North Fork Siphon Replacement Project

Environmental Assessment
October 2017

Submitted by:

U.S. Department of the Interior,
Central Utah Project Completion Act Office

Central Utah Water Conservancy District

Utah Reclamation Mitigation and Conservation Commission

North Fork Siphon Replacement Project

ENVIRONMENTAL ASSESSMENT

CENTRAL UTAH WATER
CONSERVANCY DISTRICT

October 2017

Joint Lead Agencies:

U.S. Department of the Interior, Central Utah Project Completion Act Office
Central Utah Water Conservancy District
Utah Reclamation Mitigation and Conservation Commission

Cooperating Agencies:

U.S. Bureau of Reclamation
U.S. Forest Service, Ashley National Forest

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ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
ANF	Ashley National Forest
APE	Area of Potential Effects
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
BWP	bar-wrapped steel cylinder concrete pressure pipe
CAAA	Clean Air Act Amendments
CCA	Candidate Conservation Agreement
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFRP	Carbon-Fiber Reinforced Polymers
CFS	cubic feet per second
CO	carbon monoxide
CO_2	carbon dioxide
CUP	Central Utah Project
CUPCA	Central Utah Project Completion Act
CWA	Clean Water Act
DERR	Utah Division of Environmental Response and Remediation
District	Central Utah Water Conservancy District
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FO	Fiber Optic
FONSI	Finding of No Significant Impact
Interior	U.S. Department of the Interior
IPaC	Information, Planning, and Conservation
ITA	Indian Trust Asset
KOP	Key Observation Points
MBTA	Migratory Bird Treaty Act
M&I	Municipal and Industrial
Mitigation Commission	Utah Reclamation Mitigation and Conservation Commission
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act

NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOx	oxides of nitrogen
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OHWM	Ordinary High Water Mark
OM&R	Operation, Maintenance, and Replacement
Pb	lead
PCCP	pre-stressed concrete cylinder pipe
PIF	Partners in Flight
PM	particulate matter
$PM_{2.5}$	particulate matter 2.5 micrometers
PM_{10}	particulate matter 10 micrometers
RCRA	Resource Conservation and Recovery Act
RDCC	Resource Development Coordination Committee
Reclamation	Bureau of Reclamation
SACS	Strawberry Aqueduct and Collection System
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SPCC	Spill Prevention Containment and Control
SR	state road
SWPPP	Storm Water Pollution Prevention Plan
T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality
UDCC	Utah Data Conservation Center
UDDW	Utah Division of Drinking Water
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDWR	Utah Division of Wildlife Resources
UDWR	Utah Division of Water Rights
UNHP	Utah Natural Heritage Program
UPDES	Utah Pollutant Discharge Elimination System
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compounds
WOUS	Waters of the U.S.

CHAPTER 1

Purpose & Need

1.1 Introduction

The Central Utah Water Conservancy District (District); the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission); and the U.S. Department of the Interior, Central Utah Project Completion Act Office (CUPCA Office), as Joint Lead Agencies, have prepared this Environmental Assessment (EA) to analyze the environmental impacts of replacing the North Fork Siphon. The proposed project is located in the canyon of the North Fork of the Duchesne River, Duchesne County, Utah. The North Fork Siphon is a component of the Strawberry Aqueduct and Collection System (SACS) of the Central Utah Project's (CUP) Bonneville Unit.

National Environmental Policy Act

This EA evaluates and presents the potential effects of the Proposed Action in order to determine whether it would cause significant impacts to the human or natural environment as defined by the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality, and Department of the Interior Regulations Implementing NEPA (40 CFR Parts 1500-1508 and 43 CFR Part 46, respectively). If the EA process shows no significant impacts associated with implementation of the proposed project, then a Finding of No Significant Impact (FONSI) will be issued by the Joint Lead Agencies. During the EA process, if it is determined that there may be significant impacts, preparation of an Environmental Impact Statement (EIS) would be necessary prior to Proposed Action implementation. The Joint Lead Agencies will use the EA process to satisfy disclosure requirements and as a means for public participation as required by NEPA, Section 106 of the National Historic Preservation Act of 1966 (NHPA), Section 7 of the Endangered Species Act of 1973 (ESA), Public Involvement as required by the Central Utah Project Completion Act (CUPCA), and other state and local regulatory requirements.

What is the National Environmental Policy Act?

NEPA applies to all projects which are authorized, funded, or carried out with the involvement of the federal government. The legislation establishes a process to help officials make decisions that are based on a full understanding of the environmental consequences of a proposed project and to take actions that protect, restore, and enhance the environment. The Council on Environmental Quality regulations [40 CFR 1500 1508] are the primary regulations implementing NEPA. Compliance with the provisions of NEPA is required for the Proposed Action activities because the replacement of the North Fork Siphon is a federal action.

1.2 Proposed Action

The Proposed Action consists of the following:

- Replacement of the 4,712 foot long North Fork Siphon which connects the North Fork Pipeline and the Hades Tunnel
- Replacement of the 1,545 foot long North Fork Pipeline which connects the Stillwater Tunnel and the North Fork Siphon

- Reconstruction of the Hades Feeder Pipeline connection and blow off structure
- Reestablishment of access to the Hades Tunnel Inlet Portal
- Improvement of access across the North Fork of the Duchesne River

1.3 Cooperating Agencies

As defined by the Council on Environmental Quality (CEQ) 40 CFR 1501.6, a Cooperating Agency actively participates in the NEPA process, provides information for preparing environmental analyses for which the Cooperating Agency has jurisdiction by law or special expertise, and is part of the proposed project's interdisciplinary team.

The Joint Lead Agencies have invited the U.S. Bureau of Reclamation (Reclamation) and the U.S. Forest Service, Ashley National Forest to participate in the preparation and review of this NEPA process and to be Cooperating Agencies. Both agencies have accepted the Joint Lead Agencies' invitation and have assisted in the preparation of this EA.

1.4 Study Area and Withdrawn Lands

The proposed improvements are located in the canyon of the North Fork of the Duchesne River within the Ashley National Forest (ANF) boundaries on withdrawn lands approximately 40 miles northwest of Duchesne City, Utah. The study area encompasses approximately 122 acres within the withdrawn lands. See Figure 1-1 Study Area.

Withdrawn Lands for Central Utah Project

The project study area is completely within U.S Department of the Interior withdrawn lands (see Figure 1-1). The Reclamation Act of 1902 (32 Stat.388), and the Sundry and Civil Expenses Appropriation Act (41 Stat. 202) govern the Secretary of the Interior's (Secretary) authority on withdrawn lands. Where conflicting authorities exist, the Sundry and Civil Expenses Appropriation Act establishes the paramount authority of the Secretary to so to deal with such lands.

Although the project study area is within the Ashley National Forest boundary where a roadless area designation has been established, the purpose of the withdrawn lands necessitates establishment and maintenance of roads to provide access for operation, maintenance, and repair (OM&R).

What are CUP Withdrawn Lands?

CUP Withdrawn lands are reserved by the Secretary of the Interior for the construction, operation, maintenance, inspection, and protection of the CUP. They are not available for other uses absent the express approval of the Secretary of the Interior.

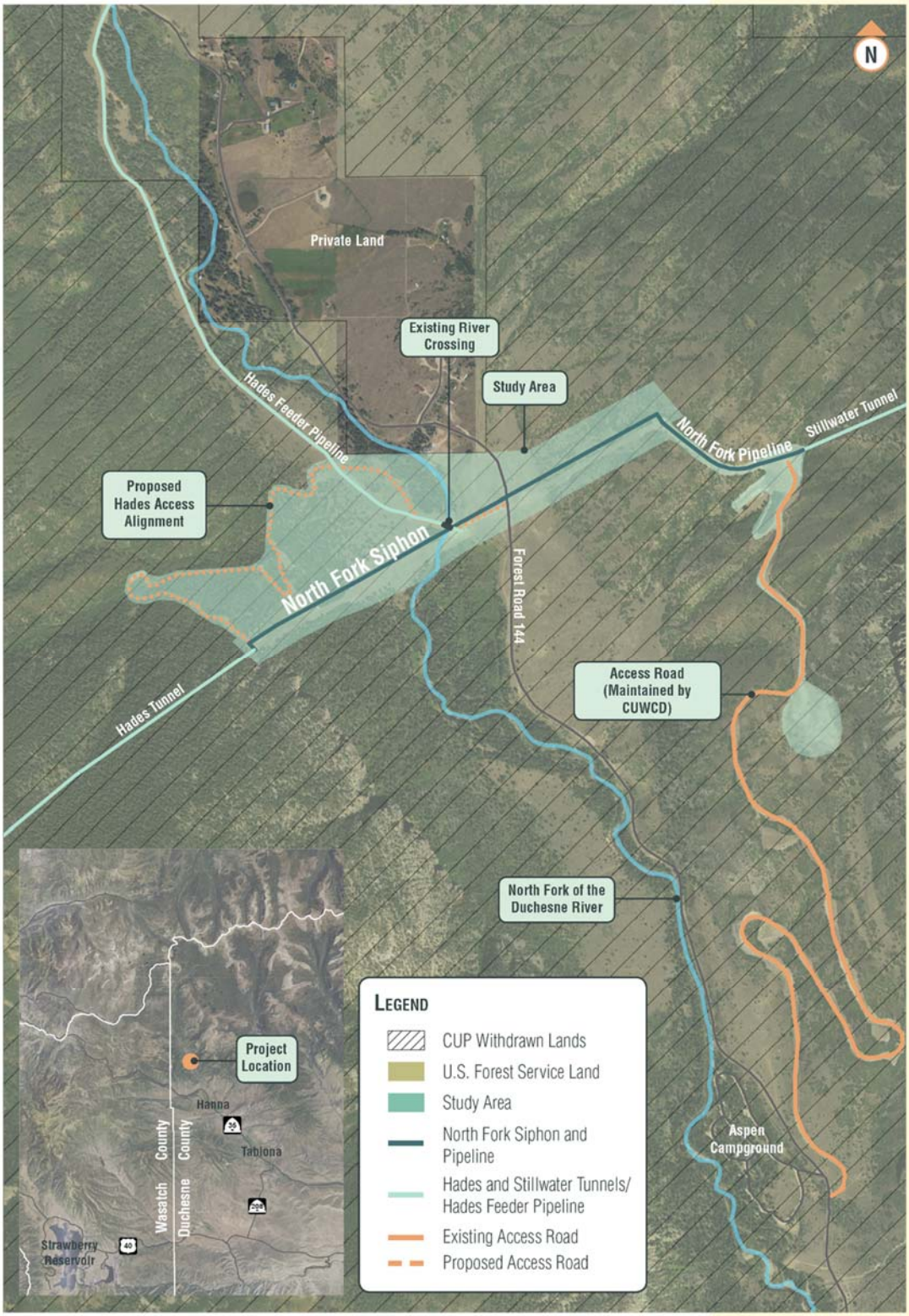

Figure 1-1. Study Area

1.5 Proposed Project Background

Bonneville Unit

The Bonneville Unit of the CUP involves water storage and conveyance features located in portions of Salt Lake, Utah, Wasatch, Summit, and Duchesne Counties (see Figure 1-2 for a map of the Bonneville Unit). It develops water resources in mountainous areas in northeast Utah for use in the Bonneville Basin (west of the Wasatch Mountains) and in the Uinta Basin (east of the Wasatch Mountains). The Bonneville Unit supplies water to over a million people along the Wasatch Front and Uinta Basin by:

- Collecting and storing flows within the Duchesne and Provo River Drainages,
- Purchasing water rights in Utah Lake, and
- Recapturing and using CUP Project water return flows.

Bonneville Unit facilities make use of a trans-basin diversion of water from the Colorado River Basin to the Bonneville Basin and deliver water for Municipal and Industrial (M&I), irrigation, and fish and wildlife purposes in both basins. Other uses include recreation and hydropower generation.

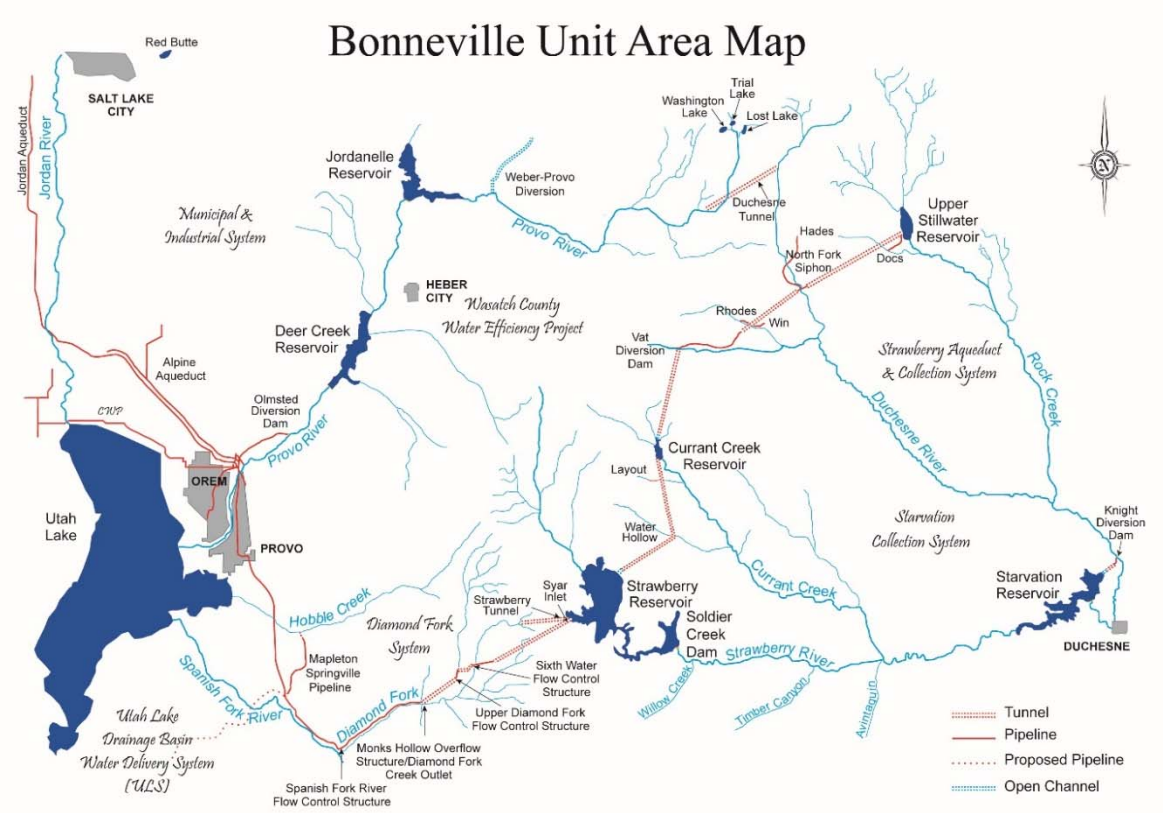

Figure 1-2. Bonneville Unit Area Map

Strawberry Aqueduct and Collection System (SACS)

The North Fork Siphon is part of the Strawberry Aqueduct and Collection System (SACS) constructed by Reclamation and operated by the District. SACS is a large component of the Bonneville Unit of the CUP. It collects and transports Colorado River basin water from the southwestern slopes of the Uinta Mountains into Strawberry Reservoir and then to the CUP service areas along the Wasatch Front (see Figure 1-3). This water is used for agriculture (temporary for South Utah County), municipal, and industrial uses. A substantial quantity of water from the SACS is also bypassed as well as regulated for instream flow purposes in the Uinta Basin. Diversions of water from the SACS to the Wasatch Front averages 101,900 acre-feet annually. SACS spans approximately 37 miles and consists of tunnels, pipelines, diversions, siphons, open channels as well as three dams and reservoirs (Upper Stillwater, Currant Creek, and Strawberry). It is critical to keep the components of the SACS operational, including the North Fork Siphon.

North Fork Siphon

The siphon is a 72-inch-diameter pre-stressed concrete cylinder pipe (PCCP) connecting the North Fork Pipeline with the Hades Tunnel. It is buried on steep grades (up to 50 degrees) originating on the east side of the canyon at the North Fork Pipeline and terminates on the west side at the Hades Tunnel (see Figure 1-1). At its low point, the siphon crosses under the North Fork of the Duchesne River. The slope distance of the siphon is approximately 4,712 feet long with a vertical change in height of approximately 700 feet from the Hades Tunnel inlet portal and the river bottom. PCCP pipe has a history of failure. The North Fork Siphon is showing signs indicating it has dramatically weakened from when it was installed. Electromagnetic and other inspections show that there a wire breaks (steel wire wraps around the pipe for structural strength) and areas where the exterior mortar has broken-off the siphon.

Hades Feeder Pipeline

The Hades Feeder Pipeline is a 24- to 30-inch-diameter, bar-wrapped steel cylinder concrete pressure pipe (BWP) that diverts water from Hades Creek (located about 2 ½ miles north) into the North Fork Siphon near the canyon floor (see Figure 1-1).

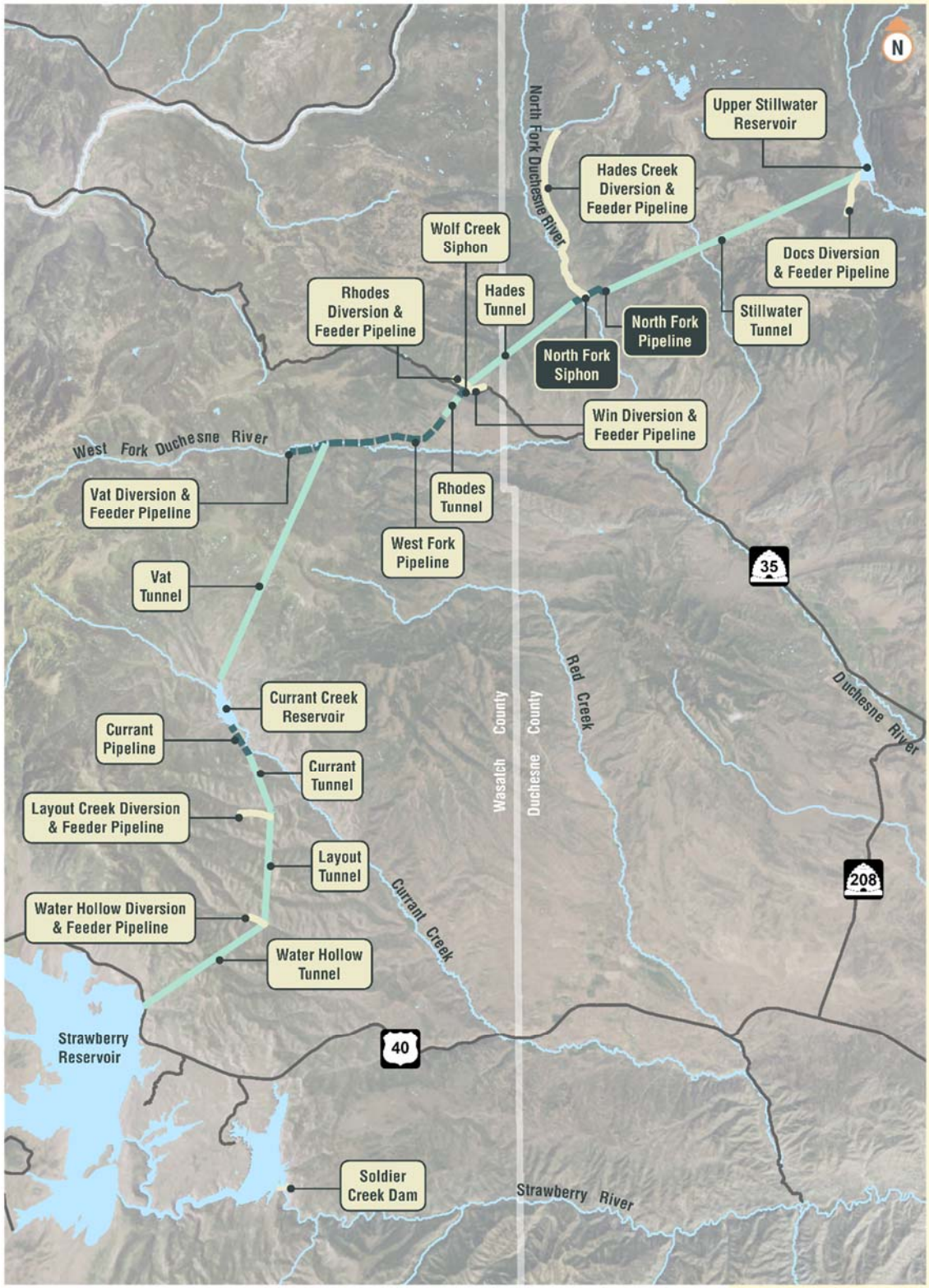

Figure 1-3. Strawberry Aqueduct and Collection System

North Fork Pipeline

The pipeline is a 90-inch diameter steel pipe that extends from the Stillwater Tunnel outlet portal to the North Fork Siphon. It is about 1,545 feet in length with a 90-degree elbow and pipe reduction from 90 to 72 inches transitioning to the North Fork Siphon. The pipeline is located beneath an access road on the east side of the canyon more than 700 feet above the valley floor and the North Fork of the Duchesne River (see Figure 1-1).

1.6 Purpose and Need

Project Need

The proposed action is needed to address the operation, maintenance, and replacement needs of the North Fork Siphon to maintain its integrity, safety, efficiency, and reliability in order to continue to meet the objectives of the SACS and the Bonneville Unit of the CUP.

The North Fork Siphon was built between 1984 and 1987 and is constructed of PCCP. At the time the siphon was designed, PCCP was considered a cost effective solution ideally suited for high pressure piping situations; however, recent history has shown that this type of pipe has an increasing incidence of failure, which has the potential to cause a great deal of damage. A report from 2008 states that since 1955, there have been nearly 600 independent failures or loss of service resulting from PCCP failures in North America. The District has conducted routine inspections since completion of the North Fork Siphon. Based on increasing concerns regarding knowledge of PCCP failure the District began performing specific condition assessments in 2004. Multiple inspections and reports indicate that the North Fork Siphon needs to be replaced for the following reasons:

Failed PCCP in Miami, FL

- Cracks (joint, spigot, circumferential, multiple, longitudinal)
- Spalling Areas (cracks and bulges that cause concrete to dislodge or break away)
- Hollow areas in the PCCP

As described in Section 1.5 Proposed Project Background, it is critical to keep the North Fork Siphon operational to meet the objectives of the SACS and the Bonneville Unit of the CUP.

Project Purposes

The purposes of the proposed action include the following:

- Maintain SACS water delivery to Strawberry Reservoir
- Meet water delivery obligations of the Bonneville Unit
- Replace aging facilities
- Reduce risk of property damage due to failure of the siphon
- Continue to safely operate and maintain SACS
- Reduce maintenance issues
- Reduce operation and maintenance costs
- Minimize environmental impacts
- Avoid environmental impacts due to failure

Operation, Maintenance, and Repair

The North Fork Siphon currently needs ongoing and extensive maintenance and monitoring to remain in operation, including:

- Repair of pipe segments
- Pipe joint repairs
- Cleaning and repairing major spalling areas
- Continued acoustic monitoring

Additionally, appropriate access to the North Fork Siphon is crucial for continued operation and maintenance activities. The existing access to the Stillwater side of the Siphon is currently well-maintained. However, the Hades access constructed in the late 1980s as part of the original construction of the North Fork Siphon, was reclaimed and allowed to return to a natural state.

Access to the west side of the canyon from Forest Service Road 144 requires crossing the North Fork of the Duchesne River. This access is located just north of the siphon and is a concrete slab embedded with five culverts. Currently, the District is required to obtain necessary permits and clearances to clean out debris behind the culverts to prevent flooding and potential failure of the structure, river bedload buildup, and potential access loss. During high runoff, the existing crossing can be difficult to traverse due to high water and the risk of overtopping, as well as swift currents. The east abutment of the crossing is currently washed out and needs to be repaired or replaced.

North Fork of the Duchesne River Crossing

Overtopping of the North Fork of the Duchesne River Crossing

Minimize Environmental Impacts

The Proposed Project is located on withdrawn lands within the ANF. The ANF is an important environmental resource, and the U.S. Forest Service has a

mission to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. Failure of the North Fork Siphon could cause resource damage in the study area, including erosion and sedimentation of the North Fork of the Duchesne River. Additionally, minimizing resource damage to project withdrawn lands and the surrounding ANF during construction is important.

1.7 Statutes, Regulations, or Other Related Documents

Statutes and Regulations

The Proposed Action for the North Fork Siphon Replacement Project will comply with all federal, state, and local regulations.

Related Environmental and Planning Documents

The Proposed Action has taken into consideration related environmental and planning documents, including the following reports:

- Bonneville Unit Definite Plan Report (1964)
- Final Environmental Statement, Bonneville Unit of the CUP (1972)
- Final Environmental Statement, Municipal and Industrial System, Bonneville Unit, CUP (1979)
- Supplement to the Bonneville Unit Definite Plan Report (1988)
- Supplement to the Final Environmental Study, Municipal and Industrial System, Bonneville Unit, CUP (1987)
- Supplement to the Bonneville Unit Definite Plan Report (2004)

CHAPTER 2

Alternatives

2.1 Introduction

This chapter discusses the No-Action Alternative, the Proposed Action Alternative, and other Alternatives considered.

2.2 No-Action Alternative

The No-Action Alternative has been developed to provide a comparison with the Proposed Action. Under the No-Action Alternative ongoing and extensive maintenance would be required to keep the North Fork Siphon in operation, including repair of pipe segments, pipe joint repairs, cleaning and repairing major spalling areas, and continued acoustic monitoring. These activities are in direct conflict with engineering consultant recommendations to keep the pipe pressurized (to avoid pressure cycles that weaken the pipe) and the potential for an emergency repair or replacement would increase. The No-Action Alternative could result in a rupture of the North Fork Siphon, resulting in a loss of water reducing project yield, increased construction costs, increased environmental impacts, and the District being unable to meet contractual obligations for water supplies.

2.3 Proposed Action Alternative

As shown on Figure 2-1, the Proposed Action Alternative includes the following improvements:

- Replacing the North Fork Siphon
- Replacing the North Fork Pipeline
- Reconstructing the Hades Feeder Pipeline connection and North Fork Siphon blow off structure
- Reestablishing access to the Hades Tunnel Inlet Portal
- Improving access across the North Fork of the Duchesne River

All proposed improvements are located within Central Utah Project (CUP) withdrawn lands (see Figure 2-1). CUP withdrawn lands are reserved by the Secretary of the Interior for the construction, operation, maintenance, inspection, and protection of the CUP. They are not available for other uses absent the express approval of the Secretary of the Interior (see section 1.4 in Chapter 1 for more information).

1. Replacing the North Fork Siphon

The existing 72-inch North Fork Siphon would be replaced with a new siphon, up to 90 inches in diameter, that would be constructed adjacent and approximately 60 to 80 feet north of the existing siphon. This parallel placement would be necessary in order to deliver constant water through the existing siphon during construction of the Proposed Action. Upon completion of the new siphon, the existing siphon would no longer be used and abandoned in place. Regular inspections would take place to check for change in surface elevations over the abandoned pipeline. If changes are observed, measures would be taken to remediate surface impacts.

North Fork Siphon on the west slope during the original construction

2. Replacing the North Fork Pipeline

The Proposed Action would include replacing the existing 90-inch North Fork Pipeline. This pipeline is constructed from welded steel and is about halfway through its anticipated 75-year lifecycle. The pipeline is buried under an unimproved access road between the Stillwater Tunnel outlet portal and the beginning of the North Fork Siphon. Since installation, the pipeline has settled at the Stillwater Tunnel connection. The unimproved access road is roughly 15-25 feet wide, is not designed for regular vehicle traffic, and would not support heavy construction loads. Construction activities related to the replacement of the North Fork Siphon would cause damage to the existing North Fork Pipeline, requiring its replacement. Additionally, replacing the pipeline during construction of the North Fork Siphon would help reduce construction costs and minimize overall environmental disturbance impacts compared to an individual North Fork Pipeline replacement project in the future.

Contractor laying a 40-ft section of the North Fork Pipeline during the original construction

The pipeline would be replaced within the same footprint of the existing pipeline and within the unimproved access. The reconstructed North Fork Pipeline would retain its current 90-inch diameter and would need to be extended farther north to fill the gap created by shifting the North Fork Siphon 60 to 80 feet north.

3. Reconstructing the Hades Feeder Pipeline Connection and North Fork Siphon Blow Off Structure

Currently the Hades Feeder Pipeline connection to the North Fork Siphon is located within the North Fork Siphon blow off structure. This blow off structure is located on the east side of the North Fork of the Duchesne River. Shifting the North Fork Siphon 60 to 80 feet to the north would require providing a new connection to the Hades Feeder Pipeline. The North Fork Siphon blow off structure would be reconstructed at a location on the west side of the river to allow for a straight segment of pipeline to extend into the blow off structure (a straight segment of pipe is necessary for the accurate measurement of water flow in the Hades Feeder Pipeline).

Existing North Fork Siphon Blow Off Structure with existing river crossing in the background

4. Reestablishing Access to the Hades Tunnel Inlet Portal

The Proposed Action would include construction of a 1.2 mile gravel access road, up to 16 feet in width, to the Hades Tunnel inlet portal on the north side of the North Fork Siphon. An access road was built for the original construction of the North Fork Siphon. However, after construction was completed, the access road had been reclaimed and allowed to return to a natural state. The access road would be reconstructed for use during construction and future District maintenance of the North Fork Siphon and Hades Tunnel.

Overview of the area of the construction access road to the Hades Inlet Tunnel Portal looking west

5. Improving Access across North Fork of the Duchesne River

Access to the west side of the canyon is from Forest Service Road 144 and requires a crossing over the North Fork of the Duchesne River. This access is located just north of the siphon and is a concrete slab embedded with five culverts. Currently, the District is required to obtain necessary permits and clearances to clean out behind these culverts or to reconstruct/repair the crossing. During high runoff, the existing crossing can be difficult and unsafe to traverse due to high water and the risk of overtopping, as well as swift currents. Large debris is often lodged at the upstream end of the crossing, causing water to backup and increase the occurrences of erosion and sediment washout around the abutments of the crossing. The Proposed Action would include constructing a new bridge, or some other improved crossing, in the same general location as the existing crossing. The crossing would be used during and after construction to provide access to the west side of the canyon and the new North Fork Siphon blow off structure. The old crossing structure would be removed.

North Fork of the Duchesne River Crossing

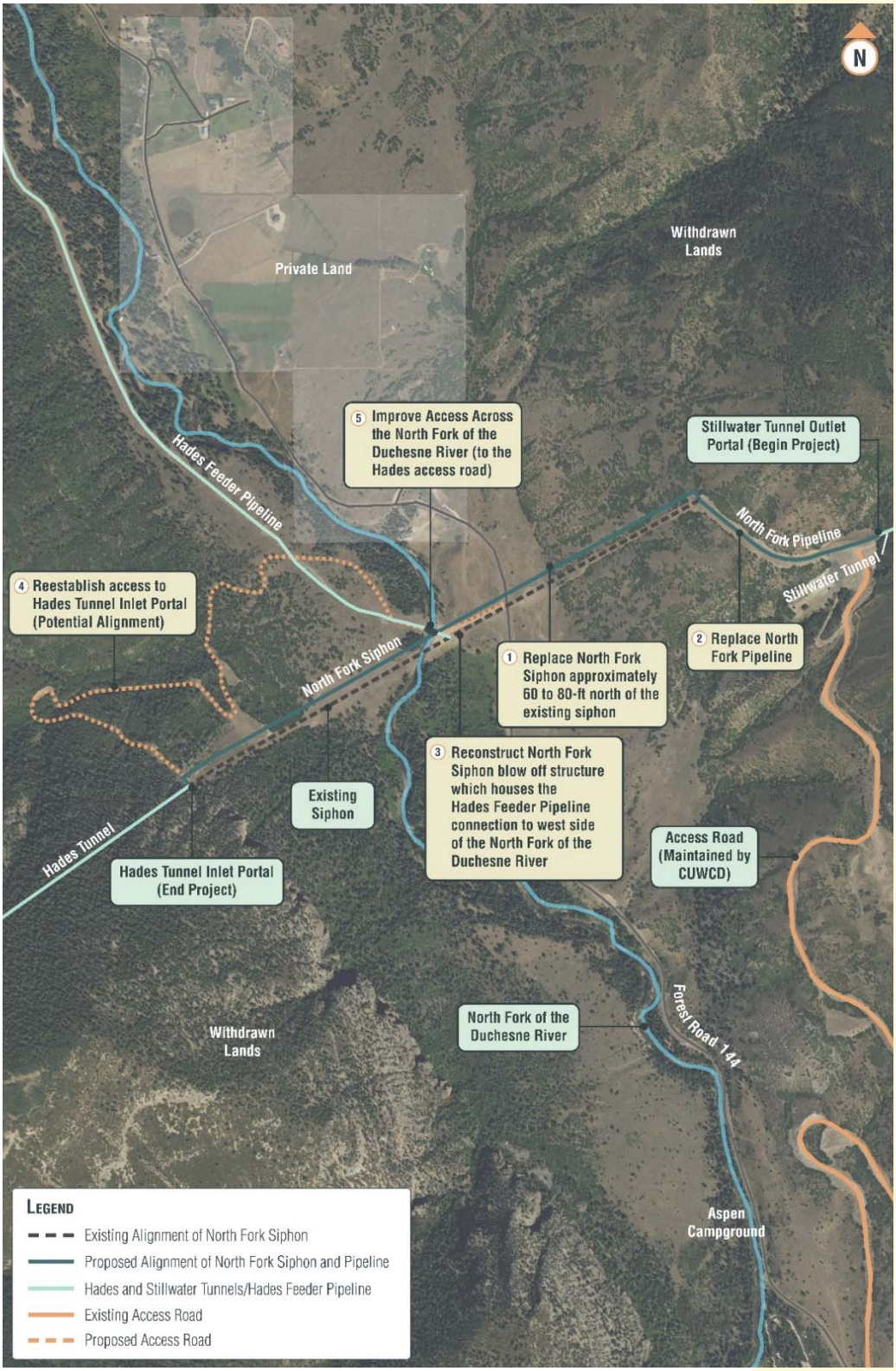

Figure 2-1. Proposed Action

2.4 Alternatives Considered but Eliminated

The following alternatives were considered but eliminated from further study.

Carbon-Fiber Reinforced Polymers (CFRP) for Existing North Fork Siphon

This alternative would include manually applying layers of epoxy-wetted carbon-fiber reinforced polymer (CFRP) to reinforce the North Fork Siphon. The existing pipe system would act as a form for the CFRP, which would become the pipe liner once the CRFP is installed and cured. The CFRP system would provide all structural support and would not rely on the existing North Fork Siphon for structural integrity.

This alternative was eliminated from further consideration for the following reasons:

- Construction would be limited to only the winter months when water could be shut off from running in the pipe, resulting in a small construction window and increased difficultly for job site access due to winter conditions.
- The CFRP would reduce the inside diameter of the pipe by over an inch on each side, thereby reducing pipe capacity.
- CFRP technology is relatively new and has not been proven over time.
- To be effective, the application of the CFRP needs to be exact. Otherwise the carbon fiber may delaminate and lose structural integrity. The North Fork Siphon is located on extremely steep slopes (see photo to right) and effective application of the CFRP under these conditions would be very difficult. The steep slopes on the inside of the siphon do not provide a place for workers to easily stand and effectively apply the CFRP from within the existing pipe.

CFRP System

Steep slopes on North Fork Siphon Alignment

Steel Cylinder Relining or Sliplining for Existing North Fork Siphon

Steel Cylinder Relining

Under this alternative, the North Fork Siphon would be relined with steel cylinders. This process includes inserting collapsed steel cylinders into the North Fork Siphon and then re-rounding the collapsed cylinders into place. The space between the liner and the pipe would then be filled with cement grout.

Sliplining

Sliplining would include inserting full sections of steel pipe into the existing North Fork Siphon, connecting the adjacent pipe sections, and then filling the space between the liner and the existing pipe with cement grout.

Sliplining

These alternatives were eliminated from further consideration for the following reasons:

- Construction would be limited to only the winter months when water could be shut off from running in the pipe, resulting in a short construction window and increased difficultly for job site access due to winter conditions.
- The inside diameter of the pipe would be reduced by four to six inches on each side, substantially reducing pipe capacity.

Repairing Weakened or Distressed Sections of Pipe through a Post-Tensioning System

This alternative would include strengthening weakened or distressed sections of the North Fork Siphon by installing reinforced wire around the exterior of weakened or distressed pipe segments.

Post-Tensioning System

This alternative was eliminated from further consideration for the following reasons:

- Repairing the pipe is not a long-term solution and continual repairs and maintenance would be required.
- Installation and construction would be extremely difficult as the exterior of the North Fork Siphon is partially embedded in soil cement, which would be extremely difficult to remove.

Replace North Fork Siphon on Existing Alignment

Constructing the North Fork Siphon on its existing alignment was considered but eliminated from further consideration because it would not allow for continued water delivery throughout the length of construction (anticipated to extend for three years).

North Fork Siphon South Alignment

Constructing the North Fork Siphon approximately 50 to 80 feet to the south was considered but was eliminated from further consideration for the following reasons (see Figure 2-2):

- Impacts to wetlands.
- Greater impacts to mature trees and vegetation.
- Connecting the North Fork Siphon to the Hades Tunnel would be extremely difficult due to a rock outcrop and ledge.
- Potential for serious safety concerns for construction crews if a rupture of the existing siphon occurred during construction.

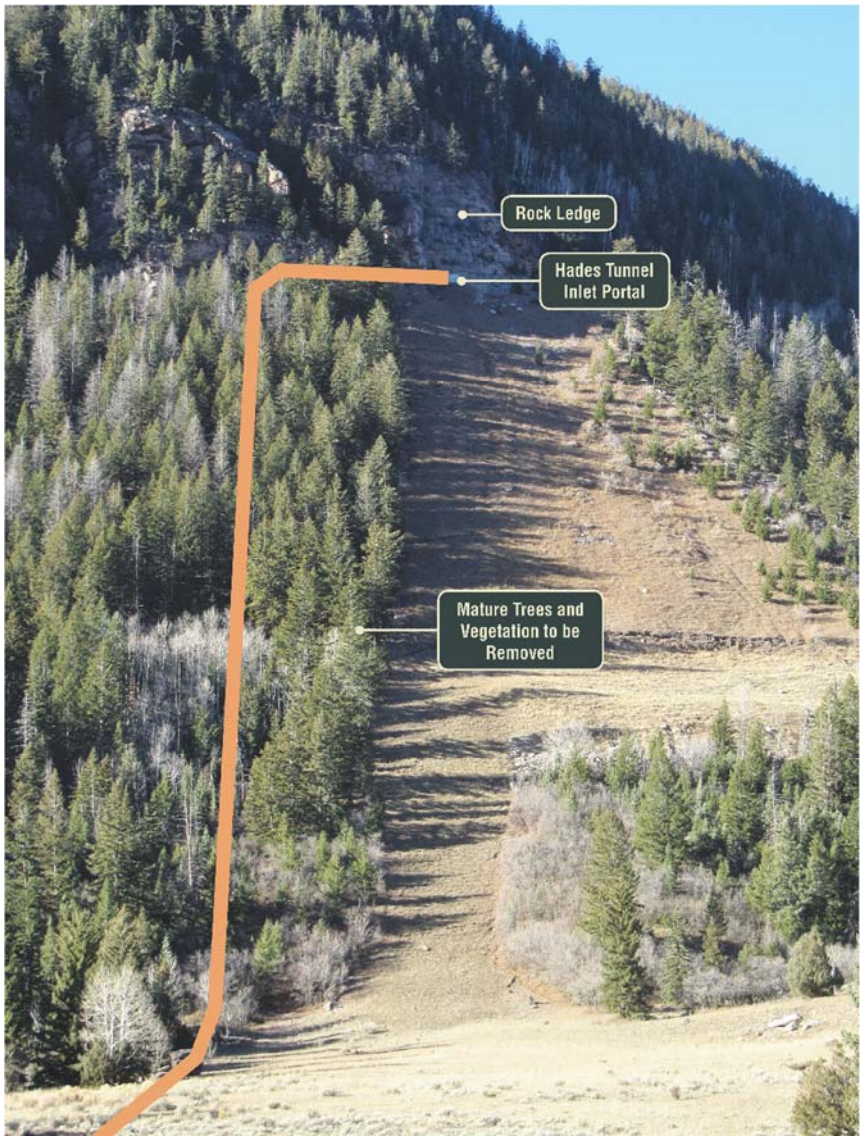

Figure 2-3. North Fork Siphon South Alignment

2.5 Comparative Analysis of Impacts of the Proposed Action and No-Action Alternatives

Table 2-1 summarizes the effects of implementing the Proposed Action Alternative in comparison to the No-Action Alternative. See Chapter 3, Affected Environment and Environmental Effects, for a complete analysis of affected resources.

Table 2-1. Comparative Analysis of Impacts of the Proposed Action and No-Action Alternatives

Subject	Proposed Action Alternative	No Action Alternative
Air Quality	• Temporary and localized impacts to air quality would be expected during construction in the form of fugitive dust (PM_{10} and $PM_{2.5}$) and construction vehicle and equipment emissions (CO and ozone). • No air quality impacts from pipeline operation. • No long-term adverse impacts on air quality.	• Minimal impacts to air quality would be expected during regular Operation, Maintenance, and Replacement (OM&R) activities in the form of vehicle exhaust emissions. • Pipeline rupture would result in similar impacts as the Proposed Action Alternative on an emergency basis. • No long-term adverse impacts on air quality.
Threatened and Endangered Species	• No Effect to any of the federally-listed Endangered Species Act species as there is no suitable habitat, they are not known to occur, and are not expected to be present in the study area.	• OM&R activities would have No Effect to any of the federally-listed Endangered Species Act species as there is no suitable habitat, they are not known to occur, and not expected to be present in the study area. • Pipeline rupture could cause potential soil deposition or limit instream flows affecting aquatic endangered species downstream of the study area.

Subject	Proposed Action Alternative	No Action Alternative
Wildlife	• Temporary and short-term construction impacts for Utah Sensitive Species, USFS Sensitive Species, general wildlife, migratory birds (including raptors) and their habitats due to higher than usual noise levels, proximity of construction equipment, and other construction-related activities. • Temporary impacts to aquatic habitat in the North Fork of the Duchesne River during construction of the pipeline and removal/replacement of the river structure crossing. No effects to water quality expected with proper implementation of Best Management Practices (BMPs). • Upon completion of construction, habitat conditions would be very similar to existing conditions, not diminishing the ability of wildlife species to frequent the area. • No permanent impacts to suitable habitat for mule deer and elk, or any other wildlife species. • Mature trees and shrubs would be removed or trimmed during construction. Permanent impacts to migratory bird nesting, feeding, roosting, and hiding cover habitat would be minimal.	• OM&R activities would have minimal impacts on wildlife. • Pipeline rupture could cause potential erosion and debris to be carried downstream of the study area.
Water Resources and Wetlands	• Temporary impacts to the North Fork of the Duchesne River during construction of the pipeline, removal of the existing river crossing, and installation of the new river crossing structure. Minimal and temporary impacts to water quality expected with proper implementation of BMPs. • Upper Stillwater Reservoir levels would be lowered and water would be moved through the SACS or Rock Creek during construction. This would dewater the Upper Stillwater Tunnel and the North Fork Pipeline and Siphon allowing for construction of all necessary pipeline connections. • Approximately 0.01 acres of wetlands impacts from construction and alignment of the North Fork Siphon.	• OM&R activities would have no impacts to wetlands. • Pipeline rupture could cause potential erosion and debris to be carried downstream of the study area.

Subject	Proposed Action Alternative	No Action Alternative
Water Quality	• Minimal and temporary impacts to water quality expected with proper implementation of BMPs during construction activities at North Fork of the Duchesne River. • Minimal and temporary impacts to surface water quality expected during construction with implementation of Storm Water Pollution Prevention Plan (SWPPP) BMPs. • New river crossing structure has potential to improve current erosion conditions of the North Fork of the Duchesne River as it would allow uninhibited flow beneath the structure.	• OM&R activities would have no impacts to water quality. • Pipeline rupture could cause potential erosion and debris to be carried downstream of the study area.
Floodplains	• Temporary impacts to the non-regulatory floodplain during construction of the siphon. • New river crossing structure over the North Fork of the Duchesne River designed for greater than the 100-year flood event.	• OM&R activities would have no impacts to floodplains based on current OM&R activities. • Pipeline rupture would cause a serious, localized flood event due to the breach of the pipeline until emergency measures could be implemented.
Agricultural Resources	• No change in the delivery of water to agricultural users. • Daily operations of the current facility would be maintained during construction with improvements ensuring components of the SACS remain operational into the future. • Temporary and minimal construction impacts to current grazing activities would be anticipated. Construction crews would coordinate with grazing permittees to ease impacts to cattle.	• OM&R activities would not impact current grazing activities. • Pipeline rupture could cause potential disruption of water services. • Pipeline rupture would result in similar impacts as Proposed Action Alternative on an emergency basis.
Roadless Areas	• Removal of the 27.95 acres of Roadless Area within the study area from USFS-designated Roadless Area to avoid future confusion.	• The Roadless Designation does not apply to withdrawn lands (see section 1.4 in Chapter 1); therefore, the No-Action Alternative would not have any impacts.
Soils and Geotechnical	• Soil disturbance would increase the potential for erosion during and after construction. • The Hades Inlet Portal access road would be placed on steep slopes that have the potential for landslides and erosion. • BMPs would be utilized in order to prevent soil erosion from occurring.	• OM&R activities would have no impact on soils and geotechnical resources. • Pipeline rupture could cause potential erosion.
Cultural Resources	• No Historic Properties Affected.	• No impact.
Indian Trust Assets	• No tribal representatives responded to scoping invitations and no ITAs were identified.	• No impact.

Subject	Proposed Action Alternative	No Action Alternative
Visual Resources	• Temporary impacts to the viewshed are anticipated from construction disturbance. • The new river crossing structure over the North Fork of the Duchesne River and access road to reach the Hades Tunnel Inlet Portal would cause a minor visual change. • Approximately 804 trees would be removed on the new alignment. • Overall appearance of the corridor would appear similar to existing conditions; the old disturbance "scar" would be revegetated and the new disturbance area would be maintained similar to existing conditions with minimal vegetation.	• OM&R activities would cause no major changes to the viewshed in the study area. • Pipeline rupture would result in similar impacts as Proposed Action Alternative on an emergency basis.
Recreation	• Temporary, short-term delays to recreation access would occur with construction related traffic delays on Forest Service Road 144. • Upper Stillwater Reservoir water levels would be lowered temporary during construction to allow for necessary pipeline connections. • No impacts to recreation once the facility is operational.	• OM&R activities would cause no changes to recreation in the study area. • Pipeline rupture would result in similar impacts as Proposed Action Alternative on an emergency basis.
Noise and Vibration	• Temporary increase in noise and vibration levels associated with construction activities would be expected. Due to sensitivity of maintaining the functionality of the adjacent pipeline during construction, vibration impacts to neighboring properties is unlikely. • Temporary noise and vibration impacts to recreation activities, hunters, wildlife and migratory birds are anticipated.	• OM&R activities would not increase noise and vibration. • Pipeline rupture would result in similar impacts as Proposed Action Alternative on an emergency basis.
Transportation	• Improved facility maintenance access to west side of canyon and new North Fork Siphon Blow Off structure expected following removal and replacement of crossing structure over the North Fork of the Duchesne River. • Reconstruct previously reclaimed road for future access to Hades Tunnel Inlet Portal and maintenance of the North Fork Siphon. • Adjustment of USFS-designated Roadless Area within the study area. • Travel delays may occur on surrounding roads during construction due to moving equipment and transport of construction materials.	• OM&R activities would have no changes to transportation facilities in the study area. • Pipeline rupture would result in similar impacts as Proposed Action Alternative on an emergency basis.

Subject	Proposed Action Alternative	No Action Alternative
Vegetation and Invasive Species	• Removal of shrubs, bushes, approximately 804 trees, and other vegetation would be required. • Overgrown vegetation would be removed during reconstruction of the previously reclaimed road to be used for future maintenance access to Hades Tunnel Inlet Portal. • Ground disturbance has potential to allow for establishment or spread of invasive and noxious weed species. • Vegetated areas on the existing alignment that are having erosion issues would be stabilized and revegetated with appropriate native species. The new alignment would be seeded with native grasses and erosion control measures would be put in place to prevent the incursion of invasive weed species while still complying with Reclamation and District standards regarding allowable vegetation. • After construction, the District would comply with its Integrated Pest Management Program.	• OM&R activities with ground disturbance have potential to allow for establishment or spread of invasive and noxious weed species. • Pipeline rupture would result in similar impacts as Proposed Action Alternative on an emergency basis.
Utilities	• Temporary relocation of some existing utilities may be required, but would be restored with little to no disruption of service.	• OM&R activities would have no impact on utilities. • Pipeline rupture would result in temporary impacts to utilities in the study area as a result of the pipeline failure until such time as service could be restored.

CHAPTER 3

Affected Environment and Environmental Effects

3.1 Introduction

The purpose of this chapter is to describe the existing conditions of the human and natural environment within the study area and evaluate the potential beneficial or adverse effects of implementing the Proposed Action and the No-Action Alternative. This section presents the basis for the comparative analysis of the alternatives described in Chapter 2, an analysis of the potential direct, indirect, and cumulative impacts that each alternative would have on the affected environment, and details measures to avoid, minimize, or mitigate potential impacts. This chapter also analyzes cumulative impacts.

Affected Environment

The Affected Environment or the existing conditions were identified based on field investigations; coordination with federal, state, and local agencies; and literature and data file searches.

Environmental Effects

The National Environmental Policy Act (NEPA) of 1969 requires consideration of direct, indirect, and cumulative impacts, plus identification of measures to avoid, minimize, and mitigate impacts. Impacts are described and generally illustrated as follows:

- Direct impacts are those caused by the action and occur at the same time and place (40 CFR §1508.8). These are discussed in each resource area subsection.
- Indirect impacts are those caused by the action and occur later in time or are farther removed in distance, but are still reasonably foreseeable (40 CFR §1508.8). Indirect effects are generally less quantifiable but can be reasonably predicted to occur. Indirect impacts are discussed in Section 3.20.
- Cumulative impacts are those impacts to the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR §1508.7). Cumulative impacts are discussed in Section 3.21.

The scoping process identified the following resource topics of concern:

- Agricultural Resources
- Visual Resources
- Recreation

- Noise and Vibration
- Transportation
- Vegetation and Invasive Species
- Utilities
- Air Quality
- Climate Change
- Soils and Geotechnical
- Threatened and Endangered Species
- Wildlife
- Water Resources/Wetlands
- Water Quality
- Cultural Resources
- Indian Trust Assets

Resources not Addressed in the EA

Resources not addressed in this EA include resources that are not present in the study area and/or would not be impacted by the Proposed Action. The resources considered for inclusion but eliminated from further analysis based on a no impact determination include:

- Prime, Unique, and Statewide Important Farmland – The proposed project is located in the canyon of the North Fork of the Duchesne River, Duchesne County, Utah within the Ashley National Forest on withdrawn lands for the Central Utah Project's (CUP) Bonneville Unit (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1). The area has not been mapped for prime, unique, or statewide important farmland by the Natural Resource Conservation Service (NRCS). There are no farmlands within the study area; therefore, the Proposed Action would have no impact to prime and unique farmland.

- Wild and Scenic Rivers – The North Fork of the Duchesne River, within the study area, is not protected under the Wild and Scenic Rivers Act of 1968, as amended, and there is no known proposal to protect this portion of the North Fork of the Duchesne River under the act.

- Groundwater Quality – The study area is located within the Uinta Mountain Range in Duchesne County, Utah and is within the Duchesne River Watershed (HUC 14060003), which is part of the Colorado River Basin. There is no principal valley-fill aquifer associated with the study area in Duchesne County. Groundwater in the Duchesne River Watershed is recharged directly from streams or from percolation of rainwater through the soil and rock formation fractures. Shallow

groundwater aquifers lie near the major rivers of the Duchesne, Lake Fork and Uinta Rivers; however, there are no shallow groundwater aquifers in the study area. The Proposed Action would have no effect on groundwater quality.

- Land Use Plans and Policies – The Proposed Action would have no impact on land use plans and policies for the study area. The study area consists of withdrawn lands for the CUP. These withdrawals limit activities on these lands, as provided for in the Reclamation Act of 1902 (32 Stat. 388). Administrative jurisdiction over withdrawn lands is under the purview of Interior (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1). The Proposed Action is in accord with current and planned projects uses for these withdrawn lands. The study area is also within the boundaries of the U.S. Forest Service (USFS), within the confines of the Ashley National Forest. The District and Interior coordinate with the USFS in the development of management plans for the Ashely National Forest. There would be no impact to land use plans and policies as a result of the Proposed Action.

- Social/Environmental Justice – Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by the President on February 11, 1994, directs federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent possible and permitted by law. Impacts and benefits from the Proposed Action (such as meeting existing water delivery obligations) would be comparable for all residents that would be affected by the Proposed Action. The Proposed Action is intended to improve water delivery for the consumers of the CUP, which would be applied to all consumers without discrimination based upon race, color or national origin. The Proposed Action would not result in the denial of, reduction in, or substantial delay in the receipt of the benefits of any federal programs, policies, or activities to Environmental Justice populations. Based on the above considerations, the Proposed Action would not have disproportionately high and adverse effects on minority or low-income populations. Further, the study area is in a remote location with no permanent residents and no relocations would be required. Therefore, there would be no impacts to social makeup or cohesion in the study area.

- Economics – The Proposed Action would have no impact on the economic conditions in the study area, with the exception of temporary

spending related to construction activities. Once completed, the facility would continue to operate to provide water supplies to the consumers of the CUP. Further, construction activities would be so designed as to not require disruption of the water supply to its consumers. Therefore, the Proposed Action would have no impact on economic conditions.

- Public Health and Safety – Implementing the Proposed Action would increase construction traffic to, from, and within the study area during construction. However, a Traffic Control Plan would be developed to address traffic concerns and minimize the hazards associated with construction traffic. Further, construction barriers and fencing would be used to clearly demarcate construction zones and prevent access to all but construction personnel. This, along with the implementation of Best Management Practices (BMPs), would minimize the risk of construction hazards. No other risks to Public Health and Safety were identified.

- Hazardous Materials – The project team reviewed databases from state and federal regulatory agencies to identify generators, facilities, and sites that use hazardous waste, have experienced accidental releases of hazardous wastes, are contaminated with hazardous waste, and/or have the potential for contamination in the study area. These agency databases include the Utah Division of Environmental Response and Remediation's (DERR) interactive maps and the Environmental Protection Agency's (EPA) EnviroMapper. No hazardous materials sites were located near the study area. Therefore, the project would not impact sites with hazardous materials of concern.

- Energy – The Proposed Action would require the expenditure of energy resources for construction of the new facilities. Because the new facilities would operate in the same manner as the existing facilities, there would be no changes in energy usage under the Proposed Action.

- Climate Change – Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance (as amended by Executive Order 13693, Planning for Federal Sustainability in the Next Decade) established an integrated strategy towards sustainability in the Federal Government and made the reduction of greenhouse gas emissions a priority for federal agencies. Carbon dioxide (CO_2) makes up the largest component of greenhouse gas emissions. The Proposed Action would not cause an increase in CO_2 or other greenhouse gas emissions during operation of the facility and only a temporary increase during construction related to construction activities; therefore, the Proposed Action would not contribute to climate

change, nor would it create vulnerability to climate change impacts. Implementation of the Proposed Action would be consistent with Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance.

- Wilderness – The Proposed Action is located south of the designated High Uintas Wilderness Area. The Ashley National Forest Potential Wilderness Evaluation process is currently ongoing. However, Interior withdrawn lands are excluded from the wilderness evaluation inventory. Lands withdrawn from the public domain for the CUP, are exclusively for the operation, maintenance, and protection of the CUP unless approval from the Secretary of the Interior is given for other purposes or projects (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1).

3.2 Air Quality

The Clean Air Act Amendments (CAAA) of 1990 established the National Ambient Air Quality Standards (NAAQS) for airborne pollutants. The six criteria pollutants addressed in the NAAQS are carbon monoxide (CO), particulate matter (PM), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), and sulfur dioxide (SO_2). Particulate matter is broken into two categories: particulate matter with a diameter of 10 micrometers or less (PM_{10}) and particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$).

The CAAA requires that air quality conditions within all areas of a state be designated with respect to the NAAQS as attainment, maintenance, nonattainment, or unclassifiable. Areas that do not exceed the NAAQS are designated as attainment, while areas that exceed the standards are designated as nonattainment. A maintenance area is an area previously designated as a nonattainment area where a state or local government has developed a plan to reduce the criteria pollutant concentrations to levels below NAAQS standards.

Affected Environment

According to the Utah Division of Air Quality (UDAQ), the study area is located in an area that has not been designated as nonattainment for any of the NAAQS, nor is it in any maintenance areas for any NAAQS criteria pollutant. However, in recent years, concentrations of wintertime ozone in the Uintah Basin have reached or exceeded the NAAQS, raising concerns about the health and environmental impacts of elevated ozone levels in the Basin, as well as particulate matter (most particularly $PM_{2.5}$).

Environmental Effects

Proposed Action Alternative

PM_{10} and $PM_{2.5}$

Temporary and localized impacts to air quality as a result of fugitive dust emissions could occur during construction of the Proposed Action. Some dust would be released and become airborne during the construction of the Proposed Action; implementation of BMPs, including periodic watering of borrow and spoil material, and access roads, would prevent large amounts of dust from being emitted. PM_{10} and $PM_{2.5}$ emissions from construction activities are usually local and short-term and last only for the duration of the construction period. There would be no air quality emissions from operation of the pipeline.

CO

Emissions of CO would be generated from construction equipment and vehicle exhaust during construction activities, which would result in temporary impacts to air quality limited to the construction period. The Proposed Action Alternative would have no long-term adverse impacts on air quality.

Ozone

Ground level or "bad" ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOC. The Proposed Action would include the use of mechanized construction equipment and vehicles, which would result in a temporary increase in motor vehicle exhaust emissions in the study area. Such impact would be temporary and would not have a long-lasting impact on air quality in the area. Further, construction would occur in the months of May through October and would therefore not likely affect the wintertime ozone issues currently being experienced in the Uintah Basin.

No-Action Alternative

The No-Action Alternative would involve operation, maintenance, and replacement (OM&R) activities to keep the facilities operational, which would involve the use of mechanized equipment and could result in a temporary increase in motor vehicle exhaust emissions during such activities. The OM&R activities would be sporadic and temporary in nature and limited to the timeframes necessary for such activities. Should the North Fork Siphon fail, construction activities like those under the Proposed Action Alternative would be done on an emergency basis, which would have similar temporary impacts on air quality in the area. The No-Action Alternative would have no long-term adverse impacts on air quality.

Mitigation

BMPs would be employed during construction to mitigate for temporary impacts on air quality due to construction related activities. The BMPs would include:

- Applying dust suppressants and watering to control fugitive dust
- Minimizing the extent of disturbed surfaces
- Restricting earthwork activities during times of abnormal high wind
- Limiting the use of and speeds on unimproved road surfaces

Additionally, the Joint Lead Agencies would adhere to the following standards and specifications:

- Abatement of Air Pollution: The Joint Lead Agencies would utilize reasonable methods and devices to prevent, control, and otherwise minimize atmospheric emissions or discharges of air contaminants. Equipment and vehicles that show excessive emissions of exhaust gases would not be allowed to operate until corrective repairs or adjustments are made to reduce emissions to acceptable levels.
- Dust Control: The Joint Lead Agencies would comply with all applicable federal, state, and local laws and regulations, regarding the prevention, control, and abatement of dust pollution. The methods of mixing, handling, and storing cement and concrete aggregate would include means of eliminating atmospheric discharges of dust.

3.3 Threatened and Endangered Species

Endangered Species Act

Section 7 of the Endangered Species Act (ESA) of 1973 (16 USC §1531 et seq.), as amended, requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) if listed species or designated Critical Habitat may be affected by a Proposed Action. If adverse impacts would occur as a result of a Proposed Action, the ESA requires federal agencies to evaluate the likely effects of the Proposed Action, and minimize the possibility that it neither jeopardizes the continued existence of federally-listed ESA species, nor results in the destruction or adverse modification of designated Critical Habitat.

Affected Environment

An official list of threatened and endangered species for the study area was obtained from the USFWS Information, Planning and Conservation (IPaC) system to identify the ESA-listed species that may be present. Table 3-1 lists the threatened and endangered (T&E) species and their associated habitat that could potentially be present within the study area. No critical habitat has been

designated by USFWS for federally-listed ESA species within a half mile of the study area.

Table 3-1. U.S. Fish and Wildlife Threatened and Endangered Species List

Species	Status	Habitat
Mammals		
Canada Lynx *Lynx canadensis*	Threatened	Typically found above 8,000 feet. Only a few species have been documented in Utah over the past decade and all have been determined to be transient. All designated critical habitat is outside of Utah.
Birds		
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened	This species is found in steep, rocky, canyons in southern and eastern Utah.
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened	Requires large multi-story riparian habitat patches of cottonwoods/ willows.
Fishes		
Bonytail Chub *Gila elegans*	Endangered	Found in the Colorado River Basin at much lower river elevations.
Colorado Pikeminnow *Ptychocheilus Lucius*	Endangered	Found in the Colorado River Basin at much lower river elevations.
Humpback Chub *Gila cypha*	Endangered	Found in the Colorado River Basin at much lower river elevations.
Razorback Sucker *Xyrauchen texanus*	Endangered	Found in the Colorado River Basin at much lower river elevations.
Plants		
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened	Located in streams, floodplains, and wet meadows; not known to occur over 7,000 feet in elevation.

Source: USFWS IPaC (https://ecos.fws.gov/ipac/); obtained on July 14, 2017

Portions of the water conveyed by the North Fork Siphon to the Wasatch Front is required to be retained instream for the support of habitat for endangered aquatic species downstream.

Study Area Inventory

A review of the Utah Data Conservation Center (UDCC) database was conducted and a request was sent to the Utah Natural Heritage Program (UNHP) to identify any known documented occurrences of any ESA species in the study area. The UDCC and UNHP data did not reveal any documented occurrences of the presence of any ESA species within or adjacent to the study area. See the letter dated June 13, 2017 from the Utah Division of Wildlife Resources UNHP office in Appendix A. Further, a presence/absence survey was performed of the study area on June 27-29, 2017, which did not reveal any observations or other evidence (scat, tracks, sightings of individuals) of the presence of any ESA species within or adjacent to the study area.

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would have **No Effect** on any of the federally-listed ESA species because there is no suitable habitat, they are not known to occur, and they are not expected to be present in the study area (see Table 3-2).

Table 3-2. Effect Determinations for Threatened and Endangered Species

Species	Status	Effect Determination
Mammals		
Canada Lynx *Lynx canadensis*	Threatened	Only a few species have been documented in Utah over the past decade and all have been determined to be transient. No evidence of this species was observed during the survey activities. The Proposed Action would not impact potential habitat for this species. Therefore, the project would have **No Effect** on this species.
Birds		
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened	No suitable habitat is present within or near the study area. There are no records of occurrence in the applicable planning unit of the Ashley National Forest. No designated critical habitat is in proximity to the study area. Therefore, the project would have **No Effect** on this species.
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened	No suitable habitat is present within or near the study area. There are no records of occurrence in the applicable planning unit of the Ashley National Forest. No designated critical habitat is in proximity to the study area. Therefore, the project would have **No Effect** on this species.
Fishes		
Bonytail Chub *Gila elegans*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.
Colorado Pikeminnow *Ptychocheilus Lucius*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.

Species	Status	Effect Determination
Humpback Chub *Gila cypha*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.
Razorback Sucker *Xyrauchen texanus*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.
Plants		
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened	Project site is above 7,000 feet. Known occurrences are south of the Forest Service Boundary. No designated critical habitat has been identified in the study area. Therefore, the project would have **No Effect** on this species.

The Proposed Action would have **No Effect** to any ESA-listed species (see the No Effect Determination to Threatened and Endangered Species Memo in Appendix B).

No-Action Alternative

The No-Action Alternative would not involve construction activities, other than OM&R activities. Therefore, the No-Action Alternative would have **No Effect** on any federally-listed ESA species. However, as stated previously, the risk of pipe failure is substantially higher for the No-Action Alternative. In such an event, the erosion, scour, and subsequent deposition of eroded materials that would occur has the potential to impact critical habitat aquatic habitat at lower elevations downstream. Further, pipe failure would also risk curtailing instream flows intended to support aquatic endangered species downstream of the study area.

3.4 Wildlife

Affected Environment

Utah Sensitive Species

Pursuant to Utah Division of Wildlife Resources (UDWR) Administrative Rule R657-48, species and candidate species, which are listed under the ESA, as amended, or for which a conservation agreement is in place, automatically qualify for the Utah Sensitive Species List. The additional species on the Utah Sensitive Species List are those species for which there is credible scientific evidence to substantiate a threat to continued population viability.

The Utah Sensitive Species List for Duchesne County identifies 26 conservation agreement or sensitive species in addition to federally listed threatened and endangered species (see Table 3-3).

Table 3-3. Utah State Sensitive Species for Duchesne County

Species	Habitat	Suitable Habitat Present?
Mammals		
Black-footed Ferret* *Mustela nigripes*	This species lives in underground prairie dog burrows and eat prairie dogs as their primary food source.	No
Brown (Grizzly) Bear* *Ursus arctos*	This species has been extirpated (eliminated) from Utah.	No
Fringed myotis *Myotis thysanodes*	The species is widely distributed throughout Utah, but is not very common in the state. The fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas. The species commonly occurs in colonies of several hundred individuals.	No
Gray Wolf* *Canis lupus*	This species can live in many types of habitat, but areas with little human activity are preferred; however, it has been extirpated from Utah.	No
Kit Fox *Vulpes macrotis*	This species is most often occurs in desert habitats, but can also be found in agricultural and grassland habitats.	No
Spotted Bat *Euderma maculatum*	This species may be found in a variety of habitats, ranging from deserts to forested mountains; they roost and hibernate in caves and rock crevices.	**Yes**
Townsend's Big-Eared Bat *Corynorhinus townsendii townsendii*	This species prefers large and open caves, tunnels, mining structures, buildings, and other man-made structures for roosting.	No
White-tailed Prairie-dog *Cynomys leucurus*	This species inhabits mountain valleys, semi-desert grasslands, agricultural areas, and open shrublands at altitudes ranging between 5,000 and 10,000 feet. Its diet is composed of grasses and bulbs.	**Yes**
Birds		
American Three-toed Woodpecker *Picoides tridactylus*	This species is dependent upon mature, old-growth conifer forests with an abundance of insects and the presences of snags for foraging and nesting.	**Yes**
Bald Eagle *Haliaeetus leucocephalus*	This species nests almost always in tall trees and commonly near bodies of water where fish and waterfowl prey are available.	No
Black Swift *Cypseloides niger*	This species requires waterfalls for nesting; typically the falls are permanent but may be intermittent if they flow throughout the breeding season (June to early September). Nesting sites are typically surrounded by coniferous forests, often mixed conifer or spruce-fir forests, but this varies depending on elevation and aspect, and nest sites may include mountain shrub, aspen, or even alpine components.	No
Burrowing Owl *Athene cunicularia*	In Utah, the species is uncommon during summer in proper habitat throughout the state. Burrowing owls utilize burrows, both natural (e.g., dug by prairie dogs) and man-made, in grassland or open shrub-steppe habitat.	No

Species	Habitat	Suitable Habitat Present?
Ferruginous Hawk *Buteo regalis*	This species uses flat and rolling terrain in grassland or shrub steppe during breeding. Ferruginous hawks avoid high elevations, forests, and narrow canyons, occurring in grasslands, agriculture lands, sagebrush/ saltbush/ greasewood shrub lands, and at the periphery of pinyon-juniper forests.	**Yes**
Greater Sage Grouse *Centrocercus urophasianus*	This species inhabits sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant of quality habitat with a good understory of grasses and forbs.	No. The greater sage-grouse was removed from being listed as a candidate species under the ESA due to significant reductions in threats of potential extinction thanks to the conservation partnership entered into between federal, state, and private entities. Conservation plans (aka Candidate Conservation Agreements or CCAs) were set up that established sage-grouse management areas to help reduce habitat loss and fragmentation, which is the most significant threat to the species' continued existence. The study area is located outside of the Utah State-designated Strawberry Sage Grouse Management Area, located south of Hanna, which is the nearest management area.
Lewis's Woodpecker *Melanerpes lewis*	The Lewis's woodpecker is attracted to burned-over Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands, but is also found in the fringes of pine and juniper stands, and deciduous forests, especially riparian cottonwoods. Areas with a good under-story of grasses and shrubs to support insect prey populations are preferred. Dead trees and stumps are required for nesting. Wintering grounds are over a wide range of habitats, but oak woodlands are preferred.	No
Long-billed Curlew *Numenius americanus*	Long-billed Curlews nest in dry grasslands where sufficient cover and abundant prey exist. This species prefers mixed fields with adequate, but not tall, grass cover and fields with elevated points. They tend to place their nests near manure piles or other conspicuous objects, camouflaging them from aerial predators.	No
Mountain Plover *Charadrius montanus*	This species is associated with disturbed prairie and semi-desert habitats. It prefers areas with 30% bare ground.	No
Northern Goshawk *Accipiter gentilis*	This species requires mature, old-growth trees in which to build nests and will utilize both deciduous and coniferous species. It prefers dense forests with large trees and high canopy cover.	**Yes**

Species	Habitat	Suitable Habitat Present?
Short-eared Owl *Asio flammeus*	This species is usually found in grasslands, shrublands, and other open habitats.	Yes
Fishes		
Bluehead Sucker *Catostomus discobolus*	This species requires fast flowing water in high gradient reaches of mountain rivers. Large adults are associated with deep pools, undercut banks, moderate to fast current velocities, and rocky substrates.	Yes
Colorado River Cutthroat Trout *Oncorhynchus clarki pleuriticus*	This species requires clear, cold, naturally flowing water with ample pools, stream cover, and low-sediment gravel beds and is only known to occur in isolated high-elevation headwater streams with limited access to other populations.	No. Although this species is not present within the study area, water from the North Fork of the Duchesne River eventually reaches the Colorado River, where there is suitable habitat.
Flannelmouth Sucker *Catostomus latipinnis*	This species prefers large rivers, where they are often found in deep pools of slow-flowing, low gradient reaches.	No
Roundtail Chub *Gila robusta*	This species prefers large rivers, and is most often found in murky pools near strong currents in the main-stem Colorado River, and in the Colorado River's large tributaries.	No. Although this species is not present within the study area, water from the North Fork of the Duchesne River eventually reaches the Colorado River, where there is suitable habitat.
Amphibians		
Western (Boreal) Toad *Bufo boreas*	This species can be found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands.	Yes
Mollusks		
Eureka Mountainsnail *Oreohelix eurekensis*	Endemic to Utah, the species is found under pygmy sagebrush and at the bases of ledges on north-facing slopes at altitudes of about 2200 to 2400 meters; at elevations of "about 8025 feet" and "about 8000 feet" "at the base and trunk of aspen trees" and "on dead leaves at the base and trunk of aspen", respectively. This terrestrial snail is found in both shrubland and forested habitats, associated with limestone outcrops or soils with high calcium concentration.	No
Reptiles		
Smooth Greensnake *Opheodrys vernalis*	This species prefers moist areas, especially moist grassy areas and meadows where the snake is camouflaged due to its solid green dorsal coloration; it is uncommon in Utah.	Yes

Source: Utah's State Listed Species by County (last updated October 1, 2015); habitat information obtained from https://dwrcdc.nr.utah.gov/ucdc/ViewReports/SSL_Appendices.pdf
**Also listed as an Endangered Species but not included on the USFWS' Official Species List for the study area.*

Data was gathered through the UDCC database and through an information request to the UNHP to identify any known documented occurrences of conservation agreement species and state sensitive species within the study

area. Based on the UDCC and UNHP data and coordination with the UDWR, no state-sensitive species occur within a half-mile of the study area.

From June 27-29, 2017, presence/absence surveys were conducted within the study area. There were no observations or other evidence (i.e. scat, tracks, sightings, etc.) of the presence of any state-sensitive species during the survey.

USFS Sensitive Species

Since the study area is located within the confines of the Ashley National Forest, forest sensitive species known to occur on the Ashley National Forest were also considered for impacts that could result from the Proposed Action Alternative. Tables 3-4 and 3-5 list the sensitive wildlife and plant species, respectively, that could potentially be present in the study area.

Table 3-4. Ashley National Forest Sensitive Species

Species	Habitat	Suitable Habitat Present?
Mammals		
Bighorn Sheep *Ovis Canadensis*	Bighorn sheep require steep rocky slopes.	No
Fringed myotis* *Myotis thysanodes*	The species is widely distributed throughout Utah, but is not very common in the state. The fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas. The species commonly occurs in colonies of several hundred individuals.	No
Pygmy rabbit *Sylvilagus idahoensis*	The species can be found in northern and western Utah, where it prefers areas with tall dense sagebrush and loose soils.	No
Spotted Bat* *Euderma maculatum*	This species may be found in a variety of habitats, ranging from deserts to forested mountains; they roost and hibernate in caves and rock crevices.	**Yes**
Townsend's Big-Eared Bat* *Corynorhinus townsendii townsendii*	This species prefers large and open caves, tunnels, mining structures, buildings, and other man-made structures for roosting.	No
Birds		
Bald Eagle* *Haliaeetus leucocephalus*	Nests are almost always in tall trees and commonly near bodies of water where fish and waterfowl prey are available.	No
Boreal Owl *Aegolius funereus*	This species prefers mature coniferous forest habitats with nests located in cavities (such as holes in trees).	**Yes**
Peregrine Falcon *Falco peregrinus*	This species roosts in close proximity to water within tall, steep cliff faces or similar manmade structures.	**Yes**
Flammulated owl *Otus flammeolus*	This species is common in montane pine forests, especially ponderosa pine forests.	**Yes**
American Three-toed Woodpecker* *Picoides tridactylus*	This species is dependent upon mature, old-growth conifer forests with an abundance of insects and the presences of snags for foraging and nesting.	**Yes**

Species	Habitat	Suitable Habitat Present?
Greater Sage Grouse* *Centrocercus urophasianus*	This species inhabits sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant of quality habitat with a good understory of grasses and forbs.	No. The study area is located outside of the Utah State-designated Strawberry Sage Grouse Management Area, located south of Hanna, which is the nearest management area.
Great Gray Owl *Strix nebulosi*	Nesting habitat can include a range of conifer forests and typically include copses or islands of aspens. Foraging is done in open areas.	**Yes**
Northern Goshawk* *Accipiter gentilis*	This species requires mature, old-growth trees in which to build nests and will utilize both deciduous and coniferous species. It prefers dense forests with large trees and high canopy cover.	**Yes**
Fishes		
Colorado River Cutthroat Trout* *Oncorhynchus clarki pleuriticus*	This species requires clear, cold, naturally flowing water with ample pools, stream cover, and low-sediment gravel beds and is only known to occur in isolated high-elevation headwater streams with limited access to other populations.	No. Although this species is not present within the study area, water from the North Fork of the Duchesne River eventually reaches the Colorado River, where there is suitable habitat.
Amphibians		
Columbia Spotted Frog *Rana luteiventris*	This species is associated with riparian areas such as spring seeps that have a permanent water source.	**Yes**
Western (Boreal) Toad* *Bufo boreas*	This species can be found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands.	No

Sources: USFS Intermountain Region (R4) Threatened, Endangered, Proposed, and, Sensitive Species List, June 2016; Species at Risk Assessment, Ashley National Forest dated August 2016.
**Also included on the Utah State Sensitive Species List for Duchesne County found in Table 3-3 above.*

Table 3-5. Forest Sensitive Plant Species

Species	Habitat	Suitable Habitat?
Handsome Pussytoes *Antennaria pulcherrima*	Intermediate to rich fens and wet meadows.	No
Graham's columbine *Aquilegia grahamii*	Deep stream-cut canyons, in cliff cracks, on ledges, in seeps or hanging gardens of the Pennsylvanian Permian Weber Sandstone.	No
Ownbey's Thistle *Cirsium ownbeyi*	Sagebrush, desert shrub communities.	No
Evert's Wafer Parsnip *Cymopterus evertii*	Grows in limestone gravels along the rim of Ashley Gorge, associated with Douglas fir and limber pine.	No
Clustered Lady's Slipper *Cypripedium fasciculatum*	Grows in the shade of coniferous forests between 8,000 to 9,000 feet and in duff of moderately dense to dense lodgepole pine forests where understory species are sparse.	No

Species	Habitat	Suitable Habitat?
Wasatch Draba *Draba brachystylis*	Grows in moist soils with rocks, talus, or scree in coniferous or aspen forests.	No
Rockcress Draba *Draba globosa*	Grows in alpine tundra, often associated with persisting snow beds.	No
Tundra Draba *Draba ventosa*	Alpine; Occurs in talus, scree slopes, slides, fell-fields; on cliffs and at the base of cliffs; on ridges; and on summits; often but not always found on limestone parent material.	No
Untermann's Daisy *Erigeron untermannii*	Semi-barrens of sandstone, shale, and siltstone of the Uinta and Green River Formations; windswept, sparsely vegetated ridge tops within pinyon-juniper, Douglas-fir, and limber pine-bristle cone pine belts.	No
Compound Kobresia *Kobresia simpliciuscula*	Rare calcareous or rich fens.	No
Huber's Pepperplant *Lepidium huberi*	Eroding slopes and narrow, steep canyons of the Moenkopi Formation with mountain brush and ponderosa pine; canyon breaks.	No
Goodrich's Blazingstar *Mentzelia goodrichii*	Grows on escarpments, eroding slopes, and semi-barrens of the Green River Formation.	No
Maybell Locoweed *Oxytropis besseyi* var. *obnapiformis*	Pinyon-juniper and sagebrush communities, often on semi-barrens in either fine-textured or sandy substrates.	No
Alpine Poppy *Papaver redicatum* var. *kluanense*	Restricted to a narrow habitat, which consists of Red Pine Sahel talus slopes and ridge tops.	No
Stemless beardtongue *Penstemon acaulis*	Mixed desert shrub, black sagebrush, Wyoming big sagebrush, and pinyon-juniper communities.	No
Desert Phacelia *Phacelia glandulosa* var. *deserta*	Desert shrub and Wyoming big sagebrush.	No
Silvery Primrose *Primula incana*	Rare calcareous or rich fens.	No

Sources: USFS Intermountain Region (R4) Threatened, Endangered, Proposed, and, Sensitive Species List, June 2016; Species at Risk Assessment, Ashley National Forest dated August 2016.

For those species that are included in both the State Sensitive list for Duchesne County and the Ashley National Forest, data was gathered through the UDCC database and through an information request to the UNHP to identify any known documented occurrences of conservation agreement species and state sensitive species within the study area. Based on the UDCC and UNHP data and coordination with the UDWR, no state-sensitive species occur within a half-mile of the study area. Further, site visits were taken to the study area to assess and inventory conditions and to look for the presence/absence of wildlife species. No forest-sensitive species were identified as occurring within a half-mile of the study area, although suitable habitat for several of the wildlife sensitive species listed above is present in the study area, including northern goshawk, American three-toed woodpecker, ferriginous hawk, short-eared owl, great gray owl, boreal owl, flammulated owl, peregrine falcon, spotted bat, western (boreal) toad, Columbia spotted frog, bluehead sucker, and smooth greensake.

General Wildlife

Site visits to the study area revealed observation or evidence of several wildlife species, including: mule deer, elk, coyote, mountain grouse, songbirds, raptors, and ground squirrels and other rodents.

Migratory Birds

The protection of many bird species is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS. The Proposed Action has the potential to affect nesting birds protected under the MBTA, if any migratory birds are present in the study area, due to construction activities.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) established protection for migratory birds and their parts (including eggs, nests, and feathers) from hunting, capture, or sale. Executive Order 13186, signed on January 10, 2001, directs federal agencies to take actions to further implement the MBTA. Specifically, the Order directs agencies, whose direct activities will likely result in the take of migratory birds, to develop and implement a Memorandum of Understanding (MOU) with USFWS that promotes the conservation of bird populations.

Bald Eagle Protection Act of 1940

This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures.

Birds of Conservation Concern

USFWS Birds of Conservation Concern (BCC) that may be present in the Ashley National Forest are identified by the USFS. Further, the Utah Partners in Flight (PIF) identifies priority species for conservation based upon a determination of declining abundance or distribution, as well as vulnerability due to various local and/or range-wide risk factors. See list in Appendix B. Due to the location and nature of the study area within the confines of the Ashley National Forest, it is likely that there would be BCC species present in the area.

Environmental Effects

Proposed Action Alternative

Utah Sensitive Species and USFS Sensitive Species

The Proposed Action Alternative would not have any long-term impacts to Utah State Sensitive Species or USFS Sensitive Species or their known habitat. During construction, there may be temporary impacts to wildlife and their habitats as a result of higher than usual noise levels, proximity of construction equipment, and other construction-related activities. The Proposed Action would also temporarily impact aquatic habitat in the study area due to the construction of the pipeline and the new river crossing structure across the North Fork of the Duchesne River, but it would not affect water quality either within the study area or downstream due to the inclusion of BMPs.

There would be no additional impacts to Utah Sensitive Species or USFS Sensitive Species during operation of the upgraded facilities.

Wildlife

As discussed above, there is suitable habitat for ruffed grouse, mule deer, and elk within or near the study area. Mule deer and elk are the species that are most likely to frequent the study area. The Proposed Action would not permanently impact suitable habitat for mule deer and elk, or any other wildlife species. During construction, there may be temporary impacts to wildlife and their habitats as a result of higher than usual noise levels, proximity of construction equipment, and other construction related activities. However, the animals would have the opportunity to move away from construction activities into the surrounding suitable habitat. Once construction of the Proposed Action is finished, the habitat conditions in the study area would be very similar to existing conditions and would not diminish the ability of wildlife species to frequent the study area.

Migratory Birds

Migratory birds, including raptors, could be present in the area. Mature trees as well as shrubs would be removed or trimmed during construction (see the Vegetation and Invasive Species section for more details). However, this vegetation represents only a small portion of the available habitat in the study area. Permanent impacts to nesting, feeding, roosting, and hiding cover habitat would be minimal.

During construction, higher than usual noise levels, proximity of construction equipment, and other construction related activities may temporarily disturb migratory birds and their habitats.

No-Action Alternative

The No-Action Alternative would not involve construction activities, but it would have minor temporary impacts to wildlife during OM&R activities, which would be limited, temporary, and sporadic. Should the North Fork Siphon fail, it would result in a sudden release of water due to the rupture of the pipeline with associated erosion and the potential for debris to be carried downstream.

Mitigation

Tree removal would be performed outside of the nesting season to avoid the potential for impacts to migratory bird nests or fledglings. If it is necessary to remove vegetation during the migratory bird nesting season (nesting season runs February 1 through August 31), a qualified biologist would conduct nesting surveys, prior to construction activities, to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted for the construction footprint and 100 feet on either side of the footprint. The survey area for active bird nests would include areas where vegetation removal and disturbance would be necessary. These surveys would be conducted in consultation with USFWS.

If occupied raptor nests are located, construction activities would not occur within the species-specific spatial and seasonal buffer zones as outlined in the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances*. Coordination with USFWS and UDWR would also be reinitiated to discuss monitoring and reporting.

Hunter access to suitable areas surrounding the study area would be maintained during construction, although not within the construction area itself.

3.5 Water Resources and Wetlands

Affected Environment

The Federal Water Pollution Control Act (33 USC §1251-1376), as amended by the Clean Water Act (CWA) of 1977 and 1987, is the primary law regulating water quality. It controls discharge of dredge or fill material into “waters of the United States” and requires states and Native American tribes to set specific water quality criteria and pollution control programs. The EPA is charged with regulating its implementation and has delegated certain portions of its authority to the U.S. Army Corps of Engineers (USACE) and the Utah Department of Environmental Quality (UDEQ), which includes the Utah Division of Water Quality (UDWQ), the Utah Division of Water Rights (UDWR), and the Utah Division of Drinking Water (UDDW).

Clean Water Act

The applicable sections of the CWA to this project include:

- Section 401 Certification – Applicable when projects require a federal license or permit and may result in a discharge into navigable waters. The law requires a water quality certification be issued by the State of Utah, UDWQ.

- Section 402 National Pollution Discharge Elimination System – Applicable when a project will disturb more than one acre of land. The UDWQ implements this section through the Utah Pollutant Discharge Elimination System (UPDES) and has determined projects greater than one acre require a UPDES construction permit.

- Section 404 Permit for Dredged Fill Material – Applicable when a project will place dredged or fill material into navigable waters, including adjacent wetlands. This Section is regulated by the USACE.

The CWA requires the development and maintenance of water quality standards, along with water body classifications, to identify beneficial uses to be sustained. UDWQ is responsible for this task and, through the regulations found in UAC §R317-2-13, classifies each water body. Waters that do not meet water quality standards for its classified use, are placed on a list of impaired waters where further analysis is conducted to determine pollutants and remedial actions, if necessary.

Stream Alteration Permit

Section 73-3-29 of the Utah Code requires any person, governmental agency, or other organization wishing to alter the bed or banks of a natural stream to obtain written authorization from the State Engineer prior to beginning work.

The Stream Alteration Program was implemented in 1972 in order to protect the natural resource value of the state's streams and protect the water rights and recreational opportunities associated with them. The USACE issued Programmatic General Permit 10 (PGP-10) which allows an applicant to obtain both state approval and authorization under Section 404 of the Clean Water Act though a single application process. Although not all stream alteration activities qualify for approval under PGP-10, many minimal impact projects can be approved under this joint permit agreement.

Water Resources

The study area is located in the Duchesne watershed (HUC 14060003). Existing sources of hydrology within the study area are the North Fork of the Duchesne River and Swift Creek (which flows into the North Fork of the Duchesne River).

Other water sources in the area that could be indirectly affected by the proposed project include the Upper Stillwater Reservoir located upstream of the study area.

Wetlands and other Waters of the U.S.

The USACE administers and enforces Section 404 of the Clean Water Act (33 U.S.C. 1251). Under the Clean Water Act, waters of the U.S. (WOUS) are defined as waters currently or previously used for interstate or foreign commerce; all interstate waters; any waters, the destruction of which could affect interstate or foreign commerce; all impoundments and tributaries of the previously mentioned waters; the territorial seas; and wetlands adjacent to waters. Wetlands are considered a subset of WOUS and, for the purposes of regulatory guidance, are considered special aquatic sites.

A wetland delineation was performed for this project in accordance with the *USACE 1987 Wetland Delineation Manual* and the *Regional Supplement: Arid West Region Version 2.0*. Three wetlands and two other waters of the U.S. totaling 1.34 acres were identified within the delineation study area. See Table 3-6 and Figure 3-1.

Table 3-6 Wetlands and Waters of the U.S. in the Study Area

Feature Name	Cowardin Classification*	Acres	Linear Feet
Wetlands			
Wetland 1a	PEM	0.02	NA
Wetland 1b	PEM	0.01	NA
Wetland 1c	PEM	0.002	NA
Wetland 2	PSS	0.02	NA
Wetland 3	PEM	0.01	NA
Wetland Total		**0.062**	--
Other Waters of the U.S. (WOUS)			
North Fork of the Duchesne River	R2UBH	1.28	1,175
Swift Creek	R4SBC	0.002	15
Other WOUS Total		**1.28**	--
WOUS Total		**1.34**	**1,190**

**PEM (Palustrine Emergent, PSS (Palustrine Scrub/Shrub), R2UBH (Riverine Lower Perennial Unconsolidated bottom), R4SBC (riverine Intermittent Streambed)*

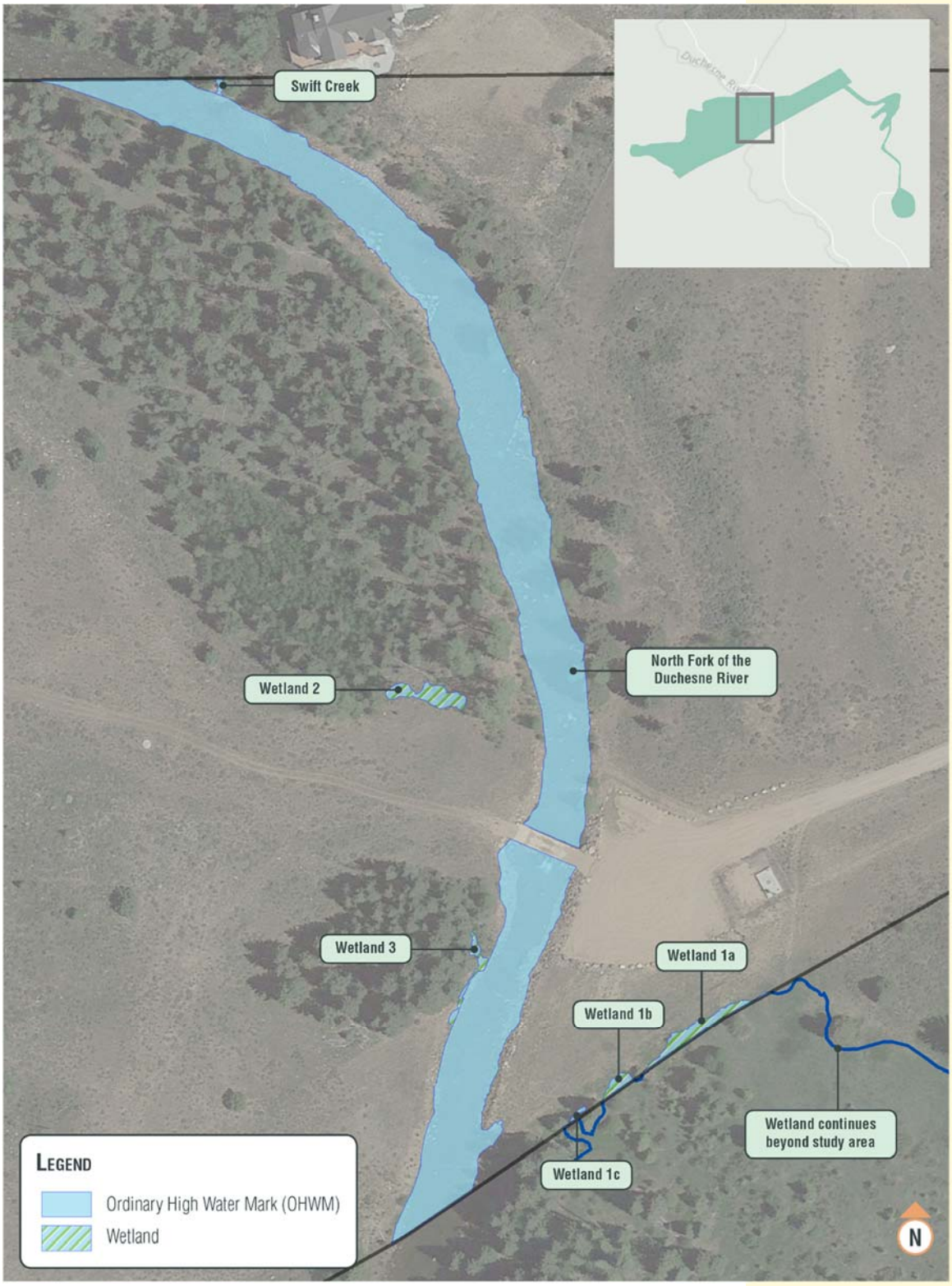

Figure 3-1. Wetlands and Waters of the U.S. Delineation Map

Environmental Effects

Proposed Action Alternative

North Fork of the Duchesne River

The Proposed Action Alternative would involve construction activities within the North Fork of the Duchesne River. Construction activities would include the installation of the new pipeline across the North Fork of the Duchesne River, the removal of the existing river crossing, and the installation of a new river crossing.

Construction of the pipeline would require using open-cutting and backfilling to install the pipeline across the North Fork of the Duchesne River, which would also require coffer dams to control the river flow during construction. The impacts to the North Fork of the Duchesne River would be temporary. Also, during construction, minor temporary impacts would be made to the river to remove the existing bridge, restore the area, and construct a new structure over the river. BMPs would be utilized under all scenarios to prevent sedimentation or other impacts to water quality in the North Fork of the Duchesne River. See the Construction Section.

Upper Stillwater Reservoir

Upper Stillwater Reservoir, located on the Rock Creek drainage and approximately eight miles to the east of the North Fork Siphon, collects spring runoff each year at the head of the SACS. Water is delivered through Upper Stillwater Tunnel, through the North Fork Pipeline and Siphon, and onto Current Creek Reservoir, Strawberry Reservoir, and ultimately to the Wasatch Front. In a typical spring runoff, water is diverted through the SACS beginning at the Upper Stillwater Reservoir. Then during the summer months, the water surface elevation at Upper Stillwater Reservoir is maintained at a higher elevation for recreational purposes through the first of September. However, during two construction seasons of the Proposed Action, the water supply in the Upper Stillwater Reservoir would be drawn down as early as possible after spring runoff and water would be moved through the SACS or Rock Creek. This would require lowering the elevation of the Upper Stillwater Reservoir. Drawing down the Upper Stillwater Reservoir would allow the Upper Stillwater Tunnel and the North Fork Pipeline and Siphon to be dewatered. This would allow for the construction of all necessary connections related to the Proposed Action.

Wetlands

The Proposed Action would permanently impact approximately 0.01 acres of wetlands (see Figure 3-2). This impact would be due to the construction and alignment of the North Fork Siphon.

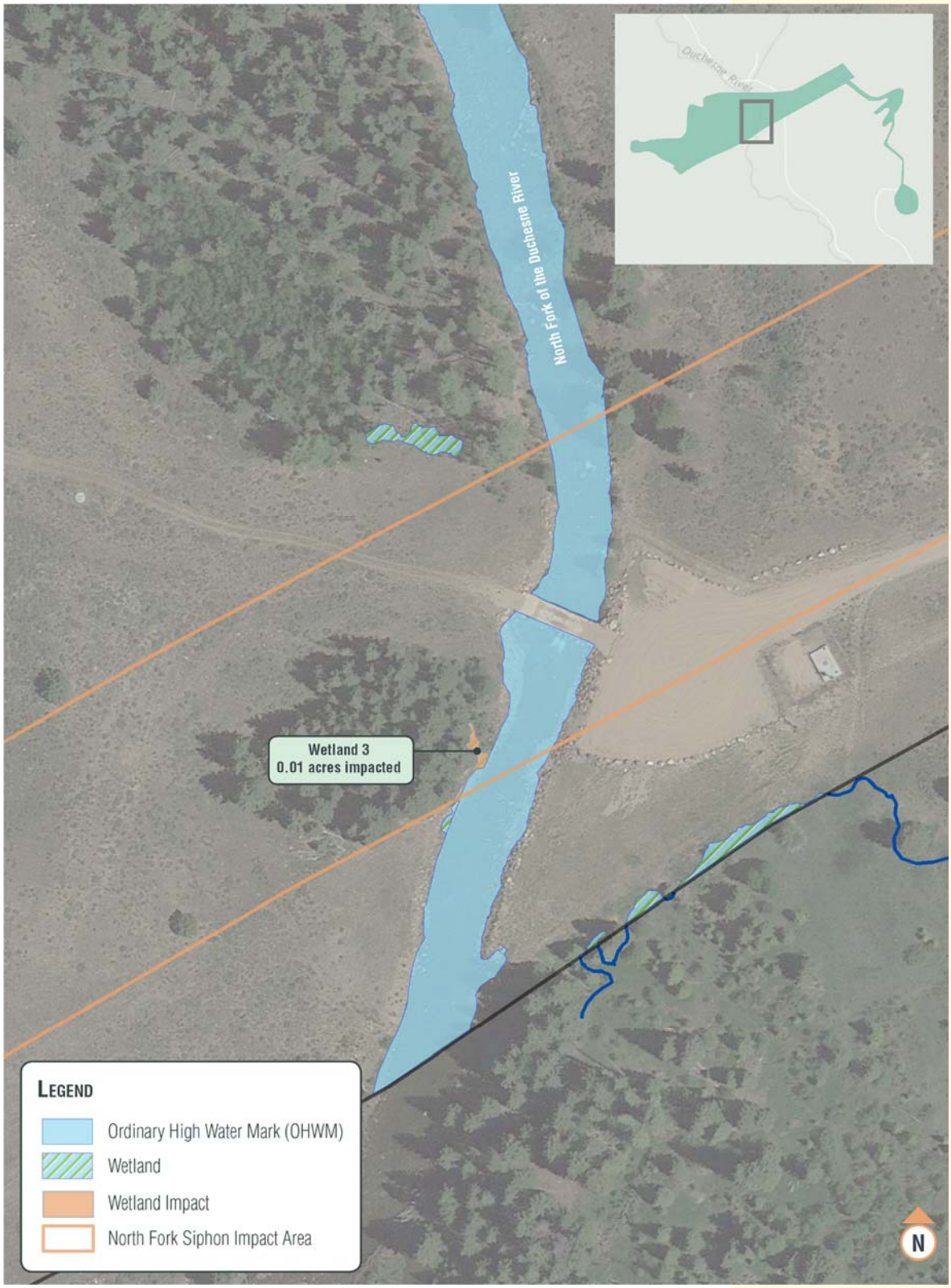

Figure 3-2. Impacts to Wetlands and Waters of the U.S. Map

No-Action Alternative

The No-Action Alternative would involve OM&R activities to keep the facilities operational and the potential for emergency repairs, all of which may involve impacts to waters of the U.S., including wetlands. The exact nature of the potential impacts to waters of the U.S. is speculative and unable to be analyzed in detail at this time, owing in large part to the unknown nature of what emergency situations may arise in the future. However, no impacts to wetlands would occur based only on current OM&R activities.

Mitigation

The Proposed Action would impact less than 1/10th acre of wetlands; therefore, the project qualifies under a non-reporting Section 404 Nationwide Permit 12. This means that coordination with the USACE is not required, but the project must comply with all of the general conditions of Nationwide Permit 12.

Construction activities that disturb more than one acre of land require a Storm Water Pollution Prevention Plan (SWPPP) to comply with the Utah Pollutant Discharge Elimination System permit (UPDES). The SWPPP may include such measures as using silt fences, fiber rolls, check-dams, or other techniques to minimize impacts to receiving waters. The project would be constructed in compliance with the District's typical specifications for drainage, sediment control, and environmental. BMPs would be in place to prevent sedimentation or other impacts to water quality in the North Fork of the Duchesne River. See the Construction Section.

Mitigation measures would also include obtaining a Stream Alteration permit from the UDWQ for work within the North Fork of the Duchesne River.

3.6 Water Quality

Water quality in Utah is regulated by the EPA through the federal Clean Water Act and by the rules of the UDEQ Division of Water Quality and Division of Drinking Water as described in the Utah Administrative Code, Rules 317 and 309 (UAC R317 and R309).

Affected Environment

Each stream and reservoir in Utah is classified according to its beneficial uses. The classifications are used to determine the required standards for water quality parameters. According to the Standards of Quality for Waters of the State, Environmental Quality (R317-2), Utah Administrative Code (UAC), the North Fork of the Duchesne River, is classified as:

- Class 2B – Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3A – Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 – Protected for agricultural uses including irrigation of crops and stock watering.

When a lake, river, or stream fails to meet the water quality standards for its designated use, Section 303(d) of the Clean Water Act requires that the State place the water body on a list of "impaired" waters (also known as a Section 303(d) list) and prepare a Total Maximum Daily Load (TMDL) analysis.

According to the UDEQ's Utah Final 2016 Integrated Report, impaired waters under 303(d) of the Clean Water Act in the study area include the North Fork of the Duchesne River and tributaries from Duchesne River confluence to their headwaters with the cause of the impairment being dissolved aluminum, which impairs the Beneficial Use Class 3A – Cold water fishery/aquatic life.

Environmental Effects

Proposed Action Alternative

During construction, there is the potential for temporary impacts to water quality due to sedimentation. However, BMPs would be implemented during construction to prevent loose soils from entering into the North Fork of the Duchesne River. Measures to protect surface water quality from the effects of erosion during construction would be taken. These measures would be outlined in a SWPPP. Minimal and temporary impacts to surface water quality are expected because the SWPPP would be followed.

After construction, the Proposed Action Alternative would have no impact to water quality in the North Fork of the Duchesne River. The new facilities would operate in the same manner as the existing facility. The Proposed Action would also have the beneficial impact of reducing the potential for sedimentation in the North Fork of the Duchesne River post-construction. The new bridge would span the width of the river channel and would reduce the erosion that currently occurs because the existing structure is insufficient to allow the current flow of the river to pass without obstruction. The Proposed Action is also not expected to contribute to the impairment of the North Fork of the Duchesne River.

No-Action Alternative

The No-Action Alternative would have no impact to water quality in the North Fork of the Duchesne River. Pollutants, nutrients, and sediments would continue to remain in the water in the same ratios as current conditions. Should the North Fork Siphon fail, there is the potential for serious erosion and debris to be carried downstream; however, the exact nature and extent would depend on the nature and extent of the damage from the rupture.

Mitigation

Construction activities that disturb more than one acre require the development of a SWPPP to comply with the UPDES. The SWPPP may include such measures as using silt fences, fiber rolls, check-dams, or other techniques to minimize impacts to receiving waters. The project would be constructed in compliance with the District's specifications for drainage and sediment control. See the Construction Section.

3.7 Floodplains

Floodplains are defined as normally dry areas that are occasionally inundated by high stream flows or high lake water. The *base flood elevation* is the computed elevation to which floodwater is anticipated to rise during the *base flood*, which is the flood that has a 1-percent chance of being equaled or exceeded in any given year. This is also called the 100-year flood. The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on National Flood Insurance Program (NFIP) maps.

Affected Environment

Duchesne County has not been mapped by the Federal Emergency Management Agency (FEMA). The Proposed Action would be located within the floodway of the North Fork of the Duchesne River. Currently, there is a river crossing on the North Fork of the Duchesne River that consists of several culverts topped with a concrete bridge deck and no railings. As discussed in Chapter 1, the existing crossing is insufficient and is subject to overtopping during high water events.

Existing River Crossing Structure

Environmental Effects

Proposed Action Alternative

The Proposed Action is not located within a regulatory floodplain; therefore, no effects would occur to a regulatory floodplain. The Proposed Action would replace the existing river crossing over the North Fork of the Duchesne River with a new bridge. The new river crossing over the North Fork of the Duchesne River

would be designed to allow for 2,500 cubic feet per second (cfs), which is greater than the 100-year flood event.

During construction of the siphon, there would be temporary impacts to the floodplain as a result of the construction activities, as the channel would most likely be bypassed to allow for trenching.

No-Action Alternative

The No-Action Alternative would not involve any construction activities and would not replace the river crossing on the North Fork of the Duchesne River. Therefore, there would be no impacts to floodplains. However, should the pipeline rupture, there would be a serious, localized flood event due to the breach of the pipeline until emergency measures could be implemented.

3.8 Agricultural Resources

Affected Environment

The study area is located within the boundary of the Ashley National Forest, which allows for livestock grazing as part of its Forest Management Plan. For 2017, the North Fork Duchesne Cattle Allotment and Rhodes Canyon/Trail Hollow Cattle Allotment allows for cattle grazing in the vicinity of the study area from June 16 to September 30. There is no other commercial agricultural production in the study area.

Environmental Effects

Proposed Action Alternative

The intent of the Proposed Action is to continue to meet existing contractual obligations of the SACS and the Bonneville Unit of the CUP, including water deliveries for agricultural purposes. Under the Proposed Action, there would be no change in the delivery of water to these users and no effect to agricultural resources. The daily operations of the facility would be maintained during construction and the improvements would ensure that the components of the SACS remain operational into the future.

In regards to the cattle grazing, construction activities could temporarily interfere with cattle grazing in certain parts of the study area; however, such activities would be coordinated with permittees to ensure the minimum disruption possible. Further, measures would be taken (i.e., temporary fencing, etc.) to prevent livestock from straying too close to construction areas and being injured. Based upon these commitments, the Proposed Action would have only temporary, if any, impacts on agricultural resources.

No-Action Alternative

The No-Action Alternative would not involve construction activities and OM&R activities would be temporary, limited and sporadic which would not interfere with cattle grazing in the study area. Therefore, the Proposed Action would have no impact on agricultural resources. Should the North Fork Siphon fail, construction activities such as under the Proposed Action would need to be done on an emergency basis. There would be a loss of water due to the rupture and the potential for a disruption of services.

Mitigation

Mitigation would involve coordination with the U.S. Forest Service and its permittees regarding construction activities and the implementation of safety measures (i.e., temporary fencing, etc.) to prevent livestock from straying too close to construction areas and being injured. Further, cattle guards will be maintained during construction.

3.9 Roadless Areas

Affected Environment

The 2001 Roadless Area Conservation Rule prohibits road construction, reconstruction, and timber harvest in inventoried roadless areas within the National Forest System. Although portions of the study area are within the current boundaries of a USFS-designated Roadless Area, this designation does not apply to withdrawn lands. The study area is entirely comprised within withdrawn lands for the purposes of the CUP (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1).

Environmental Effects

Proposed Action Alternative

The Proposed Action would reconstruct a previous access road for future access to the Hades Tunnel Inlet Portal and maintenance for the North Fork siphon. It is also anticipated that other roads may be required during the construction of the North Fork Siphon.

Although the Roadless Designation does not apply to withdrawn lands, the Joint Lead Agencies have requested the removal of the 27.95 acres of Roadless Area within the study area to be permanently removed from the USFS-designated roadless area in order to avoid future confusion (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1).

No-Action Alternative

The Roadless Designation does not apply to withdrawn lands; therefore, the No-Action Alternative would not have any impacts.

3.10 Soils and Geotechnical

Affected Environment

The study area is located along the south flank of the Uinta Mountain Range, an east-west trending anticlinal arch situated in northeastern Utah and northwestern Colorado. During the Pleistocene era, glaciers in the area formed broad u-shaped valley landscapes, like the North Fork valley.

Bedrock stratigraphy exposed in the valley is composed solely of sedimentary formations. The core of the Uinta Mountains immediately north of the siphon consists primarily of Precambrian rocks, with successively younger Paleozoic rocks exposed in the canyon walls. Surficial materials, derived from the erosion of local bedrock and unconsolidated deposits, are deposited on the steep valley walls and the valley floor, which include streamfill, alluvial fan, and slopewash deposits.

The South Flank Fault zone, the major east-west trending fault structure on the south side of the Uinta Mountains, intersects the North Fork valley approximately five miles north of the existing siphon. At the time of the geotechnical report prepared in connection with the original construction of the North Fork siphon, a maximum displacement along the fault zone was estimated at 5,000 to 6,000 feet. There are also two small faults along the eastern side of the North Fork valley; one along the valley floor and the other approximately 800 feet up the east valley wall.

The North Fork siphon is located in an area with a low historical seismicity probability (based on the 50-year criterion). Seismic history indicates that the North Fork area has a 90 percent probability of not having ground shaking with a horizontal acceleration exceeding 0.04 gravity (g) in a 10-year period and a 0.06-0.10 g in a 50-year period (Strain 1987).

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would result in soil disturbance removal during construction, as well as the placement of fill material over existing soils. This would increase the chance for erosion of the soils, both during construction and after completion of the project. Further, the Hades Tunnel Inlet Portal access road would be placed on soils/slopes that have the potential for landslides and erosion. The slope of the hillside upon which the roadway alignment would be constructed is approximately 45 to 50 degrees.

Design and construction methods used for the Proposed Action Alternative would take into account the potential for seismic activity in the study area. Further, the

existing siphon alignment that would be abandoned in place would be monitored for signs of potential collapse.

No-Action Alternative

Under the No-Action Alternative, there would be no construction activities, other than required OM&R activities which would be limited, temporary, and sporadic; therefore, there would be no soil disturbance and no impact to geological features or attributes of the area. Should the North Fork Siphon fail, there may be impacts due to erosion from the water loss caused by the pipeline rupture.

Mitigation

During construction, BMPs would be utilized in order to prevent soil erosion from occurring. Further, construction activities that disturb more than one acre require the use of a SWPPP to comply with the UPDES. The SWPPP may include such measures as using silt fences, fiber rolls, check-dams, or other techniques to minimize impacts to receiving waters. The project would be constructed in compliance with the District's standards and specifications for drainage and sediment control.

All areas disturbed by construction activities would be restored post-construction. The new alignment would be seeded with native grasses and erosion control measures would be put in place to prevent the incursion of invasive weed species while still complying with Reclamation and District standards regarding allowable vegetation. The new pipeline would be located approximately 60 to 80 feet north of the current alignment, which would result in a new area that would need to be kept free of deep-rooted vegetation. The old alignment would be abandoned in place and the swath that had been kept free of deep-rooted vegetation along the existing alignment would be allowed to return to its natural state. De-vegetation activities would cease. See the Vegetation Section for more information.

3.11 Cultural Resources

Historic properties include archaeological resources (both prehistoric and historic), architectural resources (buildings and structures), and traditional cultural properties. The Advisory Council on Historic Preservation (ACHP) defines a historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP (National Register of Historic Places)."

The National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 CFR §800) establish the national policy and procedures regarding historic properties. Section 106 of the NHPA requires consideration of the effects of federal projects and policies on historic properties. Utah Annotated Code (UAC) §9-8-401 et seq. was passed to provide protection of

"all antiquities, historic and prehistoric ruins, and historic sites, buildings, and objects which, when neglected, desecrated, destroyed or diminished in aesthetic value, result in an irreplaceable loss to the people of this state."

The Section 106 review process requires historic properties to be evaluated for eligibility and listing on the NRHP, based upon whether "the quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association," and meet one or more of the criteria in Table 3-7.

Table 3-7. NRHP Criteria

NRHP Criteria	Characteristics
A	Associated with events that have made a significant contribution to the broad patterns of our history.
B	Associated with the lives of persons significant in our past.
C	Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction.
D	Yielded, or may likely yield, information important in prehistory or history.

Affected Environment

A survey of cultural resources in the study area was completed in May 2017 in connection with proposed project. This survey looked for structures and historic elements within the project's Area of Potential Effects (APE) and identified those historic elements which are either currently on or are eligible for nomination to the NRHP.

The survey recorded two isolated occurrences, a former alignment of Forest Service Road 144 and a pile of milled lumber. Neither of these occurrences qualifies as a site or historic property, and neither is eligible for the NRHP.

Environmental Effects

Effects are defined as "alteration[s] to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR §800.16(i)). Impacts to historic properties are categorized as No Historic Properties Affected, No Adverse Effect, and Adverse Effect.

A finding of **No Historic Properties Affected** is made when "[e]ither there are no historic properties present or there are historic properties present but the

undertaking will have no effect upon them as defined in §800.16(i)" (See 36 CFR §800.1(d)(1)).

A finding of **No Adverse Effect** is made "[w]hen the undertaking's effects do not meet the criteria of [adverse effect] or the undertaking is modified or conditions are imposed... to ensure consistency with the Secretary's standards for the treatment of historic properties (36 CFR §68) to avoid adverse effects" (See 36 CFR §800.5(b)). In other words, a finding of "no adverse effect" is used when an undertaking affects a property that is eligible for or listed on the National Register but does not impair the integrity of the property.

A finding of **Adverse Effect** is made "[w]hen an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, and association" (See 36 CFR §800.5(a)(1)).

Proposed Action Alternative

The Proposed Action would have no effect on any historic properties eligible for the NRHP since there were no historic properties identified within the study area. The Proposed Action Alternative has been determined to have a finding of **No Historic Properties Affected**.

Finding of Effect

A letter which outlined the type of effect that would result from the implementation of the Proposed Action was prepared by the District and submitted for concurrence by the State Historic Preservation Office (SHPO). This letter was signed by the SHPO on July 19, 2017.

No-Action Alternative

The No-Action Alternative would not involve construction activities and would not impact historic properties eligible for the NRHP.

Mitigation

During construction there is the potential to discover previous, unknown, cultural resources and Native American artifacts. In the event of cultural resources and Native American artifacts discovered during construction, all work would cease until a qualified archaeologist was able to evaluate the site, document cultural resources, and coordinate with SHPO.

3.12 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for Indian tribes or individuals. ITAs may include lands, minerals,

hunting and fishing rights, traditional gathering grounds, and water rights. Impacts to ITAs are evaluated by assessing how the action affects the use and quality of ITAs. Any action that adversely affects the use, value, quality or enjoyment of an ITA has an adverse impact to the resources. Interior's policy is to recognize and fulfill its legal obligations to identify, protect, and conserve the trust resources of federally recognized Indian tribes and tribal members, and to consult with tribes on a government-to-government basis whenever plans or actions affect tribal trust resources, trust assets, or tribal safety. The Joint Lead Agencies are committed to carrying out its activities in a manner that avoids adverse impacts to ITAs when possible, and to mitigate or compensate for such impacts when it cannot. All impacts to ITAs, even those considered non-significant, must be discussed in the trust analyses in NEPA compliance documents and appropriate compensation or mitigation must be implemented.

Indian Trust Asset Status

The CUPCA Office sent letters dated April 21, 2017 during the scoping phase of this project and made follow-up phone calls requesting consultation on potential properties of religious or cultural importance to the Paiute Indian Tribe, the Ute Tribe, the Skull Valley Band of Goshute Indians, the Confederated Tribes of the Goshute Reservation, the Northwestern Band of Shoshoni Nation of Utah, the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, the Shoshone Tribe of the Wind River Reservation of Wyoming, the Southern Paiute Agency Bureau of Indian Affairs, the Uintah and Ouray Agency Bureau of Indian Affairs, and the Fort Hall Agency Bureau of Indian Affairs (see Appendix A). No tribal representatives responded to the invitations and no ITAs were identified.

3.13 Visual Resources

Affected Environment

Visual or scenic resources within the study area are the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. For the study area, these included established vegetation and landscapes, the North Fork of the Duchesne River, and built features related to the existing pipeline, such as the existing river crossing.

Visual resources or scenic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. The primary viewer groups of the study area include nearby seasonal residents and visitors to the Ashley National Forest. Photos were taken at Key Observation Points (KOPs) throughout the study area to show the existing character of the site (see Figures 3-3 through 3-10).

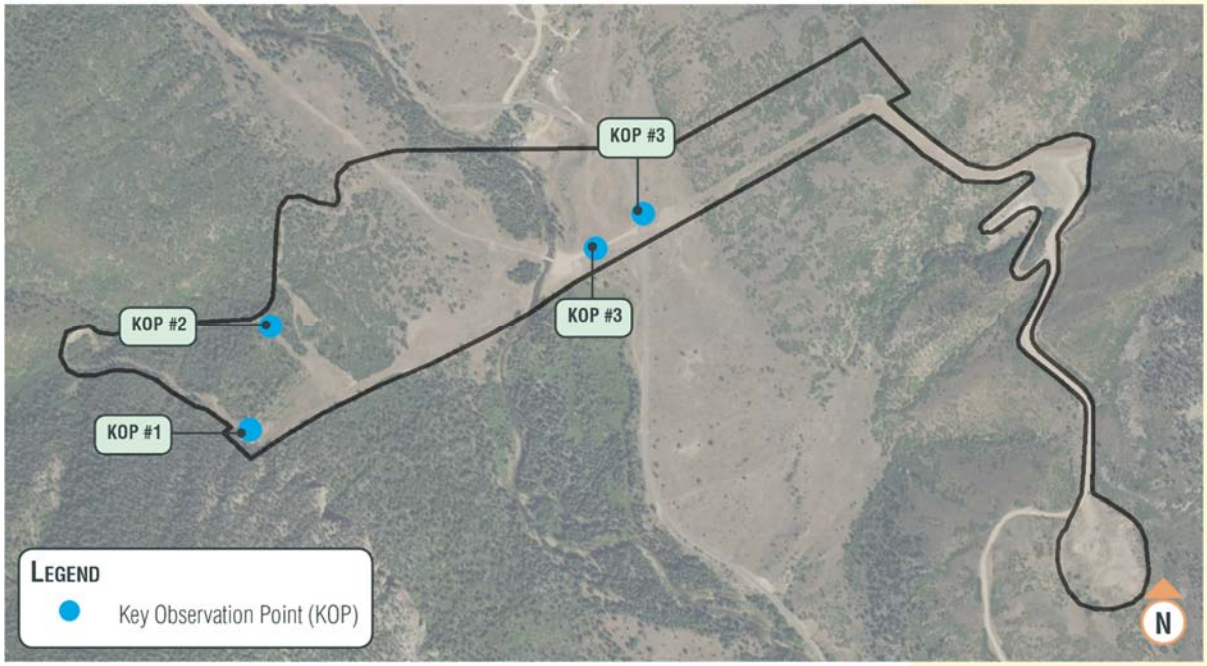

Figure 3-3. Map of Key Observation Points for Visual Impacts Analysis

Figure 3-4. View of the Study Area looking northeast – KOP #1

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would involve construction activities that would temporarily disturb the study area and alter the viewshed during the construction period. However, since most of the improvements would be buried, the viewshed would not be largely altered post-construction. The viewshed in the study area would not be substantially altered from the existing viewshed under the Proposed Action.

The Proposed Action Alternative would involve the construction of a new river crossing over the North Fork of the Duchesne River that would be somewhat

different than the existing crossing and the reconstruction of an access road to reach the Hades Tunnel Inlet Portal. See Figures 3-5 through 3-10 for comparisons of existing views and composite renderings of future views.

Also, since the North Fork siphon would be relocated to a new location, there would be a swath where vegetation would be lacking (or a "scar") through the vegetation along the new siphon alignment since certain types of vegetation (deep-rooted) are not allowed to be located within the immediate vicinity of the facility per Reclamation and District standards. The previous scar from the existing alignment would be reclaimed and deep-rooted vegetation allowed to grow so that the swath of land lacking vegetation would only be moved from one location to another, rather than duplicated. The Proposed Action would involve the removal of approximately 804 trees along the new alignment. See Vegetation Section for more information.

Figure 3-5. Existing access to Hades Tunnel Inlet Portal - KOP #2

Figure 3-6. Conceptual rendering of proposed Hades Tunnel Inlet Portal access road after reconstruction

Figure 3-7. Existing scar on hillside (west) – KOP #3

Figure 3-8. Conceptual Rendering of proposed scar, revegetation (scar relocated approximately 60 to 80 feet north), and Hades Tunnel Inlet Portal access road

Figure 3-9. Existing scar on hillside (east) – KOP #4

Figure 3-10. Conceptual Rendering of proposed scar and revegetation (scar relocated approximately 60 to 80 feet

No-Action Alternative

The No-Action Alternative would not involve construction activities and OM&R activities would be limited, temporary, and sporadic and would not involve major changes to the viewshed in the study area. Should the North Fork Siphon fail, construction activities such as called for under the Proposed Action Alternative would be required on an emergency basis, which would have similar impacts on the viewshed in the study area once construction activities were completed.

Mitigation

In coordination with the U.S. Forest Service, areas of the previous North Fork Siphon alignment that are having erosion issues, as well as areas of the new siphon alignment disturbed by construction activities, would be stabilized and revegetated with appropriate native species.

3.14 Recreation

Affected Environment

Recreational uses in the study area include hunting, fishing, hiking, camping (in designated campground areas), horseback riding, and other non-motorized outdoor activities. There are several campgrounds to both the north and south of the study. There is also a commercially operated dude ranch located north of the study area that includes recreational opportunities such as hiking, horseback riding, cabins, etc. (see Figure 3-11).

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would not adversely impact recreational activities in the study area. The study area is located within CUP withdrawn lands that are limited in what activities occur in the area (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1). However, there are recreational uses in the area that are accessed by Forest Service Road 144. There would be no long-term roadway delays related to the construction; however, access may be temporarily delayed due to construction-related traffic. There may also be a temporary disruption of outdoor activities within the vicinity due to noise levels from construction equipment or other construction work. There would be no impacts to recreation due to the operation of the facilities.

Further, during construction of the Proposed Action, the water supply in the Upper Stillwater Reservoir would be drawn down as early as possible in the water year for the last two years of construction in order to allow for certain aspects of construction to occur. See the Water Resources section for more details. This action would have a temporary damping effect on recreational activities on the Upper Stillwater Reservoir for those seasons due to the lower water levels in the reservoir.

No-Action Alternative

The No-Action Alternative would not involve construction activities and OM&R activities would be limited, temporary, and sporadic and would not involve impacts to recreational activities. Should the North Fork Siphon fail, construction activities such as called for under the Proposed Action Alternative would be required on an emergency basis. These activities would have similar impacts to recreation in the study area.

Mitigation

Travel in the area to and from recreational facilities or for other public purposes would be maintained throughout construction. Prior to construction, a Traffic Control Plan would be developed to address traffic concerns.

Figure 3-11. Recreation Facilities In or Near the Study Area

3.15 Noise and Vibration

The EPA defines noise as an unwanted or disturbing sound that becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one's quality of life.

Affected Environment

The study area is located in a remote area within the boundaries of the Ashley National Forest, accessed only by Forest Service Road 144. There are a few, mostly isolated, secondary and/or seasonal residential structures within the vicinity of the study area. The nearest residential structure is approximately 527 feet north of the study area.

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would not result in any long-term or permanent changes to noise levels in the study area. There would be a temporary increase in noise levels during construction as a result of engine noise and back-up alarms from construction equipment, trench excavation, backfilling, grading, and/or use of jackhammers. Extended disruption of normal activities is not anticipated, since no single area is expected to be exposed to construction noise of long duration. Further, construction for the Proposed Action would need to take into account the sensitivity of the existing pipeline to seismic activity that could result from excessive vibration so as to not cause damage to the existing pipe. Therefore, it is not likely that vibration impacts to neighboring properties would occur. Due to the remote location of the study area, there are only a few buildings or other structures in the vicinity that could be impacted by vibrations generated by construction activities due to the use of heavy construction equipment.

Noise levels during construction may temporarily interfere with recreational activities for which quieter conditions are preferred (i.e., hiking, fishing, camping, hunting). During operation, there would be no increases in ambient noise levels in the study area.

No-Action Alternative

The No-Action Alternative would not involve construction activities and therefore would have no noise or vibration impacts. Should the North Fork Siphon fail, construction activities such as called for under the Proposed Action Alternative would be required on an emergency basis, which would have similar noise and vibration impacts in the study area.

Mitigation

The Joint Lead Agencies would require the contractor to comply with applicable federal, state, and local laws, orders, and regulations concerning the prevention, control, and abatement of excessive noise and vibration. The Joint Lead Agencies would monitor construction noise levels within the construction area. Mufflers on construction equipment would be checked regularly to minimize noise.

3.16 Transportation

Affected Environment

The only graded road in the study area that is open to the public is Forest Service Road 144 (also known as North Fork Road or County Road #7), which runs north/south through the canyon. A District maintenance road that is gated provides access to the Hades Feeder Pipeline (a CUP facility) on the west side of the river. This road is not open to public use. The crossing over the North Fork of the Duchesne River is an outdated structure consisting of several culverts. There are multiple trails in the study area; however, they are not open for motorized travel.

Environmental Effects

Proposed Action Alternative

The Proposed Action would remove the existing crossing structure over the North Fork of the Duchesne River and replace it with a new bridge or other structure intended to improve the access road to the west side of the canyon, access to the Hades Tunnel Inlet Portal road, and the new North Fork Siphon blow off structure, especially during high water runoff, for operation and maintenance of the siphon.

The Proposed Action would also reconstruct a new access road to reach the Hades Tunnel Inlet Portal on the north side of the facility. A previous road had been built during the initial construction of the North Fork Siphon in the late 1980s, but it was reclaimed and returned to a more natural state post-construction. This road is not open to public use.

There may also be temporary travel delays during construction due to movement of heavy machinery and other equipment and supplies. The District is working on an agreement with Duchesne County and the Forest Service to address repairs to the North Fork Road to mitigate for impacts due to heavy machinery.

No-Action Alternative

Under the No-Action Alternative, there would be no construction activities and no changes to transportation facilities in the study area.

Mitigation

Travel in the area to and from private property, recreational facilities or for other public purposes would be maintained throughout construction. Prior to construction, a Traffic Control Plan would be developed to address traffic concerns. The District is working on an agreement with Duchesne County and the Forest Service to address repairs to the Forest Service Road 144 (also known as North Fork Road or County Road #7) to mitigate for impacts due to heavy machinery.

3.17 Vegetation and Invasive Species

Affected Environment

Plant Communities

Vegetation within the study area has been divided into five dominant plant communities; Aspen, Mixed Conifer, Oak-Mountain Brush, Sagebrush Steppe, and Riparian. Boundaries for the plant communities were determined by the presence of the dominant species identified for each. Figure 3-12 illustrates these communities and their relative location and elevation within the study area, as well as the dominant plant species included within each community.

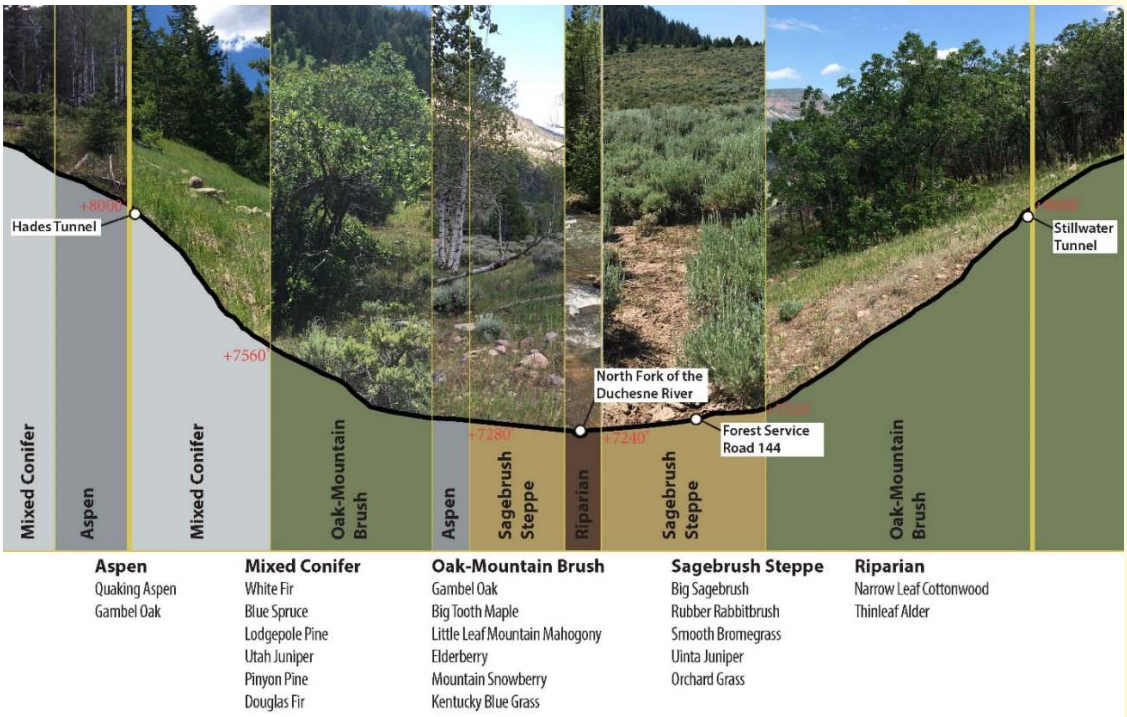

Figure 3-12. Dominant Plant Communities within the Study Area

Each of the five dominant plant communities shown above include a variety of plant species. See Table 3-8 for a list of various plant species that were observed within the study area during the survey.

Table 3-8. Vegetation in the Study Area

Common Name	Botanical Name
Trees: Riparian	
Narrow Leaf Cottonwood	*Populus angustif*
Thinleaf Alder	*Alnus incana*
Trees: Conifer	
Blue Spruce	*Picea pungens*
Engleman Spruce	*Picea engelmannii*
White Fir	*Abies concolor*
Utah Juniper	*Juniperus osteosperma*
Pinyon Pine	*Pinus edulis*
Lodgepole Pine	*Pinus contorta*
Douglas Fir	*Pesudotsuga menziesii*
Trees: Deciduous	
Gamblelle Oak	*Quercus gambelii*
Quaking Aspen	*Populus tremuloides*
Big Tooth Maple	*Acer grandidentatum*
Shrubs	
Big Sagebrush	*Artemisia tridentata*
Little Leaf Mountain Mahogany	*Cercoarpus intricatus*
Elderberry	*Sambucus canadensis (*)*
Woods' Rose	*Rosa woodsii*
Manzanita	*Arctostaphylos patula*
Black Sagebrush	*Artemisia nova*
Mountain Snowberry	*Symphoricarpos oreophilus*
Rubber Rabbitbrush	*Ericameria nauseosa*
Rocky Mountain Juniper	*Juniperus scopulorum*
Grasses	
Orchard Grass	*Dactylis glomerata*
Smooth Bromegrass	*Bromus inermis*
Western Wheat Grass	*Pascopyrum smithii*
Kentucky Blue Grass	*Poa pratensis*
Tall Fescue	*Festuca arundinacea*
Wetland Vegetation	
Baltic Rush	*Juncus balticus*
Puzzle Grass	*Equicetium hyemale*
Woodland Horsetail	*Equicetium sylvaticum*

Common Name	Botanical Name
Nebraska Sedge	*Carex nebrascensis*
Weedy Species	
Hound's Tongue	*Cynoglossum officionale*
Black Medick	*Medicago lupulina*
Dandelion	*Taraxacum officionale*
Herbaceous	
Wasatch Penstemon/Beardtongue	*Penstemon cyananthus*
Columbine	*Aquilegia coerulea*
Beard tongue/Rocky Mountain Penstemon	*Penstemon strictus*
Scarlet Gilia	*Ipomopsis aggregata*
Lupine	*Lupinus latifolius*
Creeping Oregon Grape	*Mahonia repens*

The study area is located within a highly wooded area. A count of tree density in the study area was conducted using sample count areas (see Figure 3-13).

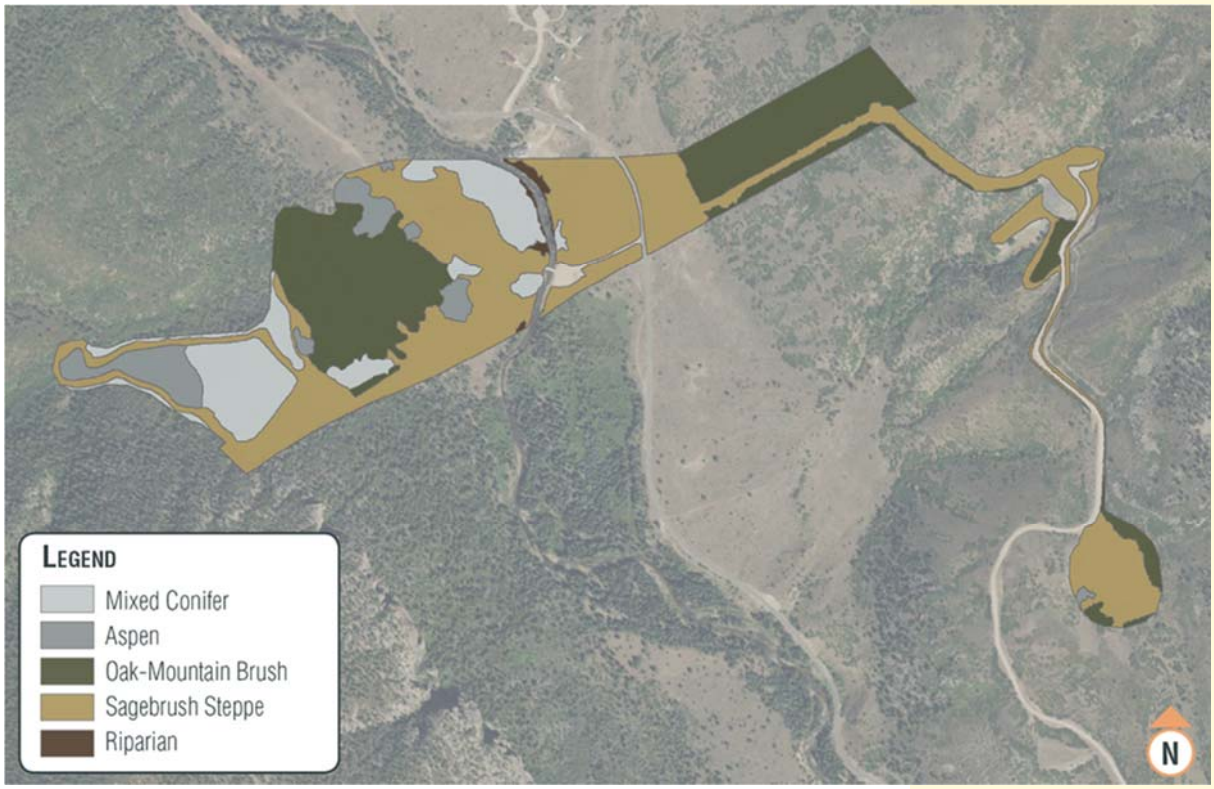

Figure 3-13. Map of Tree Density Within the Study Area

Invasive Species and Noxious Weeds

No Invasive species and noxious weeds were identified within the study area at the time of the presence/absence surveys.

Environmental Effects

Proposed Action Alternative

Vegetation

The installation of new pipe would require vegetation removal north of the existing pipeline alignment, up to 200 feet in width. This includes the removal of large, mature trees, shrubs, bushes, and other planted and natural vegetation in the study area. The Proposed Action is anticipated to require the removal of approximately 804 trees (see Figure 3-14).

Figure 3-14. Impacts to Woody Vegetation Within the Study Area

Since the Reclamation's and the District's standards do not allow for deep-rooted vegetation such as trees within the immediate vicinity of the facility, those trees that would be removed for the new pipeline alignment would not be allowed to regrow, neither would those that fall within the alignment of the new access road. Therefore, this impact would be long-lasting; however, it would only involve the removal of a very small percentage of the trees in the study area. In addition, an access to the Hades Tunnel Inlet Portal was constructed under the

previous project that has become overgrown with vegetation. The Proposed Action would restore this access, resulting in minor vegetation loss.

Invasive Species and Noxious Weeds

The Proposed Action would include construction activities that would disturb the ground surface. This disturbance could allow for the establishment or spread of invasive species and noxious weeds.

No-Action Alternative

The No-Action Alternative would include OM&R activities that would potentially disturb the ground surface on a limited, temporary basis, which would provide an opportunity for the establishment or spread of invasive species and noxious weeds. Should the North Fork Siphon fail, construction activities such as called for under the Proposed Action Alternative would be required on an emergency basis, which would also provide an opportunity for the establishment or spread for invasive species in the study area.

Mitigation

Vegetated areas on the existing alignment that are having erosion issues would be stabilized and revegetated with appropriate native species. The new alignment would be seeded with native grasses and erosion control measures would be put in place to prevent the incursion of invasive weed species while still complying with Reclamation and District standards regarding allowable vegetation.

After construction, the District would comply with its Integrated Pest Management Program, which requires ongoing monitoring for invasive species and noxious weeds and treatment on lands administered by the District.

3.18 Utilities

Existing Environment

Within the study area, utilities are expected to include power lines, fiber optic lines and telephone lines. Telephone and fiber optic cable (operated by STRATA Networks) are present in the study area running adjacent to Forest Service Road 144. At least one aerial power utility line maintained by Moon Lake Electric was identified in the study area, which runs north/south along the base of the eastern edge of the valley. This utility line is strung on 25-foot utility poles and could potentially be interfered with by construction equipment due to its lack of sufficient height. A buried extension of the power line runs east-west to provide power to Upper Stillwater Dam and Reservoir.

Environmental Effects

Proposed Action Alternative

The Proposed Action would likely require the temporary relocation of certain existing utilities, including the aerial power line that crosses the study area. Any utilities that would be required to be temporarily relocated during construction would be restored with little to no disruption of service.

No-Action Alternative

Under the No-Action Alternative, there would be no construction activities and no impacts to utilities in the study area. However, if the pipeline should rupture, there would be temporary impacts to utilities in the study area until such time as service could be restored.

Mitigation

Coordination and cooperation with utility companies (STRATA and Moon Lake Electrical) would be conducted prior to and during construction. Utilities would be avoided to the extent possible or relocated. Minimal disruptions would occur during tie-ins of new connections.

3.19 Permits, Agreements, and Right-of-Way

Permits and Agreements

Implementation of the Proposed Action Alternative would require application for and approval of the regulatory permits and agreements listed in Table 3-9.

Table 3-9. Required Permits and Clearances

Permit	Granting Agency(ies)	Applicable Portion of Project
Section 402 Permit (UPDES)	Utah Department of Water Quality (UDWQ)	Stormwater quality during construction
Stream Alteration Permit	State Engineer	Work within the North Fork of the Duchesne River
Floodplain Development Permit	Duchesne County	Work within the floodplain
Road Encroachment Permit	Duchesne County	Roadway use

No right-of-way acquisition is needed for the Proposed Action. The study area is located entirely within lands withdrawn for the purposes of the CUP (see Section 1.4 – Study Area and Withdrawn Lands in Chapter 1).

3.20 Indirect Impacts

Indirect impacts are those caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR §1508.8). Indirect effects are generally less quantifiable but can be reasonably predicted to occur. Indirect effects may include growth inducing effects and other effects

related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Proposed Action Alternative

The Proposed Action is not anticipated to have any indirect impacts during operation. The system would operate as it currently does to provide water to the District's consumers. During construction, there would be indirect impacts to recreation on the Upper Stillwater Dam, as discussed in the Water Resources and Recreation sections above. No other indirect impacts were identified.

No-Action Alternative

The No-Action Alternative could have indirect impacts on several environmental resource in the event of a failure of the system. Should the system fail, there would be impacts to water quality and water resources in the study area due both to the effects of the system failure and of any emergency response measures that would be required to restore the facilities to working order. The temporary disruption to the instream water flows intended to support habitat for endangered aquatic species would have a temporary, indirect effect on said species. Further, there would be economic impacts from the disruption, albeit temporary, of the water supply that the facility was constructed to provide to the District's water consumers.

3.21 Cumulative Impacts

Cumulative impacts are the impacts to the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR §1508.7). Cumulative impact analysis is focused on the sustainability of the environmental resource in light of all the forces acting upon it and can result from individually minor but collectively significant actions taking place over time.

The cumulative impact analysis focuses on environmental resources which would have direct or indirect impacts or which may be affected by a connected action. For a project to have a cumulative effect, however, it must first have a direct or indirect effect on the resource in question or be connected to the associated action. Many resources which would not be subject to cumulative impacts either do not have direct impacts or by nature do not result in cumulative impacts.

Cumulative Impacts Analysis

The Proposed Action would have only a minimal or temporary impact on many environmental resources; therefore, it would not contribute to cumulative impacts on environmental resources in the study area.

3.22 Construction

Proposed Action Alternative

Construction activities would include the installation of the new siphon and pipeline, construction of an access road to the Hades Tunnel Inlet Portal, and the installation of a new river crossing structure over the North Fork of the Duchesne River. Construction would require using open-cutting, trench excavation, backfilling, and grading to install the siphon across the North Fork of the Duchesne River, which would also require coffer dams to control the river flow during construction. Construction activities would also include removal of deep-rooted vegetation, construction of temporary access roads, and other construction activities.

Adherence to standard and project-specific BMPs would reduce short-term impacts during the construction of the Proposed Action Alternative. Each of these procedures would be incorporated into all construction specifications and contract documents, as appropriate, and all contractors would be required to follow them.

Construction of the Proposed Action would involve temporary impacts or other considerations in regards to the following environmental resources:

- Air Quality
- Water Quality
- Noise and Vibration
- Soils and Geology
- Vegetation
- Visual
- Hazardous Materials
- Transportation
- Public Health and Safety
- Agricultural Resources

Air Quality

During construction, there would be temporary negative effects to air quality due to increased dust and particulates from construction activities, as well as increased motor vehicle emissions from heavy construction equipment and vehicles.

BMPs would be employed during construction to mitigate for temporary impacts on air quality due to construction related activities. The BMPs would include:

- Applying dust suppressants and watering to control fugitive dust
- Minimizing the extent of disturbed surfaces
- Restricting earthwork activities during times of abnormal high wind
- Limiting the use of and speeds on unimproved road surfaces

Water Quality

Construction activities in the study area would disturb the soils and increase the potential for temporary soil erosion and sedimentation/siltation impacts in the North Fork of the Duchesne River. Erosion issues also currently exist since the existing river crossing structure is insufficient to allow the current flow of the river to pass without obstruction.

In order to prevent construction impacts, contractors would be required to comply with all federal and state laws and regulations regarding control and abatement of water pollution. All waste materials and sewage from construction activities or project-constructed features would be disposed of as specified by federal and state health and pollution control regulations.

Contractors would be required to monitor water quality of discharges and receiving water (both background and below discharges) during any construction activities that could impact surface water quality.

Construction specifications would require construction activities to be performed using methods that would prevent entrance or accidental spillage of solid matter, contaminants, debris, and other objectionable pollutants and wastes into flowing or dry watercourses and underground water sources. Potential pollutants and wastes include refuse, garbage, cement, concrete, sewage effluent, industrial waste, oil, and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

Disturbance of streambeds beyond the zone of new structures within the steam channel would be avoided. Temporary construction site dewatering measures would be restricted to necessary areas of the existing channel. Damage to streambank vegetation would be minimized.

Excavated materials would not be stockpiled or deposited near or on streambanks, wetlands, or other watercourse perimeters where they could be washed away by high water or storm runoff, or encroach upon the sensitive area.

Construction specifications would require riprap materials to be free of contaminants and not contribute measurably to the turbidity of the river.

Noise and Vibration

Construction activities would generate higher than normal noise levels in the study area due to as a result of engine noise and back-up alarms from construction equipment, trench excavation, backfilling, grading, and/or use of jackhammers. These impacts would be temporary and restricted to the construction phase of the project.

Mufflers on construction equipment would be checked regularly to minimize noise.

Soils and Geology

Several procedures would be used as necessary to prevent and minimize erosion and siltation during construction and during the period needed to reestablish permanent vegetative cover on disturbed sites. These include planting native grasses, forbs, trees, or shrubs beneficial to wildlife or placement of riprap, sand bags, jute, sod, erosion mats, bale dikes, mulch, or excelsior blankets.

Clearing schedules would be arranged to minimize the practical exposure of soils. Final erosion control and site restoration measures would be initiated as soon as an area is no longer needed for construction, stockpiling, or access.

Cuts and fills on the reestablished Hades Tunnel Access Road would be appropriately sloped to prevent landslides and to facilitate revegetation. The identified areas would be stabilized or protected to prevent mass soil movement into reservoir pools or streams to the extent practicable.

Borrow areas would be contoured to prevent water from collecting, unless the borrow excavation is below groundwater level. Before borrow areas are abandoned, their sides would be brought to stable slopes with intersections shaped to carry the natural contour of adjacent undisturbed terrain into the borrow area. No soil, rock stockpile, or excess soil materials would be placed near sensitive resource habitats, including water channels, wetlands, and riparian areas, where they may erode into these habitats, or where runoff from spoils could run into sensitive habitats.

Upon project completion, all yards, offices, and construction buildings, including concrete footings and slabs, and all construction materials and debris would be removed from the site. Construction roads above the high-water elevation no longer needed for site operation and maintenance would be restored to the original contour and made impassable to vehicular traffic when no longer

required by the contractor. Road surfaces for the Hades Tunnel Access Road would be scarified, as needed, to establish conditions suitable for proper drainage and erosion prevention.

Areas of the previous North Fork Siphon alignment that are having erosion issues, as well as areas of the new siphon alignment disturbed by construction activities, would be stabilized and revegetated with appropriate native species. Erosion control measures would be initiated as soon as an area is no longer needed for construction, stockpiling, or access. Upon completion of construction, any land disturbed, but not permanently occupied by new facilities would be graded to provide proper drainage and blend with the natural contours of the land, and restored to its pre-construction condition. Where such lands were vegetated, they would be covered with topsoil stripped from construction areas, and revegetated, as appropriate, with plants native to the area and beneficial to wildlife.

Vegetation

The Proposed Action would include construction activities that would disturb the ground surface and result in the removal of established vegetation in the study area. This disturbance could allow for the establishment or spread of invasive species and noxious weeds.

Construction specifications would require contractors to preserve the natural landscape and prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the work vicinity. All trees, native shrubbery, and other vegetation would be preserved and protected from construction operations and equipment except where clearing operations are required for permanent structures, approved construction roads, or excavation operations. All maintenance yards, field offices, and staging areas would be arranged to preserve trees and vegetation to the maximum practicable extent.

Clearing operations would be limited to those needed for construction and borrow material sites. In areas, such as riparian communities, clearing would be restricted to only a few feet beyond areas required for construction. Areas around structures would be backfilled and compacted, and all disturbed areas reclaimed to the native vegetation type.

To reduce environmental damage, critical environmental areas (stream corridors, riparian areas, and steep slopes) would not be used for equipment or material storage or stockpiling; construction staging or maintenance; field offices; hazardous material or fuel storage, handling, or transfer; or temporary access roads. Damage to vegetation would be strictly limited only to areas required for construction activities and for which no practical alternative exists.

Construction buffers would be identified during the design phase around sensitive resources to prevent damage to the resource. Buffer locations would be included in the final design package showing buffer locations. Orange or other high visibility fencing would be used to clearly define the limits of the buffers around critical areas.

Existing access roads would be used for all construction activities where possible. If new roads must be constructed, the width would be kept to the absolute minimum needed. Access roads would be situated to avoid all trees where possible, but especially trees greater than 10 inches in diameter, and to limit disturbance to vegetation. Riparian areas would be avoided as possible.

Visual

During construction, there would be some temporary visual impacts to the study area with the addition of construction signs, barricades, exposed earth and construction equipment.

At all times, construction areas, including storage yards, would be kept free from accumulations of waste materials and trash. During the final phase of work, contractors would be required to remove all unused materials and trash, dump it in an approved sanitary landfill, and leave work areas neat to conform to the natural landscape.

Hazardous Material Storage, Handling, and Disposal

Contractors would be required to comply with Utah Hazardous Waste Management Regulations established under the authority of the Federal Resources Conservation and Recovery Act of 1976 (RCRA) and the Utah Hazardous Waste Act of 1979.

The potential for adverse impacts from oil and fuel spills would be reduced through careful handling and designation of specific equipment repair and fuel storage areas. Oil, petroleum waste products, chemicals, and hazardous or potentially hazardous wastes would not be drained onto the soil, but confined in sealed containers or sealed sumps for removal to approved disposal sites. They would be transported in accordance with all applicable state and federal safety standards. The contractor would be required to prepare a Spill Prevention Containment and Control (SPCC) plan for any construction site where oil from an accidental spillage could reasonably be expected to enter wetlands, groundwater, navigable waters, or adjoining shorelines, and where aggregate oil storage exceeds 1,320 gallons or a single container can hold more than 660 gallons.

Waste materials known or found to be hazardous would be disposed of in approved treatment or disposal facilities in accordance with federal, state, and local regulations, standards, codes, and laws.

All hazardous materials used would be required to have a Material Safety Data Sheet (MSDS) filed onsite. A hazardous material safety and communication plan would be required from each contractor with special emphasis on preventing hazardous materials from entering wetlands and watercourses or contaminating the soil or groundwater. Concrete trucks would not be washed at construction sites. All spilled concrete would be removed from construction areas and disposed of properly.

Transportation

There may be temporary travel delays during construction due to movement of heavy machinery and other equipment and supplies. A Traffic Control Plan would be developed to address traffic concerns and minimize the hazards associated with construction traffic.

Public Health and Safety

Implementing the Proposed Action would increase construction traffic during construction to, from, and within the study area. However, a Traffic Control Plan would be developed to address traffic concerns and minimize the hazards associated with construction traffic. Further, construction barriers and fencing would be used to clearly demarcate construction zones and prevent access to all but construction personnel.

Agricultural Resources

In regards to the cattle grazing, construction activities could temporarily interfere with cattle grazing in certain parts of the study area; however, such activities would be coordinated with permittees to ensure the minimum disruption possible. Further, measures would be taken (i.e., temporary fencing, etc.) to prevent livestock from straying too close to construction areas and being injured.

No-Action Alternative

The No-Action Alternative would include OM&R activities to maintain the existing facilities. Should the North Fork Siphon fail, construction activities such as called for under the Proposed Action Alternative would be required on an emergency basis.

3.23 Summary of Mitigation Commitments

Air Quality

BMPs would be employed during construction to mitigate for temporary impacts on air quality due to construction related activities. The BMPs would include:

- Applying dust suppressants and watering to control fugitive dust
- Minimizing the extent of disturbed surfaces
- Restricting earthwork activities during times of abnormal high wind
- Limiting the use of and speeds on unimproved road surfaces

Additionally, the Joint Lead Agencies would adhere to the following standards and specifications:

- Abatement of Air Pollution: The Joint Lead Agencies would utilize reasonable methods and devices to prevent, control, and otherwise minimize atmospheric emissions or discharges of air contaminants. Equipment and vehicles that show excessive emissions of exhaust gases would not be allowed to operate until corrective repairs or adjustments are made to reduce emissions to acceptable levels.
- Dust Control: The Joint Lead Agencies would comply with all applicable federal, state, and local laws and regulations, regarding the prevention, control, and abatement of dust pollution. The methods of mixing, handling, and storing cement and concrete aggregate would include means of eliminating atmospheric discharges of dust.

Wildlife

Tree removal would be performed outside of the nesting season to avoid the potential for impacts to migratory bird nests or fledglings. If it is necessary to remove vegetation during the migratory bird nesting season (nesting season runs February 1 through August 31), a qualified biologist would conduct nesting surveys, prior to construction activities, to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted for the construction footprint and 100 feet on either side of the footprint. The survey area for active bird nests would include areas where vegetation removal and disturbance would be necessary. These surveys would be conducted in consultation with USFWS.

If occupied raptor nests are located, construction activities would not occur within the species-specific spatial and seasonal buffer zones as outlined in the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances*. Coordination with USFWS and UDWR would also be reinitiated to discuss monitoring and reporting.

Hunter access to suitable areas surrounding the study area would be maintained during construction, although not within the construction area itself.

Water Resources and Wetlands

The Proposed Action would impact less than 1/10th acre of wetlands; therefore, the project qualifies under a non-reporting Section 404 Nationwide Permit 12. This means that coordination with the USACE is not required, but the project must comply with all of the general conditions of Nationwide Permit 12.

Construction activities that disturb more than one acre of land require a SWPPP to comply with the UPDES. The SWPPP may include such measures as using silt fences, fiber rolls, check-dams, or other techniques to minimize impacts to receiving waters. The project would be constructed in compliance with the District's typical specifications for drainage, sediment control, and environmental. BMPs would be in place to prevent sedimentation or other impacts to water quality in the North Fork of the Duchesne River. See the Construction Section.

Mitigation measures would also include obtaining a Stream Alteration permit from the UDWQ for work within the North Fork of the Duchesne River.

Water Quality

Construction activities that disturb more than one acre require the development of a SWPPP to comply with the UPDES. The SWPPP may include such measures as using silt fences, fiber rolls, check-dams, or other techniques to minimize impacts to receiving waters. The project would be constructed in compliance with the District's standards and specifications for Drainage and Sediment Control. See the Construction Section.

Agricultural Resources

Mitigation would involve coordination with the U.S. Forest Service and its permittees regarding construction activities and the implementation of safety measures (i.e., temporary fencing, etc.) to prevent livestock from straying too close to construction areas and being injured. Further, cattle guards will be maintained during construction.

Soils and Geotechnical

During construction, BMPs would be utilized in order to prevent soil erosion from occurring. Further, construction activities that disturb more than one acre require the use of a SWPPP to comply with the UPDES. The SWPPP may include such measures as using silt fences, fiber rolls, check-dams, or other techniques to

minimize impacts to receiving waters. The project would be constructed in compliance with the District's standards and specifications for drainage and sediment control.

All areas disturbed by construction activities would be restored post-construction. The new alignment would be seeded with native grasses and erosion control measures would be put in place to prevent the incursion of invasive weed species while still complying with Reclamation and District standards regarding allowable vegetation. The new pipeline would be located approximately 60 to 80 feet north of the current alignment, which would result in a new area that would need to be kept free of deep-rooted vegetation. The old alignment would be abandoned in place and the swath that had been kept free of deep-rooted vegetation along the existing alignment would be allowed to return to its natural state. De-vegetation activities would cease. See the Vegetation Section for more information.

Cultural Resources

During construction there is the potential to discover previous, unknown, cultural resources and Native American artifacts. In the event of cultural resources and Native American artifacts discovered during construction, all work would cease until a qualified archaeologist was able to evaluate the site, document cultural resources, and coordinate with SHPO.

Visual Resources

In coordination with the U.S. Forest Service, areas of the previous North Fork Siphon alignment that are having erosion issues, as well as areas of the new siphon alignment disturbed by construction activities, would be stabilized and revegetated with appropriate native species.

Recreation

Travel in the area to and from recreational facilities or for other public purposes would be maintained throughout construction. Prior to construction, a Traffic Control Plan would be developed to address traffic concerns.

Noise and Vibration

The Joint Lead Agencies would require the contractor to comply with applicable federal, state, and local laws, orders, and regulations concerning the prevention, control, and abatement of excessive noise and vibration. The Joint Lead Agencies would monitor construction noise levels within the construction area. Mufflers on construction equipment would be checked regularly to minimize noise.

Transportation

Travel in the area to and from private property, recreational facilities or for other public purposes would be maintained throughout construction. Prior to construction, a Traffic Control Plan would be developed to address traffic concerns. The District is working on an agreement with Duchesne County and the Forest Service to address repairs to the Forest Service Road 144 (also known as North Fork Road or County Road #7) to mitigate for impacts due to heavy machinery.

Vegetation

Vegetated areas on the existing alignment that are having erosion issues would be stabilized and revegetated with appropriate native species. The new alignment would be seeded with native grasses and erosion control measures would be put in place to prevent the incursion of invasive weed species while still complying with Reclamation and District standards regarding allowable vegetation.

After construction, the District would comply with its Integrated Pest Management Program, which requires ongoing monitoring for invasive species and noxious weeds and treatment on lands administered by the District.

Utilities

Coordination and cooperation with utility companies (STRATA and Moon Lake Electrical) would be conducted prior to and during construction. Utilities would be avoided to the extent possible or relocated. Minimal disruptions would occur during tie-ins of new connections.

CHAPTER 4

Comments and Coordination

Chapter 4 describes the early and ongoing coordination activities and summarized key issues and pertinent information received from the public and agencies.

4.1 Public and Agency Scoping Process

As part of the NEPA process and the Section 106 process of the NHPA, the Joint Lead Agencies initiated a public scoping process in April of 2017 to inform the public and agencies about the EA, the Proposed Action, the purpose and need for the project (as defined by NEPA), and to gather input regarding issues to be analyzed in the EA.

Cooperating Agencies

Cooperating Agencies, as defined in the Council of Environmental Quality regulations 40 CFR 1501.06, participate in the preparation and review of the EA because of their jurisdiction by law or special expertise (e.g., Section 106 of the NHPA, Endangered Species Act, and Section 404 of the Clean Water Act.) The Joint Lead Agencies invited the U.S. Bureau of Reclamation (Reclamation) and the U.S. Forest Service, Ashley National Forest to be Cooperating Agencies. Both agencies accepted the invitation and assisted in the preparation of this EA.

Scoping Process

The scoping period for this Proposed Action extended from April 14, 2017 to May 19, 2017. Information delivered as part of scoping included:

- Listing the project proponents (the Joint Lead Agencies);
- Stating that a NEPA document will be prepared;
- Project purpose and need;
- Soliciting comments as part of the scoping;
- Announcement of a public Open House; and
- Contact information including telephone numbers, email, and web site address.

A wide variety of scoping activities were used to notify the public, interested groups, and agencies concerning the proposed project and are summarized below.

Scoping Newsletter

A spring 2017 scoping newsletter was prepared to provide a general overview of the Propose Action. In addition, the newsletter presented general background information on the Central Utah Project, the purpose and need for the Proposed Action, identification of the Proposed Action, and contact information with instructions on how to submit comments. The newsletter also included information regarding a public information meeting held on May 10, 2017.

Web Page

A web page specific to the North Fork Pipeline and Siphon Replacement Project was developed and hosted on the District web page at northfork.cuwcd.com. The web site contains a link to the newsletter and the North Fork Presentation Boards from the public information meeting, a detailed overview of the Proposed Action, and contact information for the project sponsor, including a place to submit comments electronically.

Letters

A scoping letter dated April 14, 2017 was prepared in connection with this project. Approximately 170 letters were sent to federal, state, local agencies, other interested groups, and property owners in North Fork Canyon and contained a brief description of the proposed project, project representative information, and a request for comments by the end of the scoping period. A copy of the spring 2017 scoping newsletter was enclosed as well.

Scoping Newspaper Ad

A newspaper ad was placed in Uintah Basin Standard on April 25 and May 2, 2017. In addition, the same newspaper ad was placed in the Salt Lake Tribune and Deseret News on Sunday April 16 and Wednesday April 19.

Native American Consultation Letters

Native American consultation letters were sent out to the tribes that may have an interest in the proposed project. These letters were sent by the CUPCA Office and included a copy of the 2017 scoping newsletter. Follow up calls were also made to the tribes.

Public Information Meetings

The Joint Lead Agencies held a public information meeting on May 10, 2017 at the Tabiona High School in Tabiona, Utah to provide overall project information, discuss project agreements, and disclose environmental impacts. The public had an opportunity to provide comments.

Input Received During the Scoping Period

Comments were received from the Duchesne County Commission, the Duchesne County Water Conservancy District, Strata Networks, and two property owners. See Table 4-1 below for associated information.

Table 4-1. Comments Received During Scoping

Date	Name/Agency	Summary of Comment	Responses
4/28/2017	Dennis Walker Property Owner	• Concerned about access to his property during the months/years of construction (mentioned that other residents are concerned also). • Recommended either four 10's or four 12's work schedule during construction.	• Access to all adjacent properties and those properties accessed via the North Fork Road would be maintained during construction. • Prior to construction, a Traffic Control Plan would be developed to address traffic concerns. • The District is working on an agreement with Duchesne County and the Forest Service to address repairs to Forest Service Road 144 (also known as North Fork Road or County Road #7) to mitigate for impacts due to heavy machinery.
5/1/2017	Duchesne County Commission	• Agreed that replacement is needed to ensure pipeline safety and continued operations. • Concerned about impacts to County Road #7, the North Fork Road (heavy hauling of construction materials is likely to cause damage or accelerated deterioration of the roadway surface). • Requested a meeting to discuss mitigation or damage repairs to the road. • Will need to obtain a road encroachment permit. • During the construction seasons the road will need to remain open to ensure access to recreation areas. • Will need to obtain a storm water permit from the Utah DEQ Water Quality Division. • Coordinate with Utah State Engineer's Office and U.S. Army Corps of Engineers on crossing of North Fork of the Duchesne River. • Flood zone development permit may be required from the County. • Keep Duchesne County informed of project progress. • Project contact: Ben Henderson, Duchesne County Public Works Director	• Thank you for your interest in and support of this project. • Access to all adjacent properties and those properties accessed via Forest Service Road 144 (North Fork Road or County Road #7)) will be maintained during construction. • Prior to construction, a Traffic Control Plan would be developed to address traffic concerns. • The District is working on an agreement with Duchesne County and the Forest Service to address repairs to Forest Service Road 144 (also known as North Fork Road or County Road #7) to mitigate for impacts due to heavy machinery. • All necessary permits will be obtained and all appropriate coordination associated with the proposed project will be conducted.
5/10/2017	Erik Wilcker Property Owner	• Family owns 18 acres of private land just northwest of the siphon/bridge. • A small portion of the land is not accessible without a bridge. • Would like access to the District's bridge/gate/road to access property.	• Any potential for access across the new bridge structure over North Fork Duchesne River is not part of the scope of this EA and should be coordinated with the District separately.

Table 4-1. Comments Received During Scoping

Date	Name/Agency	Summary of Comment	Responses
5/10/2017	Duchesne County Water Conservancy District	• Strongly supports project. • Project should be implemented as soon as possible.	• Thank you for your interest in and support of this project.
5/10/2017	STRATA Network	• Fiber optic and copper lines (FO provides service to the Stillwater area) • Copper telephone line crosses the NF Siphon and goes north of the project • Will send AutoCad files of the area showing general location of fiber optic line(s) and telephone lines.	• The Joint Lead Agencies will work with STRATA Networks to avoid disruptions to the utility services that it provides to its customers in the area during construction activities.
5/10/2017	Concerned Citizen	• Concerned that water supply would be affected by the project.	• Project would not affect citizen's water supply

4.2 Consultation and Coordination

Agency Meetings

The project team met with agencies to discuss comments and concerns. A brief summary of the agency meetings is provided below:

April 11, 2017 – U.S. Forest Service, Ashley National Forest

This meeting involved discussion of the project, including information on threatened and endangered species and Ashley National Forest land management designations, and the extension of an invitation for the U.S. Forest Service to become a cooperating agency.

June 13, 2017 – U.S. Forest Service, Ashley National Forest

This meeting involved comments received from the public throughout the scoping process and how to address these concerns.

June 13, 2017 – Duchesne County

This meeting involved discussion of concerns from Duchesne County regarding Forest Service Road 144 and of a Memorandum of Agreement (MOA) regarding potential mitigation for impacts to the roadway due to construction equipment damage.

August 22, 2017 – Duchesne County

This meeting involved concerns from Duchesne County regarding Forest Service Road 144 and the review of a draft MOA regarding proposed mitigation measures for impacts to the roadway due to construction equipment damage.

Correspondence

Correspondence letters and/or emails are listed in Table 4-2 and are included in Appendix A.

Table 4-2. Correspondence

Date	To	From	Subject
4/14/2017	Interested Parties, Groups, State, Federal, and Local Agencies, Property Owners	Sarah Sutherland District	Scoping
4/21/2017	Corinna Bow, Chairwoman Paiute Indian Tribe	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Dorena Martineau, Cultural Resources Director Paiute Indian Tribe	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	James Williams, Superintendent Southern Paiute Agency, BIA	Reed Murray CUPCA Office	Scoping/Native American Consultation/ Indian Trust Assets
4/21/2017	Shawn Chapoose, Chairman Ute Tribe Business Committee	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Betsy Chapoose, Cultural Resources Director Ute Indian Tribe	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Lori Bear, Chairwoman Skull Valley Band of Goshute Indians	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Madeline Greymountain, Chairwoman Confederated Tribes of the Goshute Reservation	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Shane Warner, Chairman Northwestern Band of Shoshoni Nation of Utah	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Patty Timbimboo-Madsen, Cultural and Natural Resources Director Northwestern Band of Shoshoni Nation of Utah	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Antonio Pingree, Acting Superintendent Uintah and Ouray Agency, BIA	Reed Murray CUPCA Office	Scoping/Native American Consultation/ Indian Trust Assets
4/21/2017	Blaine Edmo, Chairman Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Darrell Shay, Cultural Resource Coordinator Shoshone-Bannock Tribes	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Randy Thompson, Superintendent Fort Hall Agency, BIA	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Darwin St. Clair, Chairman Shoshone Tribe of the Wind River Reservation of Wyoming	Reed Murray CUPCA Office	Scoping/Native American Consultation
4/21/2017	Norma Gourneau, Superintendent Wind River Agency, BIA	Reed Murray CUPCA Office	Scoping/Native American Consultation/Indian Trust Assets
6/13/2017	Ryan Pitts Horrocks Engineers	Sarah Lindsey UNHP	Species of Concern Near the North Fork Siphon
7/19/2017	Chris Elison CUWCD	Elizabeth Hora SHPO	SHPO Concurrence

CHAPTER 5

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CHAPTER 6

List of Preparers

Name	Title	Project Role
U.S. Department of the Interior, Central Utah Project Completion Act Office		
Lee Baxter, P.E.	CUPCA Program Coordinator	EA Development and Review
W. Russ Findlay	CUPCA Program Coordinator	EA Development and Review
Central Utah Water Conservancy District		
Sarah Sutherland	Environmental Programs Manager	Project Manager over NEPA
Chris Elison, P.E.	Project Manager – Water Rights	EA Development and Review
Rich Tullis, P.E.	Assistant General Manager	Project Review
Tom Bruton	Assistant General Manager	Project Review
Blake Buehler, P.E.	Project Engineer	Project Manager over Design
Cort Lambson, P.E.	Project Manager	Design Review
Daryl Devey	CUP Manager	Project Review
Jared Hansen, P.E.	CUP Manager	Project Review
KC Shaw, P.E.	Chief Engineer	Design Review
Troy Ovard	Stillwater Area Manager	Project Review
Kevin Workman	Uintah O&M Manager	Project Review
Utah Reclamation Mitigation and Conservation Commission		
Mark Holden	Executive Director	Project Review
Richard Mingo	Planning Coordinator	EA Development and Review
Horrocks Engineers		
Nicole Tolley, P.E.	Principal	Consultant Project Manager
Stan Jorgensen, P.E.	Principal	Quality Control Manager
Judy Imlay	Environmental Specialist	Document Preparation
Craig Bown	Environmental Specialist	Document Preparation
Ryan Pitts, P.L.A.	Principal	Threatened & Endangered Species, Wildlife, and Wetlands
Terry Johnson, P.L.A.	Wetland Specialist	Wetlands
Nathan Clarke	Natural Resource Specialist	Threatened & Endangered Species, Wildlife, and Wetlands
Peter Steele	Archaeologist	Cultural Resources
Aaron Woods	Archaeologist	Cultural Resources

Appendix A

Correspondence

CENTRAL UTAH WATER
CONSERVANCY DISTRICT

355 W. University Parkway
Orem, UT 84058-7303
801.226.7100
www.cuwcd.com

Date: April 14, 2017

To: Interested Persons, Organizations, and Agencies

Subject: North Fork Pipeline and Siphon Replacement Project

The Central Utah Water Conservancy District (District), Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission), and the United States Department of the Interior – Central Utah Project Completion Act Office (CUPCA Office), as Joint Lead Agencies (JLAs), are proposing to replace the North Fork pipeline and siphon. These facilities are located in the canyon of the North Fork of the Duchesne River. As part of the proposed project, the JLAs have initiated the National Environmental Policy Act (NEPA) process and are preparing an Environmental Assessment (EA). As part of the NEPA process, the JLAs are soliciting comments regarding the proposed project. Enclosed is a scoping newsletter that provides information on the proposed project, contact information, and how to submit comments. The Proposed Action of the North Fork Pipeline and Siphon Replacement Project involves:

- Replacing the North Fork Pipeline (about 1,500 linear feet)
- Replacing the North Fork Siphon (about 4,700 linear feet)
- Providing access to the Hades Tunnel Inlet Portal (west side of the canyon)
- Improving access over the North Fork of the Duchesne River

The enclosed scoping newsletter contains additional project information. The scoping comment period for this project extends until Friday May 19, 2017. As part of the scoping process, the JLAs will be holding a public information meeting (open house format) on Wednesday, May 10th from 6:00 - 8:00 PM at Tabiona School (10 North Main Tabiona, Utah) to answer questions and receive input. Comments may be the most important contribution from citizens and groups and should be clear, concise, and relevant to the analysis of the proposed action. Comments that are solution oriented and provide specific examples are helpful and that contribute to developing alternatives that address the purpose and need for the proposed action are also effective. Scoping comments regarding the North Fork Pipeline and Siphon Replacement Project and the Proposed Action may be submitted by mail (Central Utah Water Conservancy District, Attn: Sarah Sutherland, 355 West University Parkway Orem, Utah 84058), email (see address below), via the project website (northfork.cuwcd.com), or at the public information meeting. If you have any questions or need additional information, please contact me at (801) 226-7100 or by email at sarah@cuwcd.com.

Sincerely,

Sarah Sutherland

Sarah Sutherland
Environmental Programs Manager

ec: Reed Murray, CUPCA Office
Mark Holden, Mitigation Commission

United States Department of the Interior

OFFICE OF THE SECRETARY
Central Utah Project Completion Act Office
302 East 1860 South
Provo, UT 84606-7317

CA-1300
ENV-6.00

APR 2 1 2017

Honorable Corrina Bow
Chairwoman
Paiute Indian Tribe
440 North Paiute Drive
Cedar City, Utah 84720

Subject: Tribal Consultation – Notice of Initial Scoping Period for the North Fork Pipeline and Siphon Replacement Project – Section 205(b) – Public Law 102-575 – Central Utah Project Completion Act

Dear Chairwoman:

The United States Department of the Interior, Central Utah Project Completion Act Office, Central Utah Water Conservancy District, and the Utah Reclamation Mitigation and Conservation Commission, as Joint Lead Agencies (JLAs), are proposing to replace the North Fork pipeline and siphon. These facilities are located in the canyon of the North Fork of the Duchesne River. As part of the proposed project, the JLAs have initiated the National Environmental Policy Act process, are preparing an Environmental Assessment, and are soliciting comments regarding the proposed project. Enclosed is a scoping newsletter that provides information on the proposed project. The Proposed Action of the North Fork Pipeline and Siphon Replacement Project involves:

- Replacing the North Fork Pipeline (about 1,500 linear feet)
- Replacing the North Fork Siphon (about 4,700 linear feet)
- Providing access to the Hades Tunnel Inlet Portal (west side of the canyon)
- Improving access over the North Fork of the Duchesne River

As part of the scoping process, the JLAs will be holding a public information meeting (open house format) on Wednesday, May 10, 2017, from 6:00 - 8:00 p.m. at Tabiona School,10 North Main Tabiona, Utah, to answer questions and receive input.

We invite your comments regarding the proposed project. If you find that the project may affect any properties of religious or cultural importance, or should you wish to formally consult on this action per Department of the Interior Policy on Consultation with Indian Tribes in fulfillment of Executive Order 13175, we request your notification and associated participation as a consulting party to the project. Project information can be viewed and downloaded online at northfork.cuwcd.com. Input must be received by Friday, May 19, 2017, and may be submitted

by mail to 302 East 1860 South Provo, Utah 84606-7317 or email wfindlay@usbr.gov. For more information contact Mr. W. Russ Findlay at 801-379-1084.

Sincerely,

REED R. MURRAY

Reed R. Murray
Program Director

Enclosure

cc: Ms. Sarah Sutherland
Environmental Programs Manager
Central Utah Water Conservancy District
355 West University Parkway
Orem, Utah 84058

Mr. Mark Holden
Executive Director, Utah Reclamation
Mitigation and Conservation Commission
230 South 500 East, Suite 230
Salt Lake City, Utah 84102

Ms. Dorena Martineau
Cultural Resources Director
Paiute Indian Tribe
440 North Paiute Drive
Cedar City, Utah 84720

Mr. James Williams
Superintendent, Southern Paiute Agency
Bureau of Indian Affairs
P.O. Box 720
St. George, Utah 84771
(w/encl to each)

Similar Letter Sent To:

Recipient	**cc:**
Honorable Shawn Chapoose Chairman, Ute Tribe Business Committee P.O. Box 190 F 011 Duchesne, Utah 84026-0190	Ms. Sarah Sutherland Environmental Programs Manager Central Utah Water Conservancy District 355 West University Parkway Orem, Utah 84058 Mr. Mark Holden Executive Director, Utah Reclamation Mitigation and Conservation Commission 230 South 500 East, Suite 230 Salt Lake City, Utah 84102 Ms. Betsy Chapoose Director, Cultural Resources Ute Indian Tribe P.O. Box 190 Fort Duchesne, Utah 84026-0190 Mr. Antonio Pingree Acting Superintendent, Uintah and Ouray Agency Bureau of Indian Affairs P.O. Box 130 Fort Duchesne, Utah 84026
Honorable Lori Bear Chairwoman Skull Valley Band of Goshute Indians P.O. Box 448 Grantsville, Utah 84029	Ms. Sarah Sutherland Environmental Programs Manager Central Utah Water Conservancy District 355 West University Parkway Orem, Utah 84058 Mr. Mark Holden Executive Director, Utah Reclamation Mitigation and Conservation Commission 230 South 500 East, Suite 230 Salt Lake City, Utah 84102 Mr. Antonio Pingree Acting Superintendent, Uintah and Ouray Agency Bureau of Indian Affairs P.O. Box 130 Fort Duchesne, Utah 84026

Recipient	cc:
Honorable Madeline Greymountain Chairwoman, Confederated Tribes of the Goshute Reservation P.O. Box 6104 Ibapah, Utah 84034	Ms. Sarah Sutherland Environmental Programs Manager Central Utah Water Conservancy District 355 West University Parkway Orem, Utah 84058 Mr. Mark Holden Executive Director, Utah Reclamation Mitigation and Conservation Commission 230 South 500 East, Suite 230 Salt Lake City, Utah 84102 Mr. Antonio Pingree Acting Superintendent, Uintah and Ouray Agency Bureau of Indian Affairs P.O. Box 130 Fort Duchesne, Utah 84026
Honorable Shane Warner Chairman, Northwestern Band of Shoshoni Nation of Utah 707 North Main Street Brigham City, Utah 84302	Ms. Sarah Sutherland Environmental Programs Manager Central Utah Water Conservancy District 355 West University Parkway Orem, Utah 84058 Mr. Mark Holden Executive Director, Utah Reclamation Mitigation and Conservation Commission 230 South 500 East, Suite 230 Salt Lake City, Utah 84102 Ms. Patty Timbimboo-Madsen Director, Cultural and Natural Resources Northwestern Band of Shoshoni Nation of Utah 707 North Main Street Brigham City, Utah 84302 Mr. Randy Thompson Superintendent, Fort Hall Agency Bureau of Indian Affairs P.O. Box 220 Fmi Hall, Idaho 83203

Recipient	cc:
Honorable Blaine Edmo Chairman, Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho P.O. Box 306 Fort Hall, Idaho 83203	Ms. Sarah Sutherland Environmental Programs Manager Central Utah Water Conservancy District 355 West University Parkway Orem, Utah 84058 Mr. Mark Holden Executive Director, Utah Reclamation Mitigation and Conservation Commission 230 South 500 East, Suite 230 Salt Lake City, Utah 84102 Mr. Darrell Shay Cultural Resource Coordinator Shoshone-Baimock Tribes of the Fort Hall Reservation of Idaho P.O. Box 306 Fort Hall, Idaho 83203 Mr. Randy Thompson Superintendent, F011 Hall Agency Bureau of Indian Affairs P.O. Box 220 Fort Hall, Idaho 83203
Honorable Darwin St. Clair Chairman, Shoshone Tribe of the Wind River Reservation of Wyoming P.O. Box 538 Washakie, Wyoming 82514-0538	Ms. Sarah Sutherland Environmental Programs Manager Central Utah Water Conservancy District 355 West University Parkway Orem, Utah 84058 Mr. Mark Holden Executive Director, Utah Reclamation Mitigation and Conservation Commission 230 South 500 East, Suite 230 Salt Lake City, Utah 84102 Ms. Norma Gourneau Superintendent, Wind River Agency Bureau of Indian Affairs P.O. Box 158 Fort Washakie, Wyoming 82514

The following entities should receive a similar letter with the noted changes:

Mr. James Williams
Superintendent, Southern Paiute Agency
Bureau of Indian Affairs
P.O. Box 720
St. George, Utah 84771

Mr. Antonio Pingree
Acting Superintendent, Uintah and Ouray Agency
Bureau of Indian Affairs
P.O. Box 130
Fort Duchesne, Utah 84026

Mr. Randy Thompson
Acting Superintendent, Fort Hall Agency
Bureau of Indian Affairs
P.O. Box 220
Fort Hall, Idaho 83203

Ms. Norma Gourneau
Superintendent, Wind River Agency
Bureau of Indian Affairs
P.O. Box 158
Fort Washakie, Wyoming 82514
(w/encl to each)

Noted changes: Please make the following change to the last paragraph of the prepared letter above. Replace the first two sentences of the paragraph with the following: "In compliance with Federal responsibilities to honor its fiduciary relationship concerning trust responsibilities to Indian tribes through Federal statutes, agreements, executive orders, and treaty obligations, the DOI is initiating this consultation with you concerning Indian Trust Assets which may be affected by the proposed project."

cc: ✓Ms. Sarah Sutherland
Environmental Programs Manager
Central Utah Water Conservancy District
355 West University Parkway
Orem, Utah 84058

Mr. Mark Holden
Executive Director, Utah Reclamation
Mitigation and Conservation Commission
230 South 500 East, Suite 230
Salt Lake City, Utah 84102
(w/o encl to each)

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources
GREGORY SHEEHAN
Division Director

June 13, 2017

Ryan Pitts
Horrocks Engineers
2162 W. Grove Parkway, Suite 400
Pleasant Grove, Utah 84062

Subject: Species of Concern Near the North Fork Siphon, Duchesne County, Utah

Dear Ryan Pitts:

I am writing in response to your email dated June 7, 2017, regarding information on species of special concern proximal to the Central Utah Water Conservancy District North Fork Siphon located in Section 6 of Township 1 North, Range 8 West, and Sections 1 and 2 of Township 1 North, Range 9 West, USB&M in Duchesne County, Utah.

The Utah Division of Wildlife Resources (UDWR) does not have records of occurrence for any threatened, endangered, or sensitive species within a ½-mile radius of the project area noted above. However, within a two-mile radius there are historical records of occurrence for bluehead sucker, a species included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's northeastern regional habitat manager, Miles Hanberg, at (435) 247-1557 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Miles Hanberg

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Jill Remington Love
Executive Director
Department of
Heritage & Arts

Utah Division of State History

Brad Westwood
Director

July 19, 2017

Chris Elison
Project Manager
Central Utah Water Conservancy District
355 W. University Parkway
Orem, Utah 84058-7100
United States

RE: Results of an Archaeological Inventory for the North Fork Siphon Replacement Project, Duchesne County, Utah - Antiquities Project Number U-17-HX-0647

For future correspondence, please reference Case No. 17-1248

Dear Mr Elison,

The Utah State Historic Preservation Office received your request for our comment on the above-referenced undertaking on July 19, 2017.

We concur with your determinations of eligibility and effect for this undertaking.

Utah Code 9-8-4-4(1)(a) denotes that your agency is responsible for all final decisions regarding cultural resources for this undertaking. Our comments here are provided as specified in U.C.A. 9-8-4-4(3)(a)(i). If you have questions, please contact me at (801)245-7241 or by email at ehora@utah.gov.

Sincerely,

Elizabeth Hora
Cultural Compliance Reviewer

Regarding the Central Utah Water Conservancy District's Proposed North Fork Siphon Replacement Project, I concur with the District's finding of **No Historic Properties Effected.**

Elizabeth Hora for

Chris Merritt
Senior Preservation Planner
Division of State History

July 19, 2017
Date

Appendix B

Documentation

HORROCKS ENGINEERS

2162 West Grove Parkway, Ste 400
Pleasant Grove, Utah 84062
801-763-5100
www.horrocks.com

To: U.S. Fish and Wildlife Service

From: Central Utah Water Conservancy District

Date: August 21, 2017 **Memorandum**

Subject: **North Fork Siphon and Pipeline Replacement Project**
No Effect Determination for Threatened and Endangered Species

Introduction

The Central Utah Water Conservancy District (District); the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission); and the U.S. Department of the Interior, Central Utah Project Completion Act Office (Interior), as Joint Lead Agencies, have prepared this Environmental Assessment (EA) to analyze the environmental impacts of replacing the North Fork Siphon. The proposed project is located in the canyon of the North Fork of the Duchesne River, Duchesne County, Utah. The North Fork Siphon is a component of the Strawberry Aqueduct and Collection System (SACS) of the Central Utah Project's (CUP) Bonneville Unit.

The purpose of this report is to analyze potential impacts to Threatened and Endangered Species listed under the Endangered Species Act (ESA) and special status wildlife species as a result of the proposed pipeline replacement project. This document also serves as a record of observations made during field visits to the project area. The sections and paragraphs below provide sufficient detail to make an effects determination for federally-listed species potentially present in the project area in accordance with the Endangered Species Act (ESA) of 1973 (7 U.S.C. 136, 16 U.S.C. 1531 et seq.), as amended.

Best Available Science

This report is based on the best available science including: literature; existing map data; information concerning T&E species; field reviews, surveys, and ground based observations; and personal knowledge. Material specifically cited or otherwise used in preparation of this document is incorporated by reference.

Description of the Proposed Action

The Proposed Action is made up of the following:

- Replacement of the 4,712 foot long North Fork Siphon which connects the North Fork Pipeline and the Hades Tunnel
- Replacement of the 1,545 foot long North Fork Pipeline which connects the Stillwater Tunnel and the North Fork Siphon
- Relocation of the Hades Feeder Pipeline connection and North Fork Siphon blow off structure
- Reestablishment of access to the Hades Tunnel Inlet Portal
- Improvement of access across the North Fork of the Duchesne River

Purpose and Need

The Proposed Action is needed to address the operation, maintenance, and replacement needs of the North Fork Siphon to maintain its integrity, safety, efficiency, and reliability in order to continue to meet

the objectives of the SACS and the Bonneville Unit of the CUP. The purposes of the proposed action include the following:

- Maintain SACS water delivery to Strawberry Reservoir
- Meet water delivery obligations of the Bonneville Unit
- Replace aging facilities
- Reduce risk of property damage due to failure of the siphon
- Continue to safely operate and maintain SACS
- Reduce maintenance issues
- Reduce operation and maintenance costs
- Minimize environmental impacts during construction
- Avoid environmental impacts due to failure

Methodology

From June 27-29, 2017, Ryan Pitts of Horrocks Engineers surveyed the proposed project area. Presence/absence surveys were conducted within the full project area to identify any ESA listed species, candidate species, or other evidence of occupancy within the project area. General biological observations were also noted regarding: vegetation, hydrology, soil characteristics, etc., occurring within the project area. There were no observations or other evidence (i.e. scat, tracks, sightings, etc.) of the presence of any ESA species during survey activities.

A list of the threatened, endangered and candidate species potentially present in the project area was obtained from U.S. Fish and Wildlife Service's online IPaC system on July 14, 2017. The USFWS Information, Planning and Conservation System (IPaC) official species list shows that no critical habitat is present within the project area. Survey results are consistent with IPaC data.

Threatened and Endangered Species are managed under the authority of the Federal Endangered Species Act (ESA). The ESA requires federal agencies to ensure that all actions are not likely to jeopardize the continued existence of any threatened or endangered species. In 1996, the U.S. Fish and Wildlife Service (USFWS), under their authority as administers of the ESA, revised the candidate list to include candidate species.

Threatened and Endangered Species

Table 1 below lists the federally-listed ESA species included in the IPaC Species List that have the potential to occur in the project area. Additional information about each species is provided in the paragraphs below Table 1. The species descriptions provided in those paragraphs were obtained from the Utah Conservation Data Center, a part of the Utah Division of Wildlife Resources (UDWR 2017). Information regarding the presence and absence of each species in the project area was collected through field visits and surveys of the project area conducted by Horrocks Engineers in June 2017.

A review of the Utah Data Conservation Center (UDCC) database was conducted and a request was sent to the Utah Natural Heritage Program (UNHP) to identify any known documented occurrences of any ESA species in the study area. The UDCC and UNHP data did not reveal any documented occurrences of the presence of any ESA species within or adjacent to the study area. See the letter dated June 13, 2017 from the Utah Division of Wildlife Resources UNHP office.

Table 1. Proposed, Threatened, and Endangered Species Potentially Occurring in the Project Area

Species	Status	Habitat
Mammals		
Canada Lynx *Lynx canadensis*	Threatened	Typically found above 8,000 feet. Only a few species have been documented in Utah over the past decade and all have been determined to be transient. All designated critical habitat is outside of Utah.
Birds		
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened	In Utah, this species is found in steep, rocky, canyons in southeastern Utah.
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened	Requires large multi-story riparian habitat patches of cottonwoods/ willows.
Fishes		
Bonytail Chub *Gila elegans*	Endangered	Specific habitat requirements of the bonytail are not well known. It is a very rare species in the Colorado River Basin (USFWS, 2002d).
Colorado Pikeminnow *Ptychocheilus Lucius*	Endangered	Suitable habitat is characterized by a wide variety of riverine habitats, especially canyon areas with fast currents, deep pools, and boulder habitat. Originally inhabited the main stem of the Colorado River from Lake Mead to the Green and Yampa River Basins. Currently, the species appears to be restricted to the Colorado River at Black Rocks and Westwater Canyon of the Green River, and Yampa Canyon of the Yampa River (USFWS, 2002c).
Humpback Chub *Gila cypha*	Endangered	Range is restricted to the Upper Colorado River basin, upstream of Glen Canyon Dam. Adults use a variety of habitat types, mainly shoreline runs, eddies, backwater habitats, seasonally flooded bottoms, and side canyons. They are most abundant in the upper Green River (between the mouth of the Yampa River and head of Desolation Canyon) and lower Green River (between the Price and San Rafael Rivers). Critical habitat has been designated for these species in the Green River in Carbon, Emery, and Grand Counties (USFWS, 2002a).
Razorback Sucker *Xyrauchen texanus*	Endangered	Inhabits warm water reaches of large rivers in areas that include deep runs, eddies, backwaters, and flooded off channel environments. The largest population is known to occur in the upper Green River between the confluence of the Yampa River and the confluence of the Duchesne River. Adults also occur in the Colorado River near Grand Junction, Colorado. Critical habitat has been designated for this species in the Green River in Carbon, Duchesne, Emery, Uintah, and Grand Counties (USFWS, 2002b).
Plants		
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened	Spiranthes diluvialis occurs in seasonally moist soils and wet meadows near springs, lakes, or perennial streams and their associated flood plains below 6,500 feet elevation in Utah, Colorado, and Nevada. Typical sites include old stream channels and alluvial terraces, sub-irrigated meadows, and other sites where the soil is saturated to within 18 inches of the surface at least temporarily during the spring or summer growing seasons. Not known to occur over 7,000 feet in elevation.

Source: USFWS IPaC Species List (https://ecos.fws.gov/ipac/); obtained on July 14, 2017

Canada Lynx (*Lynx canadensis*)

The Canada lynx, *Lynx canadensis*, is a medium-sized cat that is listed as a threatened species by the U.S. Fish and Wildlife Service. The range of *Lynx canadensis* extends from Canada and Alaska south to Maine, the Rocky Mountains, and the Great Lakes region.

The preferred habitat of the Canada lynx is montane coniferous forest. Alteration of this habitat, through logging, clearing, and road construction, represents the largest current threat to Canada lynx populations. The Canada lynx is nocturnal and its major food source is the snowshoe hare, *Lepus americanus*.

No evidence of the Canada lynx was observed during field visits of the project area. In Utah, only a few species have been documented over the past decade and all have been determined to be transient; therefore, it is unlikely that the species is found within the project area. There is no critical habitat for the Canada lynx in the project area.

Mexican Spotted Owl (*Strix occidentalis*)

The spotted owl, *Strix occidentalis*, occurs in western North America from southern British Columbia to central Mexico. It is found in the southern and eastern parts of Utah on the Colorado Plateau, where it is a rare permanent resident. The race of this species that occurs in Utah (the Mexican spotted owl) is federally-listed as threatened. The spotted owl occupies a variety of habitats in different parts of its range, including various forest types and steep rocky canyons, this last habitat being the primary habitat used in Utah. Spotted owls are non-migratory.

Spotted owls feed mainly on rodents but also consume rabbits and some other vertebrates, including birds and reptiles, and insects. Spotted owls do not build their own nests but utilize suitable naturally occurring sites and nests built by other animals. Nests are either in trees (especially those with broken tops), trunk cavities, or on cliffs. One to four eggs are brooded by the female alone and hatch after 28 to 32 days. Both parents care for the young, which fledge 34 to 36 days after hatching.

No evidence of the Mexican spotted owl was observed during field visits of the project area. Suitable habitat was not identified within the project area. There are no known records of the species occurring within the project area, and it is unlikely that the species is found within the project area. There is no critical habitat for the Mexican spotted owl within the project area.

Yellow-billed Cuckoo (*Coccyzus americanus)*

Currently, the range of the yellow-billed cuckoo (*Coccyzus americanus*) is limited to disjunct fragments of riparian habitats from northern Utah, western Colorado, southwestern Wyoming, and southeastern Idaho southward into northwestern Mexico and westward into southern Nevada and California. Cuckoos are long-range migrants that winter in northern South America in tropical deciduous and evergreen forests. The current distribution of yellow-billed cuckoos in Utah is poorly understood, though they appear to be an extremely rare breeder in lowland riparian habitats statewide. Yellow-billed cuckoos are considered a riparian obligate and are usually found in large tracts of cottonwood/willow habitats with dense sub-canopies (below 10 m [33ft]).

Yellow-billed cuckoos are one of the latest migrants to arrive and breed in Utah. They arrive in late May or early June and breed in late June through July. Cuckoos typically start their southerly migration by late August or early September. Yellow-billed cuckoos feed almost entirely on large insects that they glean from tree and shrub foliage. They feed primarily on caterpillars, including tent caterpillars. They also feed frequently on grasshoppers, cicadas, beetles and katydids; occasionally on lizards, frogs and eggs of other birds; and rarely on berries and fruits.

No evidence of the yellow-billed cuckoo was observed during field visits of the project area. Suitable habitat was not identified within the project area. There are no known records of the species occurring within the project area, and it is unlikely that the species is found within the project area. There is no critical habitat for the yellow-billed cuckoo within the project area.

Bonytail (*Gila elegans)*

The bonytail, *Gila elegans*, is an exceedingly rare minnow originally native to the Colorado River system of the western United States and northern Mexico. The distribution and numbers of the bonytail have been greatly reduced; however, and few bonytail still exist in the wild. The near extinction of the bonytail can be traced to flow regulation, habitat loss/alteration, and competition with/predation by exotic fishes. Bonytail are now Federally listed as endangered, and efforts to re-establish the species are underway.

Bonytail are opportunistic feeders, eating insects, zooplankton, algae, and higher plant matter. Although bonytail spawning in the wild is now rare, the species does spawn in the spring and summer over gravel substrate. Many bonytail are now produced in fish hatcheries, with the offspring released into the wild when they are large enough to survive in the altered Colorado River system environment. Bonytail prefer eddies, pools, and backwaters near swift current in large rivers.

There are no recorded occurrences of the bonytail in the project area. Tributaries that contribute water to occupied habitat for the bonytail do occur within the project area. The species is known to occupy habitat downstream of the project area in the Green River and the lower reaches of Brush Creek and Ashley Creek near the confluence with the Green River. The proposed project will not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for the bonytail. The proposed project will not impact habitat occupied by the bonytail. There is no designated Critical Habitat for the bonytail within the project area.

Humpback chub (*Gila cypha*)

The humpback chub, *Gila cypha*, is a rare minnow native to the upper Colorado River system. Humpback chub originally thrived in the fast, deep, white-water areas of the Colorado River and its major tributaries, but flow alterations, which have changed the turbidity, volume, current speed, and temperature of the water in those rivers, have had significant negative impacts on the species. In fact, humpback chub in Utah are now confined to a few white-water areas in the Colorado, Green, and White Rivers. Because of the severe declines in humpback chub numbers and distribution, the species is Federally listed as endangered.

Humpback chub primarily eat insects and other invertebrates, but algae and fishes are occasionally consumed. The species spawns during the spring and summer in shallow, backwater areas with cobble substrate. Young humpback chub remain in these slow, shallow, turbid habitats until they are large enough to move into white-water areas.

There are no recorded occurrences of the humpback chub in the project area. Tributaries that contribute water to occupied habitat for the humpback chub do occur within the project area. The species is known to occupy habitat downstream of the project area in the Green River and the lower reaches of Brush Creek and Ashley Creek near the confluence with the Green River. The proposed project will not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for the humpback chub. The proposed project will not impact habitat occupied by the humpback chub. There is no designated Critical Habitat for the humpback chub within the project area.

Colorado pikeminnow (*Ptychocheilus Lucius)*

The Colorado pikeminnow (formerly known as the Colorado squawfish), *Ptychocheilus lucius*, is a large minnow native to the Colorado River system of the western United States and Mexico. Due to flow regulation, habitat loss, migration barriers (such as dams), and the introduction of nonnative fishes, however, the current range and numbers of the Colorado pikeminnow are much reduced, and the species

now exists only in the upper Colorado River system. Because of these reductions in population numbers and species distribution, the Colorado pikeminnow is Federally listed as endangered.

Colorado pikeminnows are primarily piscivorous (they eat fish), but smaller individuals also eat insects and other invertebrates. The species spawns during the spring and summer over riffle areas with gravel or cobble substrate. Eggs are randomly broadcast onto the bottom, and usually hatch in less than one week.

Adult Colorado pikeminnows prefer medium to large rivers, where they can be found in habitats ranging from deep turbid rapids to flooded lowlands. Young of the species prefer slow-moving backwaters. Although individual Colorado pikeminnows now rarely reach more than one foot in length, historical accounts of six-foot long Colorado pikeminnows exist, making the species the largest minnow in North America.

There are no recorded occurrences of the Colorado pikeminnow in the project area. Tributaries that contribute water to occupied habitat for the Colorado pikeminnow do occur within the project area. The species is known to occupy habitat downstream of the project area in the Green River and the lower reaches of Brush Creek and Ashley Creek near the confluence with the Green River. The proposed project will not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for the Colorado pikeminnow. The proposed project will not impact habitat occupied by the Colorado pikeminnow. There is no designated Critical Habitat for the Colorado pikeminnow within the project area.

Razorback sucker *(Xyrauchen texanus)*

The razorback sucker, *Xyrauchen texanus*, is a Federally listed endangered fish native to the Colorado River system. The razorback sucker has been greatly impacted by humans, and it is now extremely rare in Utah and throughout its range. The major impacts to the razorback sucker have come from impoundments of rivers in the Colorado River system, which impede natural flow and temperature regimes, as well as impede fish movements, and competition and predation from nonnative fish species introduced by man.

The razorback sucker eats mainly algae, zooplankton, and other aquatic invertebrates. The species prefers slow backwater habitats and impoundments. The largest current concentration of razorback suckers can be found in Lake Mohave (an impoundment), along the Arizona - Nevada border. The species spawns from February to June, and each female may deposit over 100,000 eggs during spawning. The Utah Division of Wildlife Resources, the U.S. Fish and Wildlife Service, and other agencies are currently working together to increase razorback sucker numbers and prevent the species from becoming extinct.

There are no recorded occurrences of the razorback sucker in the project area. Tributaries that contribute water to occupied habitat for the razorback sucker do occur within the project area. The species is known to occupy habitat downstream of the project area in the Green River and the lower reaches of Brush Creek and Ashley Creek near the confluence with the Green River. The proposed project will not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for the razorback sucker. The proposed project will not impact habitat occupied by the razorback sucker. There is no designated Critical Habitat for the razorback sucker within the project area.

Ute Ladies'-tressess

Based upon the Interim Survey Protocol from the USFWS for *Sprianthes diluvialis*, surveys are required for sites below 6,500 feet in elevation that exhibit the following features:

- Seasonally high water table (within 18 inches of the soil surface for at least one week sometime during the growing season, growing season defined as when soil temperatures are above 41 degrees Fahrenheit)
- In or near wet meadows, stream channels, or floodplains
- Vegetation falling into the Facultative Wet (FACW) or Obligate Wet (OBL) classification, including introduced pasture grasses
- Jurisdictional wetlands as specified under the Clean Water Act

Interim Surveys for *Sprianthes diluvialis* must be conducted at the appropriate time and in accordance with the manner set out in the Interim Guidance; however, reconnaissance surveys may be conducted at any time of year to determine whether a site exhibits the characteristics described and therefore does not require a survey.

No suitable habitat for ULTs was identified within the project area. The project area exceeds the 6,500 foot elevation level at which Ute Ladies'-tresses surveys are required.

Effects Analysis

The spatial bounds of analysis for direct and indirect effects is the study area, as this is area where ground disturbance will occur. The temporal bounds of analysis for indirect and direct effects analysis is the length of time that the potential disturbance is anticipated, as impacts from this project would be restricted to the time of construction and no impacts would result during operation of the utility.

Direct and Indirect Effects

Based on field observations, presence/absence surveys, suitable habitat requirements, data from USFWS and the UNHP, and the scope of the project, it has been determined that the proposed project would have the following effects on federally-listed ESA species and associated habitat potentially present in the project area (see Table 2 below):

Table 2. Effect Determinations for Federally-Listed ESA Species in the Project Area

Species	Status	Effect Determination
Mammals		
Canada Lynx *Lynx canadensis*	Threatened	Only a few species have been documented in Utah over the past decade and all have been determined to be transient. No evidence of this species was observed during the survey activities. The Proposed Action would not impact potential habitat. Therefore, the project would have **No Effect** on this species.
Birds		
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened	No suitable habitat is present within or near the study area. There are no records of occurrence in the applicable planning unit of the Ashley National Forest. No designated critical habitat is in proximity to the study area. Therefore, the project would have **No Effect** on this species.
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened	No suitable habitat is present within or near the study area. There are no records of occurrence in the applicable planning unit of the Ashley National Forest. No designated critical habitat is in proximity to the study area. Therefore, the project would have **No Effect** on this species.
Fishes		
Bonytail Chub *Gila elegans*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.

Species	Status	Effect Determination
Colorado Pikeminnow *Ptychocheilus Lucius*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.
Humpback Chub *Gila cypha*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.
Razorback Sucker *Xyrauchen texanus*	Endangered	The North Fork of the Duchesne River is at least 100 river miles away from the nearest designated critical habitat on the Green River and there would be no impacts to water quality from the Proposed Action. Therefore, the project would have **No Effect** on this species.
Plants		
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened	Project site is above 7,000 feet. Known occurrences are south of the Forest Service Boundary. No designated critical habitat has been identified in the study area. Therefore, the project would have **No Effect** on this species.

Cumulative Effects

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Since the project would have no direct or indirect impacts to federally-listed ESA species, the project would not contribute to cumulative effects on any of the above-mentioned species.

Determination

Based on the above discussion and rationale in this document, it is determined that the North Fork Siphon Replacement Project would have **No Effect** to any ESA listed species, specifically including: the, the Canada lynx, the yellow billed cuckoo, and the Mexican spotted owl, the aquatic species, or the Ute Ladies'-tresses.

References

U.S. Department of the Interior (USDOI), U.S. Fish and Wildlife Service (USFWS). 2017. Species List.

Utah Conservation Data Center (UCDC), Utah Division of Wildlife Resources (UDWR). 2017. Retrieved from http://dwrcdc.nr.utah.gov/ucdc/.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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http://www.fws.gov/utahfieldoffice/

In Reply Refer To: July 14, 2017
Consultation Code: 06E23000-2017-SLI-0378
Event Code: 06E23000-2017-E-01151
Project Name: North Fork Siphon Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Utah Ecological Services Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603
(801) 975-3330

Project Summary

Consultation Code: 06E23000-2017-SLI-0378

Event Code: 06E23000-2017-E-01151

Project Name: North Fork Siphon Replacement

Project Type: WATER SUPPLY / DELIVERY

Project Description: The Central Utah Water Conservancy District (District); the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission); and the U.S. Department of the Interior, Central Utah Project Completion Act Office (Interior), as Joint Lead Agencies, have prepared this Environmental Assessment (EA) to analyze the environmental impacts of replacing the North Fork Siphon. The proposed project is located in the canyon of the North Fork of the Duchesne River, Duchesne County, Utah. The North Fork Siphon is a component of the Strawberry Aqueduct and Collection System (SACS) of the Central Utah Project's (CUP) Bonneville Unit.

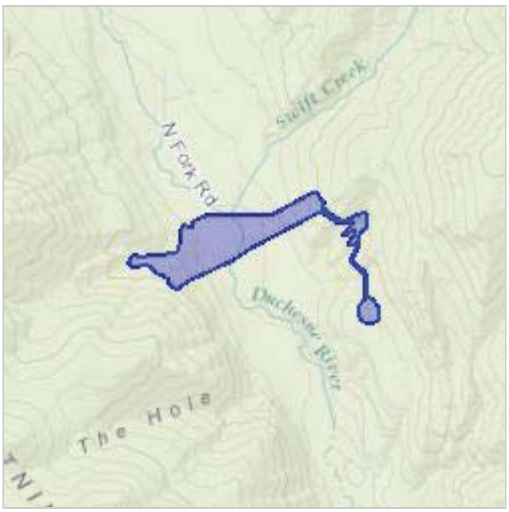
The proposed improvements are located in the canyon of the North Fork of the Duchesne River within the Ashley National Forest (ANF) boundaries on withdrawn lands approximately 40 miles northwest of Duchesne City, Utah. The study area encompasses approximately 122 acres within the withdrawn lands.

The Proposed Action is made up of the following:

• Replacement of the 4,712 foot long North Fork Siphon which connects the North Fork Pipeline and the Hades Tunnel
• Replacement of the 1,545 foot long North Fork Pipeline which connects the Stillwater Tunnel and the North Fork Siphon
• Relocation of the Hades Feeder Pipeline connection and blow off structure
• Reestablishment of access to the Hades Tunnel Inlet Portal
• Improvement of access across the North Fork of the Duchesne River

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.51136945724255N110.86167392338079W



Counties: Duchesne, UT

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Canada Lynx *(Lynx canadensis)* Population: Contiguous U.S. DPS There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened

Birds

NAME	STATUS
Mexican Spotted Owl *(Strix occidentalis lucida)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Yellow-billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS There is a **proposed** critical habitat for this species. Your location is outside the proposed critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bonytail Chub *(Gila elegans)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1377	Endangered
Colorado Pikeminnow (=squawfish) *(Ptychocheilus lucius)* Population: Wherever found, except where listed as an experimental population There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3531	Endangered
Humpback Chub *(Gila cypha)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3930	Endangered
Razorback Sucker *(Xyrauchen texanus)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/530	Endangered

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses *(Spiranthes diluvialis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2159	Threatened

Critical habitats

There are no critical habitats within your project area.

BCC, WY PIF, UT PIF LIST FOR REPORTS

US Fish & Wildlife Service list of Birds of Conservation Concern (BCC) in Bird Conservation Regions 10 & 16, Priority Species - Utah Partners in Flight (PIF), and Wyoming Partners in Flight.
Compiled March 1, 2013.

Species	BCR 16	BCR 10	UTAH PIF	WYO PIF	
American Avocet	X		X		Occurs in shallow wetlands.
American Bittern				X	Wetlands
Baird's Sparrow				X	Shortgrass prairie
Bald Eagle	X	X		X	Occurs in close proximity to large ice free bodies of water.
Black Rosy-Finch	X	X	X		Occurs in alpine areas near snow banks in summer.
Black Tern				X	Wetlands
Black-necked Stilt			X		Occurs in shallow wetlands (e.g. Henry's Fork on the Flaming Gorge District).
Black-throated Gray Warbler			X		Occurs in Pinon/Juniper, mixed pine, Douglas fir forests.
Brewer's Sparrow	X	X	X	X	Occurs in sage flats, desert scrub, and dry brushy montane meadows.
Broad-tailed Hummingbird			X		Occurs in mountain riparian.
Brown-capped Rosy Finch	X				Does not occur in Utah
Burrowing Owl	X			X	Occurs in open country - grasslands, prairies, and desert.
Calliope Hummingbird		X			Open montane forest, mountain meadows, willow and alder thickets.
Cassin's Finch	X	X			Open coniferous forest.
Flammulated Owl	X	X			Occurs in ponderosa pine/Douglas fir.
Forster's Tern				X	Wetlands
Franklin's Gull				X	Wetlands
Golden Eagle	X				Occurs in open, hilly or cliffy country.
Grasshopper Sparrow	X				Occurs in grasslands, pasture lands, agriculture fields.
Greater Sage-Grouse			X	X	Occurs in sagebrush habitats.
Juniper Titmouse	X				Occurs in pinyon/juniper woodlands.
Lewis's Woodpecker	X	X	X		Occurs in open forests, especially ponderosa, cottonwood; likes burned areas.
Loggerhead Shrike		X			Occurs in low elevational shrub/scrub habitats.
Olive-sided Flycatcher		X			Occurs in forest and woodland habitats; coniferous and mixed coniferous-deciduous.
Peregrine Falcon	X	X		X	Occurs in open areas with cliffs and water (canyons).
Pinyon Jay	X				Occurs in pinon/juniper and ponderosa in foothills/lower mountains.
Prairie Falcon	X				Occurs in open cliffy country, foothills, and canyons.
Sage Sparrow		X	X	X	Occurs in sage flats and desert scrub.
Sage Thrasher		X			Occurs in sagebrush plains, arid or semi-arid areas.
Short-eared Owl				X	Short-grass prairie, meadows
Three-toed Woodpecker			X		Occurs in coniferous forests.
Veery	X				Occurs in swampy forest with understory; large tracts of forest.
Virginia's Warbler			X		Occurs in PJ, ponderosa, and scrub habitats.
Williamson's Sapsucker		X			Occurs in open, dry coniferous forests; spruce/pine/fir and aspen.
Willow Flycatcher	X	X			Occurs in brushy areas of willow and thickets.
Wilson's Phalarope				X	Wetlands
American White Pelican			X		Occurs in wetlands.

Black Swift		X	X		Occurs and nests in waterfalls in coniferous forests.
Bobolink			X		Occurs in grasslands and fields.
Ferruginous Hawk	X	X	X	X	Occurs in open and arid habitats.
Gray Vireo	X		X		Occurs in dry, brushy areas; PJ woodlands.
Long-billed Curlew	X	X	X	X	Occurs in wet and dry grassy uplands; fields.
McCown's Longspur		X		X	Occurs in open habitats; short-grass prairie and low fields.
Mountain Plover	X		X	X	Occurs in dry, upland short-grass prairie; semi-desert.
Snowy Plover	X				Occurs in mudflats and shores of salt ponds/alkaline lakes
Swainson's Hawk		X		X	Occurs in open, arid habitats, and fields.
Yellow-billed Cuckoo	X	X	X		Occurs in cottonwoods/riparian.
Abert's Towhee			X		Within Utah, but only occurs in SW Utah
Bell's Vireo			X		Occurs in Utah, but only SW Utah.
Bendire's Thrasher	X				Occurs in Utah, but only Southern Utah.
Chestnut-collared Longspur	X				Occurs in short grass uplands, drier habitats, and moist lowlands.
Gambel's Quail			X		Occurs in Utah, but only southern Utah.
Grace's Warbler	X				Occurs in Utah, but only southern Utah.
Gunnison Sage-Grouse	X		X		Occurs in Utah, but restricted to SE Utah.
Lucy's Warbler			X		Occurs in Utah, but only SW Utah.
Sharp-tailed Grouse			X		Occurs in sagebrush steppe, riparian mountain shrub, and oak scrub.
Upland Sandpiper		X		X	Does not occur in Utah.
White-headed Woodpecker		X			Does not occur in Utah.
Trumpeter Swan				X	Wetlands
Northern Goshawk				X	Conifer, Aspen forests
Columbian Sharp-tailed Grouse				X	Mountain-foothills shrub