recommends Sanostee Chapter to select an alternative location, away from sacred Diné ceremonial sites for a cemetery; and

Finally, Diné Hataalii Association strongly encourages the Navajo Nation, Sanostee Chapter, federal agencies, and other entities to offer full transparency, practice ethically as they seek community permissions for proposed installations of supportive resources such as water lines and maintain truthful communication on all resource projects with the local Diné people/residents. We request inclusion and

Comment  
Cat. 3

consultation, respect, and consideration for the concerns and position expressed by the local Diné residents without disregard, and ask that correct information be provided on all proposals and shared with the local Diné residents to ensure complete understanding prior to obtaining consents without coercion.

Comment  
Cat. 3

### CERTIFICATION

We hereby certify that the foregoing resolutions was duly considered by the Diné Hataalii Association, Inc., at a duly called meeting by Zoom and conference call where a quorum was present and that same was passed by a vote of 11 in favor, 0 opposed, and 1 abstain on March 04, 2021. Motioned By: Anson Etsitty, Sr. Second By: Lorenzo Max



David Johns, President  
Diné Hataalii Association



Lorenzo Max, Vice President  
Diné Hataalii Association



**Dr. Christine Benally – Comment Email #1  
– Attachment #3**



# TSE ALNAOZTI' I CHAPTER

SANOSTEE@NAVAJOPAGES.COM

P.O. BOX 219 SANOSTEE NM 87461 PHONE: (505) 723-2702 FAX: (505) 723-2705

COUNCIL DELEGATE AMBER CROTTY	PRESIDENT FRANK SMITH JR.	VICE-PRESIDENT GERALD HENDERSON	SECRETARY / TREASURER JOURDAN WASHBURN	COMM. SERVICE COORD. CLARINA CLARK
----------------------------------	------------------------------	------------------------------------	---	---------------------------------------

## RESOLUTION OF TSE' ALNAOZTI' I CHAPTER RESOLUTION NO. TAT 19-03-43

AN ACT TO NOTIFY THE CONTRACTORS OF THE NAVAJO GALLUP WATER PIPELINE (SAN JUAN LATERAL) THAT THE LOCAL COMMUNITY OPPOSES TO ANY TAPPING INTO THE EXISTING WATER TABLE RELATED TO WHERE THE PIPELINE WILL BE PLACED.

RECEIVED  
SAN JUAN LATERAL  
SANOSTEE CHAPTER

### WHEREAS;

1. Pursuant to 26 NNC, Section 1 (B), the Navajo Nation Council delegated the authority to Tse Alnaozti' i Chapter to review and process all local matters affecting the community and its constituents, assure that quality services are provided and Section 101 (A) (B), Tse Alnaozti' i Chapter shall operate under a Five Management System (FMS) consistent with applicable Navajo Nation Laws; and
2. Pursuant to 26 NNC, Section 103 (A), Tse Alnaozti' i Chapter membership are authorized to oversee the authority delegated to the chapter and Section 1004 (A), Tse Alnaozti' i Chapter shall enact resolutions plans of operations for all executive functions and administrative policies of the chapter; and
3. The Tse Alnaozti' i membership is informing and requesting that the contractors of the Navajo Gallup Water Pipeline DO NOT tap into the existing water table near the proposed water pipeline; and
4. The local community does not approve of their local watering sources being placed into jeopardy and moved along the pipeline, away from the community.

Comment  
Cat. 3

### NOW, THEREFORE BE IT RESOLVED THAT;

The Tse Alnaozti' i Chapter membership hereby notify the contractors of the Navajo Gallup Water Pipeline (San Juan Lateral) that the local community opposes to any tapping into the existing water table related where the pipeline will be placed

### CERTIFICATION

We, hereby, certify that the foregoing resolution was presented and thoroughly discussed by the constituents, a duly called Chapter Meeting at Tse Alnaozti' i (Sanostee), New Mexico, at which a quorum was present and that same was passed by a vote of 23 in favor, 1 opposed and 2 abstained, on this 10<sup>th</sup> day of March 2019

Motioned by: Sarah Jane White

Seconded by: Kori Tso

Frank Smith, President

Gerald Henderson, Vice President

Jourdan Washburn, Secretary/Treasurer

GRAZING OFFICIAL:  
ELOUISE BROWN

ACCOUNTS MAINTENANCE SPECIALIST:  
SHELIA MITCHELL

**CONSENT FORM #4**

**REFUSE TO CONSENT**

**Comment Cat. 3**

**TO WHOM IT MAY CONCERN**

I, CHRISTINE J. BEADLY hereby do not wish to consent to the Navajo Nation and the Bureau of Indian Affairs, Window Rock, Arizona to permit

12-4024

to use a portion of my land use area for the following purpose:

from Littlewater, San Juan County, NM to Table Mesa, San Juan County, NM. I am refusing consent for the following reasons: The information I requested to read and understand the project was not provided, e.g. water rights, settlements, resolutions, proposals, plans, agreements, etc. When I first learned of the project I asked if we could get the water for agriculture, livestock and irrigation. I was told no that it was going directly to gallops. Then Mr. Martinez told us (with his consent) that we could I asked for this in writing just as we was provided, when I request the programs, Navajo, BOR, NTEA, contracts, with point to each other. I wanted the communities could get water for pasture for the NTEA system, but to do so they'd have to pay over \$74 million, for bad water, plus with the water levels low the expected capacity may not be met, so they (NTEA) want to drill and take water from the aquifer along with it. Our livestock people rely on this water and the project will dry us and our future generation out. It completely does not make sense for our chapter to pay \$74 million to drill and take any water from under us, then charge us monthly thereafter. This is a no win for us so I do not consent. May be until I see plans that will not cost us and preserve/keep the ground

Land User Signature or (Thumbprint)	Date
<u>Christine Beadly</u>	<u>08/24/2018</u>
WITNESS: <u>[Signature]</u>	<u>08/26/2018</u>

**Acknowledgement of Field Agent**

I acknowledged the proposed project was fully explained to the land user in Navajo // or English // (check where applicable)

_____	_____
Field Agent Signature	Date

**Dr. Christine Benally – Comment Email #1 –  
Attachment #4**



NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY
COMPLAINT RECORD FORM

Post Office Box 339, Window Rock, Arizona 86515
Telephone: (928) 871-7692 · Fax: (928) 871-7996
Website: www.navajonationepa.org



GENERAL INFORMATION

- 1. Date Complaint Received: 12/31/2021
2. Time Complaint Received: 12/31/2021
3. Complaint Received by: 12/31/2021
4. Date of Incident: Since April 2021
5. Time of Incident: April through December 2021
6. Location of Incident: a) Town east side of US hyw 491, mm 70 to 71.5 State NM
7. Responsible Party: Bureau of Reclamation
8. Reporting Person: Christine Benally
9. Reporting Person's Telephone Number: 505-436-8967
10. Reporting Person's Address: HC 30 Box 400, Shiprock State: NM Zip Code: 87420

AIR

- 1. Type of Complaint: Open Burning, Smoke /Emissions, Fugitive Dust, Other
2. Source of Complaint: Residential, School, Restaurant, Construction, Industrial/Commercial, Office, Hospital, Other

WASTE

- 1. Type of Complaint: Open Dumping, Littering, Residential, Other: plastic off pipes, wood, fence parts, Collection, Spill, Construction, Storage, Burning, Office
2. Source of Complaint: Residential, School, Restaurant, Construction, Industrial/Commercial, Office, Hospital, Other: plastic, wood, metal (cans)
3. Spill: a) Type of Spill, b) Amount of Spill, c) Who is handling clean up?, d) How is clean up being handled?

WATER

- 1. Type of Complaint: 401/404 - Unauthorized projects in waterways, Dumping in a waterway, Discharge into water, Contaminated water source, Spill in waterway, Other

STATEMENT OF FACTS: Since February 2019 the Bureau of Reclamation (BOR) began trespassing onto our grazing area. In addition to driving on grass and medicinal vegetation in sacred areas, they leave plastic, paper, and wood then these debris blow further onto the grazing area. The plastic that cover the ends of the pipes tears and when the wind blows it further rips and scatters pieces of plastic over the grazing area. On November 27, 2021, I sent an email with photos to the Navajo Nation, BOR, Department of Interior Secretary, and congress representatives of the litter and RoR's negligence. Patrick Page responded that they would address this but they have not. I picked up some but I feel they need to be responsible for their trash. I saw some plastics tied up in bundles near the deep pits they dug. they probably buried the plastics and trash instead of properly removing them to transfer stations.

(Please use the back for additional space)

**Dr. Christine Benally – Comment Email #1 –  
Attachment #5**

**Attachment #5 was included in Comment  
Email #1's thread from March 18, 2021.  
Response highlighting can be found in the  
above email thread.**

March 18, 2021

HC 30 Box 400  
Shiprock, NM 87420  
505-436-8967  
Cyb8@hotmail.com

Dr. Shebala, Mr. Page, Mr. Begay, et. al.,

In response to your letter dated March 01, 2021, I have the following refutation.

Foremost, I question the information you may have used to be base your decisions and conclusions. Despite providing you information in my last email and meeting, it is apparent now it was dismissed and ignored.

As indicated in my previous correspondence to Mr. Page, Mr. Begay, and others, the community is not opposing the waterline installation, but instead requested that the pipeline be rerouted within the right-of-way along U.S. highway 491, between mile markers 70 and 72, and locate the pump station and tanks south of mile marker 70 to protect ceremonial and sacred areas, wildlife habitat, and natural formations from any disturbance as my family shared and agreed, including Mr. Anson Etcitty, Sr. at the July 23, 2020 meeting and Irvin Tyler at the September 18, 2020 meeting.

Toalsiisi is about one-half mile southwest of the store along the Sanostee wash mislocated on the map. Toalsiisi is 4 miles southwest of Tsetsil. Sanostee is about 15 mile west. I mentioned this at the two meetings but it has not been corrected.

Tsetsil is not properly identified by you and it includes the ridge along the road, the knob, and the area of the proposed pump house and tanks. So, it covers a larger area than just the top of the knob as drawn on your map. It was agreed during the July 23, 2020 and the September 18, 2020 meetings the pump station and tanks would be relocated to south of mile marker 70 at Toalsiisi, in accord with what the people were initially told so they could use the water for their household, irrigation, and livestock. The area of the proposed station provides habitat for wild life and natural formations that probably took thousands of years. These should be protected from the pump station and tanks, light pollution, dozers, and traffic. Pictures of habitat and formation are attached.

Irvin Tyler shared at the September 18, 2020 meeting that the sacred site is where the sound of the drum goes, that maybe miles, and not prohibited at ceremonial location. This was confirmed by others when I shared my efforts to protect this area with the Dine Haataali Association and the Dine Medicine Men Association. Afterall, it was the haataali that brought our ancestors out of incarceration so we can have a home and land to sustain us and for us to protect. They direct such sacred areas, trails, and sites be protected and certified their support with the attached resolutions to relocate the pump station and water tanks south of U.S. highway

491, mile marker 70 and to re-route the pipeline within the highway right of way between mile markers 70 and 72. There is sufficient area where the 2-lane highway was formerly located, between the fence and northbound lanes.

The sites on the map you shared have tiny circles and east of the proposed waterline. It is unconscionable to think the impacted area is restricted within these circles. Again, the sounds of the drum and songs are not retained within small circles. The circles are incorrectly located, perhaps intentional placed eastward and out of the way from the pipeline. A sacred site does not move. Further, the area not included is the horse trail along the east side of the fence between the sites from mile marker 70 to ~71.5. Horses are blessed before they are used to carry the staff. Riders participate to help with the healing are very disturbed by proposing to dig up the ground. They feel their contribution is as important as the fire and camp areas. They stress that the trails are just as sacred as the other sites and should be respected and protected as well. The trail between the ceremonial sites has been used by many patients, riders, and their horses, since time immemorial.

At the July 23, 2020 meeting, I requested the soil taken from the drill site be returned. To date, I have not received it to return to the ground appropriately. I asked at the September 18, 2020 meeting, but was not provided an answer.

According to Arif Kazmi, Assistant District Engineer Executive, New Mexico Department of Transportation, they are willing to work with the community and grant use of the right of way. I attached his email dated September 21, 2020 in my previous email. Mr. Kazmi suggested the Bureau of Reclamation ("BOR") project manager simply needs to make a request from their New Mexico Department of Transportation ("NMDOT") contact for the use of the right of way. I relayed this information at the July 23, 2020 meeting and it should have been done. I asked about it at the September 18, 2020 meeting, but I was not given an answer. My question was, did the request make it to the proper persons at NMDOT? I would like evidence of this request and status of same.

It was clear, the people expressed their concerns, but they were also given false information. There are many in Littlewater who claim they did not sign the consent. Of the grazing permittees I talked to in Littlewater area, only two said they consented. Perhaps as you claim others outside Littlewater may have. As I pointed out, my family and I were lied to as well by Mr. Howard Martinez, July 9, 2018. He said we could tap into the pipeline to fill an earthen dam with water for livestock and to irrigate plants. I asked for this assertion in writing but was given nothing. Upon further investigation, I discovered others said they were told the same thing. Some proceeded to sign based on these lies and are now regretting it. They wish they did not sign and asked about how to retract their signature because the obtained signatures were premised on misrepresentation, and possibly fraud. In the early stages of this project, some who live and have farms by the Littlewater store were told the pump station and tanks would be placed there and they would be able to use the water for their farms. So, to fulfill that promise and prevent further lies, the pump station and tanks should be place south of mile marker 70.

These concerns are serious and legitimate. They represent my concerns and others in the community, but to date, they have not been addressed, much less acknowledged. I have not

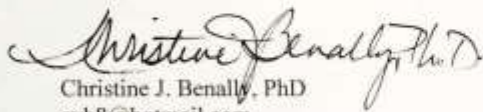


spoken with you or Mr. Begay regarding this matter, so I don't know who you are listening to or where you obtained any other relevant information concerning this matter.

Thank you for relocating the pump station and water tanks to south of mile marker 70, and re-routing the pipeline within the NMDOT right of way.

The alteration and adoption of the changes we are requesting is appreciated and respectful of every haataali and residents' directives.

Regards,



Christine J. Benally, PhD  
cyb8@hotmail.com  
505-436-8967

Copies distributed to:  
Dine Haataali Association  
Dine Medicine Men Association  
Little Water and Table Mesa Permittees and Residents

Attachments  
Dine Haataali Association Support Resolution  
Dine Medicine Men Association Support Resolution  
Wildlife habitat, sacred, and natural geofomations areas  
Benally cattle grazing at Table Mesa  
Corrected maps

**Dr. Christine Benally – Comment Email #1 – Attachment #6**

**Pages 1-12 of this Attachment #6 (up to 9/15/2020 correspondence) were included in Comment Email #1's thread. Response highlighting can be found in the above email thread. Response highlighting continues on the 12th page of this attachment.**

March 14, 2021

HC 30 Box 400  
Shiprock, NM 87420  
505-436-8967  
Cyb8@hotmail.com

Dr. Shebala, Mr. Page, Mr. Begay, et. al.,

In response to your letter dated March 01, 2021, I have the following refutation.

Foremost, I question the information you may have used to be base your decisions and conclusions. Despite providing you information in my last email and meeting, it is apparent now it was dismissed and ignored.

As indicated in my previous correspondence to Mr. Page, Mr. Begay, and others, the community is not opposing the waterline installation, but instead requested that the pipeline be rerouted within the right-of-way along U.S. highway 491, between mile markers 70 and 72, and locate the pump station and tanks south of mile marker 70 to protect ceremonial and sacred areas, wildlife habitat, and natural formations from any disturbance as my family shared and agreed, including Mr. Anson Etcitty, Sr. at the July 23, 2020 meeting and Irvin Tyler at the September 18, 2020 meeting.

Toalsiisi is about one-half mile southwest of the store along the Sanostee wash mislocated on the map. Toalsiisi is 4 miles southwest of Tsetsil. Sanostee is about 15 mile west. I mentioned this at the two meetings but it has not been corrected.

Tsetsil is not properly identified by you and it includes the ridge along the road, the knob, and the area of the proposed pump house and tanks. So, it covers a larger area than just the top of the knob as drawn on your map. It was agreed during the July 23, 2020 and the September 18, 2020 meetings the pump station and tanks would be relocated to south of mile marker 70 at Toalsiisi, in accord with what the people were initially told so they could use the water for their household, irrigation, and livestock. The area of the proposed station provides habitat for wild life and natural formations that probably took thousands of years. These should be protected from the pump station and tanks, light pollution, dozers, and traffic. Pictures of habitat and formation are attached

Irvin Tyler shared at the September 18, 2020 meeting that the sacred site is where the sound of the drum goes, that maybe miles, and not prohibited at ceremonial location. This was confirmed by others when I shared my efforts to protect this area with the Dine Haataali Association and the Dine Medicine Men Association and they concluded such sacred areas, trails, and sites should be protected and certified their support with the attached resolutions to relocate the pump station and water tanks south of U.S. highway 491, mile marker 70 and to re-route the pipeline within the highway right of way between mile markers 70 and 72. There is sufficient area where the 2-lane highway was formerly located, between the fence and northbound lanes.

The sites on the map you shared have tiny circles and east of the proposed waterline. It is unconscionable to think the impacted area is restricted within these circles. Again, the sounds of the drum and songs are not retained within small circles. The circles are incorrectly located, perhaps intentional placed eastward and out of the way from the pipeline. A sacred site does not move. Further, the area not included is the horse trail along the east side of the fence between the sites from mile marker 70 to ~71.5. Horses are blessed before they are used to carry the staff. Riders participate to help with the healing are very disturbed by proposing to dig up the ground. They feel their contribution is as important as the fire and camp areas. They stress that the trails are just as sacred as the other sites and should be respected and protected as well. The trail between the ceremonial sites has been used by many patients, riders, and their horses, since time immemorial.

At the July 23, 2020 meeting, I requested the soil taken from the drill site be returned. To date, I have not received it to return to the ground appropriately. I asked at the September 18, 2020 meeting, but was not provided an answer.

According to Arif Kazmi, Assistant District Engineer Executive, New Mexico Department of Transportation, they are willing to work with the community and grant use of the right of way. I attached his email dated September 21, 2020 in my previous email. Mr. Kazmi suggested the Bureau of Reclamation ("BOR") project manager simply needs to make a request from their New Mexico Department of Transportation ("NMDOT") contact for the use of the right of way. I relayed this information at the July 23, 2020 meeting and it should have been done. I asked about it at the September 18, 2020 meeting, but I was not given an answer. My question was, did the request make it to the proper persons at NMDOT? I would like evidence of this request and status of same.

It was clear, the people expressed their concerns, but they were also given false information. There are many in Littlewater who claim they did not sign the consent. Of the grazing permittees I talked to in Littlewater area, only two said they consented. Perhaps as you claim others outside Littlewater may have. As I pointed out, my family and I were lied to as well by Mr. Howard Martinez, July 9, 2018. He said we could tap into the pipeline to fill an earthen dam with water for livestock and to irrigate plants. I asked for this assertion in writing but was given nothing. Upon further investigation, I discovered others said they were told the same thing. Some proceeded to sign based on these lies and are now regretting it. They wish they did not sign and asked about how to retract their signature because the obtained signatures were premised on misrepresentation, and possibly fraud. In the early stages of this project, some who live and have farms by the Littlewater store were told the pump station and tanks would be placed there and they would be able to use the water for their farms. So, to fulfill that promise and prevent further lies, the pump station and tanks should be placed south of mile marker 70.

These concerns are serious and legitimate. They represent my concerns and others in the community, but to date, they have not been addressed, much less acknowledged. I have not spoken with you or Mr. Begay regarding this matter, so I don't know who you are listening to or where you obtained any other relevant information concerning this matter.

Thank you for relocating the pump station and water tanks to south of mile marker 70, and re-routing the pipeline within the NMDOT right of way.

The alteration and adoption of the changes we are requesting is appreciated.

Regards,

Christine J. Benally, PhD  
cyb8@hotmail.com  
505-436-8967

Copies distributed to residents.

Attachments  
Dine Haataali Association Support Resolution  
Dine Medicine Men Association Support Resolution  
Wildlife habitat image  
Natural formation image

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**From:** kris benally <cyb8@hotmail.com>  
**Sent:** Tuesday, March 2, 2021 8:26 PM  
**To:** mkahnjohn@email.arizona.edu <mkahnjohn@email.arizona.edu>  
**Subject:** Fw: Relocation of water line and pumping plant

These are email correspondence on the waterline.  
Mr. Etsitty is already aware to this situation.

**From:** kris benally <cyb8@hotmail.com>  
**Sent:** Thursday, October 8, 2020 10:27 PM  
**To:** mr.etsitty23@gmail.com <mr.etsitty23@gmail.com>  
**Subject:** Fw: Relocation of water line and pumping plant

Yaateeh shinali,  
FYI. I thought I included you on this email.  
Ahehee

**From:** kris benally <cyb8@hotmail.com>  
**Sent:** Thursday, October 8, 2020 9:45 PM  
**To:** Rmyazzie21@frontiernet.net <Rmyazzie21@frontiernet.net>; Elouise Brown <thebrownmachine@hotmail.com>; katherine jim <kijimasani@yahoo.com>; Amber Crotty <acrotty@navajo-nsn.gov>; Sanostee Chapter <sanostee@navajochapters.org>; Page, Patrick J

<PPage@usbr.gov>; Timothy Begay <tbegay@navajo-nsn.gov>; rudyshebala@navajo-nsn.gov  
<rudyshebala@navajo-nsn.gov>; Gerald Henderson <gerald.henderson@navajochapters.org>; Frank  
Smith <manyhogan\_666@yahoo.com>; jonathannez@navajo-nsn.gov <jonathannez@navajo-nsn.gov>;  
poqueen.rivera@state.nm.us <poqueen.rivera@state.nm.us>; larry.maynard@state.nm.us  
<larry.maynard@state.nm.us>; michael.sandoval@state.nm.us <michael.sandoval@state.nm.us>;  
chelseamoore@navajochapters.org <chelseamoore@navajochapters.org>; Begay, Becky BAB  
<BBegay@usbr.gov>; Robert.Begay1@bia.gov <Robert.Begay1@bia.gov>; Arif.Kazmi@state.nm.us  
<Arif.Kazmi@state.nm.us>; tyeveng@gmail.com <tyeveng@gmail.com>  
Cc: Kristalyn Antonio <kristalinantonio@gmail.com>; looshjim@gmail.com <looshjim@gmail.com>;  
Tonn Clichee <tonnerickac@gmail.com>; Zane Speck <zspeckAU@gmail.com>  
**Subject:** Relocation of water line and pumping plant

October 8, 2020

Mr. Page, Mr. Begay, et.al,

I find some areas of misinformation and areas of severe concern in your letter, dated September 29, 2020. I inserted the previous email correspondences below.

The letter states that Mr. Etsitty recommended moving the pumping station 100 meters. This is an untrue statement, and not what we agreed upon. I called Mr. Etsitty to confirm my understanding was correct and consistent with his, and with Dr. Yazzie. Our collective understanding and recollection is that, during the July 23, 2020 meeting, we *all* agreed to move the pumping station to the south of mile marker 70 and near mile marker 69.5, run the pipeline into the right of way from just south of 70 to 72, and from there, run the pipeline back out of the right of way. This is what I've continuously requested since 2018 and it has not changed. I don't know how many times this has been communicated at the chapter meetings, and by emails and phone calls. We refer to the area of the meeting as *Tsetsil*, not *Toalsisi* that is located southwest of the Littlewater Store in the arroyo/wash, over three miles south.

The Bureau of Reclamation ("BoR") representatives were going to request the use of the NM DOT right of way to run the pipeline. A meeting was scheduled and held on July 23, 2020, was the first time a map was available to show the location of the pumping plant. All those present at this meeting were initially told that the plant would be located north toward mile marker 72. Then, they admitted they misread the map and it was by the hills and knob. At no time during the process, were we provided any documentation of the plans. I asked for the soil sample that was taken in February 2020 to be returned; so, far nothing has been returned. One woman, I didn't get her name, at the meeting said some Navajos allow construction at sacred sites then afterwards they return to using the site as before. I told her some people as us are more respectful to the prayers, offerings, songs and other practices, unlike others do not and function haphazardly (*dideeldiiniilzin, lashiee'o shashingo*).

During the second meeting on September 18, 2020, we were finally provided maps and illustrations of the proposed plant and pipeline, but they were not in the locations as was requested and agreed upon as per previous meetings. This was the first time I was provided any specific material. Also present was Irvin Tyler, a hataali and traditionalist, and whose mother Rose, also a hataali, said the area is considered sacred and established where the sound of the drum and singing is conducted, which may be a mile radius. The archeologist said he worked on this for years and this is the first he heard about it. I told him I expressly stated this back in 2018. In addition, Mr. Tyler confirmed this by and stated that I brought up this matter at one of the meetings in Sanostee. His mother Rose also concurred that these sites should be holy and should remain so

unharmful. Instead of listening, the person from BoR kept repeating himself and got loud. This response clearly illustrated his failure to reasonably communicate effectively with the public and failure to exercise his due diligence in identifying these sacred sites; or at the very least give credence to the information that sacred sites existed in the project area. Instead, he became upset and disregarded the required physical distancing and got too close to me. I had to hold out my hand and said to stand further away from me. According to other community members, they expressed these very concerns previously. I think people pick and choose what they want they want to hear (as the 100 meters), and minimize and disregard the rest (as my repeated request to move the station and pipeline).

Also at the September 18, 2020 meeting, I asked the status of the request to the state for the use of the right of way. Apparently, that had not been done, so that's why I contacted the state myself and discovered nothing had been done. As a result, several weeks passed and there was no progress. This inaction prompted, we as citizens to take action where the government has failed us. We are well within our rights to voice our disagreements and obtain information that impacts our lives, particularly in light of the fact, that we are misinformed about the project, or that it was misrepresented to us entirely.

Initially, the people (Ronald Begay, Ronald's late mother, Lillie Barber, Howard Martinez, and others) were told years ago a pumping station would be placed at Littlewater near the store. This was to support the farms on either side of US Highway 491. The people were to be provided water to irrigate their fields. This was what they were expecting: that they would have water for their farm and livestock. Not only were they disappointed this is not the case, but feel completely defrauded because it now appears this was never the intention from the outset. So, this was brought up years ago not a few months ago.

Mr. Howard Martinez approached me at the July 5, 2018 District 12 Grazing Officials meeting at the Sheep Springs Chapter to sign a consent form. I told him I did not want to and I needed more information and if he would meet with me and my family. My relatives, Dr. Rena M. Yazzie, Harrison Tsosie, and I met with Mr. Martinez in July 9, 2018. At that time, Mr. Martinez requested consent and said we would be able to get water from the pipeline to fill the earthen dams for livestock and to use for irrigation for the surrounding community. I asked him for the documents and plans to support his claims. He refused and left. I wanted to keep the paperwork he initially showed us, but he said he couldn't do that and he took it.

I requested these plans again at a meeting in Tohatchi on also in August 7, 2018. I told them of how we were treated. Although I did not know the plans, I voiced that we did not want a plant near us. The person from the Navajo Nation said it was over a hundred pages and asked if I was going to read it. That was the purpose for my request. I was not given anything until the September 18, 2020 meeting, which is long after my request and well within the project period.

Later, our grazing official wanted a statement to memorialize our positions regarding the project, so I signed a refusal statement primarily due to the lies, misinformation, lack of information and non-transparency. It was witnessed by Dr. Yazzie. I gave it to our grazing official. I don't know if it was turned in, to who, or what happened to the statement .

Ms. Helen Henderson, Hataali, who also never consented, along with her sons from Littlewater vehemently oppose the pipeline and also suggested to move the pumping station south of mile marker 70 and to run the pipeline within the New Mexico Department of Transportation ("NM DOT") right of way due to the sites and trail, preferably closer to the Littlewater store where we were originally told it would be placed. Ms. Henderson also confirmed she stated this at previous meetings. She said all of the land, animals, plants, and whatever is on earth are

our *Nihima* (that that gives us life and livelihood). The government has restricted us by imposing the grazing permits now homesite leases as means to control us. She said the *Nihima* is not to be disturbed, abused, stabbed, cut, drilled, dug. She made it clear that what should not be disturbed are the grounds of the ceremonies and the corn pollen path between them, from 70 to ~72 mile markers, as it represents the horse and people carrying the staff. Pollen given and put on the horses. To our disappointment, she instead reported, that the people working on the project are rude and very disrespectful. She stressed that the leaders we elect and those in Window Rock and Chapter should be speaking on our behalf and wonders what happened to them. Where did they go and we don't see them?

I spoke with a number of patients, those who received the staff, or participated in any manner. They oppose the disturbance of this area in fear that their health and life may be adversely affected, no matter how minor the disturbance may be. They worry that if the ground is disturbed in any way, it would void the ceremony benefits, and negative affect their health. If this were to happen, who is going to provide remedy for them? The people are more concerned about the health and wellbeing of all involved versus an aesthetic view. By simply digging up the earth, placing the pipes in the ground and allowing the area to revegetate, does not negate the damage already done. By doing so, only illustrates there is a complete disregard for our traditions, beliefs and well-being of the citizens who have lived and occupied this area for generations. It is hard to imagine our own tribe and leadership thinks so little of their people to allow this to happen.

Lastly, to state that I am somehow not allowed to voice my concerns on behalf and for my community is an outright violation of my freedom to do so. I find such a claim to be a narcissistic and misogynistic attempt of silence valid concerns and is a form of abuse. No one has the authority to say that to another person. Just because I do not work for the Navajo Nation does not mean I don't have a voice. I vote, pay taxes and otherwise a responsible citizen. As such, when I witness events or situations that negative impact my home and my community, not only am I permitted to question these decisions and the decision-makers, it's my duty to do so. I remind you, if the project managers truly took our concerns seriously and did the right thing, we would not be engaging the discussions currently at hand. Instead, you have chosen to misrepresent, misdirect and attempt to use subversive tactics to impose your will on this community. That is something we cannot tolerate, particularly in the light of our nation's current divisive environment. My father was a Navajo Code Talker. He spoke and fought for us, so we could speak freely and for ourselves so I will not have anyone silence us regardless of their position or role. If it was not for my father and others, they would not be in those positions. I do not appreciate and it is such degradation of my father and my family.

I hold the grazing permit in this area that was once held by my father, my nali grandparents. Those who practiced and held sacred the traditions, and ancestors before. I will speak on their behalf as they did for us. As Mrs. Henderson said, they also respected *nihima* and should avoid harm and interference. From the perspective of the offended party, my family, some community members, and I are experiencing violence in several forms including verbal (yelling, talking over us, not listening), silencing, minimizing, dismissing, deflecting, intimidation, psychological (fear, afraid), lying, harming children, animals, land, material, property damage, and intentionally making things difficult. The result include trauma, shut down, isolation, distrust. You may think it is insubstantial but such trauma impacts overall health of this community and is far reaching.

Our community has already suffered in the past. It is dissected by the Highway 491, then it was widened and fenced, and then a weight station installed. Lots of trash from the weigh station ends up blowing away and spreading everywhere, which requires periodic contact with the NM



DOT to remove. However, they do not bother with the trash that blows over the fence that runs along the highway. It would futile to contact the Navajo Nation to do the cleanup, so we are compelled to reach out to the state of New Mexico for help.

My family, relatives and other community members have utilized this area for daily and ceremonial purposes. It is not intent to request a halt to the water project, but to instead, to implement a simple remedy: to have the pipelines relocated into the right of way, so as to leave the area between mile markers 70 and 72 undisturbed. In addition, we want the pumping station to be relocated south of mile marker 70, close to the Littlewater store as the people were told initially. As stated before, the proposed resolution is not a drastic deviation from the current plans, and more importantly, only represents what the community was originally told. I appreciate your assistance and your attention regarding this matter.

Regards,

Christine J. Benally, PhD

Additional courtesy copies to:

Helen Henderson and sons

Rose and Irvin Tyler

Ronald Begay and family

David Yazzie

**From:** Richard M. Begay <r.begay@navajo-nsn.gov>

**Sent:** Thursday, October 1, 2020 11:14 AM

**To:** kris benally <cyb8@hotmail.com>; Timothy Begay <tbegay@navajo-nsn.gov>;

rmyazzie21@frontiernet.net <rmyazzie21@frontiernet.net>; katherine jim <kijimasani@yahoo.com>

**Cc:** Ernest Rheume <erheume@usbr.gov>; Rudolph R. Shebala <rudyshebala@navajo-nsn.gov>; Page,

Patrick J <ppage@usbr.gov>

**Subject:** Re: Pumping plant

Good morning

Please carefully review the letter I sent to you via email yesterday. In that letter I specifically stated the construction will continue as planned and we have addressed your concerns.

You are not an authorized representative of the Navajo Nation government, or the Bureau of Reclamation, and you do not have the authority to contact the NM Department of Transportation to reroute the right-of-way for the Navajo Gallup Water Supply Project.

Thank you,

Richard M. Begay, THPO  
Navajo Nation

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**From:** Richard M. Begay <r.begay@navajo-nsn.gov>  
**Sent:** Wednesday, September 30, 2020 1:54 PM  
**To:** Begay, Becky BAB <BBegay@usbr.gov>; erheaume@usbr.gov <erheaume@usbr.gov>; Page, Patrick J <PPage@usbr.gov>  
**Cc:** kris benally <cyb8@hotmail.com>; Timothy Begay <tbegay@navajo-nsn.gov>; Tamara Billie <tbillie@navajo-nsn.gov>  
**Subject:** FW: Pumping plant

Ernie,  
See email below.  
Richard

---

**From:** kris benally <cyb8@hotmail.com>  
**Sent:** Friday, September 25, 2020 8:54 AM  
**To:** Begay, Becky BAB <BBegay@usbr.gov>; Rmyazzie21@frontiernet.net <Rmyazzie21@frontiernet.net>; katherine jim <kijimasani@yahoo.com>; El Brown <thebrownmachine@hotmail.com>  
**Subject:** Re: Meeting for the NGWSP Pumping Plant Location

Good morning,

The meeting set for today at 9 am is cancelled.

I talked to Mr. Kazmi, Assistant District Engineer Executive, NMDOT DIST. SIX. He is unaware of any request on the NMDOT right of way and will help us in the request to run the water pipe line in the NMDOT right of way.

He said to have the US agency (BoR) ;

- 1) to make the request permission for the Right of Way to your NMDOT point of contact,
- 2) to make sure District 6 NMDOT is aware of the request, and
- 3) to keep us in informed with courtesy copies.

We can reschedule when we get a response from and meet with NMDOT.

Thank you,  
Christine

**From:** kris benally <cyb8@hotmail.com>  
**Sent:** Wednesday, September 30, 2020 1:52 PM  
**To:** Richard M. Begay <r.begay@navajo-nsn.gov>; Timothy Begay <tbegay@navajo-nsn.gov>; Rmyazzie21@frontiernet.net; katherine jim <kijimasani@yahoo.com>  
**Subject:** Fw: Pumping plant

Good afternoon,

We were scheduled to meeting last Friday, but we didn't get a call number. In addition, the NM DOT said they are willing to work with us but the agency (BoR) needs to contact them to request for the right of way. NM DOT were not aware of a request.

So, we thought it would be best to wait on a meeting until a request is sent to NM DOT with a courtesy copy to us and the District 6 Engineer.

I relayed that information to BoR. We'll wait to hear about the meeting with NM DOT.

Thank you,  
Christine

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**From:** Kazmi, Arif, NMDOT <Arif.Kazmi@state.nm.us>  
**Sent:** Monday, September 21, 2020 1:26 PM  
**To:** kris benally <cyb8@hotmail.com>  
**Cc:** Maynard, Larry G., NMDOT <Larry.Maynard@state.nm.us>  
**Subject:** RE: [EXT] Pumping plant

Good Afternoon Ms. Christine J. Benally,

Thank you for reaching out to NMDOT District Six, District Engineer Mr. Larry Maynard. I am responding on his behalf.

NMDOT is not doing the project that you have expressed concern for.

Please work with the US Agency who is doing the pipeline and the pump project in your area. They, if plan to go thru anyone's property, including State's, may request permission for the Right of Way.

Thank you.  
Arif Kazmi P.E., P.M.P.  
Assistant District Engineer Executive  
NMDOT DIST. SIX

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**From:** Office of Governor Lujan Grisham (imailagent) <NMIQGovIMA@state.nm.us>  
**Sent:** Sunday, September 20, 2020 8:59 AM  
**To:** cyb8@hotmail.com <cyb8@hotmail.com>  
**Subject:** Governor Lujan Grisham responding to your message (Intranet Quorum IMA00133245)

Dear Christine,

Thank you for contacting my office with your request for assistance. In order to being working on your behalf, please provide as much information as possible to explain your situation, as well as the assistance you need from this office. Please return the information by mail, fax, email, or in-person to my office located at 490 Old Santa Fe Trail, Room 400, Santa Fe, New Mexico 87501.

As soon as we receive the information, we will contact the appropriate agency on your behalf and work toward a resolution of your case. We will be in touch with you with updates as we make progress.

I appreciate the opportunity to be of assistance. Please free to contact my office if you have any questions, comments, or concerns at 505-476-2200.

Sincerely,

*Please do not reply to this email. The mailbox is unattended.  
To share your thoughts please visit my webpage.*

---

**From:** kris benally <cyb8@hotmail.com>  
**Sent:** Sunday, September 20, 2020 12:13 PM  
**To:** Elouise Brown <thebrownmachine@hotmail.com>; jonathannez@navajo-nsn.gov <jonathannez@navajo-nsn.gov>; Amber K. Crotty <acrotty@navajo-nsn.gov>; chelseamoore@navajochapters.org <chelseamoore@navajochapters.org>; Gerald Henderson <gerald.henderson@navajochapters.org>; katherine jim <kijimasani@yahoo.com>; Rena Yazzie <Rmyazzie21@frontiernet.net>; poqueen.rivera@state.nm.us <poqueen.rivera@state.nm.us>; larry.maynard@state.nm.us <larry.maynard@state.nm.us>  
**Subject:** Pumping plant

Greetings,

Anytime a project is proposed, it should start with the people directly impacted as the grazing permittees and those using and living in the area. Also, it is respectful to let people know you are you going to be present in their area so they are not alarmed.

I object to the location of the pumping plant. It's going to impact sacred sites, from mile marker 70 to 72. I told the planners to move it south of the gas line, mm70. I've voiced this at several meetings but apparently my concerns are not considered serious and not forwarded. My father is a Navajo Code Talker defended this area so it should remain undisturbed.

I sent a message to the NM governor to allow the line to be laid within the right of way below the old road from mm70 to 72 that is not used, and has not been used for at least two decades.

Because of the fence, we already lost use of the land on the west side of the road already.

Further, it'll continue to disturb the area, in addition to the trash/litter from the weigh station. I have to continually remain the state to remove the litter that blow across the road. They don't remove those that blow onto our grazing area.

They want to install lights that will only add to light pollution.

The area south of mm 70 is already accessible, flat with less vegetation.

We met with Howard Martinez a couple of years ago. He told us we can tap the line for farming and livestock. I asked him for documentation that stated that and it was never provided. So, in 2018, I signed my objection due to lack of information and misinformation.

Friday, was the first time illustrations were provided to us.

I don't think anyone wants strangers near their home. We are living in an era of human trafficking, high risk of violence, and robbery while there is lack of public safety and justice.

Please allow the pipe line to be laid below the old road from mm 70 to 72.

Thank you,  
Christine J. Benally  
5054368967

Sent via the Samsung Galaxy S8, an AT&T 4G LTE smartphone

----- Original message -----

From: kris benally <cyb8@hotmail.com>

Date: 9/15/20 15:54 (GMT-07:00)

To: "Begay, Becky BAB" <BBegay@usbr.gov>

Cc: r.begay@navajo-nsn.gov, Timothy Begay <tbegay@navajo-nsn.gov>, tbillie <tbillie@navajo-nsn.gov>, "Page, Patrick J" <PPage@usbr.gov>, "Deming, Bart W" <bdeming@usbr.gov>, "Rheaume, Ernest R" <erheaume@usbr.gov>, Rmyazzie21@frontiernet.net, katherine jim <kijimasani@yahoo.com>

Subject: Re: [EXTERNAL] Re: Meeting for the NGWSP Pumping Plant Location

Good afternoon,

What was decided was that the plant will be located at ~69.5 mile marker. The pipeline will cross the fence south of 70, run on the west side of the fence, and go back out north of marker 72.

Thanks,  
Christine

Sent via the Samsung Galaxy S8, an AT&T 4G LTE smartphone

----- Original message -----

From: "Begay, Becky BAB" <BBegay@usbr.gov>

Date: 9/15/20 15:34 (GMT-07:00)

To: kris benally <cyb8@hotmail.com>

Cc: r.begay@navajo-nsn.gov, Timothy Begay <tbegay@navajo-nsn.gov>, tbillie <tbillie@navajo-nsn.gov>, "Page, Patrick J" <PPage@usbr.gov>, "Deming, Bart W" <bdeming@usbr.gov>, "Rheaume, Ernest R" <erheaume@usbr.gov>, Rmyazzie21@frontiernet.net, katherine jim <kijimasani@yahoo.com>

Subject: RE: [EXTERNAL] Re: Meeting for the NGWSP Pumping Plant Location

Dr. Benally,

Thank you to responding to the email. We were asked to set up this meeting at the behest of Navajo Nation Heritage & Historic Preservation Dept. (NNHHPD) so that they can obtain any additional information from you about the nature of the ceremonial areas. This will help them to better manage and protect the sites you are concerned about during Navajo Gallup construction. Reclamation and NNHHPD representatives would also like to walk out with you to the site of Pumping Plant #3 just south of the hill. We would like to show you and Mr. Anson Etsitty (if he is attending the meeting) where on the ground the pumping plant is currently situated and better understand what types of effects it may have on the ceremonial areas you have identified. At our last meeting Mr. Etsitty told us the we needed to avoid that hill by at least 50 yards all around, and we'd like to go out and have him/you show us on the ground so we can ensure there is a sufficient buffer.

Stay safe and well,  
Becky Begay

[It is incorrect the Mr. Etsitty said 50 yards. We said and agreed to move the plant south of mm 70 and run the pipeline in the right of way from mm 70 to mm 72]

Comment  
Cat. 1

---

kris benally  
Mon 7/13/2020 2:42 PM

To: El Brown, ppage@usbr.gov

---

In February I saw a drill equipment in our use area and asked the guy to leave as we didn't give our consent and he was trespassing. I don't go unannounced to his residence and start digging and drilling in his backyard.

Comment  
Cat. 3

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On Wed, Jan 9, 2019 at 2:18 PM kris benally <cyb8@hotmail.com> wrote:  
I still have not recieved the documents i requested. I had other engagement on 11/25

---

[In 2018, I expressed my opposition to Mr. Page on the location of the plant as I was told, but apparently it was not taken seriously.]

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On Wed, Jan 9, 2019 at 2:18 PM kris benally <cyb8@hotmail.com> wrote:  
I still have not recieved the documents i requested. I had other engagement on 11/25

Comment  
Cat. 1

---

[In 2018, I expressed my opposition to Mr. Page on the location of the plant as I was told, but apparently it was not taken seriously.]

To: You  
Dr. Benally,  
Yateeh, good afternoon. We would like to meet with you to discuss your concern of the waterline alignment and location of the pumping plant. We can show where the alignment/pumping plant will be located. We can meet you at your place of residence or anywhere you prefer. Please email me or call me at (505) 324-5044. I am also attaching our brochure (history) and the Omnibus Public Land Management Act of 2009, Title X Part III (Public Law 111-11).

Thank you,  
Becky Begay  
Navajo Outreach Coordinator  
Bureau of Reclamation

---

kris benally  
Mon 8/20/2018 8:53 AM

To: Page, Patrick  
I still have got ant additional information in the settlement, PL, plans, etc

Comment  
Cat. 3

Sent via the Samsung Galaxy S8, an AT&T 4G LTE smartphone

----- Original message -----  
From: "Page, Patrick" <ppage@usbr.gov>  
Date: 8/20/18 7:16 AM (GMT-07:00)  
To: cyb8@hotmail.com  
Subject: Navajo-Gallup Water Supply Project

Dr. Benally,

It was nice meeting you at the Navajo-Gallup Water Supply Project 491 Chapters Meeting on August 7th. If you recall, at that meeting I asked if you had received my email that I had sent you after you had stopped by our office to voice your concerns about how the Navajo Nation was going about seeking consent for Right of Way required for the Project. I just noticed that the email I had written you had never gotten sent (I found it in my "Drafts" box this morning). So, I'm sending it now (see below) so that you have something on record from me. But I also wanted to follow up with you to see if you would like to meet on site with some of my engineers to show you the proposed ROW for the pipeline alignment plus the pumping plant that I understand is planned to be located near your residence. If you would, please reply to this message or call me and we can arrange a time that is convenient for you and your family.

Thanks - Pat

#####  
\*\*\*Below is the email message that I thought I had sent but actually hadn't as it was in my "Drafts" box...\*\*\*

Dr. Benally,

Sorry I missed you yesterday (7/12) when you stopped by to express your concerns about a recent interaction you had with an individual who was seeking your consent (as a grazing permittee) regarding right-of-way for the Navajo-Gallup Water Supply Project. First, let me say that I am very sorry for how you were treated. It is my understanding that the person who spoke to you regarding consent was Mr. Howard Martinez. Mr. Martinez is a Land Support Agent with the Navajo Nation, General Land Development Department (GLDD). I believe his job is to seek consents from permittees for right-of-way acquisitions and other land uses.

As the consent process is not a Bureau of Reclamation process but rather a Navajo Nation process, I wouldn't say that I'm completely familiar how the process is supposed to work, but it is my understanding that you are not required to give your consent, nor should you ever be pressured to give your consent if you don't feel comfortable doing that. I will let the GLDD Manager (Ms. Elerina Yazzie) know what happened so that she is aware of the situation and can address it with her staff. If you would like to contact her directly, her contact info is:

Elerina Yazzie  
(928) 871-6447  
elerina\_yazzie@frontier.com

Again, I'm sorry for how you were treated and the manner in which the NNGLDD employee if you have any questions related to the Navajo-Gallup Water Supply Project, please feel free to contact me and I'd be happy to visit with you.

Patrick J. Page, P.E.  
Deputy Construction Engineer  
Four Corners Construction Office  
Bureau of Reclamation  
(505) 324-5027 (office)  
(970) 749-5028 (cell)  
ppage@usbr.gov



**Dr. Christine Benally – Comment Email #2**

**(1st page only - the rest of the email thread is contained in Comment Email #1)**



**Dr. Christine Benally – Comment Email #2 –  
Attachment #1**

**This map attachment pertains to Comment  
Category 1.**



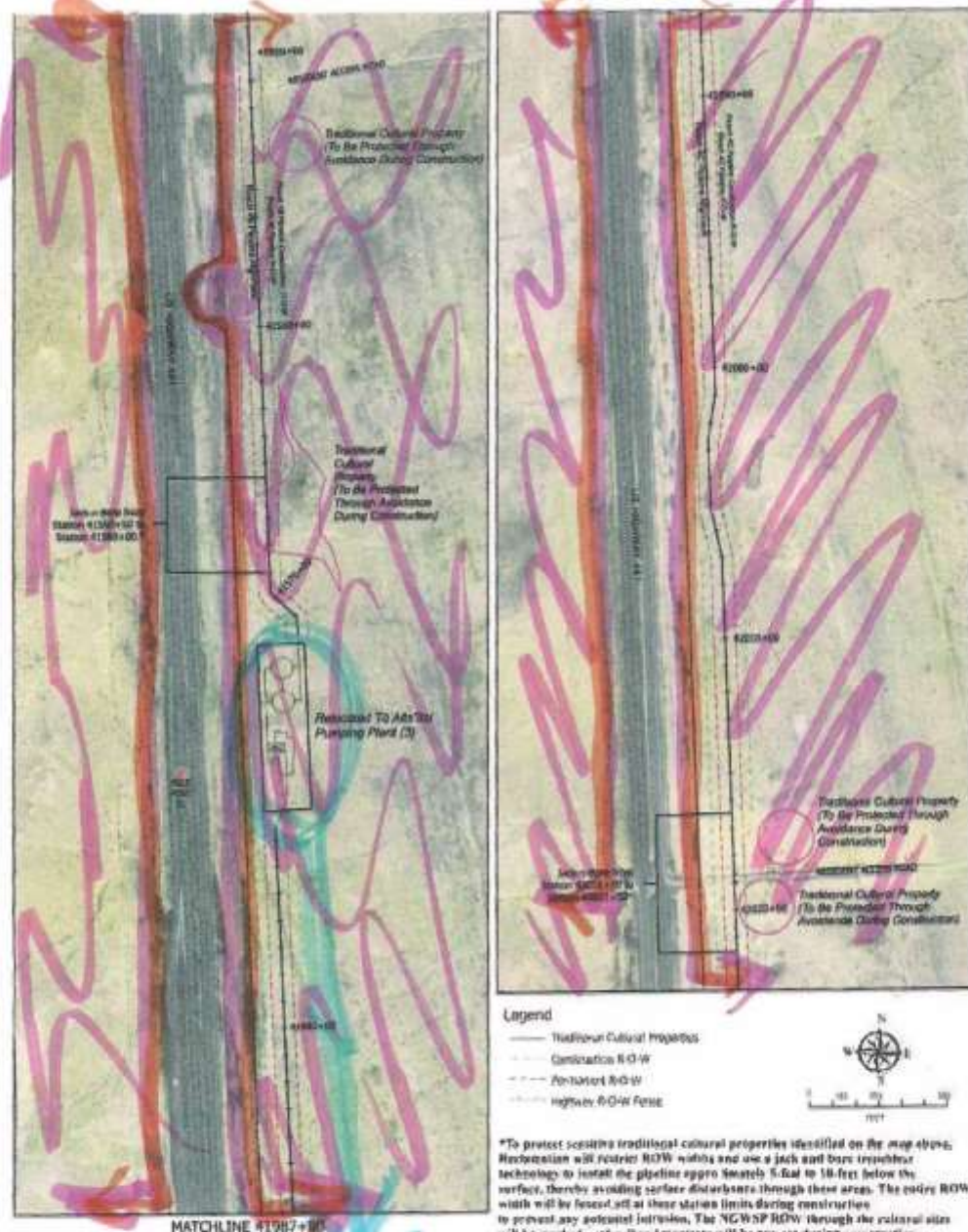
**Navajo - Gallup Water Supply Project**  
Reaches 4b and 4c and Pumping Plant 3 Cultural Resources Mitigation Plan

**LOCATION MAP**  
Created by Four Corners Construction Co.



**Dr. Christine Benally – Comment Email #2 –  
Attachment #2**

**This map attachment pertains to Comment  
Category 1.**



**Navajo - Gallup Water Supply Project  
Reaches 4b and 4c and Pumping Plant 3  
Cultural Resources Mitigation Plan**



NOI 7042 10/27/01 3:12  
Graphic: BSA Paul Lopez, 10/26/01 (lha)

*Move south of main to*

\*To protect sensitive traditional cultural properties identified on the map above, Reclamation will restrict ROW widths and use a jack and bore technique to install the pipeline approximately 5 feet to 10 feet below the surface, thereby avoiding surface disturbances through these areas. The entire ROW width will be fenced off at these station limits during construction to prevent any potential intrusion. The NGWSP ROW through the cultural sites will be marked, and cultural monitors will be present during construction. The jack and bore installation is accomplished by boring a casing under the ground and the pipeline is inserted into the center of the casing. If in the future, there is any need to repair the pipeline within the casing, it will be accomplished from the ends of the casing, protecting the TCPs from any disturbance. The design has been revised to move any above-ground features outside of the TCPs. Outside of jack and bore casings, Reclamation will use open trench excavation techniques to install the pipeline, and the surface will be restored to original grades and revegetated to original conditions with a local native seed mix.

\*\* To protect the sensitive traditional cultural property near the Ta'An'ni Pumping Plant (3), this project feature has been relocated approximately 300 feet south of the original planned location per direction from the Navajo Nation Heritage and Historic Preservation Department. The proposed plant layout has also been streamlined to minimize any view restrictions looking south as viewed from that TCP. The proposed plant will be designed to blend into the local environment making less visible exterior colors, dark sky illumination lighting, fencing, access roads, etc. to create a more natural appearance.

**Dr. Christine Benally – Comment Email #3**

**(1st page only - the rest of the email thread is contained in Comment Email #1)**





**Dr. Christine Benally – Comment Email #3 –  
Attachment #1**

**This attachment pertains to Comment  
Categories 2 and 9.**



Geoformations, miniature window rocks targeted for bulldozing



Wildlife habitat endangered



threatened triceratop



Miniature window rocks



Sacred area stabbed with posts and stakes.



Trespassing and destruction of property. No regard for hint of unwanted traffic by driving in sacred areas and over logs.



Trespassing and destruction of property. Disturbed area at sacred area left abandoned and unreclaimed. Soil taken from site not returned.

**Dr. Christine Benally – Comment Email #3 –  
Attachment #2**



# Your Form Has Been Submitted

Thank you for submitting your feedback.

*Please print or save a copy of this confirmation page for your records.*

## Your Submission Details

**Name**

christine j. benally

**E-mail Address**

cyb8@hotmail.com

**Subject**

protect and preserve ceremonial/sacred areas along navajo gallup water line

**Feedback (HTML not allowed)**

From: Christine Benally Sent: October 12, 2021 To: Delegates Amber Crotty and Seth Damon, Navajo Nation Council Michelle Brown-Yazzie, NNDOJ Navajo Nation President Nez Interior Secretary Deb Haaland US Representative Fernandez US Senator Lujan US Senator Heinrich Subject: Protect and preserve ceremonial areas along navajo gallup water line Delegate Crotty, Michelle Brown-Yazzie, et.al In response to the NGWLP resolution you requested at the Sanostee Chapter meeting on October 10, 2021, add the following list of requests to the resolution for US Congress and Navajo Nation government provide additional funds and resources. ask for additional funds for protection and preservation of currently, actively used ceremonial and sacred sites, areas, grounds, trails, by us, family, and people in Littlewater and other places. These should above all be protected as the recent restored boundaries of Bears Ears and Grand Staircase Escalante

Comment  
Cat. 2

national monuments. some consider the water as chischaa', so their concerns should not be dismissed. Their wish should be honored and to continue use of and remain on the ground water; and that they not be forced and coerced to be part of the NG system. keep ground water under Littlewater here and not be routed to Gallup. A resolution was passed to keep the ground water here for further generations, livestock, and produce. The ground water under Littlewater is contaminated from the gas and oil extractions, and there is a plume moving southeasterly. Resolutions were sent to Window Rock to clean it up. Thank you, Dr. Christine Benally 505-436-8967

Comment  
Cat. 4

**Confirm E-mail Address**

cyb8@hotmail.com

**Submission Date / Time** October 12, 2021, 4:36 pm

**Submission Page** Contact Interior (<https://www.doi.gov/node/22532>)

**Submission ID** 694820

[Go back to the form](#)



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**Dr. Christine Benally – Comment Email #3 –  
Attachment #3**





The 24TH NAVAJO NATION COUNCIL  
Office of the Speaker

**MEDIA CONTACTS**

Aray Nelson, Communications Director  
Kyon Hardy, Public Information Officer  
E-mail: nnib.communications@gmail.com  
Phone: (928) 530-8329

## Navajo Nation supports bill to address Climate Change and America's Red Rock Wilderness Act

**FOR IMMEDIATE RELEASE:** November 1, 2021



PHOTO: Naatsis'áán (Navajo Mountain) near the the Arizona-Utah border.

**WINDOW ROCK, Ariz.** — Council Delegate Herman Daniels, Jr. (Ts'ah Bii' Kin, Navajo Mountain, Shonto, Oljato) of the 24th Navajo Nation Council sponsored Resolution No. CS-52-21T supporting America's Red Rock Wilderness Act to address the growing climate crisis around the world. It was unanimously passed by a vote of 21 delegates.

The resolution supports Congressional wilderness designation for lands within America's Red Rock Wilderness Act (H.R. 57/S. 3056) and would protect more than 8.4 million acres of federal public lands in Utah.

"Protecting our land is important to the Navajo people and we support this wilderness designation in America's Red Rock Wilderness Act," said Speaker Seth Damon (Bááhaali, Chichiltah, Manuelito, Red Rock, Rock Springs, Tséyatoh). "President Biden outlined a robust policy change across the federal government to address climate change. It is imperative that the Navajo Nation work on a global level to address this growing problem that affects our oceans, air, and water."

Over the last year, resolutions of support were passed by the Red Mesa, Teec Nos Pos, Oljato, Dennehotso, Beclabito, Mexican Water, and Navajo Mountain Chapters in Utah.

- MORE -

**Dr. Christine Benally – Comment Email #3 –  
Attachment #3**



The 24TH NAVAJO NATION COUNCIL  
Office of the Speaker

**MEDIA CONTACTS**

Aray Nelson, Communications Director  
Kyon Hardy, Public Information Officer  
E-mail: nnib.communications@gmail.com  
Phone: (928) 530-8329

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- MORE -

“Our support for this Congressional bill sends a message that the Navajo Nation is concerned about climate change and the impact on our environment,” said Delegate Herman Daniels, Jr. “Since time immemorial, we have lived in the canyons, mountains, and on the mesas currently managed by the federal government that would be protected and preserved by this Congressional bill. For generations, our Indigenous people across the United States have been the original caretakers of our sacred lands and it will remain so.”

Historic remnants of Navajo hogans, sweat lodges, sheep herding camps and farming homesteads are found throughout the lands included in America’s Red Rock Wilderness Act.

Senate Majority Whip Dick Durbin of Illinois introduced the act in December 2019. Signing onto the legislation as cosponsors are Senators Richard Blumenthal (D-CT), Cory Booker (D-NJ), Patrick Leahy (D-VT), Patty Murray (D-WA), Jeff Merkley (D-OR), and Robert Menendez (D-NJ).

###

**Dr. Christine Benally – Comment Email #3 –  
Attachment #4**

**This attachment pertains to Comment  
Category 6.**

Images taken from April through December 2021









**Dr. Christine Benally – Comment Email #3 –  
Attachment #5**

May 25, 2022

To: Department of Interior  
Bureau of Indian Affairs  
Bureau of Reclamation  
New Mexico representatives

Re: Expedient transfer of grazing permits and Indigenous Habitat Protection

Good afternoon,

Comment  
Cat. 2

I am requesting your assistance in protecting sacred sites

During Rep Fernandez's visit to Shiprock, I mentioned a list of items I felt need urgent attention, resources, and implementation. The treaty and the trust responsibilities are ignored and violated, as well as the primal laws and other laws, regulations, and the United Nations Declaration on Indigenous Peoples Rights.

1. The sacred sites, areas, and habitats that we are currently using need immediate, emergency protection and to do so the resources, funds, and alternate routes. The Interior representatives, tribal leaders, and congressional representatives visited Bears Ears and Chaco claiming protection, preservation, and expansion. Yet, the sites on the Navajo Nation, along US highway 491, Littlewater and other indigenous habitats in Sanostee Chapter and Chuska mountain that also need protection as well are ignored and bulldozed. There are current projects and construction as the Navajo-Gallup water line project and the helium extraction threatening and endangering these sites. BOR do not meet with the people, Navajo individuals Indians, only the tribal leader who are part of a government and not the public. The people responsible for the constructions were told by many of the areas but contractors/BOR continue to ignore the people's request to protect these sacred habitats, dispose of their trash at the sites and the wind carries them onto the grazing land and homesteads, and without consent removed dirt (soil samples) from the sites. Without informed consent, this is trespassing and violates many laws and CFR 25, Part 167 objective (b) protection of the Navajo Indians from the encroachment of unduly aggressive and anti-social individuals who may or may not be members of the Navajo Tribe.
2. Our language, religious, culture, and traditional practices are threatened and endangered and should be declared as such. Without resources to immerse, the language will be lost. Once the language is gone, so does the religious, culture, and traditional. The baby boom generation is the last generation of majority fluent speakers.
3. In accord with the people/grassroots, the religious and cultural protection laws and policies need to be respected by all, including federal, state, and tribal representatives.
4. Code of Federal Regulations Title 25, Part 167, Navajo grazing regulation needs to be followed. I completed a range and comprehensive management plan, the grazing

Comment  
Cat. 3

Comment  
Cat. 6

Comment  
Cat. 3

Comment  
Cat. 2

committee approved in August 2018. It should have gone to the Bureau of Indian Affairs to issue the grazing permit. I had the permit I have transferred from my mother in 2013 and it only took 3 or 4 months. Waiting 3 and half years, for a grazing permit is ridiculous. We needed to market cattle for subsistence during the pandemic but could not because of the delay. I learned 100s or 1000s of grazing permits have been taken hostage. The permits for those who died, probated, or approved by the grazing committee need to be issued. The fact that the last permit issued in Shiprock agency was in 2014 is outrageous and unnecessary delay to the point of impoverishment of the people. This violates (d) to secure increasing responsibility and participation of the Navajo people, including participation in all basic policy decision.

5. The high voltage powerlines from the power plants crisscross the Navajo Reservation, otherwise referred to as "too far out there". Yet, when people ask for utility power they are told you live too far out there. They should be set up with solar and/or wind off the grid or sell access for use by others as part of a sustainable environmental economy.
6. The United Nations Declaration on Indigenous Peoples Right needs to be implemented and respected, and all other laws and policies including but not limited to informed consent, participation, transparency, religious, freedom and protection.
- 7.

Comment  
Cat. 2

I stipulate the transfer of my grazing permit is expedited without further delays so my family and many other families can accrue from its benefits.

Your support and dialogue with the adversely effected people is appreciated.

Thank you,  
Christine J. Benally, PhD  
505-436-8967

**Dr. Christine Benally – Comment Email #4**

**(1st page only - the rest of the email thread is contained in Comment Email #1)**

**From:** ctbl@hawaii.gov  
**To:** [Redacted]  
**Subject:** [Redacted]

This email has been received from outside of DOI. Use caution before clicking on links, opening attachments, or responding.

More maps

Protest signs were both installed and had failed to protect the area actively used by patients and community. They think drilling underneath is a joke but continue with destruction.

Comment Cat 2

**From:** ctbl@hawaii.gov  
**Sent:** Sunday, August 7, 2022 7:15 PM  
**To:** [Redacted]  
**Subject:** [Redacted]

Response to the draft EA in Littlewater. Inquiries will follow.

The sacred sites from 70 and the trail north of rim 70 to 72 should never have been disturbed; all areas on the west and east side of rim 493 is to be protected. Drilling under the sacred is desecration and undermines those patients, including veterans who sacrificed their lives to serve this country. So, the drilling needs to stop immediately and reroute the pipeline in the 493 right of way.

Reroute the pipeline to avoid the U.S. Highway 493 right-of-way from milemarker 70 to 72. The NM DCF said okay. Move the pump station to Littlewater, across the store. That is what the people were told as they could wait for their household, livestock, and farm irrigation. Most of the people in Littlewater did not consent.

Some of people, including my family, do not want the chachah/wachah (death) water coming into their homes. We should be given the option to remain on the existing groundwater system.

Additionally, the Navajo Historic Preservation and other programs disregarded the people's and the Herbal and Medicine Men associations requests by resolution. This is an absolute violation of our primal laws, Navajo Nation Code, Title One.

My cousin said when he signed the consent, he said he and his family to work on the pipeline. They and others who requested work have been denied.

Concrete was dumped on 8700 road and at the cattle guard. I had to request it be removed but only the spill on the gravel part was removed. The pipes on the ends of the pipe were left unattended and they blew over onto the grading area. I could see pipes over 2 miles away. They need to be collected and discarded properly. It told the workers, left some at the BIR officer, and reported it to the EPA, but to no avail.

On August 3, 2022 while entering the highway from 8700 road which is narrow and a person stands on the road should be yielded to, but a cement truck did not yield to me and about 10 minutes later the cement truck turned off the highway and it should have waited there until I passed where the pavement widens.

These people working on the line disregard the residents with their litter, non-emergency, and hazards, many with Texas plates.

Christine Bernick  
505-436-2067

**From:** ctbl@hawaii.gov  
**Sent:** Saturday, April 17, 2021 9:31 AM  
**To:** [Redacted]  
**Subject:** [Redacted]

To: Department of Interior (Secretary Haddock)

We want your help to protect sacred sites we are actively using presently in Littlewater, San Juan county, NM by rerouting the Navajo water line to within NM Hwy 401 right-of-way mile marker 70-72, and to locate of pump station and water tanks north of rim 70, and opposite cemetery at Table Mesa. Our sacred and religious areas are currently being desecrated by the Bureau of Reclamation. The archeological and others workers included us and denied not knowing even though people had filed years ago. The support of the traditional practitioners (priests, medicine men and women) are being threatened and dismissed.

Thank you for your immediate attention and resolution in protecting the area from rim 70 to 72 and keeping it undisturbed.

Christine Bernick  
505-436-2067

**Dr. Christine Benally – Comment Email #4 –  
Attachment #1**

**This map attachment pertains to Comment  
Category 2.**

Maps of Littlewater, Beautiful mountain, Sanostee.



Zooming in on Littlewater on US Hwy 491



North of Littlewater, 491 milemarker 70 to 72.





North of Littlewater, 491 milemarker 70 to 71. The clearing is where the 2<sup>nd</sup> night are held. The staff trail is on the east side of the highway. The cluster of houses in the lower mid part of the map is our houses.



Mile marker 71.5, the road to east goes to my aunt's house. The area south of the turn off is also where the 2<sup>nd</sup> nights are held. The nob further south is where the rock offering site is.



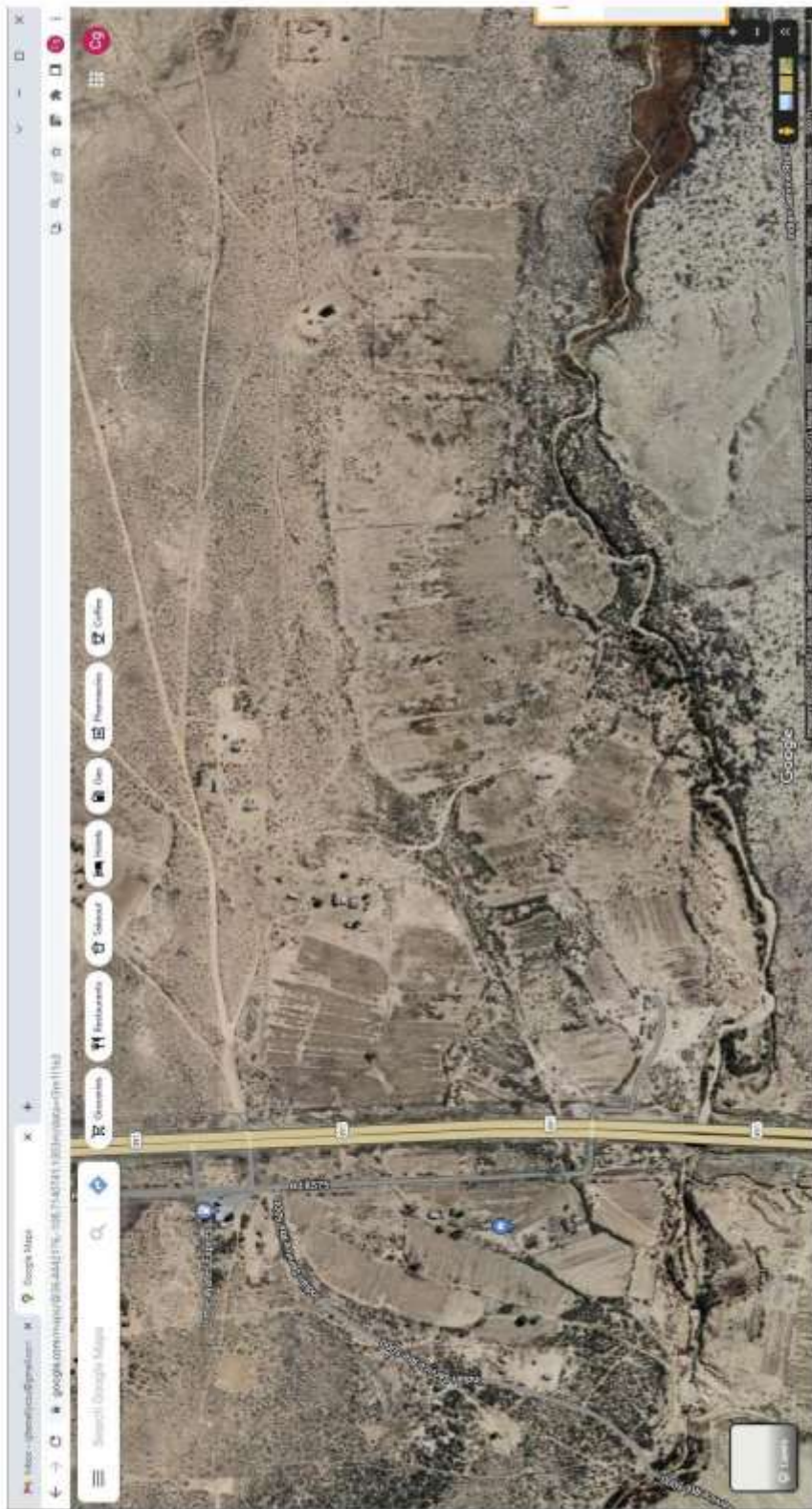
The is at mm 71, the port of entry weigh station is on the south bound lane. the BOR cleared off a large area on the east side of the road for reasons I was not told about. An access road was put in the last week.



North of Littlewater, 491 milemarker 70. The clearing is where the 2<sup>nd</sup> night are held on either side of the dirt road. The staff carried by horses trail is on the east side of the highway. The house to the right is my house, 3.4 mile from the highway, 481.



This is the ariel view of littlewater express and the farms. The people were told they pump station and the water tanks would be placed and the people could use the water for their farms, and consumed by livestock.



**Dr. Christine Benally – Comment Email #4 –  
Attachment #2**

Jonathan Nez

October 12 at 3:51 PM

President Nez meets with Secretary Haaland and Assistant Secretary Newland

WASHINGTON, D.C. – Navajo Nation President Jonathan Nez had the opportunity to present several issues to the U.S. Secretary of the Interior Deb Haaland and Assistant Secretary of Indian Affairs Bryan Newland, during an informal gathering with several tribal leaders at the Department of the Interior in Washington D.C. last Friday. All attendees were required to have been fully vaccinated for COVID-19 prior to the event.

President Nez spoke about the Navajo Nation's efforts to build new public safety facilities in the communities of Shiprock, N.M. and Window Rock, Ariz., to secure more funding to continue extending the Navajo Gallup Water Supply Project to reach more Navajo communities and homes, missing and murdered Indigenous relatives, the federal infrastructure bill being considered by Congress, and the Radiation Exposure Compensation Act Amendments of 2021.

**“Secretary Haaland has shown tremendous leadership in many ways including the recent restoration and expansion of the Bears Ears National Monument.** We appreciate her and Assistant Secretary Newland for taking time to hear from tribal leaders about our efforts to improve our communities and develop more water infrastructure. Through the CARES Act, the Navajo Nation was able to provide electricity to over 700 Navajo families and water resources to others. We want to continue building off of that success with the American Rescue Plan Act, but we will need more support with other initiatives like the Navajo Gallup Water Project Supply. We need our federal partners at the table collaborating with us,” said President Nez.

He also thanked Secretary Haaland for creating a missing person unit under the Bureau of Indian Affairs and highlighted the Navajo Nation Division of Public Safety's ongoing work to develop a missing persons unit to provide more resources to help locate missing people on the Navajo Nation. He acknowledged the need for improved communication and coordination between the Nation and federal agencies to locate missing persons.

Regarding the Navajo Gallup Water Supply Project, President Nez is working with U.S. Rep. Teresa Leger Fernández (D-N.M.) to secure additional funding to complete the project that is providing water to many homes in the Eastern Navajo Agency. Recently, Congresswoman Fernández helped to include \$67 million in an energy and water appropriations bill for the project that passed through the House and currently awaits approval by the Senate.

“The Navajo Nation Washington Office plays an instrumental role in all of these initiatives and congressional bills. They are tasked with tracking and advocating for many initiatives at the federal level. As leaders, we all need to support their work and plan for the future of our Nation and that requires us to work closely with our federal partners. We have to stay on a positive path and keep moving forward,” added President Nez.

**The discussion took place prior to the signing of a proclamation on Friday by President Joe Biden at the White House, which restored the Bears Ears National Monument to the President Obama in 2016, totaling 1.36 million acres. Zuni Tribal Gov. Val R. Panteah boundaries established by, Sr., Ute Mountain Ute Chairman Manuel Heart, Hopi Chairman Timothy Nuvangyaoma and Vice Chairman Clark Tenakhongva were also in attendance.**



[Jonathan Nez](#)

October 08 1:14PM

### **President Biden signs historic proclamation to restore and expand the Bears Ears National Monument**

WASHINGTON – Navajo Nation President Jonathan Nez was at the White House in Washington D.C. on Friday, along with tribal, state, and federal leaders, as U.S. President Joe Biden signed a proclamation that restores the Bears Ears National Monument to the boundaries established by President Obama in 2016, totaling 1.36 million acres. U.S. Secretary of the Interior Deb Haaland and former Interior Secretary Sally Jewell were also present for the signing ceremony.

“The Navajo Nation, along with a coalition of tribes, wholeheartedly supports today’s action by the Biden-Harris Administration. This historic signing of the proclamation and restoration of the Bears Ears National Monument is a victory for our people, our ancestors, and future generations. Bears Ears is home to many of our historical and cultural sites, plants, water, traditional medicines, and teachings for our people. On behalf of the Navajo Nation, we thank President Biden, Vice President Harris, Secretary Haaland, all of the tribal nations that stood together and never gave up. We are here today through the strength of our ancestors and our prayers,” said President Nez.

In April, President Nez was among several tribal leaders who met with U.S. Secretary of the Interior Deb Haaland to call for the restoration and expansion of the national monument. President Biden tasked Secretary Haaland with providing a report and recommendations for several national monuments based on the findings and meetings with stakeholders.

The Navajo Nation was one of five tribes that also included the Ute Indian Tribe, Ute Mountain Ute, Hopi Tribe, and Zuni Tribe that led the Bears Ears Inter-Tribal Coalition to advocate for the protection of Bears Ears, located in southeastern Utah, from the threats of looting, vandalism, and energy development. Zuni Tribal Gov. Val R. Panteah, Sr., Ute Mountain Ute Chairman Manuel Heart, Hopi Chairman Timothy Nuvangyaoma and Vice Chairman Clark Tenakhongva were among the tribal leaders in attendance.

The landscape is the ancestral home of many southwestern tribes and the birthplace of Navajo Headman Manuelito. Tribal nations depend on the land within the region to sustain their traditional livelihoods and cultural practices, such as hunting, gathering, and ceremonies.

On Dec. 28 2016, former President Obama designated 1.35 million acres of land under the Bears Ears National Monument, in accordance with the Antiquities Act of 1906. President Trump later reduced the size of the designation by 85-percent, or 202,000 acres, which continue to be contested in court by several tribes including the Navajo Nation.

“The restoration of Bears Ears honors the Biden-Harris Administration’s commitment to tribes and reaffirms our seat at the table as the first people of this land. This was a combined effort among past and present leaders and advocates including members of the Navajo Nation Council,” added President Nez.

In 2015, the Navajo Nation Council unanimously approved a resolution supporting the designation. On Nov. 10, 2020, the Navajo Utah Commission also passed a resolution supporting the full protection of 1.9 million acres of land under the Bears Ears National Monument. Immediately after the signing of the Bears Ears proclamation, President Biden handed the signature pen to President Nez. In an expression of appreciation and honor, President Nez later

took off his turquoise necklace and presented it to President Biden to signify the blessing and protection of Bears Ears National Monument and other sacred sites.

President Biden also signed proclamations for the Grand Staircase-Escalante, and Northeast Canyons and Seamounts National Monuments. On Friday, President Biden also signed a proclamation recognizing Oct. 11, 2021 as Indigenous Peoples' Day.

The Navajo Nation thanks the Biden-Harris Administration, Secretary Haaland, Bears Ears Inter-Tribal Coalition, and all who supported the restoration and expansion of the Bears Ears National Monument. The ceremony is available online at: <https://youtu.be/vqdohiEuvWY>.

**Dr. Christine Benally – Comment Email #4 –  
Attachment #3**

**Attachment #3 was included in Comment  
Email #1's thread. Response highlighting  
can be found in the Comment Email #1  
thread.**

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## **Your Submission Details**

### **Name**

christine benally

### **E-mail Address**

cyb8@hotmail.com

### **Subject**

reroute the Navajo waterline to within NM hwy 491 right-of-way mile marker 70-72, and to locate of pump station and water tank

Comment Cat.1

### **Feedback (HTML not allowed)**

To Department of Interior Secretary Haaland We want your help to protect sacred sites we are actively using presently in Littlewater, San Juan county, NM by rerouting the Navajo waterline to within NM hwy 491 right-of-way mile marker 70-72, and to locate of pump station and water tanks south of mm 70, and oppose cemetery at Table Mesa. Our sacred and religious areas are currently being desecrated by the Bureau of Reclamation. The archeologist and others workers mocked us and claimed not knowing even thought people told them years ago. The support of the traditional practitioners (medicine men and women) are being dismissed and dishonored. Thank you for your immediate attention and resolution in protecting the area from mm 70 to 72 and keeping it undisturbed. Christine J. Benally 505-436-8967 Littlewater  
Original message From: cyb8 Benally Date: 4/15/21 13:49 Subject: Resolutions to reroute the waterline, and locate of pump station and water tanks south of mm 70, and oppose cemetery at Table Mesa Date April 15, 2021 President Nez, Members of the 24th Navajo Nation Council, Mr. Page, et.al, Our directives are to reroute the pipe line and to relocate the pump station and water tanks, not opposed as implied you your memos. As I stated in my previous correspondence, there is a serious violation of the fundamental laws in protection of indigenous habitat in our homeland that are, not historically, but actively being used by my family and the people today. Yet, our leaders are pressing the protection of cultural and traditional areas as at Bears Ears (see italicized insert below (1.) and Chaco Canyon (2.) The United Nations Declaration of Indigenous Rights is also be violated by the Navajo Nation by disregarding and dismissing the directives of the people by steam rolling without consent and disrespecting and dishonoring the recommendations by the members of the Dine' Haataalli Association and

Dine' Medicine Mens' Association (attached). It was mentioned Sanostee Chapter and Navajo Nation approved. This is not true and nothing was presented in writing. Futher, Sanostee officials have no authority especially without consent. I told them this on March 22, and March 24, 2021. At the end of the meeting on March 22, 2021, Patrick Page said they would work with us and they are not; another lie. Apparently, there were changes over the years and the people need to be fully educated to their comprehension prior to consent at the initial and each stage of changes of what you plan to do. Anything that is presented to the people needs to be in writing, signed by whoever presented it on an official business letter head. People were misled, coerced into consent, not informed, not updated, and other fraudulent acts. We want official legal documents disclosing all this information regarding the project. And if certain information may not be disclosed as Doreen McPaul states, we want that in writing. She also gave a verbal statement that we want in writing for the drilling, disregarding the protection of the sacred area and indigenous habitat that violates the fundamental law and haataali directives. The people at the drill site total disregard the preservation of the sacred areas, medicinal plants, wildlife habitat, and grass especially during these times of severe drought. It is not necessary for every vehicle with only the driver to be driving over the terrain where there are not roads. The Bureau of Reclamation archeologist again was rudely mocking that he has never heard of a sacred site in this area. They were told by the grazing officer 4 or 5 years ago and he was told in July and September 2020 as stated in my rebuttal. The Navajo Nation (oil and gas) and partners don't see any problem destroying and desecrating our sacred and prayer sites/areas but it sure is out there talking about protecting them. We have many areas threatened and endangered from the oil, gas, and helium extraction and the Gallup water line. These are indigenous habitats and ancestral lands puts us and our culture at risk for genocide. We are very much tied to the land through prayers, songs, drums, and livelihood. The Historic preservation office say they are protecting yet are misconstruing (lying) on behalf of the projects. Thank you, Christine President Nez calls for the protection of 1.9 million acres of land under the Bears Ears National Monument in meeting with Interior Secretary Haaland BLUFF, Utah – During a meeting between U.S. Secretary of the Interior Deb Haaland and tribal leaders on Wednesday in Bluff, Utah, Navajo Nation President Jonathan Nez was joined by Navajo Nation Attorney General Doreen N. McPaul, as he called for the full restoration and expansion of the Bears Ears National Monument to 1.9 million acres. “It was an honor to meet with Secretary Haaland. It was truly a historic moment to have a Native American woman, serving in such a high position, at the head of the table discussing these important issues with leaders that represent the First People of this country.

Her willingness to meet personally on this issue is meaningful and shows that she is willing to take time to meet with tribal leaders as well as other stakeholders in the Bears Ears region before providing her recommendation to President Biden," said President Nez. He added, "This was an opportunity to share with Secretary Haaland the significance of Bears Ears to the Navajo people. This landscape is home to many historical and cultural sites, plants, water, traditional medicines, and teachings for our people. It also provided refuge for our people in times of conflict. One of our most notable leaders, Chief Manuelito, was born there, but it is more than that. Bears Ears is sacred and it deserves to be protected." The Navajo Nation was one of five tribes that also included the Ute Indian Tribe, Ute Mountain Ute, Hopi Tribe, and Zuni Tribe that led a coalition to advocate for the protection of the 1.9 million areas known as Bears Ears, located in southeastern Utah, from the threats of looting, vandalism, and energy development. The landscape is the ancestral home of many southwestern tribes and the birthplace of Navajo Headman Manuelito. Tribal nations depend on the land within the region to sustain their traditional livelihoods and cultural practices, such as hunting, gathering, and ceremonies. On Dec. 28 2016, former President Obama designated 1.35 million acres of land under the Bears Ears National Monument, in accordance with the Antiquities Act of 1906. President Trump later reduced the size of the designation by 85-percent, or 202,000 acres, which continue to be contested in court by several tribes including the Navajo Nation. "When the Obama Administration designated the Bears Ears National Monument, it involved years of careful and thoughtful discussions and consultations with various tribes and other stakeholders. However, the actions of the Trump Administration to reduce the size of the national monument were politically-driven and completely sidestepped the years of work and support of tribes and other supporters. I wholeheartedly support the restoration of the Bears Ears National Monument and the expansion of it to 1.9 million acres," said President Nez. Navajo Nation Attorney General Doreen N. McPaul also voiced her support for the Bears Ears National Monument and added that she looks forward to working with Secretary Haaland and other stakeholders. "After more than three years of litigation against the federal government to reestablish national monument protections for Bears Ears, we certainly welcome the efforts of the Biden-Harris Administration to prioritize this important matter. Secretary Haaland's visit signals that the new Administration treats our culture, history, and way of life with dignity and honor, and respects the Nation enough to hear our views in how to protect Bears Ears going forward," said Attorney General McPaul. In 2015, the Navajo Nation Council unanimously approved a resolution supporting the designation. On Nov. 10, 2020, the Navajo Utah Commission also passed a resolution supporting the

full protection of 1.9 million acres of land under the Bears Ears National Monument. President Nez said he will continue to support the local communities and officials and looks forward to discussing the Bears Ears National Monument with the Biden-Harris transition team. Secretary Haaland's visit also included meetings with other stakeholders and a planned site visit to the Bears Ears area on Thursday. 2. OPVP PROTECT CHACO CANYON REGION "We are descendants from the Chaco Canyon area. We are connected to these lands spiritually. The voices of our ancestors live in this area and any disturbance to this area is culturally and morally insensitive," said President Begaye "Thank you to the House Natural Resources Committee, under the leadership of Congressman Raúl Grijalva and Congresswoman Haaland, for supporting the position of the Navajo Nation and helping to preserve this sacred area for our future generations," stated President Nez FOR IMMEDIATE RELEASE - Bill to protect Chaco Canyon advances through the House Natural Resources Committee - Navajo Nation FOR IMMEDIATE RELEASE July 17, 2019 Bill to protect Chaco Canyon advances through the House Natural Resources Committee PHOTO: (right to left) Navajo Nation Vice President Myron Lizer, U.S. House Assistant Speaker Ben Ray Luján

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----- From: cyb8 Benally Sent: Monday, March 29, 2021 6:43 PM To: PPage ; rudyshebala jasonjohnmandalorian jonathan nez Amber Crotty Subject Resolutions to reroute the waterline, and locate of pump station and water tanks south of mm 70, and oppose cemetery at Table Mesa Dr. Shebala, Mr. Page, Mr. Begay, et. al., You still do not have my and some of the residents' and permittees', whose concerns were minimized to nothing, consented. So, you need to alter your plans pre the Dine Haataali Association, the Dine Medicine Men Association, residents', and permittees'. They were presented years ago, and not last minute. The extra cost is upon you, BoR, as result of minimizing the people. In Dine', the DHA, DMMA, and people have the ultimate decision and authority, and officials represent and work for the people. Thank you for relocating the pump station and tanks south on mm 70, and rerouting the water line within the NM DOT right of way. My conversation with NM DOT in July was that BoR contact them which I relayed. So, my question is have they been contacted and has a request been presented to them? Christine From: cyb8 Benally Subject: Re: Resolutions to reroute the waterline, and locate of pump station and water tanks south of mm 70, and oppose cemetery at Table Mesa Yaateeh, Here's the update. I emailed the resolutions with my rebuttal to Navajo Nation and Bureau of Reclamation, but I have not gotten a response. I was not informed but when I found out, I called into a meeting today between the pipeline people and Sanostee Chapter officials. They want to continue with their plans. Although I've been voicing my



concerns since 2016, they are saying my request is last minute. The chapter officials said they people should have brought up their concerns. I told they the people have been all along, but BoR and officials brush off the people's concerns, do not care to listen and refuse to. The Chapter said there are haataali with historic preservation. But, they are the one who misidentified the location and minimized the areas. BoR said they plan to start construction at the sacred site in about a month. I would like to request another resolution (attached draft or something similar) that directs all developers and people proposing projects, including the Navajo Nation, to honor and respect the wishes of the haataali and the people. I don't understand what the Navajo Nation has come to, especially when they don't respect the haataali and people. Be safe and careful, Ahehee, Christine From: C Benally Sent: Friday, March 19, 2021 1:29 PM Subject: Resolutions to reroute the waterline, and locate of pump station and water tanks south of mm 70, and oppose cemetery at Table Mesa I have to rebuttal that it is one resolution that is about protecting sacred areas, sites, and practices, and animal habitats not using divisiveness. From: C Benally Sent: Thursday, March 18, 2021 6:50 PM Subject: Resolutions to reroute the waterline, and locate of pump station and water tanks south of mm 70, and oppose cemetery at Table Mesa March 18, 2021 HC 30 Box 400 Shiprock, NM 87420 505-436-8967 Cyb8@hotmail.com Dr. Shebala, Mr. Page, Mr. Begay, et. al., In response to your letter dated March 01, 2021, I have the following refutation. Foremost, I question the information you may have used to be base your decisions and conclusions. Despite providing you information in my last email and meeting, it is apparent now it was dismissed and ignored. As indicated in my previous correspondence to Mr. Page, Mr. Begay, and others, the community is not opposing the waterline installation, but instead requested that the pipeline be rerouted within the right-of-way along U.S. highway 491, between mile markers 70 and 72, and locate the pump station and tanks south of mile marker 70 to protect ceremonial and sacred areas, wildlife habitat, and natural formations from any disturbance as my family shared and agreed, including Mr. Anson Etcitty, Sr. at the July 23, 2020 meeting and Irvin Tyler at the September 18, 2020 meeting. Toalsiisi is about one-half mile southwest of the store along the Sanostee wash mislocated on the map. Toalsiisi is 4 miles southwest of Tsetsil. Sanostee is about 15 mile west. I mentioned this at the two meetings but it has not been corrected. Tsetsil is not properly identified by you and it includes the ridge along the road, the knob, and the area of the proposed pump house and tanks. So, it covers a larger area than just the top of the knob as drawn on your map. It was agreed during the July 23, 2020 and the September 18, 2020 meetings the pump station and tanks would be relocated to south of mile marker 70 at Toalsiisi, in accord with what the

people were initially told so they could use the water for their household, irrigation, and livestock. The area of the proposed station provides habitat for wild life and natural formations that probably took thousands of years. These should be protected from the pump station and tanks, light pollution, dozers, and traffic. Pictures of habitat and geonatural formation are attached Irvin Tyler shared at the September 18, 2020 meeting that the sacred site is where the sound of the drum goes, that maybe miles, and not prohibited at ceremonial location. This was confirmed by others when I shared my efforts to protect this area with the Dine Haataali Association and the Dine Medicine Men Association. Afterall, it was the haataali that brought our ancestors out of incarceration so we can have a home and land to sustain us and for us to protect. They direct such sacred areas, trails, and sites should be protected and certified their support with the attached resolutions to relocate the pump station and water tanks south of U.S. highway 491, mile marker 70 and to re-route the pipeline within the highway right of way between mile markers 70 and 72. There is sufficient area where the 2-lane highway was formerly located, between the fence and northbound lanes. The sites on the map you shared have tiny circles and east of the proposed waterline. It is unconscionable to think the impacted area is restricted within these circles. Again, the sounds of the drum and songs are not retained within small circles. The circles are incorrectly located, perhaps intentional placed eastward and out of the way from the pipeline. A sacred site does not move. Further, the area not included is the horse trail along the east side of the fence between the sites from mile marker 70 to ~71.5. Horses are blessed before they are used to carry the staff. Riders participate to help with the healing are very disturbed by proposing to dig up the ground. They feel their contribution is as important as the fire and camp areas. They stress that the trails are just as sacred as the other sites and should be respected and protected as well. The trail between the ceremonial sites has been used by many patients, riders, and their horses, since time immemorial. At the July 23, 2020 meeting, I requested the soil taken from the drill site be returned. To date, I have not received it to return to the ground appropriately. I asked at the September 18, 2020 meeting, but was not provided an answer. According to Arif Kazmi, Assistant District Engineer Executive, New Mexico Department of Transportation, they are willing to work with the community and grant use of the right of way. I attached his email dated September 21, 2020 in my previous email. Mr. Kazmi suggested the Bureau of Reclamation ("BOR") project manager simply needs to make a request from their New Mexico Department of Transportation ("NMDOT") contact for the use of the right of way. I relayed this information at the July 23, 2020 meeting and it should have been done. I asked about it at the September 18, 2020 meeting, but I was not

given an answer. My question was, did the request make it to the proper persons at NMDOT? I would like evidence of this request and status of same. It was clear, the people expressed their concerns, but they were also given false information. There are many in Littlewater who claim they did not sign the consent. Of the grazing permittees I talked to in Littlewater area, only two said they consented. Perhaps as you claim others outside Littlewater may have. As I pointed out, my family and I were lied to as well by Mr. Howard Martinez, July 9, 2018. He said we could tap into the pipeline to fill an earthen dam with water for livestock and to irrigate plants. I asked for this assertion in writing but was given nothing. Upon further investigation, I discovered others said they were told the same thing. Some proceeded to sign based on these lies and are now regretting it. They wish they did not sign and asked about how to retract their signature because the obtained signatures were premised on misrepresentation, and possibly fraud. In the early stages of this project, some who live and have farms by the Littlewater store were told the pump station and tanks would be placed there and they would be able to use the water for their farms. So, to fulfill that promise and prevent further lies, the pump station and tanks should be place south of mile marker 70. These concerns are serious and legitimate. They represent my concerns and others in the community, but to date, they have not been addressed, much less acknowledged. I have not spoken with you or Mr. Begay regarding this matter, so I don't know who you are listening to or where you obtained any other relevant information concerning this matter. Thank you for relocating the pump station and water tanks to south of mile marker 70, and re-routing the pipeline within the NMDOT right of way. The alteration and adoption of the changes we are requesting is appreciated and would be respectful of every haataali and residents' directives. Regards, Christine J. Benally, PhD  
cyb8@hotmail.com 505-436-8967 Copies distributed to: Dine Haataali Association Dine Medicine Men Association Little Water and Table Mesa Permittees and Residents Attachments Dine Haataali Association Support Resolution Dine Medicine Men Association Support Resolution Wildlife habitat, sacred, and natural geofomations areas Benally cattle grazing at Table Mesa

**Confirm E-mail Address**

cyb8@hotmail.com

**Submission Date / Time** April 19, 2021, 7:02 pm

**Submission Page** Contact Interior (<https://www.doi.gov/node/22532>)

**Submission ID** 654559

**Dr. Christine Benally – Comment Email #4 –  
Attachment #4**

**This attachment pertains to Comment  
Categories 2 and 3.**

0900 HRS.

March 28, 2021

- Sign In Sheet - Rancher's

Protect Sacred sites Little water & Table Mesa

1. Christina J Benally
2. Lolita Yazzie - AIM MEMBER
3. Stephen Yazzie - AIM MEMBER
4. Hannu Stone
5. Leonard Barber
6. Marietta Barber
7. M. K. Besny (505) 686-5770 - A.I.M. Vice President
8. John Franklin (505-801-3156) A.I.M. President
9. Buckedfeather buckfeather@me.com - 702-830-0128
10. James Foshee Jr - 505-801-5440 AIM MEMBER

**Dr. Christine Benally – Comment Email #4 –  
Attachment #5**

**Diné grazing permittees and residents of Table Mesa and Littlewater request:**

PROTECTION OF THE SACRED SITES/AREAS AT LITTLEWATER, MILE MARKER 70 TO 72, BY ROUTING THE GALLUP-NAVAJO WATERLINE CONSTRUCTION TO WITHIN THE US HIGHWAY 491 RIGHT OF WAY AND LOCATING PUMP HOUSE AND WATER TANKS SOUTH OF MILE MARKER 70; AND OTHER SACRED SITE AREAS.

Comment  
Cat. 1

**Whereas:**

1. We, the Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area are traditional people committed to maintain balance and harmony with the natural world, both within and beyond the sacred mountains; AND
2. As Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area are traditional people committed and qualified to speak with authority on matters of cultural protocol, philosophy, language, ceremonies, history, customs, and concerns; AND
3. As Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area are unique, authentic, and distinguished “grassroots” traditional people; AND
4. The traditional Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area are responsible for protecting, promoting, perpetuating, maintaining and sustaining the integrity of the Diné ceremonies, sacredness, and lifestyle; AND
5. The traditional Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area aware of sacred sites including former ceremonial sites such as the alchinijee (second night) of the n’daa (enemy way) ceremonies, the path where the n’daa ceremonial staff is carried by the horses and blessed with corn pollen, and sites for sacred gem and rock offerings located on the east side of U.S. highway 491 from mile marker 70 to 72, of the highway. **Wildlife also live in this area**. The Navajo Nation and Bureau of Reclamation proposes to install the Gallup-Navajo water pipeline and build a pump house on and around these sacred Diné spiritual sites. The NN and the Bureau of Reclamation has been made aware of the sacred sites and the request of local Diné residents to reroute the proposed water line and find an alternate location for the water shed. Despite being information, the NN and the Bureau of Reclamation disregard the requests made by local Diné residents. In their proposal, the NN and Bureau of Reclamation misconstrued, moved, and minimized the geographic size of the sacred areas on their maps; a misrepresentation. The Diné residents’ voice and opposition to the proposed plans have not been taken seriously. The local Diné residents were told they could tap the water line to fill earthen dams for livestock and irrigate crops. Based on these fabrications, some, not all, consented and with regret, wished they had not signed.

Comment  
Cat. 2

Comment  
Cat. 9

Comment  
Cat. 3

6. The sacred areas and traditional Diné lives are endangered by the Chapter that created a land use plan without obtaining initial community consent and consensus for the proposed plan, and are now threatened with eminent domain.
7. The traditional Diné grazing permittees and residents in the affected areas described in (5.) and (6.) were neither consulted nor consented, yet were either uninformed, or misinformed and coerced into consent, which they regret tearfully, by the Navajo Nation, Bureau of Reclamation, Sanostee Chapter, and its partners.

Comment  
Cat. 3

**NOW THEREFORE BE IT RESOLVED THAT:**

To protect the Diné sacred sites, wildlife habitat, natural formations, and plants of any disturbance, the traditional Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area strongly defies the water line current course designated for the water line on the east side of the U.S. 491 highway right of way and the location of the pump station and water tanks, and it directs rerouting the water line alternatively within the U.S. highway 491 right of way, on the west side of the fence mile markers 70 to 72, and relocate the pump station and water tanks south of mile marker 70; and

Comment  
Cat. 9

Comment  
Cat. 1

Furthermore, the Diné grazing permittees and residents whose livestock grazing in the Littlewater and Table Mesa area strongly calls on and directs the Navajo Nation, Sanostee Chapter, federal agencies, and other entities to offer full transparency, practice ethically as they seek community permissions for proposed installations of supportive resources such as water line and maintain truthful communication on all resource projects with the local Diné. We request inclusion and consultation, respect, and consideration for the concerns and position expressed by and behest of the local Diné residents without disregard, and direct that correct information be provided on all proposals and shared with the local Diné residents to ensure complete understanding prior to obtaining consents without coercion, and threats on use of eminent domain.

Comment  
Cat. 3



**Dr. Christine Benally – Comment Email #5**

**(1st page only - the rest of the email thread is contained in Comment Email #1)**

From: cpl@hawaii.com  
To: [Redacted]  
Subject: [Redacted]  
Date: [Redacted]

This email has been received from outside of DOI. Use caution before clicking on links, opening attachments, or responding.

Comment Cat. 6

Images of plastic on end of pipes and findings for range and residential areas

From: cpl@hawaii.com  
Sent: Sunday, August 7, 2022 3:41 PM  
To: [Redacted]  
Subject: [Redacted]

More maps  
Project team was not trained and has failed to protect the state actively used by patients and community. They think drilling underneath is okay but continue with destruction.

From: cpl@hawaii.com  
Sent: Sunday, August 7, 2022 7:05 PM  
To: [Redacted]  
Subject: [Redacted]

Response to the draft EA in Littlewater. Images will follow.  
The special status area 70 and the trail north of r/nm 70 to 72 should have been disturbed, all areas in the west and east side along 491 to be protected. Drilling under the special status area is destruction and undermines those patients, including veterans who sacrificed their lives to serve this country. So, the drilling needs to stop immediately and reroute the pipeline in the 491 right of way.

Reroute the pipeline to inside the U.S. highway 491 right of way from mile marker 70 to 72. The NMDOP said okay. Move the pump station to Littlewater, across the state. That is what the people were told so they could use it for their household, livestock, and farm irrigation. Most of the people in Littlewater did not consent.

Some of people, including my family, do not want the chachaa/chachaa (leach) water coming into their homes. We should be given the option to remain on the existing groundwater system.

Additionally, the Nagoa Historic Preservation and other programs disregarded the people and the Hulaiki and Medicine Man associations requests by resolution. This is an absolute violation of our constitutional, Mayajolotun Code, Title One.

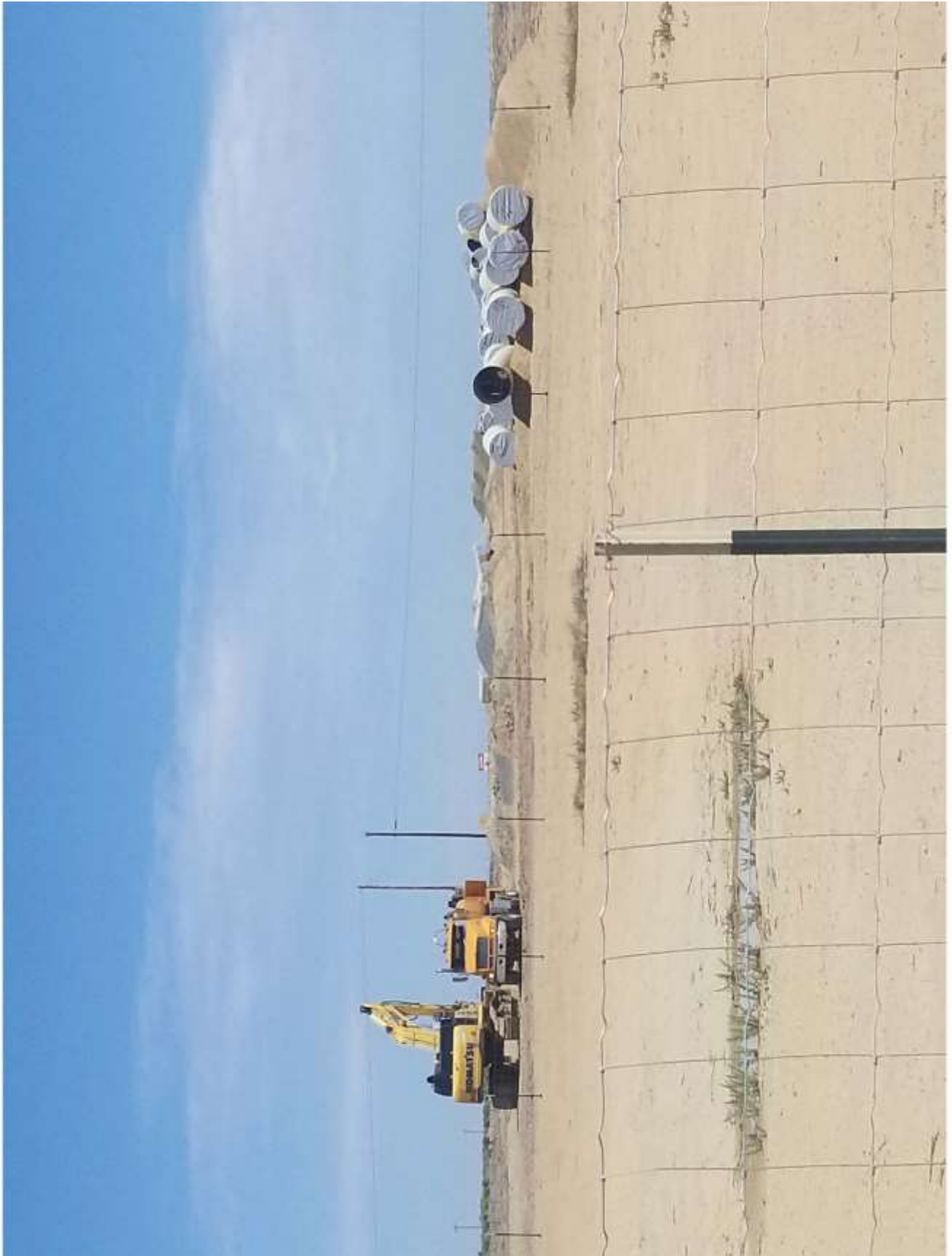
My cousin said when he signed the consent, he said he and his family to work on the pipeline. They and others who requested work have been denied.

Concrete was dumped on 4750 Road and at the cattle guard. I had to request it be removed but only the spill on the gravel part was removed. The plastic on the ends of the pipes were left unattended and they blew over onto the grazing area. I come every once in a while to see. They need to be collected and discarded properly. I told the workers, left some at the BGR office, and reported it to the EPA, but to no avail.

On August 3, 2022 while entering the highway from 4750 Road which is narrow and a person already on the road should be added to, but a cement truck did not yield to me and about 10 minutes over. The cement truck turned off the highway and it should have waited there until I passed when the pavement widens.

**Dr. Christine Benally – Comment Email #5 –  
Attachment #1**

**This attachment pertains to Comment  
Category 6.**



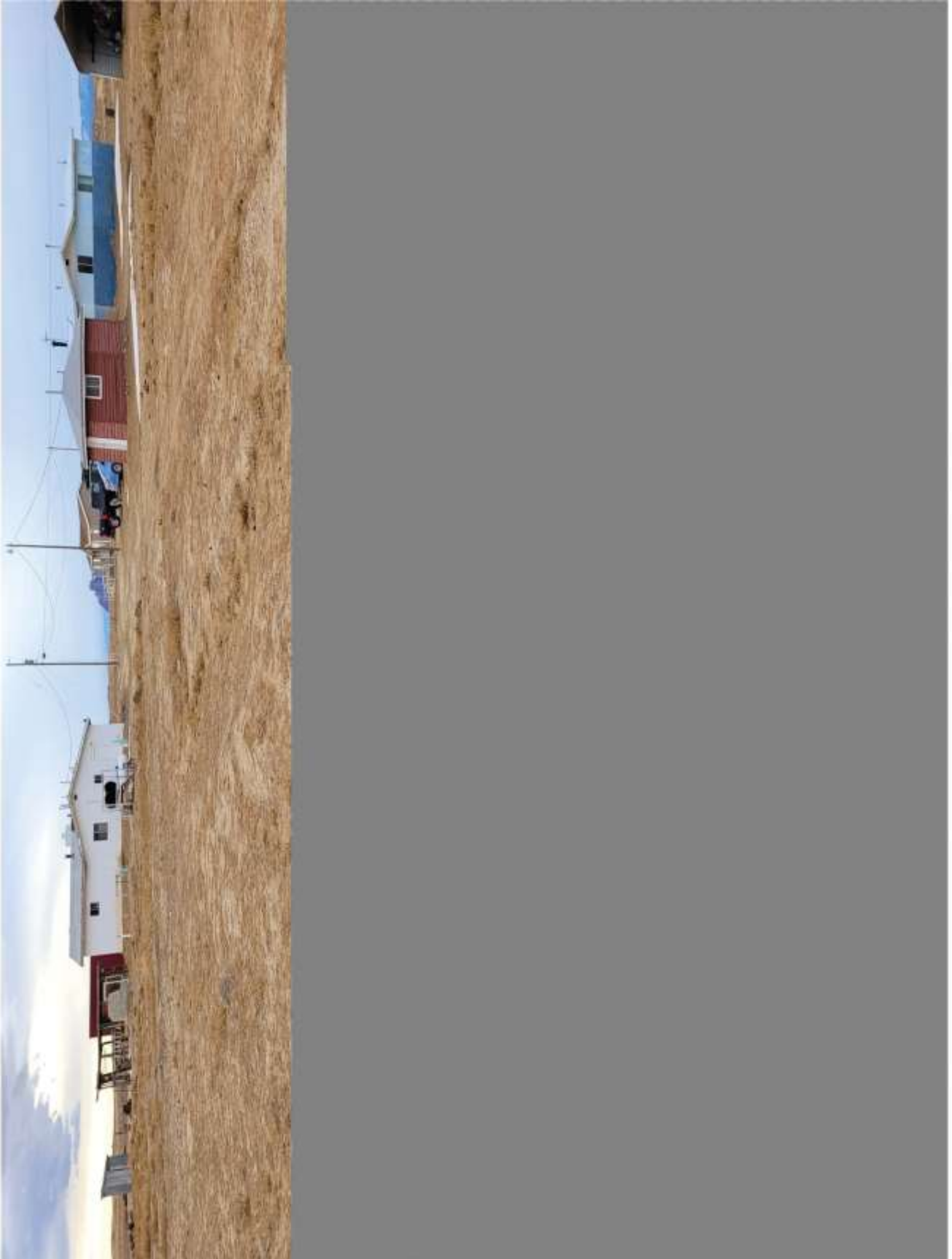
**Dr. Christine Benally – Comment Email #5 –  
Attachment #2**

**This attachment pertains to Comment  
Category 6.**



**Dr. Christine Benally – Comment Email #5 –  
Attachment #3**

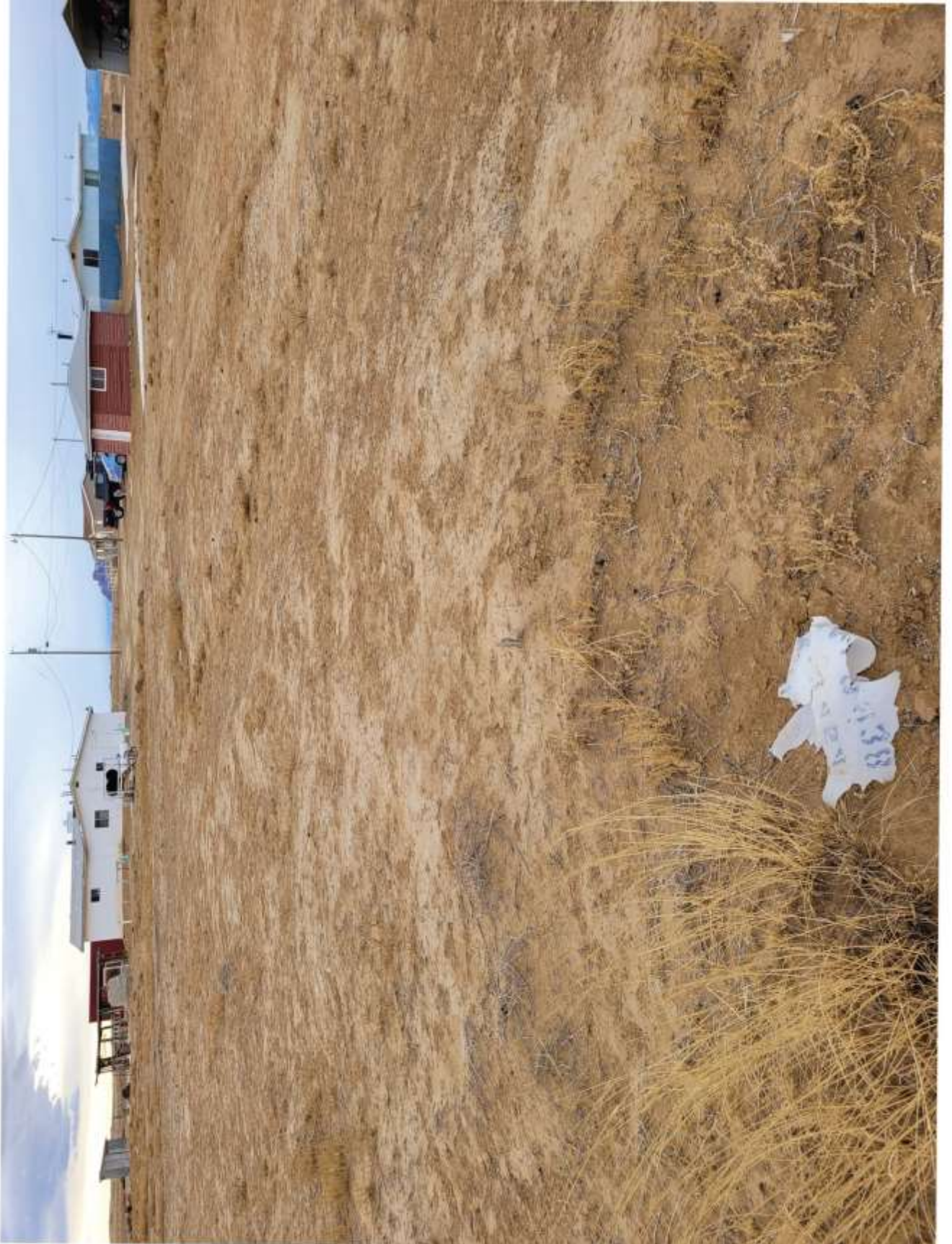
**This attachment pertains to Comment  
Category 6.**





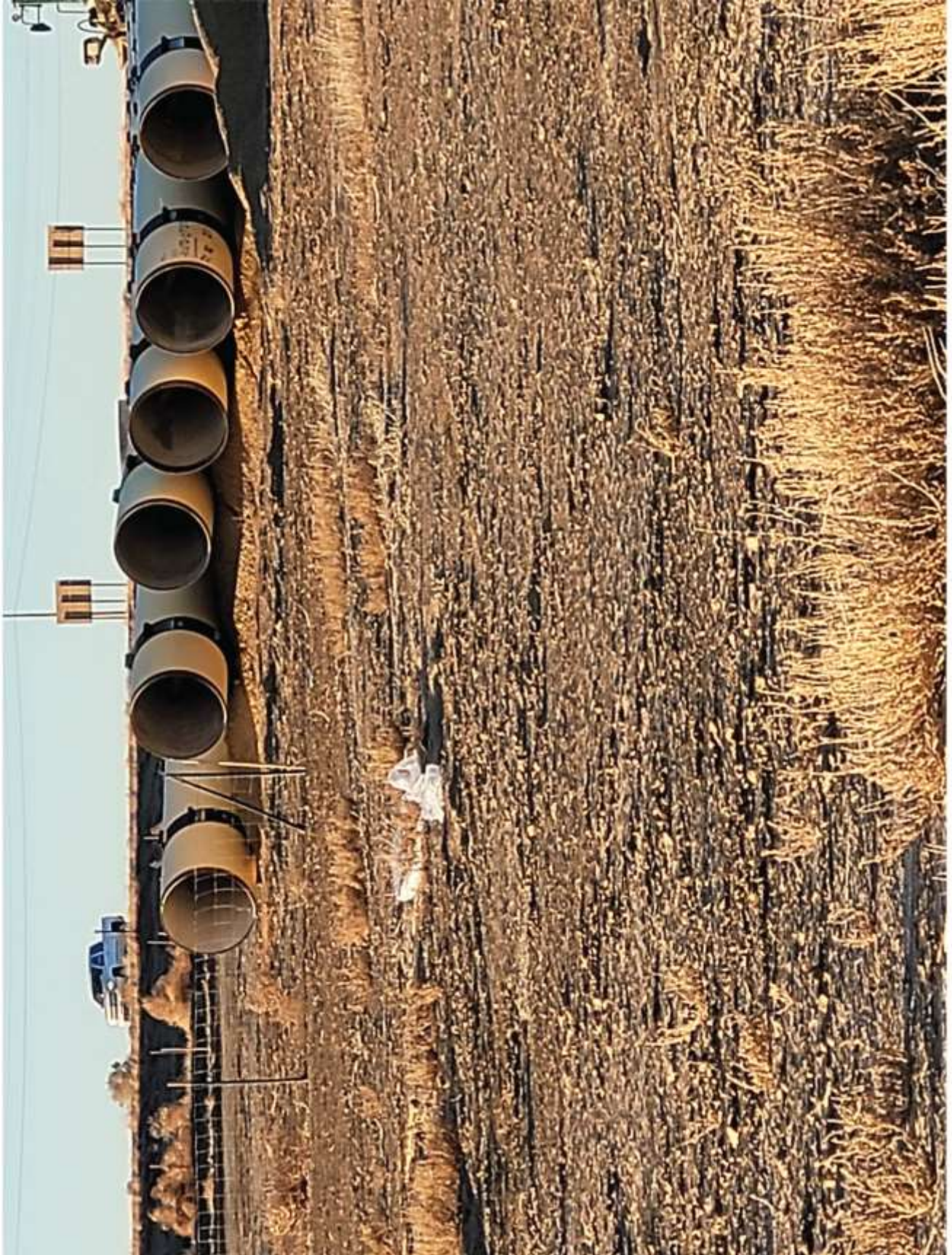
**Dr. Christine Benally – Comment Email #5 –  
Attachment #4**

**This attachment pertains to Comment  
Category 6.**



**Dr. Christine Benally – Comment Email #5 –  
Attachment #5**

**This attachment pertains to Comment  
Category 6.**



**Dr. Christine Benally – Comment Email #5 –  
Attachment #6**

**This attachment pertains to Comment  
Category 6.**



**Dr. Christine Benally – Comment Email #5 –  
Attachment #7**

**This attachment pertains to Comment  
Category 6.**





**Dr. Christine Benally – Comment Email #6**

**(1st page only - the rest of the email thread is contained in Comment Email #1)**

**From:** cpl@hntel.com  
**To:** ...  
**Subject:** ...  
**Date:** ...  
**Attachments:** ...

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Resending as PDF

Comment Cat. 6

Images of plants on west of pass and through the range and residential areas.

**From:** cpl@hntel.com  
**Sent:** Sunday, August 7, 2022 7:25 PM  
**To:** ...  
**Subject:** ...

Response to the drak EA in Littlewater. Images will follow.  
The sacred sites at mm 70 and the trail north of mm 70 to 72 should never have been disturbed; all areas on the west and east side along 491 is to be protected. Drilling under the sacred site description and undermines those patients, including veterans who sacrificed their lives to serve this country. So, the drilling needs to stop immediately and reroute the pipeline in the 491 right of way.

Reroute the pipeline to inside the U.S. Highway 491 right of way from milemarker 70 to 72. The NM DCF said okay. Move the pump station to Littlewater, across the store. That is what the people were told as they could use it for their household, livestock, and farm irrigation. Most of the people in Littlewater did not consent.

Some of people, including my family, do not want this chemical (drinking) water coming into their homes. We should be given the option to remain on the existing groundwater system.

Additionally, the Navajo Historic Preservation and other programs disregarded the peoples' and the Navajo and Medicine Man associations requests by resolution. This is an abuse the violation of our provincial laws, Navajo Nation Code, Title One.

My cousin said when he signed the consent, he said he and his family to work on the pipeline. They and others who requested work have been denied.

Consent was stamped on 2700 Road and at the cattle guard. I had to request it be removed but only the spill on the gravel part was removed. The plastic on the ends of the pipe were left unattended and they blew over onto the grazing area. I come across pipes over 2 miles away. They need to be collected and disposed properly. Is old the work left over at the 808 office, and reported it to the EPA, but to no avail.

On August 3, 2022 while entering the highway from 2700 road which is narrow and a person already on the road should be yielded to, but a cement truck did not yield to me and about ran me over. The cement truck turned off the highway and it should have waited there until I passed where the pavement widens.

These people working on the line endangered the residents with their fire, non-compatibility, and hazards, near with Texas pipelines.

Christine Benally  
505-435-4567

**From:** cpl@hntel.com  
**Sent:** Saturday, April 22, 2022 3:31 AM  
**To:** ...  
**Subject:** ...

We want your help to protect sacred sites we are actively using presently in Littlewater, San Juan county, NM by rerouting the Navajo water line to within NM Hwy 491 right-of-way mile marker 70-72, and to locate of pump station and water tanks south of mm 70, and opposite cemetery at Table Mesa. Our sacred and religious areas are currently being desecrated by the Bureau of Reclamation. The archeologist and others who are involved in this project are not listening even though people told them years ago. The support of the traditional practitioners (elders, healers, and warriors) are being dismissed and ignored.

Thank you for your immediate attention and resources in protecting the area from mm 70 to 72 and keeping it sacred.

Christine J. Benally  
505-435-4567  
Littlewater

Original message

**Dr. Christine Benally – Comment Email #6 –  
Attachment #1**

**This attachment pertains to Comment  
Category 6.**

Plastic on end of pipes and littering the range and residential areas



## **Dr. Christine Benally – Comment Email #7**

**From:** [cyb8@hotmail](#)  
**To:** [Acree, James S](#); [Creeden, Eric P](#); [cyb8@hotmail](#); [CFiles\\_BOR-DU8](#); [Deming, Bart W](#); [Sterling Acree](#); [Bowen, Kristin L](#); [Wernke, Mark A](#); [Shannon P](#); [Seth Damon](#); [Bahe, Christopher \(Navajo Nation\)](#); [daturamonet@gmail.com](#)  
**Cc:** [katherine.lim](#); [B Brown](#); [tommy.nabai](#); [Etta Arviso](#); [Zane Soeck](#); [joseph@naava.org](#)  
**Subject:** [EXTERNAL] Protect, preserve, and and leave undisturbed all indigenous habitat (at ceremonial/religious/sacred grounds/sites/grazing/homestead areas) along navajo gallup water line  
**Date:** Sunday, August 14, 2022 8:36:38 PM  
**Attachments:** [EPA complaint BoR 2021dec31.pdf](#)  
[BoR DOI trash images from June through December 2021.pdf](#)  
[Habitat Echobawki.primol religious tenants.docx](#)

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**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

All areas are considered indigenous habitat and sacred between mile markers 70 and 72, US highway 491 and are to be protected and remain undisturbed from any construction, drilling, digging, surveying, now or in the future. Comment Cat. 2

No lights are to be installed between mile markers 70 and 72, US highway 491.

No fences are to be installed between mile markers 70 and 72, US highway 491. Comment Cat. 1

No tanks and pump stations are to be installed between mile markers 70 and 72, US highway 491.

No pipelines are to be installed between mile markers 70 and 72, US highway 491. It can be run inside the state US Highway 491 right of way. The state is okay with this. BOR just needs to request it.

No clearing medicinal plants and grass east of US highway 491 between mile markers 70 and 72. Comment Cat. 9

All areas cleared needs to be revegetated with medicinal and native plants and grass between mile markers 70 and 72, US highway 491. Comment Cat. 9

Animal, insect, and other living being habitat is to remained undistributed, or if already desecrated it be restored, between mile markers 70 and 72, US highway 491.

The pipeline installed is to be removed and rerouted in the US highway 491 right of way between mile markers 70 and 72. Comment Cat. 1

For those residents who do not want this ghiscaa water coming into our homes, we wish to remain on the existing water source, as for our generations to come. We want water that is untainted by any means. It is obvious you do not understand how important this is to some because you (BoR) continue to run the line. Comment Cat. 4

No heavy duty equipment traffic on the east side of US highway 491 right of way between mile markers 70 and 72. As the construction workers have no regard for the local residents on the road. On August 3, 2022, I was on the single lane road, when a cement truck did not yield to me and I was forced to go onto the part of the road with large rocks in my little car or he may have hit me. Comment Cat. 1  
Comment Cat. 7

No littering and depositing of trash along US highway 491 right of way between mile markers 70 Comment Cat. 6

and 72. Unattended debris from the worker's negligence has blown as far as 3 miles from the sites. BoR needs to pick up all their trash.

Comment Cat. 6

No stakes are to be installed on the east side of US highway 491. between mile markers 70 and 72.

Comment Cat. 1

You need to communicate with the residents and people along 491. Communicating with the tribal government, including the chapter and planning committee, does not mean consultation, consent, and public comment is obtained. The US, states, and tribal government is not the people. No comment does not mean consent. Simply going to the chapter is not public contact. the Sanostee chapter president is not from this area and is in no position to approve anything, further I understand none of the chapter officials have a grazing permit nor a conservation plan. So, do not go to them as part of community engagement quota.

Comment Cat. 3

These foreigners come onto our community and desecrate without regard to our lives, culture, and habitat. Without the nihokaa diyiin dinei, people, this continues to be repeated by all the various companies and organizations while the Navajo government, including chapter, and federal agencies allow it to happen. The chapter elected people and committee members are paid by the government thus are part of the government and they are not the community members and more often, especially currently, do not represent the people. This effects all nihokaa diyiin dinei and its habitat should be protected by their primal laws.

The notion of drilling beneath the sacred sites are still disturbing the sites and is very disrespectful. The minimizing, dismissal and ignoring patients' and people's concerns is abusive and demonstrates violence against the people through traumatization, lies, and revictimization.

Comment Cat. 2

<https://www.facebook.com/marlene.price.587/videos/458238109244504>



And, this is what they will do, as the trash they buried.

*I was informed that EPA was supposed to be out there today but the company bulldozed over the spill. I know the location if anyone needs directions, i can meet you at Red Valley Gas Station.*

*This is just so sad! I wish the local community would do something about this, I'm willing to help where I am needed!*

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**Sent:** Thursday, January 6, 2022 11:05 AM

**To:** Kris Benally <cyb8@hotmail.com>

**Subject:** Re: Litter on indigenous habitat (at ceremonial/religious/sacred grounds/sites/grazing/homestead areas) along navajo gallup water line

GOOD MORNING TO LET YOU KNOW I FORWARD THIS TO LESTER TSOSIE BIA SUPER INTENDENT AND THERE A NEW BIA NAVAJO REGIONAL OFFICE I SEE GREGORY MEHOJAH NEW DIRECTOR 505-863-8314

----- Forwarded Message -----

**From:** cyb8 Benally <cyb8@hotmail.com>

**To:** valinda.shirley@navajo-nsn.gov <valinda.shirley@navajo-nsn.gov>; andersonharvey@navajo-nsn.gov <andersonharvey@navajo-nsn.gov>; Bahe, Christopher (Navajo Nation) <cbahe@navajo-nsn.gov>; r.smith <rsmithjr@navajo-nsn.gov>; Amber Crotty <acrotty@navajo-nsn.gov>; Seth Damon <sdamon@navajo-nsn.gov>; jonathan nez <jonmnez@yahoo.com>; ksiversmith@navajo-nsn.gov <ksiversmith@navajo-nsn.gov>; dmalone@navajo-nsn.gov <dmalone@navajo-nsn.gov>; corybbegay@navajo-nsn.gov <corybbegay@navajo-nsn.gov>; Toledo, Derrick <derrick.toledo@mail.house.gov>; jonathannez@navajo-nsn.gov <jonathannez@navajo-nsn.gov>; Sanostee Chapter <sanostee@navajochapters.org>; Rickie Nez <rickienez@navajo-nsn.gov>; Eugenia Charles-Newton <echarles-newton@navajo-nsn.gov>; Charlaïne Tso <charlainetso@navajo-nsn.gov>; Eugene Tso <ets@navajo-nsn.gov>; o.tso <otso@navajo-nsn.gov>; El Brown <thebrownmachine@hotmail.com>; Nathaniel Brown <nbrown@navajo-nsn.gov>; jtouchin@navajo-nsn.gov <jtouchin@navajo-nsn.gov>; general@nndoj.org <general@nndoj.org>; simon\_boyce@heinrich.senate.gov <simon\_boyce@heinrich.senate.gov>; whitney\_potter@heinrich.senate.gov <whitney\_potter@heinrich.senate.gov>; claire\_wengrod@heinrich.senate.gov <claire\_wengrod@heinrich.senate.gov>; Elizabeth\_Hill@heinrich.senate.gov <elizabeth\_hill@heinrich.senate.gov>; Us Senate jim dumont <jim\_dumont@heinrich.senate.gov>; schudile@heinrich.senate.gov <schudile@heinrich.senate.gov>; CongressmanBenRayLujan@mail.house.gov <congressmanbenraylujan@mail.house.gov>; Us Rep Brian Lee <heartofbrian@gmail.com>; Us Rep Brian Lee <brian.lee@mail.house.gov>; rudyshebala@navajo-nsn.gov <rudyshebala@navajo-nsn.gov>; jasonjohn@navajo-nsn.gov <jasonjohn@navajo-nsn.gov>; carlos.sanchez@mail.house.gov <carlos.sanchez@mail.house.gov>; adeline.deyoung@mail.house.gov <adeline.deyoung@mail.house.gov>; Daniel Tso <danieltso@navajo-nsn.gov>; Mark Freeland <m.freeland@navajo-nsn.gov>; Anthony Allison <anthony.allison@nmlegis.gov>; heidi\_todacheene@ios.doi.gov <heidi\_todacheene@ios.doi.gov>; will\_dempstee@hirono.senate.gov <will\_dempstee@hirono.senate.gov>; rachel\_wright@judiciary-rep.senate.gov <rachel\_wright@judiciary-rep.senate.gov>; Caroline\_Hunsicker@smith.senate.gov <caroline\_hunsicker@smith.senate.gov>; Miyasato, Diane (Schatz) <diane\_miyasato@schatz.senate.gov>; Purdy Montesinos, Alanna (Lujan) <alanna\_purdymontesinos@lujan.senate.gov>; adeline.deyoung@mail.house.gov <adeline.deyoung@mail.house.gov>; claire\_wengrod@heinrich.senate.gov <claire\_wengrod@heinrich.senate.gov>; elizabeth.arevalo@mail.house.gov <elizabeth.arevalo@mail.house.gov>; Shannon P. <sdp21.2000@gmail.com>; Tom BK Goldtooth <info@iearth.org>; Etta Arviso <bitahni06@yahoo.com>; tommy nakai <tomnakai@yahoo.com>



**Sent:** Monday, January 3, 2022, 06:03:57 PM MST

**Subject:** Re: Litter on indigenous habitat (at ceremonial/religious/sacred grounds/sites/grazing/homestead areas) along navajo gallup water line

Good morning Ms. Shirley, Navajo EPA Director,

The debris scattered from the pipes sit are on the east side of US Hwy 491 from mile marker 70 to 72, and from the construction. I am submitting this complaint to Navajo EPA because the plastic pieces are getting smaller and spreading over a larger area are not collected and removed. This has been brought to the attention of the Bureau of Reclamation before but they have yet to retrieve the waste and dispose of them properly.

Comment  
Cat. 6

Since February 2019 the Bureau of Reclamation (BOR) began trespassing onto our grazing area, without consent. In addition to driving on grass and medicinal vegetation in sacred areas, they leave plastic, paper, and wood then these debris blow further onto the grazing area. The plastic that cover the ends of the pipes tears and when the wind blows it further rips and scatters pieces of plastic over the grazing area. On November 27, 2021, I sent an email with photos to the Navajo Nation, BOR, Department of Interior Secretary, and congress representatives of the litter and BoR's photos to the Navajo Nation, BOR, Department of Interior Secretary, and congress representatives of the litter and BoR's to be responsible for their trash. Mr. Page's response deflects as if they debris only happens over a long weekend.

Comment  
Cat. 3

Comment  
Cat. 2

Comment  
Cat. 6

I saw some plastics tied up in bundles near the deep pits they dug. (photos attached) They (BoR) probably buried the plastics and trash instead of properly removing them to transfer stations. The pits were left open in livestock grazing and wildlife habitat. I have pictures from yesterday that I wanted to attach but due to size I am limited. I will attach in a follow up email.

Thank you for your attention to this matter,  
Christine J. Benally  
505-436-8967

**From:** Page, Patrick J <PPage@usbr.gov>

**Sent:** Monday, November 29, 2021 8:45 AM

**To:** cyb8 Benally <cyb8@hotmail.com>; Seth Damon <sdamon@navajo-nsn.gov>; Toledo, Derrick <Derrick.Toledo@mail.house.gov>; Jonathannez@navajo-nsn.gov <jonathannez@navajo-nsn.gov>; Sanostee Chapter <sanostee@navajochapters.org>; Rickie Nez <rickienez@navajo-nsn.gov>; Eugenia Charles-Newton <echarles-newton@navajo-nsn.gov>; Charlainetso <charlainetso@navajo-nsn.gov>; Eugene Tso <etso@navajo-nsn.gov>; o tso <otso@navajo-nsn.gov>; El Brown <thebrownmachine@hotmail.com>; Nathaniel Brown <nbrown@navajo-nsn.gov>; jtouchin@navajo-nsn.gov <jtouchin@navajo-nsn.gov>; Gerald Henderson <gerald.henderson@navajochapters.org>; chelseamoore@navajochapters.org <chelseamoore@navajochapters.org>; general@nndoj.org <general@nndoj.org>; simon\_boyce@heinrich.senate.gov <simon\_boyce@heinrich.senate.gov>; whitney\_potter@heinrich.senate.gov <whitney\_potter@heinrich.senate.gov>;

claire\_wengrod@heinrich.senate.gov <claire\_wengrod@heinrich.senate.gov>; Elizabeth\_Hill@heinrich.senate.gov <Elizabeth\_Hill@heinrich.senate.gov>; Us Senate jim dumont <jim\_dumont@heinrich.senate.gov>; schudile@heinrich.senate.gov <schudile@heinrich.senate.gov>; CongressmanBenRayLujan@mail.house.gov <CongressmanBenRayLujan@mail.house.gov>; Us Rep Brian Lee <heartofbrian@gmail.com>; Us Rep Brian Lee <brian.lee@mail.house.gov>; rudyshebala@navajo-nsn.gov <rudyshebala@navajo-nsn.gov>; jasonjohn@navajo-nsn.gov <jasonjohn@navajo-nsn.gov>; carlos.sanchez@mail.house.gov <carlos.sanchez@mail.house.gov>; adeline.deyoung@mail.house.gov <adeline.deyoung@mail.house.gov>; Daniel Tso <danieltso@navajo-nsn.gov>; Mark Freeland <m.freeland@navajo-nsn.gov>; r smith <rsmithjr@navajo-nsn.gov>; Shannon James <shannonjames@militarydefense.com>; Anthony Allison <anthony.allison@nmlegis.gov>; Todacheene, Heidi J <heidi\_todacheene@ios.doi.gov>; will\_dempstee@hirono.senate.gov <will\_dempstee@hirono.senate.gov>; rachel\_wright@judiciary-rep.senate.gov <rachel\_wright@judiciary-rep.senate.gov>; Caroline\_Hunsicker@smith.senate.gov <Caroline\_Hunsicker@smith.senate.gov>; Miyasato, Diane (Schatz) <Diane\_Miyasato@schatz.senate.gov>; Purdy Montesinos, Alanna (Lujan) <Alanna\_PurdyMontesinos@lujan.senate.gov>; adeline.deyoung@mail.house.gov <adeline.deyoung@mail.house.gov>; claire\_wengrod@heinrich.senate.gov <claire\_wengrod@heinrich.senate.gov>; elizabeth.arevalo@mail.house.gov <elizabeth.arevalo@mail.house.gov>

**Cc:** Deming, Bart W <bdeming@usbr.gov>; Reese, Rick R <RReese@usbr.gov>; Castillo Smith, Hilda A <HCastilloSmith@usbr.gov>

**Subject:** RE: [EXTERNAL] Re: preserve/protect ceremonial/religious/sacred grounds/sites/areas along navajo gallup water line

Dr. Benally,

Thank you for letting us know about this issue. Our contractor is sending folks out there this morning to clean up the plastic debris. We have also discussed with the contractor's superintendent the importance and need to adequately secure items and clean up the work site prior to leaving for the day – especially when they plan to be off for multiple days like what occurred over Thanksgiving. Again, my apologies – it is being taken care of as we speak.

Sincerely,

Patrick J. Page, P.E.  
Project Construction Engineer  
Four Corners Construction Office  
Bureau of Reclamation  
505-324-5027 (office)  
970-749-5028 (cell)

---

**From:** cyb8 Benally <cyb8@hotmail.com>

**Sent:** Saturday, November 27, 2021 6:57 PM

**To:** Seth Damon <sdamon@navajo-nsn.gov>; Toledo, Derrick <Derrick.Toledo@mail.house.gov>;

jonathannez@navajo-nsn.gov <jonathannez@navajo-nsn.gov>; Sanostee Chapter  
<sanostee@navajochapters.org>; Rickie Nez <rickienez@navajo-nsn.gov>; Eugenia Charles-Newton  
<echarles-newton@navajo-nsn.gov>; Charlaïne Tso <charlainetso@navajo-nsn.gov>; Eugene Tso  
<etso@navajo-nsn.gov>; o tso <otso@navajo-nsn.gov>; El Brown  
<thebrownmachine@hotmail.com>; Nathaniel Brown <nbrown@navajo-nsn.gov>; jtouchin@navajo-  
nsn.gov <jtouchin@navajo-nsn.gov>; Gerald Henderson <gerald.henderson@navajochapters.org>;  
chelseamoore@navajochapters.org <chelseamoore@navajochapters.org>; general@nndoj.org  
<general@nndoj.org>; simon\_boyce@heinrich.senate.gov <simon\_boyce@heinrich.senate.gov>;  
whitney\_potter@heinrich.senate.gov <whitney\_potter@heinrich.senate.gov>;  
claire\_wengrod@heinrich.senate.gov <claire\_wengrod@heinrich.senate.gov>;  
Elizabeth\_Hill@heinrich.senate.gov <Elizabeth\_Hill@heinrich.senate.gov>; Us Senate jim dumont  
<jim\_dumont@heinrich.senate.gov>; schudile@heinrich.senate.gov  
<schudile@heinrich.senate.gov>; CongressmanBenRayLujan@mail.house.gov  
<CongressmanBenRayLujan@mail.house.gov>; Us Rep Brian Lee <heartofbrian@gmail.com>; Us Rep  
Brian Lee <brian.lee@mail.house.gov>; rudyshebala@navajo-nsn.gov <rudyshebala@navajo-  
nsn.gov>; PPage@usbr.gov <PPage@usbr.gov>; jasonjohn@navajo-nsn.gov <jasonjohn@navajo-  
nsn.gov>; carlos.sanchez@mail.house.gov <carlos.sanchez@mail.house.gov>;  
adeline.deyoung@mail.house.gov <adeline.deyoung@mail.house.gov>; Daniel Tso  
<danieltso@navajo-nsn.gov>; Mark Freeland <m.freeland@navajo-nsn.gov>; r smith  
<rsmithjr@navajo-nsn.gov>; Shannon James <shannonjames@militarydefense.com>; Anthony  
Allison <anthony.allison@nmlegis.gov>; heidi\_todacheene@ios.doi.gov  
<heidi\_todacheene@ios.doi.gov>; will\_dempstee@hirono.senate.gov  
<will\_dempstee@hirono.senate.gov>; rachel\_wright@judiciary-rep.senate.gov  
<rachel\_wright@judiciary-rep.senate.gov>; Caroline\_Hunsicker@smith.senate.gov  
<Caroline\_Hunsicker@smith.senate.gov>; Miyasato, Diane (Schatz)  
<Diane\_Miyasato@schatz.senate.gov>; Purdy Montesinos, Alanna (Lujan)  
<Alanna\_PurdyMontesinos@lujan.senate.gov>; adeline.deyoung@mail.house.gov  
<adeline.deyoung@mail.house.gov>; claire\_wengrod@heinrich.senate.gov  
<claire\_wengrod@heinrich.senate.gov>; elizabeth.arevalo@mail.house.gov  
<elizabeth.arevalo@mail.house.gov>

**Subject:** Re: preserve/protect ceremonial/religious/sacred grounds/sites/areas along navajo gallup  
water line

The Bureau of Reclamation people are littering the area along US Highway 491. The plastics  
from the pipes are ripping and blowing onto the grazing area. These debris need to be  
gathered and disposed of properly immediately.

Comment Cat. 6

**From:** Christine Benally

**Sent:** November 27, 2021

**To:** Delegates Amber Crotty and Seth Damon, Navajo Nation Council

Michelle Brown-Yazzie, NNDJ

Navajo Nation President Nez

Interior Secretary Deb Haaland

US Representative Fernandez

US Senator Lujan

US Senator Heinrich

**Subject:** Protect and preserve ceremonial/sacred areas along navajo gallup water line

Delegate Crotty, Michelle Brown-Yazzie, et.al

In response to the NGWLP resolution you requested at the Sanostee Chapter meeting on October 10, 2021, add the following list of requests to the resolution for US Congress and Navajo Nation government provide additional funds and resources.

1. Ask for additional funds for **protection and preservation of currently, actively used ceremonial and sacred sites, areas, grounds, trails, by us, family, and people in Littlewater and other places.** These should above all be protected as the recent restored boundaries of Bears Ears and Grand Staircase Escalante national monuments. Comment Cat. 2
2. Some consider the water as **chischaa'**, so their concerns should not be dismissed. This is bringing death into the homes and objected by some families. Their wish should be honored and to continue use of and remain on the ground water; and that they not be forced and coerced to be part of the NG system. Comment Cat. 4
3. Keep ground water under Littlewater here and not be routed to Gallup. A resolution was passed to keep the ground water here for further generations, livestock, and produce.
4. The ground water under Littlewater is contaminated from the gas and oil extractions, and there is a plume moving southeasterly. Resolutions were sent to Window Rock to clean it up.
5. **Only** two permittees in Littlewater said they consented. One was told she would be provided water from the pipeline to fill a earthen dam for her livestock and to irrigate her farm. The other was told his family will work on the pipeline and they are still unemployed. They were told lies. This is also contrary to Mr. Shabala's claim. Comment Cat. 3  
Comment Cat. 5

**Dr. Christine Benally – Comment Email #7 –  
Attachment #1**

**Attachment #1 was included as an  
Attachment (#4) in Comment Email #1.  
Response highlighting can be found there.**



NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY
COMPLAINT RECORD FORM

Post Office Box 339, Window Rock, Arizona 86515
Telephone: (928) 871-7692 · Fax: (928) 871-7996
Website: www.navajonationepa.org



GENERAL INFORMATION

- 1. Date Complaint Received: 12/31/2021
2. Time Complaint Received: 12/31/2021
3. Complaint Received by: 12/31/2021
4. Date of Incident: Since April 2021
5. Time of Incident: April through December 2021
6. Location of Incident: a) Town east side of US hyw 491, mm 70 to 71.5 State NM
7. Responsible Party: Bureau of Reclamation
8. Reporting Person: Christine Benally
9. Reporting Person's Telephone Number: 505-436-8967
10. Reporting Person's Address: HC 30 Box 400, Shiprock State: NM Zip Code: 87420

AIR

- 1. Type of Complaint: Open Burning, Smoke /Emissions, Fugitive Dust, Other
2. Source of Complaint: Residential, School, Restaurant, Construction, Industrial/Commercial, Office, Hospital, Other

WASTE

- 1. Type of Complaint: Open Dumping, Littering, Residential, Other: plastic off pipes, wood, fence parts, Collection, Spill, Construction, Storage, Burning, Office
2. Source of Complaint: Residential, School, Restaurant, Construction, Industrial/Commercial, Office, Hospital
3. Spill: a) Type of Spill, b) Amount of Spill, c) Who is handling clean up?, d) How is clean up being handled?

WATER

- 1. Type of Complaint: 401/404 - Unauthorized projects in waterways, Dumping in a waterway, Discharge into water, Contaminated water source, Spill in waterway, Other

STATEMENT OF FACTS: Since February 2019 the Bureau of Reclamation (BOR) began trespassing onto our grazing area. In addition to driving on grass and medicinal vegetation in sacred areas, they leave plastic, paper, and wood then these debris blow further onto the grazing area. The plastic that cover the ends of the pipes tears and when the wind blows it further rips and scatters pieces of plastic over the grazing area. On November 27, 2021, I sent an email with photos to the Navajo Nation, BOR, Department of Interior Secretary, and congress representatives of the litter and RoR's negligence. Patrick Page responded that they would address this but they have not. I picked up some but I feel they need to be responsible for their trash. I saw some plastics tied up in bundles near the deep pits they dug. they probably buried the plastics and trash instead of properly removing them to transfer stations.

(Please use the back for additional space)

**Dr. Christine Benally – Comment Email #7 –  
Attachment #2**

**Attachment #2 was included as an  
Attachment (#4) in Comment Email #3.  
Response highlighting can be found there.**

Images taken from April through December 2021









**Dr. Christine Benally – Comment Email #7 –  
Attachment #3**

**This attachment pertains to Comment  
Category 2.**

Indigenous Habitat. John Echohawk 2021Mar31

In tribal trust ownership, there are over 100 million acres of land, which makes us one of the largest land owners next to the federal government. There is 56 million in the lower 48, 43 million in Alaska, 200,000 in Hawaii. As we look across the country, we see that the IP live in very diverse IH, which the key to understanding the environmental protection in Indian country. We can look from east to west, north to Barrow to Rio Grand River, in diverse environments. Many of these places are among the last best places in the United States of America. We've got better forest, biodiverse, fully functioning ecosystems are under native stewardship.

These Indigenous habitats have produced profound cultures, profound cosmologies, profound promoreligions here in North America. These iconic cultures are really symbols of America in the eyes of much of the world. They offer much about lessons in stewardship that I think our nation sourly needs now to face the mounting worldwide environmental crisis.

One of the way, a good framework too, that I found in looking at environmental protection issues in native America is the concept of Indigenous Habitat (IH). What is Indigenous habitat?

There are 3 elements to it.

First, when we talk about IH. We are talking about a functioning, healthy, and productive ecosystem.

Secondly, is it located in an ancestral, aboriginal homeland.

And thirdly, it's used by IP to carry on their culture and ways of life.

With this definition, IHs gave rise to our cultures. They literally sprang from soil here. And, they are habitats without which our native people cannot survive. Many of these IHs are located off the reservations, which makes hard to protect them. There are precious *view?* and scant legal protection for this critical habitat. But, in my experience, IP that live within their IH, as I have defined them, are deeply embedded in those IHs and that there is nothing more important to their culture and ways of life and well-being as their IH. And if we look around in the 20<sup>th</sup> century, we see that this habitat destruction causes in calculable harm to IP, because their lives, their cultures, and identities are inextricably tied to the animal and plants and the holy places located in their habitats. And so to Native people, the protection of IH is a paramount issue. And the destruction of that habitat I think in the 20<sup>th</sup> century is one of the primary causes of the extinction of Indigenous cultures around the world.

And, when we think about this IH, I think we also at the same time have to recognize that one of the hallmark characteristic of IP worldwide in the eyes of modern international human right laws, is their close ties to the land, the land and the water of their aboriginal homelands. That certainly, the lands, territory, natural resources, well springs the Indigenous culture, religion, economy, as well as identity. James Anaya makes it very clear that the land and its fruit is the bedrock requirement for cultural survival and self-determination of IP. Because you can't exercise self-determination without lands, territories, and resources. And the lack of protection for that IP leads to extreme poverty, starvation, poor health, homelessness, and cultural destruction.

We see a lot of environmental protection concerns throughout IP across the world and in many places here in the US. We see our native people fighting with all their might to protect the integrity of their IH

because their cultural survival depends on it. It is also mandated by the indigenous religious tenants of the Native religions and cosmologies of North America.

They are different. There is a lot of diversity there, but there are common threads and the world religion scholar, Houston Smith, the late, he grouped our indigenous religion under the category of primo religions. And he categorized our traditional native religions in his book, the "world's religions" as primol because, they came first. The oldest religions, traditions of the human race. He said that these tribal religions represent "human religiousness in its earliest mode" and he said that that allows our native people to retain insights about the natural world that the modern industrialized nations have long forgotten. These religion feature a deep embeddedness in nature and are rooted in the indigenous habitats. Coupled with this cosmologies that I have seen here in North America which I would describe as hunting, fishing, and gathering cosmologies that spring from or by product of these primol religious tenants.

Basically, we are looking at the oldest, world view of the human race here. Because 150,000 years ago, as the early humans spread across the planet, everyone was a hunter, fisher, and gatherer, and living in the natural world, this great span of time was really wired into the human biology and that world view is the primol religion tenants sanctifies the human presence in the natural world. And reviles in mother earths remarkable ability to produce life. It teaches that some places are holy. That we have important relatives in the natural world, animals and plants. And that we depend on natural processes that we much cooperate with nature and not conquer nature to be successful. Many of the remnants of this are in NA, US lacks and needs to solve the environmental crisis.

**Dr. Christine Benally – Comment Email #7 –  
Attachment #4**

