OLMSTED HYDROELECTRIC POWER PLANT REPLACEMENT PROJECT

FINAL ENVIRONMENTAL ASSESSMENT

JANUARY 2015

SUBMITTED BY:

U.S. DEPARTMENT OF THE INTERIOR,
CENTRAL UTAH PROJECT COMPLETION ACT OFFICE

CENTRAL UTAH WATER CONSERVANCY DISTRICT

United States Department of the Interior
Central Utah Project Completion Act Office

Central Utah Water Conservancy District

FINDING OF NO SIGNIFICANT IMPACT

OLMSTED HYDROELECTRIC POWER PLANT REPLACEMENT PROJECT

January 2015

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FINDING OF NO SIGNIFICANT IMPACT
Olmsted Hydroelectric Power Plant Replacement Project

In accordance with Section 102(2)(c) of the National Environmental Policy Act (NEPA), as amended, the Council of Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and the Department of the Interior regulations for implementation of NEPA (43 CFR Part 46), the Department of the Interior (Interior) and the Central Utah Water Conservancy District (District) find that the Proposed Action analyzed in the Environmental Assessment (EA) for this project would not significantly affect the quality of the natural or human environment. Therefore, an Environmental Impact Statement is not required for the proposed Olmsted Hydroelectric Power Plant Replacement Project.

PROPOSED ACTION

The Proposed Action would include:

- Constructing a new powerhouse as a replacement of the existing powerhouse, including a smaller power generation unit for flows that are less than powerhouse minimum flow limitations
- Replacing the four existing penstocks with a single buried penstock
- Utilizing the hydraulic head of the 10 million gallon (MG) Olmsted Flow Equalization Reservoir (10 MG Reservoir) which includes modifications or additions to the following elements:
    - Pressure box
    - Spillway
    - Olmsted rock tunnel
    - Vent Structure/Surge Tank
- Constructing a power transmission line to connect the proposed powerhouse to either the Olmsted or the Hale substation
- Constructing an operation and maintenance facilities building and garage
- Improving site access
- Preserving the existing historic powerhouse
- Constructing related improvements and staging, including improvements for construction access, parking, construction staging, and storing material during and following construction

FINDINGS

The finding of no significant impact is based on the information contained in Table 1:

Table 1 – Summary of Impacts Resulting from the Proposed Action

Resource	Proposed Action
Air Quality	• Temporary and localized impacts to air quality during construction that would be minimized through implementation of Best Management Practices (BMPs). • No long term adverse effects.
Climate Change	• Would not contribute to climate change, nor would it create vulnerability to climate impacts.
Soils and Geotechnical	• Would result in soil disturbance, vegetation removal, and the placement of fill material over existing soils.

Table 1 – Summary of Impacts Resulting from the Proposed Action

Resource	Proposed Action
Threatened and Endangered Species	• **See Table 2 – Threatened, Endangered, and Candidate Species Effect Determination**
Wildlife	• No effect to state sensitive species. • Would not permanently impact suitable habitat for mule deer and elk. • Minimal to non-existent permanent impacts to nesting, feeding, roosting, and hiding cover habitat for migratory birds, including raptors. • No permanent impacts to aquatic habitat in the tailrace, Provo Bench Canal, or Provo River. • 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 during construction.
Water Resources and Wetlands	• No wetland impacts. • Minor impacts to the Provo River as a result of constructing the micro hydro unit and pipeline. • Minor impacts to the tailrace channel as a result of tying the power house to the tailrace channel.
Water Quality	• Would not further impair water quality in receiving waters.
Groundwater	• No effect.
Floodplains	• Would not change the base flood elevations of the Provo River and would not adversely impact the Provo River floodplain.
Cultural Resources	• **Adverse Effect** to historic Olmsted campus. The Adverse Effect would be mitigated (see below for environmental commitments).
Economics	• No permanent effect. • During the construction period there would be short-term benefits to the local economy (employment, spending on goods, services, and materials, etc.).
Visual Resources	• New access road and associated retaining wall or slope alteration would change the overall visual character of the area. • The removal of the pressure box and penstocks would restore the hillside to conditions similar to those prior to construction and would change the visual character. • Raising the spillway structure would have minimal impacts to the visual character of the area (the structure would be tucked into the cliff face and would be encased in colored, textured concrete to match the surrounding hillside). • Removal of historic structures and construction of a new power house would change the visual character for users of the Provo River Trail.
Recreation	• Provo River Parkway Trail would need to be temporarily closed for approximately 30 days. • Users of the Bonneville Shoreline Trail would encounter increased, construction-related traffic during construction.
Noise and Vibration	• Noise levels would decrease at the historic training center on the Olmsted campus. • Noise levels would remain the same on the Provo River Parkway Trail. • Short-term noise impacts during construction to adjacent residents and businesses.
Transportation	• Improved traffic conditions for authorized personnel accessing the Olmsted property (the proposed access road would allow for egress in both directions on 800 North). • No impact to other transportation resources in the study area. • Temporary impacts to businesses and local residents as a result of construction traffic. • Temporary impacts for travelers on 800 North as a result of the proposed power transmission line construction across 800 North.
Energy	• New hydroelectric Power Plant would produce approximately 27,000 megawatt-hours (MWh) of energy per year, an increase of 15,300 MWh over the current plant.
Hazardous Waste	• No effect.

Table 1 – Summary of Impacts Resulting from the Proposed Action

Resource	Proposed Action
Vegetation and Invasive Species	• Construction activities could allow for the establishment or spread of invasive species and noxious weeds; however, BMPs would be utilized during construction and the District's Integrated Pest Management would be implemented after construction for ongoing monitoring and treatment of invasive species. • Minimal vegetation removal.

For threatened, endangered and candidate species, the effect determinations resulting from the Proposed Action are summarized in Table 2:

Table 2 – Threatened, Endangered, and Candidate Species Determination

Species	Status	Occurrence in the Study Area	Determination
Yellow-billed Cuckoo (*Coccyzus americanus*)	Proposed Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect
Greater sage-grouse (*Centrocercus urophasianus*)	Candidate	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect
Least chub (*Iotichthys phlegethontis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect
June sucker (*Chasmistes liorus*)	Endangered	Designated critical habitat for the June sucker includes the lower 4.9 miles of the Provo River, measured from its confluence with Utah Lake, upstream of the Tanner Race diversion. The Tanner Race diversion is approximately 4.8 miles downstream from the study area, and there are four diversions between the study area and Tanner Race. These diversions are not passable by June sucker. Therefore, the June sucker is not found within or near the study area. Additionally, Provo River flows, which sustain the June sucker, would not be impacted.	No Effect
Deseret milk-vetch (*Astragalus desereticus*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect
Clay phacelia (*Phacelia argillacea*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect
Canada Lynx (*Lynx canadensis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.	No Effect

The Proposed Action does not violate Federal, state, or local laws or requirements imposed for protection of the environment. Interior and the District have analyzed the environmental effects, public comments, and the alternatives in detail and find that the Proposed Action meets the purpose and need described in the EA with no significant impacts to the human environment.

Indian Trust Assets

The Interior sent letters 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 Northwestern Band of Shoshoni Nation of Utah, the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, 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. No tribal representatives responded to the invitations and no ITAs were identified. There are no impacts to Indian Trust Assets resulting from the Proposed Action.

DECISION

Interior and the District have decided to implement the Proposed Action as described in the EA.

ENVIRONMENTAL COMMITMENTS

The environmental commitments identified as a result of the EA include:

Air Quality

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

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

Additionally, the District would adhere to the following standards and specifications:

- **Abatement of Air Pollution:** The District 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 District would comply with all applicable federal, state, and local laws and regulations, regarding the prevention, control, and abatement of dust pollution. The District would attend to all dust control requirements within 500-feet of residences and buildings. The methods of mixing, handling, and storing cement and concrete aggregate would include means of eliminating atmospheric discharges of dust.

Soils and Geotechnical

During final design the District would conduct static and seismic stability analysis to assure appropriate design for long-term slope performance.

Wildlife

If it is necessary to remove vegetation during the migratory bird nesting season (February 1 through August 31), a qualified biologist would conduct nesting surveys to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted within the construction footprint and within a 100-foot buffer zone directly adjacent to the project boundary. The survey area for active bird nests would include areas where vegetation removal and disturbance is necessary. These surveys would be conducted in consultation with UDWR.

During the dewatering of the tailrace, the District would coordinate with UDWR to relocate the fish, either by electroshocking the fish and transferring them to the Provo River, or electroshocking the fish and floating them to the Provo River.

Hunter access to suitable areas surrounding the study area would be maintained during construction.

Water Resources and Wetlands

A Stream Alteration Permit would be obtained from the Utah Division of Water Rights for work to be conducted within the Provo River.

Water Quality

Construction activities that disturb more than one acre require the development of a 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 the surrounding receiving waters. The project would be constructed in compliance with the District's standards and specifications for Drainage and Sediment Control.

Cultural Resources

To mitigate adverse effects to cultural resources the following mitigation commitments would be implemented:

A Memorandum of Agreement (MOA) has been agreed upon and executed by the District, the Interior, and the Utah State Historic Preservation Officer. Mitigation measures outlined in the MOA include:

- Data recovery
- Intermountain Antiquities Computer System (IMACS) site forms
- Intensive Level Surveys (ILSs)
- Virtual rendering of historic structures
- Structural improvements to the existing Olmsted powerhouse
- Commitment to preserving the historic integrity of the existing Olmsted powerhouse
- National Register of Historic Places nomination amendment
- Aesthetic treatments of the proposed powerhouse
- Discovery procedures

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, an archaeologist would be on-call to evaluate the site, document cultural resources, and coordinate with SHPO.

Visual Resources

Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

Recreation

To prevent trail user and construction traffic conflicts, informational signage would be installed to inform trail users of construction traffic on the Bonneville Shoreline Trail. The closure of the Provo River Parkway Trail would be limited to a short duration—approximately 30 days. The District would coordinate the closure of both trails with local, city and county agencies and race/event organizers and coordinators.

Noise and Vibration

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

Hazardous Waste

The District would follow Utah Hazardous Waste Management Regulations.

Hazardous materials (defined by 40 CFR 261.3; Federal Standard No. 313) used by the District or discovered during work would be disposed of in accordance with applicable federal, state, and local laws and regulations. Waste materials discovered at the construction site would be immediately reported to the appropriate officials.

Vegetation and Invasive Species

The District would be required to comply with its Integrated Pest Management Program, which requires ongoing monitoring for invasive species and noxious weeds and treatment, and to reestablish vegetation in impacted construction areas. Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

Utilities

Coordination and cooperation with utility companies and municipalities would be conducted prior to and during construction.

REVIEW OF PUBLIC COMMENTS AND REVISIONS TO THE DRAFT EA

A total of four individuals and two agencies (PacifiCorp and Provo River Water Users Association) submitted comments during the public review of the Draft EA. All public comments received on the Draft EA during the public comment period were carefully considered and reviewed together with the information contained in the EA in determining whether to issue a FONSI. A copy of each comment received, responses to those comments, and references to any related revisions to the Draft EA is found in Appendix C of the Final EA. The

Final EA containing the specified revisions will be posted on the internet at www.cuwcd.com, www.cupcao.gov, and www.cuwcd.com/olmsted. Copies of the Final EA and FONSI are available on request by contacting:

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Olmsted Hydroelectric Power Plant Replacement Project

FINAL ENVIRONMENTAL ASSESSMENT

January 2015

Joint Lead Agencies:

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

Cooperating Agencies:

U.S. Bureau of Reclamation
Western Area Power Administration
Utah Reclamation Mitigation and Conservation Commission
Utah Division of State History, State Historic Preservation Office

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ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BMP	Best Management Practice
BST	Bonneville Shoreline Trail
CAAA	Clean Air Act Amendments
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFS	cubic feet per second
CM	Controlled Manufacturing
CO	carbon monoxide
CO2	carbon dioxide
CUP	Central Utah Project
CUPCA	Central Utah Project Completion Act
CUWCD	Central Utah Water Conservancy District
CWA	Clean Water Act
CWP	Central Utah Water Conservancy District Water Development Project
dB	decibel
dBA	A-Weighted decibel
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
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
JSRIP	June Sucker Recovery Implementation Program
Interior	U.S. Department of the Interior, Central Utah Project Completion Act Office
ITA	Indian Trust Asset
LUST	leaking underground storage tank
M&I	Municipal and Industrial
MBTA	Migratory Bird Treaty Act
MG	million gallon
Mitigation Commission	Utah Reclamation Mitigation and Conservation Commission
MOA	Memorandum of Agreement

MOU	Memorandum of Understanding
MW	megawatts
MWh	megawatt-hours
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
NRHP	National Register of Historic Places
O_3	ozone
Pb	lead
PM	particulate matter
$PM_{2.5}$	particulate matter 2.5 micrometers
PM_{10}	particulate matter 10 micrometers
PRWUA	Provo River Water Users Association
RCRA	Resource Conservation and Recovery Act
RDCC	Resource Development Coordination Committee
Reclamation	Bureau of Reclamation
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SR	state road
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality
UDCC	Utah Data Conservation Center
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDWR	Utah Division of Wildlife Resources
UEU/ERB	Upper East Union/East River Bottom
UNHP	Utah Natural Heritage Program
UPDES	Utah Pollutant Discharge Elimination System
URM	Unreinforced Masonry
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
Western	Western Area Power Administration

CHAPTER 1: PURPOSE AND NEED

1.1 Introduction

The Central Utah Water Conservancy District (District) 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 proposed replacements and modifications to the Olmsted Hydroelectric Power Plant (Power Plant) located in Orem, Utah, near the mouth of Provo Canyon.

This EA evaluates 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 (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 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 this EA to satisfy disclosure requirements and as a means for public participation as part of NEPA, Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), and Public Involvement as required by the Central Utah Project Completion Act (CUPCA).

What is the National Environmental Policy Act (NEPA)?
NEPA applies to all projects which are authorized, funded, or carried out with the involvement of the federal government. It is designed to help officials make decisions that are based on a full understanding of the environmental consequences of a project and to take actions that protect, restore, and enhance the environment. NEPA provides a structured process for decision-makers to follow. 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 Olmsted Hydroelectric Power Plant Replacement requires a federal action.

1.2 Proposed Action

The Proposed Action would make improvements to the Olmsted Hydroelectric Power Plant site, including:

- Constructing a new powerhouse to replace the existing facilities
- Replacing the penstocks
- Modifying the rock tunnel, pressure box, cliff spill structure, and existing operations to utilize the 10 million gallon Olmsted flow equalization reservoir
- Constructing operation and maintenance facilities
- Improving access

1.3 Cooperating Agencies

In addition to the Joint Lead Agencies, the following agencies are participating in the preparation and review of this EA as formally designated Cooperating Agencies:

- Bureau of Reclamation (Reclamation)
- Western Area Power Administration (Western)
- Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission)
- Utah Division of State History, State Historic Preservation Office (SHPO)

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

1.4 Study Area

The proposed improvements are located in Orem, Utah, in proximity to the mouth of Provo Canyon. See Figure 1-1 for the study area.

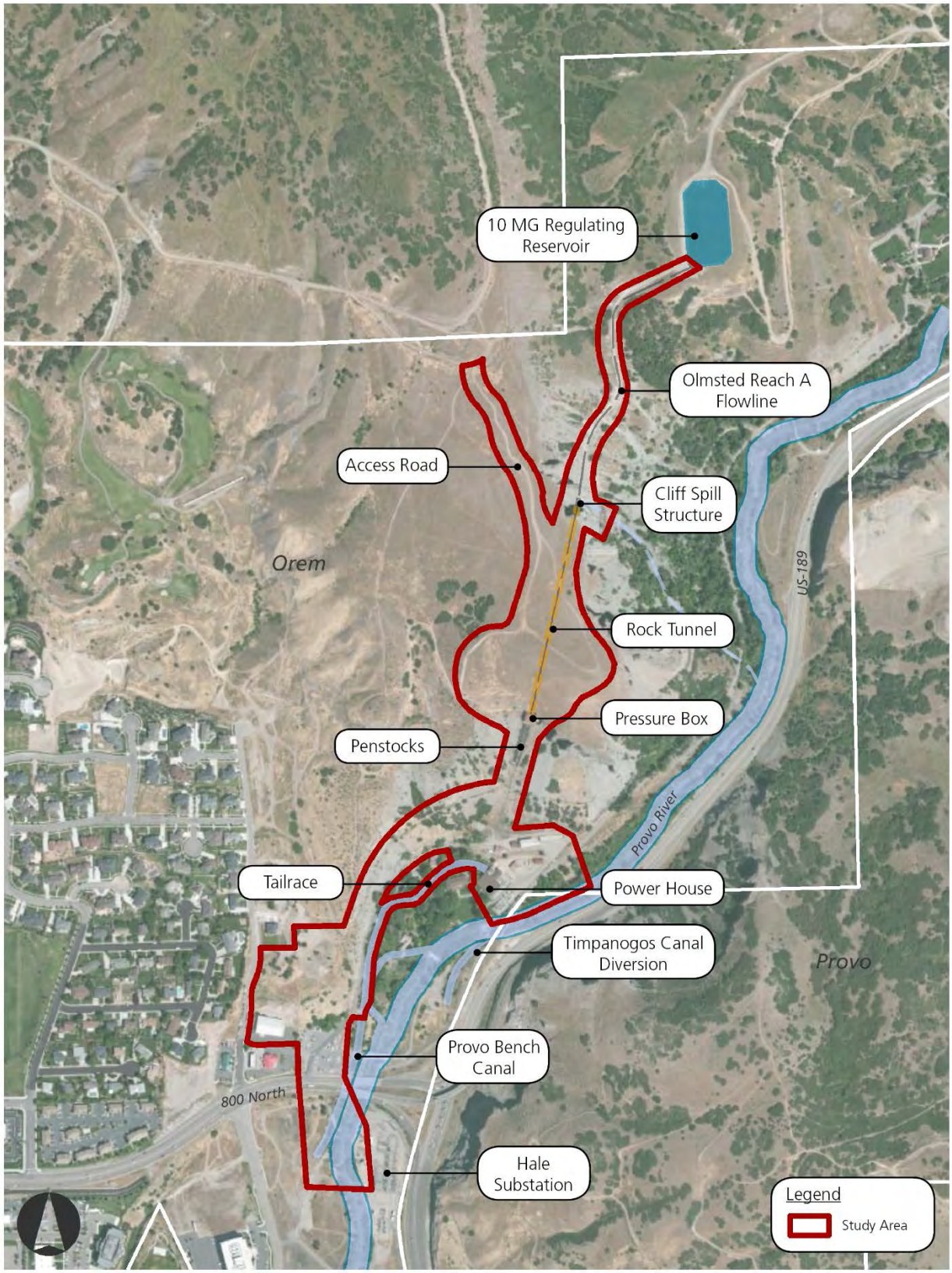


Figure 1-1 Study Area

1.5 Project Background

Overview of the History of the Olmsted Power Plant

In the early 1900's, Lucien L. Nunn began construction of a run-of-the-river hydroelectric Power Plant at the mouth of Provo Canyon. A run-of-the river hydroelectric power plant operates on little to no water storage and is subject to seasonal river flows. Water for this hydroelectric Power Plant is diverted from the Provo River approximately 4.5 miles up the canyon. It is conveyed through the Olmsted Flowline located along the foothills of Mount Timpanogos above the Provo River. The Power Plant was able to produce about ten megawatts when operating at capacity. In 1912, Utah Power & Light (now PacifiCorp) purchased the Olmsted Power Plant through the acquisition of Telluride Power Company and has operated the Power Plant since that time.

Historic Image of the Olmsted Hydroelectric Power Plant

Background

As part of a plan to meet the projected water demand for Wasatch Front communities, the United States of America, acting through the Bureau of Reclamation, Department of the Interior, acquired the Olmsted Power Plant in 1987. The acquisitions included the Olmsted diversion structure on the Provo River, Olmsted Flowline, penstocks, pressure box, powerhouse, and associated rights-of-way. The acquisitions also included water rights to provide water for the Bonneville Unit of the Central Utah Project through a series of administrative exchanges involving Strawberry Reservoir, Utah Lake, and Jordanelle Reservoir. A Settlement Agreement was reached in September 1990 among the District, Department of the Interior (acting through the Bureau of Reclamation), and PacifiCorp that outlined compensation and provided for interim operation of the Olmsted Hydroelectric Power Plant. Beginning September 21, 2015, when the term of the Settlement Agreement runs its course, the District, by way of Interior, will assume the entire operation and maintenance of the Olmsted Hydroelectric Power Plant. It is presently anticipated that PacifiCorp will operate a substation associated with the Power Plant through a new agreement with Interior.

Environmental Statement, Municipal and Industrial System, Bonneville Unit, Central Utah Project

The Environmental Statement for the Municipal and Industrial (M&I) System of the Bonneville Unit was completed in 1979 and covers the areas located in Salt Lake, Utah, Summit, and Wasatch Counties. This document anticipated the closure of the Olmsted Hydroelectric Power Plant. As stated on page A-11 of the Environmental Statement for the M&I System of the Bonneville Unit, "the Olmsted Diversion and Union Aqueduct [known as the Olmsted Flowline] are operated by Utah Power & Light to feed its Olmsted Powerplant. As demands for project water increased, the flows available for operation of the plant would correspondingly decrease, and it would eventually have to be shut down. On the basis of

predicated population increases and the corresponding demand on project water, it would be economically feasible for the plant to remain operational until about the year 2000." However, this Environmental Statement did not address the Bonneville Unit water rights which are connected to the power generation at Olmsted (see project need defined below).

1.6 Purpose and Need

Need for Action

The need for the Olmsted Hydroelectric Power Plant Replacement Project is to maintain the full water supply for the Bonneville Unit of the Central Utah Project and to continue safe and efficient hydroelectric power generation.

Project Purposes

The purposes of the Olmsted Hydroelectric Power Plant Replacement Project include:

- To maintain Bonneville Unit water rights.
- To meet existing contractual obligations.
- To continue to provide for project power development and generate power as an incidental use of water deliveries for Central Utah Project operation.
- To reduce risk of failure due to aging infrastructure.
- To provide for safe and efficient operations of the Power Plant.
- To reduce maintenance requirements and operation costs associated with power generation.
- To provide the necessary Operation and Maintenance facilities to support the Power Plant and other District activities.

Additionally, the Joint Lead Agencies recognize the historic importance of the Olmsted Hydroelectric Power Plant and its role in the development and use of hydroelectric power.

Maintain Bonneville Unit Water Rights and Meet Existing Contractual Obligations

Bonneville Unit

The Bonneville Unit of the Central Utah Project involves water features located in portions of Salt Lake, Utah, Wasatch, Summit, and Duchesne Counties (see Figure 1-2 for a map of the Bonneville Unit). The Bonneville Unit develops the 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 develops water supplies by:

- Collecting and storing flows of the Duchesne River, the Provo River, and their tributaries,
- Purchasing water rights in Utah Lake, and
- Recapturing and using Project 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 M&I, irrigation, and instream flows in both basins.

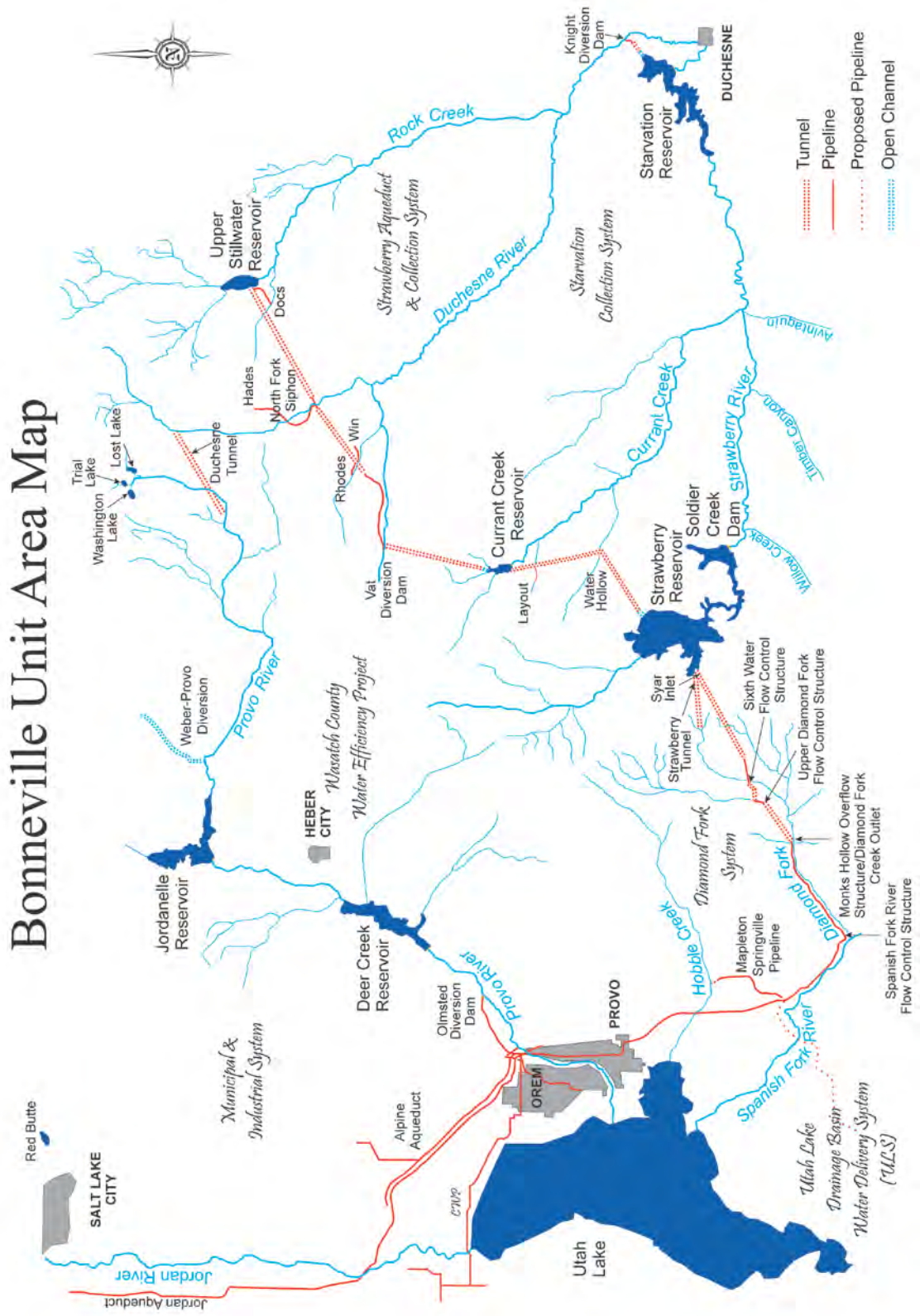


Figure 1-2 Bonneville Unit

Olmsted Hydroelectric Power Plant

In 1987, the Department of the Interior secured ownership of the Olmsted Flowline and the associated water rights as part of the Central Utah Project. As part of the 1990 Settlement Agreement, the Olmsted Power Plant was added to better secure and develop these water rights. Originally, the majority of the Flowline's 429 cubic foot per second (cfs) capacity was used for agricultural purposes and would pass water through the Power Plant to generate power. A smaller portion of the Flowline's capacity was used for M&I uses. M&I water is diverted before it reaches the Power Plant into aqueducts that deliver the water to M&I customers. As growth along the Wasatch Front has continued, more of the water in the Flowline has gone to M&I uses, and less has been available for power production. However, it is critical that the Power Plant continue to be able to provide power generation using the original Flowline capacity of 429 cfs to maintain the water rights and serve the growing number of water customers. The water rights associated with the Olmsted Hydroelectric Power Plant are key to the District's ability to continue to provide water for customers located in Wasatch, Utah, and Salt Lake Counties.

Existing Contractual Obligations

Of the amount of water that makes up the Bonneville Unit M&I system, approximately 65% comes from the power rights associated with the Olmsted Hydroelectric Power Plant. This system supplies water to over one million people in Salt Lake, Utah, and Wasatch Counties. Unreliable or discontinued generation of power at Olmsted would greatly reduce and compromise the M&I System water supply of the Bonneville Unit resulting in the inability to meet contractual water delivery obligations for M&I, irrigation, and fishery streamflow deliveries.

The June Sucker Recovery Implementation Program (JSRIP) also receives water from the Bonneville Unit supply. Participation in municipal water conservation projects, funded under Section 207 of the Central Utah Project Completion Act (CUPCA), has been the dominant mechanism used to acquire and provide water for the JSRIP.

Provide for Project Power Development

The Olmsted Power Plant is owned by the United States but in accordance with the Settlement Agreement in 1990, PacifiCorp generates, markets and transmits the electrical power from the Olmsted Power Plant. On September 21, 2015, when the term of the 1990 Settlement Agreement runs its course, the District will be responsible for power generation, and it is anticipated that Western will market the power generated at the Olmsted Power Plant.

Reduce Risk of Failure due to Aging Infrastructure and Reduce Maintenance Requirements

The Olmsted Hydroelectric Power Plant has been in operation for over 100 years. During this period, the infrastructure of the Power Plant has been periodically replaced, overhauled, and maintained. Despite these efforts, the infrastructure is aging and is in disrepair. The following discussion describes and illustrates the deficiencies of each of the facilities associated with the Power Plant. See Figure 1-3 for a schematic of the Olmsted Hydroelectric Power Plant.

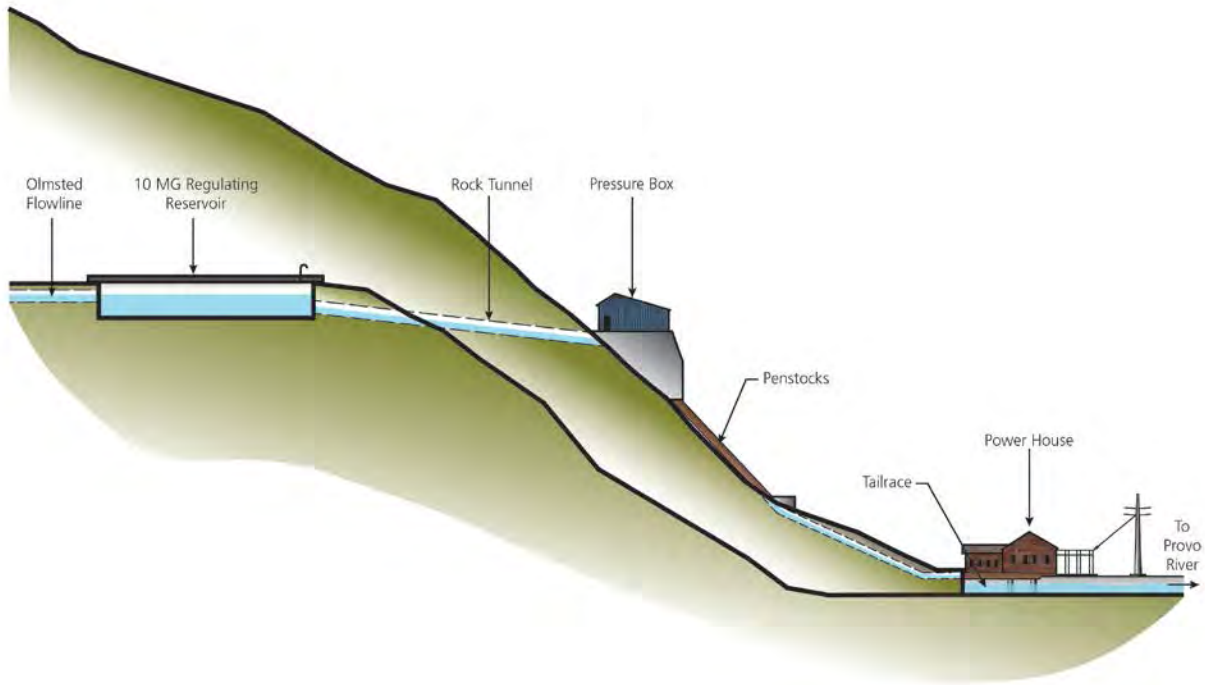


Figure 1-3 Schematic of Olmsted Hydroelectric Power Plant

Rock Tunnel

The rock tunnel brings water from the 10 million gallon (MG) Olmsted Flow Equalization Reservoir (10 MG Reservoir) to the pressure box. There are currently no major deficiencies associated with the rock tunnel.

Pressure Box

The pressure box is located on the side of the hill above the Power Plant. It is a concrete and metal structure that transitions flows from the rock tunnel/flowline to the four penstocks. The flows are controlled by head gates, located inside the pressure box. As described in Reclamation's *Facility Condition Assessment of the Olmsted Power Plant* (January 2010), the pressure box exhibits the following deficiencies:

Pressure Box and Penstocks

- Exterior concrete structure shows signs of deterioration, including evidence of cracking, delamination, efflorescence, spalling, and exposure of steel rebar (see Figure 1-4)
- Broken windows
- Missing Siding
- Steel framed structure shows signs of significant corrosion and is in need of repair

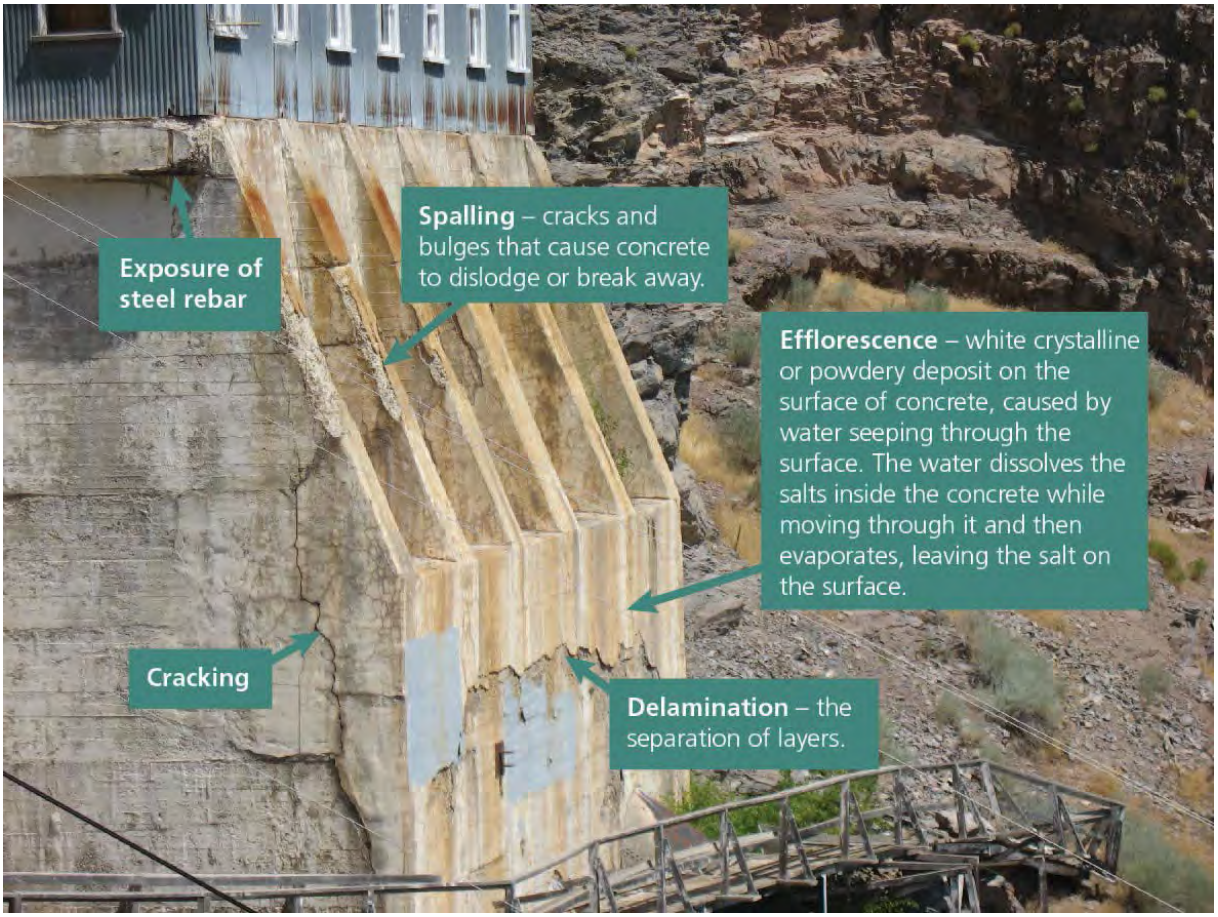


Figure 1-4 Concrete Deterioration on Pressure Box

Additionally, the deteriorating conditions of the pressure box makes it possible for unauthorized persons to enter the pressure box and vandalize the building by removing siding, breaking windows, throwing rocks down the penstocks, etc.

Penstocks

The penstocks deliver the water from the pressure box to the turbines in the power house. The penstocks were originally installed in 1904 and 1917, but portions have been replaced and repaired. Currently, only three out of the four original penstocks are operational. According to *Reclamation's Facility Condition Assessment* the penstocks exhibit the following deficiencies (see Figure 1-5):

- Extensive corrosion and metal loss
- Lack of corrosion protection on exterior and interior of penstocks

Penstocks and Power House

- Tipped, broken, displaced, and missing above-ground supports
- Extensive deterioration of the concrete penstock supports where the penstocks enter the power house
- Penstock pressure relief valves, located at the power house, are not in operation
- Leakage throughout
- Vegetation (trees and bushes) growing adjacent to and in between the penstocks
- Corrosion has worn down the rivet heads in the interior and exterior of the penstocks, weakening the structural integrity of the penstocks

Corrosion

Displaced support

Vegetation

Concrete deterioration on penstock supports

Figure 1-5 Penstock Deficiencies

Power Plant

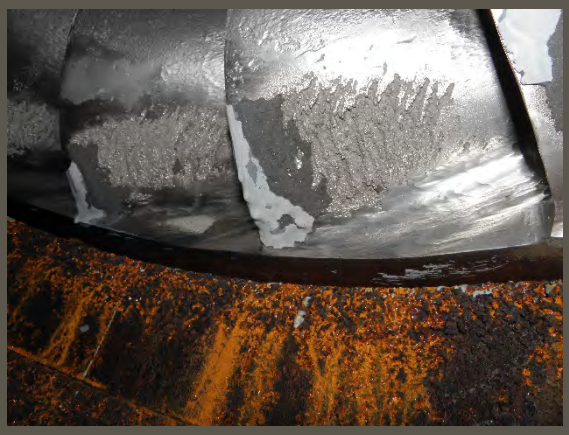
The Power Plant houses four generating units. One of the units has been decommissioned and is used for spare parts, two are original, and the last was rebuilt in 1980. The two original units operate at 50% efficiency. The 1980 model operates at 70% efficiency. New generating units are anticipated to operate at over 90% efficiency. The existing generating units exhibit the following deficiencies:

- **Pitting on the turbine runners from cavitation** (the runner is where the water power is transformed into the rotational force that drives the generator) – Small bubbles can form when the pressure is less than the vapor pressure of the water. If these vapor bubbles collapse near the runner surface, highly localized pressure forces can remove runner material (see photo to right). This process, known as cavitation, can result in damage to a turbine runner.

- **Erosion of stay vanes and wicket gates** (stay vanes and wicket gates direct the flow of water to the runner blades)

- **Damage to runner** – In some instances, the wicket gates have moved past their stops and rubbed the runner, causing grooves and damage to the runner (see photo to right). This causes water leaks which results in loss of generation efficiency.

- **Failure of generator winding** (windings are coils of wire that are rotated through a magnetic field to generate power) – The generator windings failed recently on one of the units (the windings have since been cleaned and painted); however, the windings on the other units contain oil residue and dirt, which can cause the windings to overheat and melt. When this happens, the operators need to cut the generation back, resulting in lost power.



Pitting on the runners from cavitation

Runner Damage

Failed winding before cleaning and painting

Provide for Safe Operations of the Power Plant

The Olmsted Hydroelectric Power Plant does not currently meet District and Reclamation safety standards.

Pressure Box

As described above, the deteriorating conditions of the pressure box makes it possible for unauthorized personnel to enter the pressure box and be exposed to unsafe conditions. These unsafe conditions include the potential for the pressure box and heater buildings to collapse, the potential for unauthorized persons to fall into the penstocks, and the potential for the deck on the outside of the pressure box to fail.

Penstocks

The penstocks are in very poor condition, have no corrosion protection, have broken and displaced ground supports, and are lacking structural integrity. The lack of structural integrity of the penstocks increases the risk of a rupture, which could cause erosion and flooding on the hill side, as well as flooding in the power house. Additionally, during a seismic event, the ground supports could fail, causing the penstocks to fall off the hillside.

Power House

The power house is constructed of unreinforced masonry. Buildings of this type and vintage have a history of performing poorly in significant seismic events. Factors which contribute to this poor performance are a lack of ductility in the construction materials, instability of tall wall piers, poor bond of bed joint mortar to the bricks, and inadequate or incomplete lateral paths from the roof to the walls and from the walls to the foundation (*Existing Olmsted Powerhouse – Preliminary Seismic Condition Assessment*, March 2014).

Maintenance Requirements

Maintenance on the Olmsted Hydroelectric Power Plant has become increasingly difficult. Because of the age of the facilities, replacement parts are not available for purchase. When a part fails, replacement parts are reverse engineered and custom made.

Provide Operation and Maintenance Facilities

There are currently no nearby operation and maintenance facilities to support the Olmsted Hydroelectric Power Plant and other District needs in the area. The nearest maintenance facilities are located at the mouth of Spanish Fork Canyon and at Jordanelle Dam in Wasatch County.

1.7 Statutes, Regulations, or Other Related Documents

Statutes and Regulations

The Olmsted Hydroelectric Power Plant Replacement Project will comply with all federal, state, and local regulations.

Related Environmental Documents

The Proposed Action has taken into consideration related environmental documents, including:

- Bonneville Unit Definite Plan Report (1964)
- Environmental Statement, Municipal and Industrial System, Bonneville Unit, Central Utah Project (1979)
- Supplement to the Bonneville Unit Definite Plan Report (1988)
- Supplement to the Final Environmental Study, Municipal and Industrial System, Bonneville Unit, Central Utah Project (1987)
- United States of America Department of the Interior, Bureau of Reclamation Central Utah Project, Bonneville Unit, Agreement among the United States, Central Utah Water Conservancy District, and PacifiCorp Electric Operations for the Exchange of Water and Power and Settlement of Olmsted Condemnation (1990)
- Olmsted Flowline Rehabilitation and Replacement Project Final Environmental Assessment and Finding of No Significant Impact (2001) and the Supplemental Environmental Assessment and Finding of No Significant Impact (2003)
- Provo Reservoir Canal Enclosure Environmental Assessment and Finding of No Significant Impact (2003)
- 2004 Supplement to the 1988 Definite Plan Report for the Bonneville Unit
- Utah Lake Drainage Basin Water Delivery System Final Environmental Impact Statement (2004) and Record of Decision (2005)
- Olmsted Rock Tunnel Concrete Floor Categorical Exclusion (2007)
- Realignment of a Portion of the Utah Lake Drainage Basin Water Delivery System Final Environmental Assessment (2010)

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 and other alternatives (as described in the *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*). Under the No-Action Alternative the Central Utah Water Conservancy District (District) would assume responsibility for the operation and maintenance of the Olmsted Hydroelectric Power Plant (Power Plant) beginning September 21, 2015, when the 1990 Olmsted Settlement Agreement runs its course. Based on existing conditions, the District would not be able to continue operation of the Power Plant without extensive improvements to meet District and Bureau of Reclamation safety standards and substantial repairs to the Power Plant features due to their current condition as explained in Chapter 1, Section 1.6 Purpose and Need. Therefore, under the No-Action Alternative, the District would discontinue operation of the Power Plant and on-site facilities. The Bonneville Unit water supply of the Central Utah Project would be greatly reduced.

Purpose and Need Compliance

The No-Action Alternative does not meet the purposes and need of the proposed project, as described in Chapter 1, because it would result in the discontinued operation of the Power Plant and, thereby:

- Not maintain the full water supply of the Bonneville Unit water rights developed from the power rights
- Not allow for safe and efficient hydroelectric power generation
- Result in the failure to meet contractual water delivery obligations for municipal and industrial (M&I), irrigation, and fishery streamflow deliveries
- Fail to provide for project power development and fail to generate power as an incidental use of water deliveries for Central Utah Project operation

The No-action Alternative fails to meet the purpose and need; however, it has been studied in detail in accordance with CEQ Guidelines throughout this EA.

2.3 Proposed Action Alternative

As shown on Figures 2-1 and 2-2 and described in more detail below, the Proposed Action Alternative would include:

- Constructing a new powerhouse as a replacement of the existing powerhouse, including a smaller power generation unit for flows that are less than powerhouse minimum flow limitations
- Replacing the four existing penstocks with a single buried penstock

- Utilizing the hydraulic head of the 10 million gallon (MG) Olmsted Flow Equalization Reservoir (10 MG Reservoir) which includes modifications or additions to the following elements:
    - Pressure box
    - Spillway
    - Olmsted rock tunnel
    - Vent Structure/Surge Tank
- Constructing a power transmission line to connect the proposed powerhouse to either the Olmsted or the Hale substation
- Constructing an operation and maintenance facilities building and garage
- Improving site access
- Preserving the existing historic powerhouse
- Constructing related improvements and staging, including improvements for construction access, parking, construction staging, and storing material during and following construction

Construct a New Powerhouse

The Proposed Action includes the construction of a new replacement powerhouse, north of the existing powerhouse (see Figure 2-2). The proposed powerhouse could include multiple generating units with an estimated capacity of 11 megawatts (MW), capable of passing up to 429 cfs of flow. Western Area Power Administration (Western) would be responsible for marketing of power. Transmission of power would be done by agreement among Western and PacifiCorp.

The powerhouse location was selected for the following reasons:

- The proposed powerhouse would be located on property owned by the United States
- The proposed powerhouse would be in close proximity to existing resources necessary for power generation, including:
    - Provo River system and canal diversions
    - Tailrace channel and connection to the Provo Bench Canal
- The proposed location would allow the historic Olmsted powerhouse to be preserved in its current position

The existing powerhouse would remain in-place as a historic feature but would no longer be used for hydroelectric generation. In order to construct the proposed powerhouse within the United States' property and easements and within close proximity to existing resources necessary for power generation while also preserving the existing powerhouse, several existing structures would need to be removed to provide space for construction staging and for construction of the new powerhouse, penstock, and utilities associated with the new powerhouse. These structures would include the historic stable, carpenter shop, garage, and blacksmith's shop, and other maintenance sheds.

In addition to a new powerhouse, the Proposed Action Alternative would also include:

- **A smaller power generation unit for flows that are less than powerhouse minimum flow limitations** – The micro hydro unit would consist of small generators that would provide the ability to generate at low flow conditions and expand the range of generation capabilities of the Olmsted Power Plant. The micro hydro units would be located in a vault near the main powerhouse and would include a pipeline that returns flows to the Provo River above the Timpanogos Diversion Structure (see Figure 2-2).
- **PacifiCorp's operation of the Olmsted substation** – PacifiCorp currently controls the Olmsted substation from within the existing powerhouse. Three options are being considered for PacifiCorp's future operation of the Olmsted substation:
    - PacifiCorp would construct a new control room located near or within the existing substation which they own.
    - PacifiCorp and the United States would execute a license agreement that would allow PacifiCorp to utilize the existing powerhouse for a relay control room.
    - PacifiCorp would abandon the Olmsted substation and connect their facilities to the Hale substation.
- **A bypass valve at the powerhouse and the micro hydro unit** – Bypass valves would be required in order to satisfy downstream water deliveries when the generating units are offline.
- **Easements** – Permanent and temporary easements would be required for: construction of the proposed Power Plant facilities; connection of the power house to the tailrace; pipeline construction between the micro hydro unit and the Provo River; and access road construction.

What happens to the micro hydro unit return flows?

The low flows that would be generated by the micro hydro unit include water from the Upper East Union/East River Bottom (UEU/ERB) water rights. These water rights are included in the 429 cubic feet per second (cfs) Olmsted power right. In 2003, the District entered into a water conservation project with the UEU/ERB canal companies. The project saved water from canal seepage by piping the UEU canal which was to be used for in-stream flows. As part of the 2003 conservation project, the UEU/ERB water was moved from the UEU/ERB diversion to the Timpanogos Diversion which is located a half mile upstream. This was accomplished by not diverting the UEU/ERB water associated with power generation at the Olmsted Diversion Structure but leaving it in the river so it could be diverted at the Timpanogos Diversion Structure located above the Olmsted tailrace return channel to the Provo River. See Figure 3-2 in Chapter 3 for diversion locations.

Under the Proposed Action, water for the micro hydro plant would be diverted at the Olmsted Diversion, as was done historically (before 2003). The water would be used for generation and then released to the Provo River above the Timpanogos Diversion. This would allow the UEU/ERB canal companies to divert the water at the existing Timpanogos Diversion. Flows in the Provo River, from the Olmsted Diversion to the Timpanogos Diversion, would be lower than the flow conditions experienced between 2003 and the present, but would be the same as the 2003 pre-canal piping project. Winter flows in this section would remain unchanged.

During the non-irrigation season and while the micro hydro unit is online, flows from the Timpanogos Diversion to the tailrace return channel, a distance of about 850 feet, could be approximately 6 to 19 cfs higher.

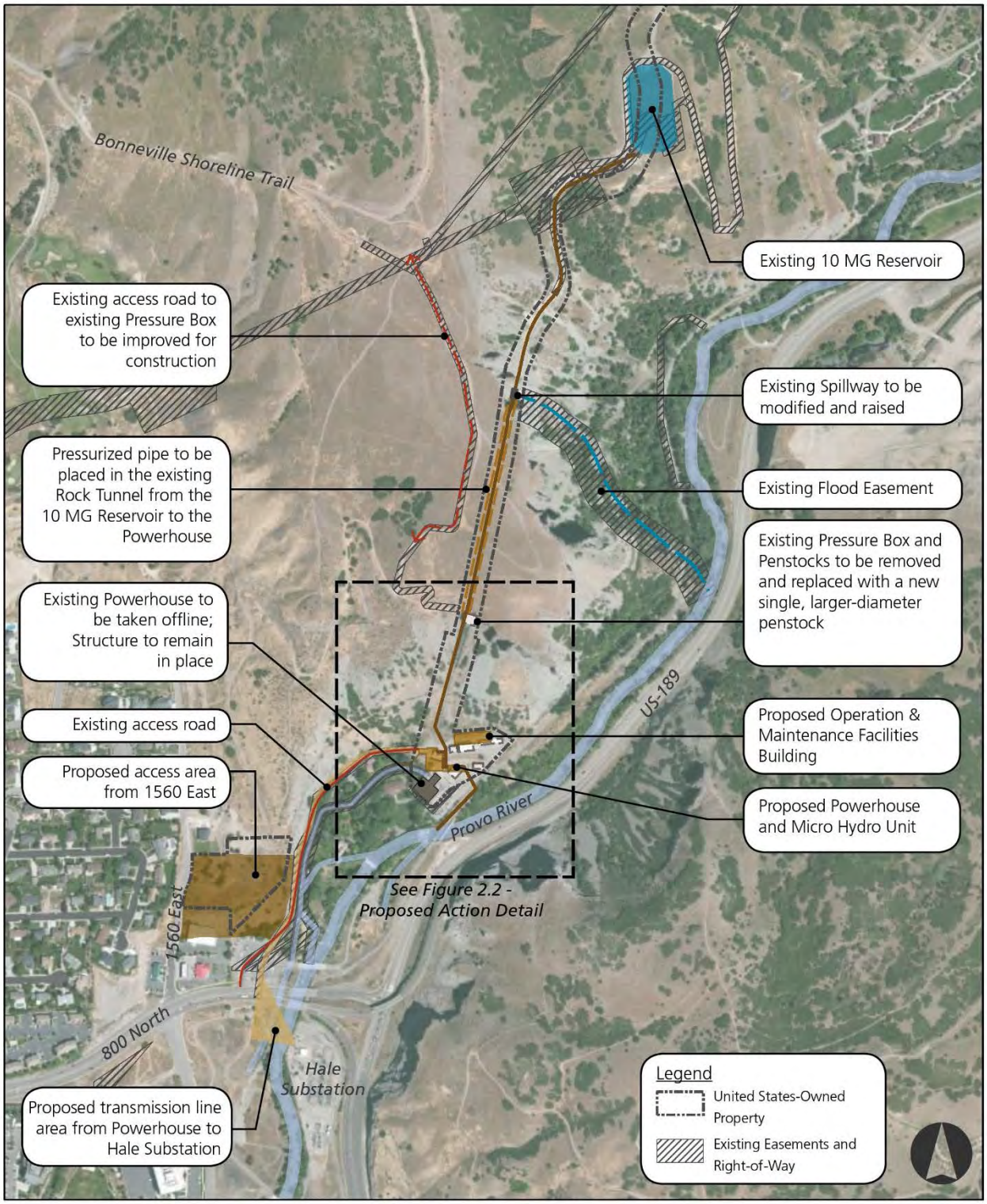


Figure 2-1 Proposed Action Alternative

Replacement of the Penstocks

The Power Plant currently has three 48-inch and one 72-inch riveted/welded steel penstocks which originate at a pressure box located on the hillside above the existing powerhouse. As discussed in Chapter 1, the existing penstocks are in very poor condition, have no corrosion protection, have broken and displaced ground supports, and are lacking structural integrity (*Assessment and Planning Summary Olmsted Power Plant – Evaluation and Upgrade,* January 2013). The Proposed Action includes replacing the four existing penstocks with one larger diameter, buried penstock in the same general location. A single buried penstock would be more economical to construct and maintain compared to multiple penstocks. Exposed penstocks are subject to extreme weather conditions and hazards such as rock falls, ice loading, and stresses caused by temperature variation.

Existing Penstocks

Utilization of the 10 MG Olmsted Flow Equalization Reservoir's Hydraulic Grade Line

The Proposed Action includes utilizing the 10 MG Reservoir located on the Olmsted flowline (see Figure 2-1) which increases the pressure of the Power Plant delivery system by approximately 15 feet of head. The reservoir would: provide a constant pressure for Power Plant operation; increase power generation (capacity and energy); provide for more consistent flows in the Provo River and reduce unnatural fluctuations in Provo River flows downstream from the Power Plant; and simplify the operation and control of water deliveries to the plant and to the Provo River. Using pressure from the 10 MG Reservoir would eliminate the need for the existing pressure box and would greatly simplify system operations. Incorporating the hydraulic head of the 10 MG Reservoir into the Power Plant would require the following modifications:

Olmsted Rock Tunnel Modifications

The existing 900-foot long Olmsted rock tunnel has a cast-in-place concrete floor and currently operates under non-pressurized, open channel flow conditions. The Proposed Action includes installing a steel pipeline in the existing rock tunnel to handle the water pressure from the 10 MG Reservoir and to prevent water from seeping through existing fractures in the limestone tunnel.

Spillway Modifications

The Proposed Action would modify and raise the existing spillway, located at the entrance of the rock tunnel (approximately 1,400 lateral feet southwest of the 10 MG Reservoir) (see Figure 2-1). Modifications would include raising the spillway structure approximately 25 feet to maintain pressurization of the tunnel and simplify operation of the system. The spillway structure would still

be used for operational and emergency spills that would flow to the Provo River via the existing drainage easement.

Pressure Box Removal

The existing pressure box sits visibly on the hillside at the mouth of Provo Canyon and, over time, has greatly deteriorated. The pressure box is a safety hazard and an attractive nuisance (unauthorized persons enter the pressure box and vandalize the building by removing siding, breaking windows, throwing rocks down the penstocks, etc.). The pressure box is not needed for operation of a pressurized system. The Proposed Action would remove the pressure box and the associated power line.

Vent Structure/Surge Tank Installation

To help control surge events and to provide air venting during filling/draining of the system, a vent structure/surge tank would be constructed just north of the existing pressure box at the outlet of the rock tunnel (see Figure 2-2). The surge tank would be approximately 20 feet high, placed back into the rock cliffs, and buried or encased with a textured concrete that would blend into the natural face of the cliff.

Construct Power Transmission Line

A power transmission line would be constructed to connect the proposed powerhouse to either the Olmsted or the Hale substation, which is located at the southwest corner of the 800 North/University Avenue intersection. The power transmission line would follow the alignment of the existing access road and cross 800 North, the Provo Bench Canal, and the Provo River to connect to the Hale substation (see Figure 2-1). Some portions of the power line would likely be underground, and some would be above ground. The power line would be above ground where it would cross the Provo Bench Canal and the Provo River.

Construct an Operation and Maintenance Facilities Building and Garage

An Operation and Maintenance (O&M) facilities building and garage would be constructed to support the Power Plant and other District activities.

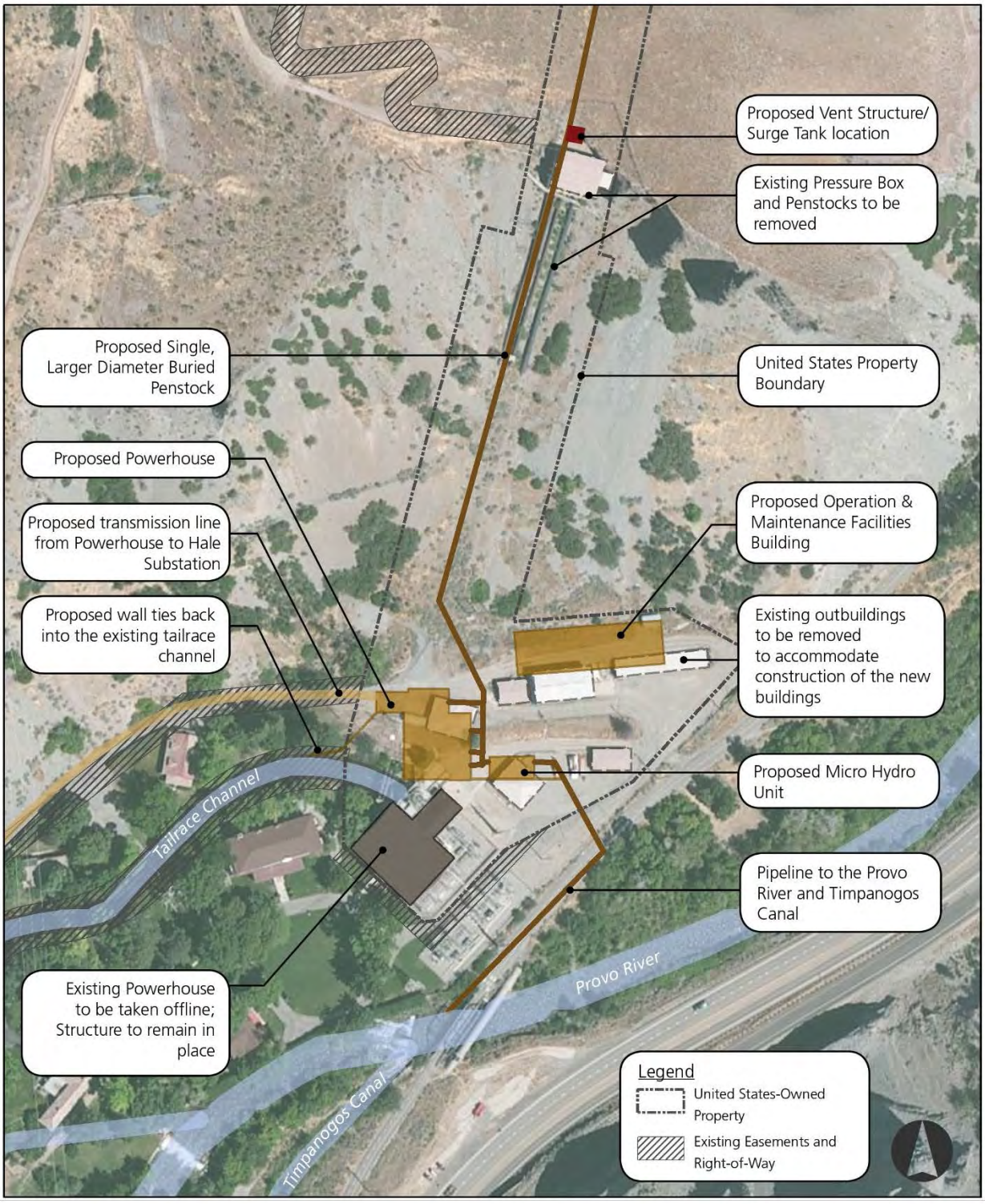


Figure 2-2 Proposed Action Alternative Detail

Preserve the Historic Olmsted Powerhouse Structure

The Olmsted Powerhouse is listed on the National Register of Historic Places (NRHP) and is the central feature of the Power Plant "campus". The Proposed Action would leave the existing powerhouse in place. Any future use of the structure would be determined at a later date. A preliminary opinion regarding the condition of the existing powerhouse in regard to seismic performance and rehabilitation needs was completed in March 2014 (*Existing Olmsted Powerhouse – Preliminary Seismic Condition Assessment*). In this document, deficiencies of the powerhouse were identified based on the performance of similar structures (see box at right) and not based on a quantitative analysis of this building. Prior to any future use of the building, additional evaluation and analysis would be required to determine the extent of rehabilitation needed for the building to meet seismic codes.

> Unreinforced Masonry (URM) buildings of this type and vintage have a history of performing poorly in significant seismic events. Factors which contribute to this poor performance are a lack of ductility in the construction materials, instability of tall wall piers, poor bond of bed joint mortar to the bricks, inadequate or incomplete lateral load paths from the roof to the walls and from the walls to the foundation. The lack of architectural and mechanical features on the interior face of the walls facilitates strengthening from the interior, allowing the historical appearance of the building exterior to be preserved.
>
> From *Existing Olmsted Powerhouse – Preliminary Seismic Condition Assessment* (CH2MHill, March 2014)

Improving Site Access

The Proposed Action includes constructing a private access road from 1560 East in Orem to the Olmsted Hydroelectric Power Plant. Constructing this access would require property acquisition, cut slopes that would call for the excavation of several hundred cubic yards, and utility relocations. Current access to the Olmsted Hydroelectric Power Plant is through the Provo River Parkway Park and Ride Lot off of 800 North in Orem. Because the parking lot is located near the mouth of Provo Canyon, just prior to where the highway splits sending traffic north (Provo Canyon) or south (toward Provo City), site distance is limited and vehicles exiting the parking area/access road can only make a right-out movement. The proposed access road would allow for egress in both directions on 800 North, rather than a right-out only configuration. The access road would be gated (with access limited to authorized personnel), and have no public connection to the Provo River Parkway Park and Ride Lot.

Construction-Related Improvements and Staging

Due to the limited space of the location and topography of the site, improvements would need to be made for construction access, parking, construction staging, and storing material during and following construction. These improvements would include removing abandoned utilities, re-grading the site for proper drainage, installation of storm water Best Management Practices (BMPs), and providing adequate access and parking areas for maintenance vehicles and equipment used for maintaining the overall operation of the Power Plant. Improvements to the access road above the Pressure Box would be required during construction to install the penstock and the steel liner in the rock tunnel. If any additional staging or storage areas beyond what is identified in this document are needed, the contractor would need to complete additional environmental clearances and any necessary permits.

Purpose and Need Compliance

The Proposed Action Alternative would meet the purposes and need of the project because it would:

- Construct a new Power Plant and associated facilities that would allow the District to:
  - Maintain Bonneville Unit Water rights
  - Meet existing water delivery contractual obligations
  - Provide for project power development as an incident of Central Utah Project (CUP) operation
  - Reduce the imminent risk of failure to produce power and the potential loss of water rights due to aging infrastructure and associated maintenance requirements
  - Provide for safe and efficient operations of the Power Plant
- Provide the necessary Operation and Maintenance facilities to support the Power Plant and other District activities

Additionally, the Proposed Action would leave the existing historic powerhouse structure in place.

The Proposed Action Alternative meets the purpose and need for the project and has been studied in detail.

2.4 Other Alternatives Considered but Eliminated

As part of a preliminary assessment of the Power Plant, the following alternatives were considered:

Existing Power Plant Rehabilitation Alternative

A technical memorandum, prepared by CH2MHill, identified two options for rehabilitating the existing Power Plant (*Assessment and Planning Summary: Olmsted Power Plant Evaluation and Upgrade*, January 2013). The powerhouse currently contains four generating units. One of the units has been decommissioned and is used for spare parts, two are original, and the last was rebuilt in 1980. **Option 1** (Power Plant Rehab) includes rehabilitation of the three operational generating units in the existing Power Plant. **Option 2** (Power Plant Repair and Replacement) includes rehabilitating only one (the newest) of the three operational units in the Power Plant. The other two units would be abandoned and a new smaller building, with two new units, would be constructed. Both Options 1 and 2 include the following improvements:

- **Rehabilitating existing generation unit(s) in the existing Power Plant** – Rehabilitating unit(s) would include rewinding the generator; repairing the bearings; replacing the turbines runners, wear rings, and wicket gates; adding hydraulic gate positioners; and rehabilitating the turbine (head cover, shaft seal, and gate mechanism).
- **Leaving the existing Power Plant structure unchanged** – Under the Existing Power Plant Rehabilitation options, the existing Power Plant structure would remain mostly unchanged; however, the existing gantry crane would need to be repaired and new switchgear and controls would be required. A tailrace weir would also be added to elevate the tailrace water in order to

obtain proper operation (current water elevation in the tailrace is too low for the existing units to operate without causing cavitation and damage in the turbines).

- **Repairing the existing pressure box** – In order to make the pressure box safe and functional, both exterior and interior concrete features in the pressure box would be repaired. New walls, a new roof, and new lighting and power distribution would also be required. The pressure box water passage and gate would be modified for the new penstock. The access road to the pressure box would also be upgraded.
- **Replacing the existing penstocks** – Option 1 (Power Plant Rehab) would use a single penstock that serves all three operating generation units. Option 2 (Power Plant Repair and Replacement) would leave the 72-inch penstock serving the newer generation unit in place and replace the remaining three penstocks with a single penstock.

The "Existing Power Plant Rehabilitation Alternative" was eliminated because it did not provide a reliable means and long term solution for providing power generation at the existing Power Plant, which is necessary to maintain Bonneville Unit Water Rights. The existing generation units currently run at about 50 percent efficiency and are declining rapidly. Repair materials and parts for each unit require reverse engineering and custom fabrication. Spare parts are limited or unavailable and maintaining the units would be very costly. Even if these costly repairs were to be completed, the refurbished Power Plant would be unable to provide a reliable power generation for a reasonable amount of time (the next 75 to 100 years).

New Power Plant at a New Location Alternative

Two alternative locations were evaluated for the proposed Power Plant. The first option being the former Hale Steam Plant site, southwest of the existing Olmsted site on the south side of 800 North, and the second option, a site below the existing spillway (see Figure 2-3). These two sites were investigated because they were large enough for a new Power Plant while still being in close proximity to the existing Power Plant and its ancillary elements (10 MG Reservoir, Rock Tunnel, Spillway, etc.).

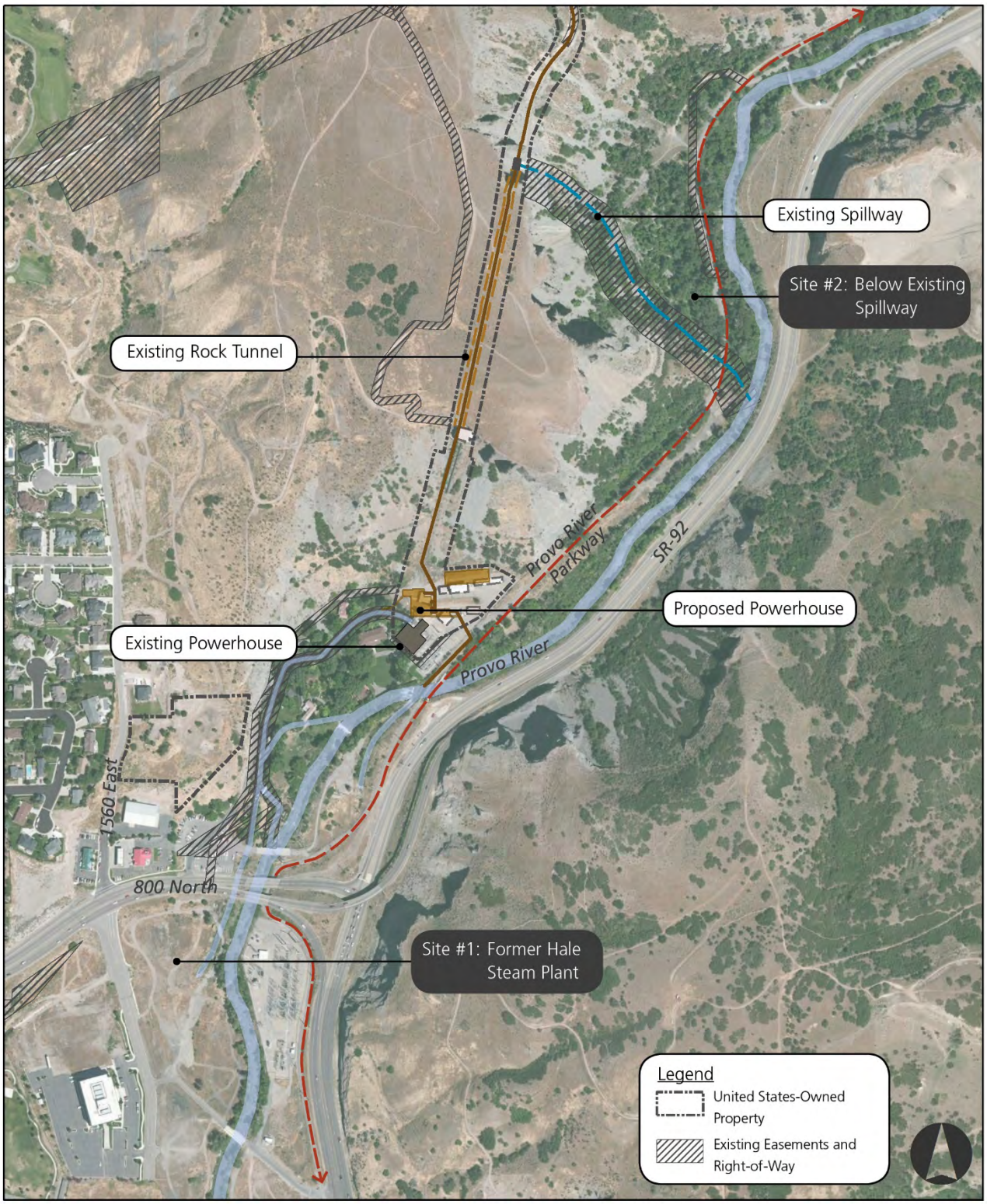


Figure 2-3 Alternate Power Plant Site Locations

Locating the Power Plant at either Sites 1 or 2 would allow some of the existing buildings on the Olmsted site to remain in place. However, the "New Power Plant at a New Location Alternative" was eliminated for the following reasons:

- Extensive rerouting of water and power lines necessary for both sites would create coordination challenges with other owners and users in the areas, such as Provo River Water Users Association (PRWUA), PacifiCorp, Orem City, Provo City, Utah County, the Utah Department of Transportation (UDOT), and various canal companies.
- Increased impact to environmental resources, including the Provo River, wetlands, and riparian habitat
- Increased impacts to the Provo River Trail
- The need to acquire and encumber additional property and easements
- Less efficient operations

These challenges and impacts are detailed more fully below.

Site #1: Former Hale Steam Plant
• The penstock(s) would need to be extended from the existing site under 800 North to the new site. This would require: ▪ Crossing the Provo River Aqueduct, the Parallel Pipeline, and the Spanish Fork-Provo Reservoir Canal pipeline project. ▪ Constructing a pipeline through highly used travel corridors—800 North and the Provo River Parkway Trail—and, therefore, significant coordination and permitting with other agencies (UDOT, etc.). ▪ Piping water that currently flows through the Provo River between the existing Power Plant and the new site. Rerouting this water would decrease flows in this section of the Provo River and could potentially harm fragile aquatic habitat. The existing tailrace would also no longer be used to convey water.
Site #2: Below the Existing Spillway
• The United States would need to acquire property for the Power Plant from PacifiCorp.
• The United States would need to acquire additional easements to gain access into the site. There is currently no formal access and substantial engineering (e.g. building a new bridge across the river) would be required. Access improvements would most likely require crossing the Provo River, the Provo River Parkway Trail, and major water lines for the cities of Orem and Provo.
• Power lines would need to be extended from the existing Power Plant to the spillway site.
• Penstocks would need to be installed parallel to the existing spillway channel. The extremely steep terrain and construction requirements present substantial challenges and impacts, which may require a tunnel and vertical shaft for water conveyance. The Power Plant and tailrace location would likely require the removal of riparian vegetation and wetlands.
• Locating the Power Plant below the existing spillway would decrease the net head available from the 10 MG Reservoir, reducing the power generation of the Power Plant.

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

Table 2-1 summarizes the effects of the Proposed Action Alternative in comparison to the effects of 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 during construction that would be minimized through implementation of Best Management Practices (BMPs). • No long term adverse effects.	• No effect.
Climate Change	• Would not contribute to climate change, nor would it create vulnerability to climate impacts.	• Discontinued operation of the Power Plant could cause a slight increase in carbon dioxide (CO_2) and other greenhouse gas emissions, because the lost power would need to be generated from other sources, including fossil fuels.
Soils and Geotechnical	• Would result in soil disturbance, vegetation removal, and the placement of fill material over existing soils.	• No effect.
Threatened & Endangered Species	• **No Effect** to yellow-billed cuckoo, greater sage-grouse, least chub, June sucker, Deseret milk-vetch, Clay phacelia, Ute ladies'-tresses, and Canada lynx.	• Could result in the failure to meet contractual water delivery obligations for the June Sucker Recovery Implementation Program (JSRIP). This would result in negative impacts to the June sucker.

Subject	Proposed Action Alternative	No-action Alternative
Wildlife	• No effect to state sensitive species. • Would not permanently impact suitable habitat for mule deer and elk. • Minimal to non-existent permanent impacts to nesting, feeding, roosting, and hiding cover habitat for migratory birds, including raptors. • No permanent impacts to aquatic habitat in the tailrace, Provo Bench Canal, or Provo River. • 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 during construction.	• Could result in the failure to meet contractual water delivery obligations for June sucker streamflow deliveries which could result in negative impacts to aquatic species.
Water Resources and Wetlands	• No wetland impacts. • Minor impacts to the Provo River as a result of constructing the micro hydro unit and pipeline. • Minor impacts to the tailrace channel as a result of tying the power house to the tailrace channel.	• No effect.
Water Quality	• Would not further impair water quality in receiving waters.	• No effect.
Groundwater	• No effect.	• No effect.
Floodplains	• Would not change the base flood elevations of the Provo River and would not adversely impact the Provo River floodplain.	• No effect.
Cultural Resources	• **Adverse Effect** to historic Olmsted campus. The Adverse Effect would be mitigated (see Section 3.25 in Chapter 3 for mitigation commitments).	• No effect.
Economics	• No permanent effect. • During the construction period there would be short-term benefits to the local economy (employment, spending on goods, services, and materials, etc.).	• No effect.

Subject	Proposed Action Alternative	No-action Alternative
Visual Resources	• New access road and associated retaining wall or slope alteration would change the overall visual character of the area. • The removal of the pressure box and penstocks would restore the hillside to conditions similar to those prior to construction and would change the visual character. • Raising the spillway structure would have minimal impacts to the visual character of the area (the structure would be tucked into the cliff face and would encased in colored, textured concrete to match the surrounding hillside). • Removal of historic structures and construction of a new power house would change the visual character for users of the Provo River Trail.	• Would not change the visual conditions of the study area.
Recreation	• Provo River Parkway Trail would need to be temporarily closed for approximately 30 days. • Users of the Bonneville Shoreline Trail would encounter increased, construction-related traffic during construction.	• No effect.
Noise and Vibration	• Noise levels would decrease at the historic training center on the Olmsted campus. • Noise levels would remain the same on the Provo River Parkway Trail. • Short-term noise impacts during construction to adjacent residents and businesses.	• No effect.
Transportation	• Improved traffic conditions for authorized personnel accessing the Olmsted property (the proposed access road would allow for egress in both directions on 800 North). • No impact to other transportation resources in the study area. • Temporary impacts to businesses and local residents as a result of construction traffic. • Temporary impacts for travelers on 800 North as a result of the proposed power transmission line construction across 800 North.	• Unsafe conditions associated with the existing Olmsted property access would continue.

Subject	Proposed Action Alternative	No-action Alternative
Energy	• New hydroelectric Power Plant would produce approximately 27,000 megawatt-hours (MWh) of energy per year, an increase of 15,300 MWh over the current plant.	• The 11,700 MWh of energy that would be lost as a result of discontinuing operations would need to be generated from other sources, including fossil fuels.
Hazardous Waste	• No effect.	• No effect.
Vegetation and Invasive Species	• Construction activities could allow for the establishment or spread of invasive species and noxious weeds; however, BMPs would be utilized during construction and the District's Integrated Pest Management would be implemented after construction for ongoing monitoring and treatment of invasive species. • Minimal vegetation removal.	• No effect.

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 and indirect impacts that each alternative would have on the affected environment, and details measures to avoid, minimize, or mitigate potential impacts.

Affected Environment

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 mitigate these 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 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 impacts are discussed in Section 3.23.
- **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 3.24.

The scoping process identified the following resource topics of concern:

- Air Quality
- Soils and Geotechnical
- Threatened and Endangered Species
- Wildlife
- Water Quality
- Groundwater
- Water Resources/Wetlands
- Cultural Resources
- Economics
- Visual Resources
- Recreation
- Noise
- Transportation
- Energy
- Hazardous Waste
- Vegetation and Invasive Species
- Construction Impacts

Resources not Addressed in the EA

Resources not addressed in this Environmental Assessment (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 Farmland Protection Policy Act (FPPA) defines prime farmland as farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for other uses. A unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops; it has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops. Farmland does not include land already in or committed to urban development. Farmland *already in* urban development includes lands identified as "urbanized area" on the Census Bureau Map. According to the 2010 Census Urban Areas, the study area is within the Provo-Orem, UT urbanized area; therefore, the Proposed Action would have no impact to prime and unique farmland.

- **Agricultural Resources** – The intent of the Proposed Action is to continue to meet existing contractual obligations, 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.

- **Wild and Scenic Rivers** – The Provo 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 Provo River under the act.

- **Wilderness** – The Proposed Action would not disturb lands that are protected now or proposed for protection under the Wilderness Act of 1964, nor would the project introduce any additional lands for consideration as wilderness.

- **Land Use Plans and Policies** – The Olmsted Power Plant is located in Orem City and is zoned as a Controlled Manufacturing (CM) Zone—a zone established to provide areas for planned manufacturing parks. The Proposed Action does not propose any changes in land use and would not lead to conflicts with known or proposed plans or policies of federal, state, or local agencies.

- **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. Fundamental Environmental Justice principles include:

    - To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations
    - To ensure the full and fair participation by all potentially affected communities in the decision-making process

  Impacts and benefits from the Proposed Action (such as the ability to maintain the Bonneville Unit water rights, meet existing contractual obligations, and provide for safe and efficient operations of the Power Plant) would be comparable for all residents that would be affected by the Proposed Action. 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, nor would it have an effect to community social conditions.

  During construction nearby residents would be impacted by temporary noise, dust, and construction traffic. The Central Utah Water Conservancy District (District) would continue to coordinate with the general public and appropriate federal, state, and local officials during construction of the Proposed Action.

- **Public Health and Safety** – The Proposed Action would improve safety conditions for those working at the Power Plant and would have no impact to public health and safety for the general public. The Proposed Action would remove the safety hazards associated with the pressure box that currently exist for Power Plant employees and unauthorized personnel who enter the pressure box and are exposed to unsafe conditions. During construction there would be some traffic increase with construction traffic moving equipment, materials, and workers to the construction site, which would cause a minor increase in the risk of accidents. Best Management Practices (BMPs) would minimize the risk of construction hazards.

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 sulfer 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 been designated as nonattainment for PM_{10} and $PM_{2.5}$. Additionally, a small portion of the study area is located in an area of Utah County that has been designated a maintenance area for CO.

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.

CO

Emissions of CO would be generated from construction equipment and vehicle exhaust during construction activities. During operation and maintenance of the Power Plant, emergency generators would emit negligible quantities of CO, and only during times of power outages. The Proposed Action would have no long-term adverse impacts on air quality.

No-Action Alternative

Under the No-action Alternative, the District would discontinue operation of the Power Plant. The 11,700 megawatt-hours (MWh) of energy that would be lost as a result of discontinuing operations would need to be generated from other sources, including fossil fuels, which could decrease air quality in the surrounding area.

Mitigation

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

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

Additionally, the District would adhere to the following standards and specifications:

- **Abatement of Air Pollution:** The District 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 District would comply with all applicable federal, state, and local laws and regulations, regarding the prevention, control, and abatement of dust pollution. The District would attend to all dust control requirements within 500-feet of residences and buildings. The methods of mixing, handling, and storing cement and concrete aggregate would include means of eliminating atmospheric discharges of dust.

3.3 Climate Change

Executive Order 13514 Federal Leadership in Environmental, Energy, and Economic Performance 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.

Environmental Effects

Proposed Action Alternative

The Proposed Action would not cause an increase in CO_2 or other greenhouse gas emissions; 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. Since the Olmsted Hydroelectric Power Plant is a run-of-the-river Power Plant, it is dependent on the water resources stored in the Jordanelle Reservoir. Depending on how climate change affects water resources (it could cause more or less water to be stored in Jordanelle), climate change could allow the Power Plant to run more or less efficiently.

What is a run-of-the-river power plant?
Run-of-the-river power plants operate on little to no water storage and are subject to seasonal river flows.

No-action Alternative

Under the No-action Alternative, the District would discontinue operation of the Power Plant. The 11,700 MWh of energy that would be lost as a result of discontinuing operations would need to be generated from other sources, including fossil fuels, which could cause an increase in CO_2 and other greenhouse gas emissions.

3.4 Soils and Geotechnical

The purpose of this section is to disclose any known geotechnical features that could affect the Proposed Action design.

Affected Environment

Geologic Setting of Study Area

The study area is located near the base of the western slope of the Wasatch Mountains and is characterized by young alluvial and river terrace deposits of the Provo River, underlain by the Manning Canyon Shale and the Great Blue Limestone of Mississippian/Pennsylvanian age.

Regional Seismicity

The study area is located within the Wasatch Fault Zone, with one or more suspected active fault traces extending through the site. In general, an "active" fault is defined as one that shows evidence of movement within the last 10,000 to 11,000 years, or within the Holocene Epoch.

The nearest active fault to the site is the Wasatch Fault, Provo Section. The Provo Section of the Wasatch Fault is a normal fault and extends for about 37 miles southerly along the western side of the Wasatch Mountain Front, from about Alpine to Elk Ridge, Utah. The average vertical fault slip rate is estimated at about 1.2 mm/year over the last several thousand years. The Wasatch Fault Zone crosses the study area within the Park and Ride Lot, just north of 800 North.

Natural slopes within the study area are composed of alluvial terrace deposits at a relatively steep slope, containing sub-angular to rounded cobbles and boulders which could be loosened and roll down the slope in a seismic event (*Summary of Geotechnical Data, Spanish Fork Provo Reservoir Canal Pipeline – Orem Reach 1B and Areas to North*, June 2013).

The *Liquefaction-Potential Map for A Part of Utah County, Utah* indicates that the study area is in a very low area of liquefaction potential.

What is liquefaction?
Liquefaction may occur when water-saturated sandy soils are subjected to earthquake ground shaking. When soil liquefies, it loses strength and behaves as a viscous liquid (like quicksand) rather than as a solid. This can cause buildings to sink into the ground or tilt, empty buried tanks to rise to the ground surface, slope failures, nearly level ground to shift laterally tens of feet (lateral spreading), surface subsidence, ground cracking, and sand boils.

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would result in soil disturbance and vegetation removal during construction, as well as the placement of fill material over existing soils. Site-specific geotechnical analysis would be required during final design to assess hazard-reduction techniques and to properly design the Power Plant facilities for long-term performance.

Regional Seismicity

As a final design is developed for slopes, both static and seismic stability analysis would be performed to assure appropriate design for long-term slope performance.

No-Action Alternative

Under the No-action Alternative, geologic resources in the study area would not be affected and geotechnical evaluations necessary for construction would not be needed.

Mitigation

During final design the District would conduct static and seismic stability analysis to assure appropriate design for long-term slope performance.

3.5 Threatened and Endangered Species

Endangered Species Act

Section 7 of the Endangered Species Act (ESA) of 1973 (7 USC §136, 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 ensure 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

Table 3-1 lists the federally-listed ESA species that are known to occur in Utah County, Utah and are considered in this analysis. No critical habitat has been designated by USFWS for federally-listed ESA species within a half mile of the study area.

Table 3-1 Utah County ESA Species List

Species	Status	Occurrence in the Study Area
Yellow-billed Cuckoo (*Coccyzus americanus*)	Proposed Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Greater sage-grouse (*Centrocercus urophasianus*)	Candidate	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Least chub (*Iotichthys phlegethontis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.

Species	Status	Occurrence in the Study Area
June sucker (*Chasmistes liorus*)	Endangered	Designated critical habitat for the June sucker includes the lower 4.9 miles of the Provo River, measured from its confluence with Utah Lake, upstream of the Tanner Race diversion. The Tanner Race diversion is approximately 4.8 miles downstream from the study area, and there are four diversions between the study area and Tanner Race. These diversions are not passable by June sucker. Therefore, the June sucker is not found within or near the study area.
Deseret milk-vetch (*Astragalus desereticus*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Clay phacelia (*Phacelia argillacea*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Canada Lynx (*Lynx canadensis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.

Source: USFWS (http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=49049)

Study Area Inventory

A site visit on August 4, 2014 was conducted to assess and inventory conditions associated with the proposed project, and to look for the presence/absence of threatened or endangered species. Also, 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 site visits, the UDCC, and the UNHP data did not reveal any observations, evidence (scat, tracks, sightings), or documented occurrences of the presence of any ESA species within or adjacent to the study area.

June Sucker

The endangered June sucker is endemic to Utah Lake and uses the lower portion of the lake's largest tributary, the Provo River, for spawning and larval rearing. It is one of two sucker species known to occur in Utah Lake and can be distinguished from the Utah sucker (*Catostomus ardens*) by its subterminal mouth, relatively smooth divided lips, broad skull, and greater number of gill rakers. Decline in the abundance of June suckers can be attributed to water development activities, commercial fishing, predation and competition with non-native fishes. Designated critical habitat for the June sucker includes the lower 4.9 miles of the Provo River, measured from its confluence with Utah Lake, upstream of the Tanner Race diversion. The Tanner Race diversion is approximately 4.8 miles downstream from the study area, and there are four diversions between the study area and Tanner Race. These diversions are not passable by June sucker. Therefore, the June sucker is not found within or near the study area.

The District and the United States Department of the Interior (Interior) have been active participants in the June Sucker Recovery Implementation Program (JSRIP), a multi-agency, cooperative effort designed

to coordinate and implement specific recovery actions for the endangered June sucker. Recovery efforts to date include ongoing removal of common carp from Utah Lake; obtaining and securing water to support spawning and rearing flows in the Provo River and Hobble Creek; rehabilitation of Red Butte Dam in Salt Lake County, in part, as a refuge outside of Utah Lake for June sucker; modifications to the Fort Field Diversion on the lower Provo River to allow passage of June sucker; construction of June sucker hatchery facilities and subsequent stocking of June sucker to augment the population in Utah Lake; and outreach efforts to provide information on the need for and benefits of recovery. The JSRIP has dual goals of recovering the species so that protection under the ESA is no longer needed and allowing for the continued use and development of water resources within the Utah Lake basin.

Environmental Effects

Proposed Action Alternative

The Proposed Action would not affect contractual water delivery obligations for the JSRIP; therefore there would be no negative impacts to the June sucker.

The Proposed Action Alternative would have **No Effect** on the following species because there is no suitable habitat in the study area, they are not known to occur in the study area, and they are not expected to be present in the study area: yellow-billed cuckoo, greater sage-grouse, least chub, June sucker, Deseret milk-vetch, Clay phacelia, Ute ladies'-tresses, and Canada lynx.

USFWS was consulted regarding the Proposed Action Alternative's potential impacts to ESA-listed species. USFWS concurred with the No Effect determination (see Appendix A).

No-Action Alternative

The No-action Alternative could result in the failure to meet contractual water delivery obligations for fishery streamflow deliveries, including deliveries for the JSRIP. This could result in negative impacts to the June sucker.

3.6 Wildlife

Affected Environment

Some wildlife habitat exists within the study area due to its location at the mouth of Provo Canyon. The study area is located along the Provo River and extends into the nearby foothills, but does not include mountainous or heavily forested areas. However, due to the study area's proximity to roads, buildings, and the human environment, some of the area within and adjacent to the study area are highly disturbed and would not be considered ideal wildlife habitat. The less disturbed areas within the study area likely provide adequate foraging, cover, and breeding habitat for small mammals, game birds, songbirds, and ungulates.

Utah Sensitive Species

Pursuant to Utah Division of Wildlife Resources (UDWR) Administrative Rule R657-48, species and candidate species, which are listed under the Endangered Species Act (ESA) of 1973 (7 USC §136, 16 USC §1531 et seq.), 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 Utah County identifies 29 conservation agreement or sensitive species in addition to federally listed threatened and endangered species. Data was gathered through the Utah Data Conservation Center (UDCC) database and through an information request to the Utah Natural Heritage Program (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, only one species, the Bonneville cutthroat trout (*Oncorhynchus clarkii utah*), has the potential to occur within a half-mile of the study area.

Bonneville Cutthroat Trout

The Bonneville cutthroat trout is a race, or subspecies, of the cutthroat trout native to the Bonneville Basin of Utah, Wyoming, Idaho, and Nevada. Pure Bonneville cutthroat trout are rare throughout their historic range, but several Utah populations exist, including populations in Bear Lake and Strawberry Reservoir. Major threats to the Bonneville cutthroat trout include habitat loss/alteration, predation by and competition with nonnative fishes, and hybridization with nonnative fishes, such as the rainbow trout.

Bonneville cutthroat trout primarily eat insects, but large individuals also eat fishes. Like other cutthroat trout, the subspecies spawns in streams over gravel substrate in the spring. The Bonneville cutthroat trout can be found in a number of habitat types, ranging from high-elevation mountain streams and lakes to low-elevation grassland streams. In all of these habitat types, however, the Bonneville cutthroat trout requires a functional stream riparian zone, which provides structure, cover, shade, and bank stability (http://dwrcdc.nr.utah.gov/rsgis2/search/Display.asp?FlNm=oncoclut).

Migratory Birds

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. Rewards are provided for information leading to arrest and conviction for violation of the Act.

The UNHP data revealed two peregrine falcon nesting sites, one within and one outside of the study area. The data indicated that the sites have been observed over multiple years and were last recorded in 2006. The nesting site outside of the study area is located near the Provo River and 800 North in the canopy of the mature trees. The other site is within the study area and is located on the rocky cliffs, above the valley floor, near the spillway. In addition, red-tail hawks have been observed in this same area and nesting has potentially occurred for several years at this location.

Aquatic Species

The tailrace and a portion of the Provo River are within the study area. Fish occur in these two water bodies, including brown trout, sculpin, and Bonneville cutthroat trout.

Wildlife Species

The study area is frequented by mule deer and occasionally by bighorn sheep and elk. According to the Utah Conservation Data Center, the higher elevations of the study area are habitat for chukar, ruffed grouse, mule deer, and elk (http://mapserv.utah.gov/Wildlife/).

Multiple site visits were taken to the study area to assess and inventory conditions and to look for the presence/absence of wildlife species. Site visits revealed observation or evidence of several wildlife species, including: mule deer, big horn sheep, songbirds, raptors, skunk, mice, raccoons, other rodents, and fish.

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would not impact any state sensitive species or their known habitat, but could potentially impact other wildlife species, including birds and fish. In an effort to reduce negative impacts to wildlife species, the project team met with the UDWR onsite on August 4, 2014. The following items were discussed:

- Fish in the Tailrace – During construction the tailrace would be dewatered. Fish would be relocated, either by electroshocking the fish and transferring them to the Provo River, or electroshocking the fish and floating them to the Provo River. Fish relocation efforts would be conducted by the UDWR.
- Migratory Birds/Raptors – There is suitable habitat in the study area for migratory birds/raptors. If construction occurs during the nesting period, a migratory bird/raptor survey would need to be conducted. Depending on the outcome of the survey, there would need to be a construction buffer and/or monitoring.
- Wildlife – UDWR's main concern is hunter access. There is habitat of chukar, ruffed grouse, mule deer, and elk within or near the study area.

Utah Sensitive Species

See discussion in Aquatic Species section below for Proposed Action Alternative impacts to the Bonneville cutthroat trout.

Wildlife

As discussed above, there is suitable habitat of chukar, 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 for any other wildlife species. 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.

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.

Migratory Birds

Migratory birds, including raptors, could be present in the area; however, only minimal vegetation would be removed. Permanent impacts to nesting, feeding, roosting, and hiding cover habitat would be minimal to non-existent.

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

Aquatic Species

The Proposed Action would not permanently impact aquatic habitat in the study area, including impacts to Bonneville cutthroat trout habitat. During construction the tailrace would be dewatered and the District would coordinate with UDWR to relocate the fish.

The Proposed Action includes constructing a micro hydro unit that would include a pipeline that returns flows to the Provo River. Construction of this pipeline would cause minimal disturbance to aquatic species within the Provo River in the localized area of construction.

The Proposed Action would also construct a power transmission line to connect the proposed powerhouse to the Hale substation. This power line would cross the Provo River; however, the proposed power line would span the Provo River and would have no impact to aquatic species.

No-Action Alternative

The No-action Alternative would have no impact to Utah state sensitive species, migratory birds, or wildlife species. The No-action Alternative could result in the failure to meet contractual water delivery obligations for June sucker streamflow deliveries which could result in negative impacts to aquatic species.

Mitigation

If it is necessary to remove vegetation during the migratory bird nesting season (February 1 through August 31), a qualified biologist would conduct nesting surveys to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be

conducted within the construction footprint and within a 100-foot buffer zone directly adjacent to the project boundary. The survey area for active bird nests would include areas where vegetation removal and disturbance is necessary. These surveys would be conducted in consultation with UDWR.

During the dewatering of the tailrace, the District would coordinate with UDWR to relocate the fish, either by electroshocking the fish and transferring them to the Provo River, or electroshocking the fish and floating them to the Provo River.

Hunter access to suitable areas surrounding the study area would be maintained during construction.

3.7 Water Resources and Wetlands

Affected Environment

Water Resources

The primary water resources within and near the study area are the Provo River and the tailrace channel (see Figure 3-1).

The Provo River begins in the Uinta Mountains at Washington Lake and flows approximately 70 miles southwest to Utah Lake. The Provo River within the study area is known as the lower Provo River, which flows out of Deer Creek Reservoir through Provo Canyon and into Utah Lake.

The channel that carries water away from the turbines in the powerhouse is known as the tailrace. The tailrace begins at the powerhouse and extends to the Provo River, paralleling the access road.

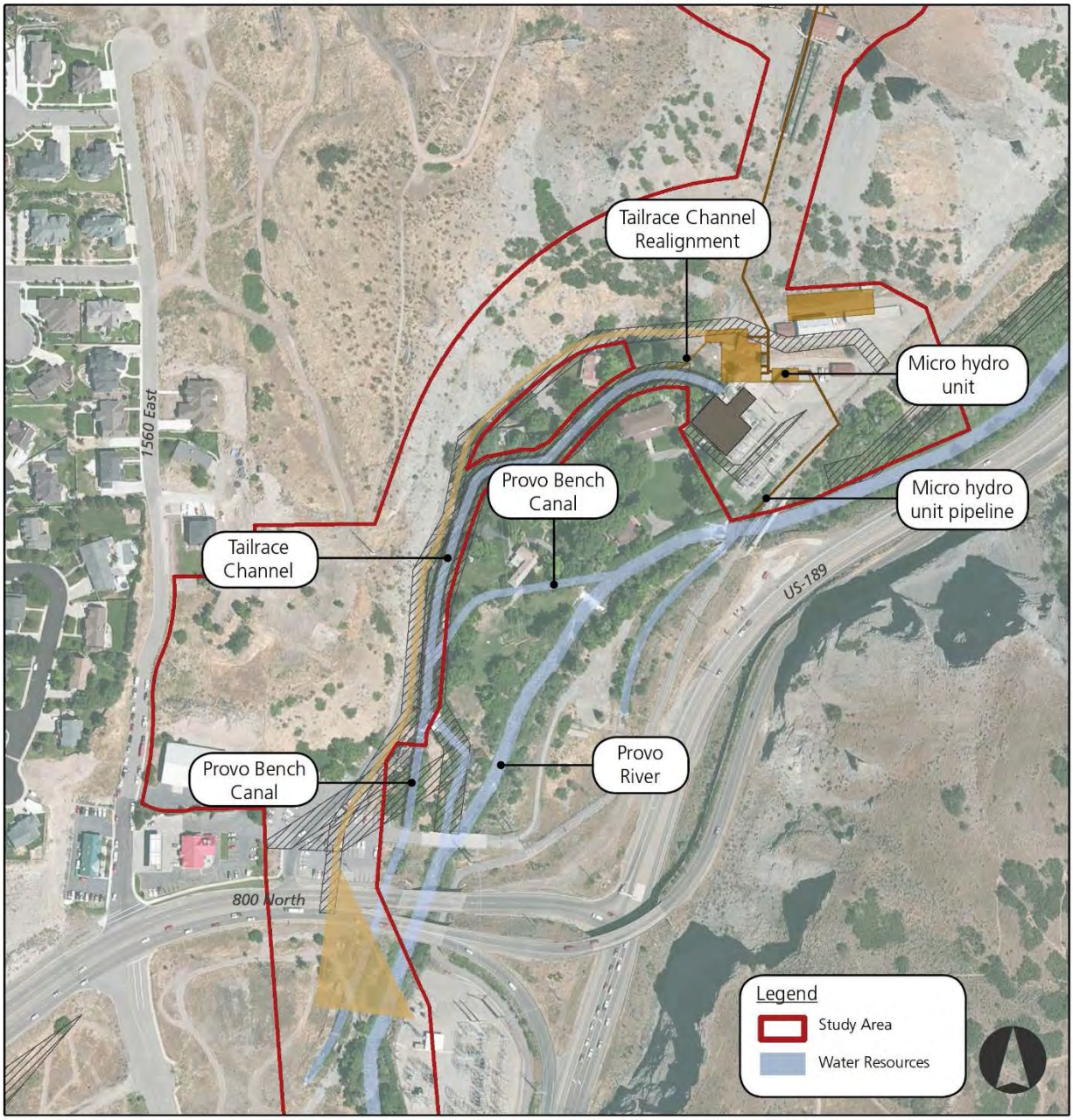


Figure 3-1 Water Resources within Study Area

In 2003, the District entered into a water conservation project with the Upper East Union/East River Bottom (UEU/ERB) canal companies. The project saved water from canal seepage by piping the UEU canal. The saved water was used for in-stream flows. As part of the 2003 conservation project, the UEU/ERB water in the Provo River was moved from the UEU/ERB diversion to the Timpanogos diversion located a half mile upstream. This was accomplished by not diverting the UEU/ERB water associated with power generation at the Olmsted Diversion Structure but leaving it in the river so it could be diverted at the Timpanogos Diversion Structure located above the Olmsted tailrace return channel to the Provo River. As a result, during the irrigation season and for a distance of approximately half a mile,

flows in the Provo River, between the Olmsted Diversion and the Timpanogos Diversion, are about 16 cfs higher than they were before 2003.

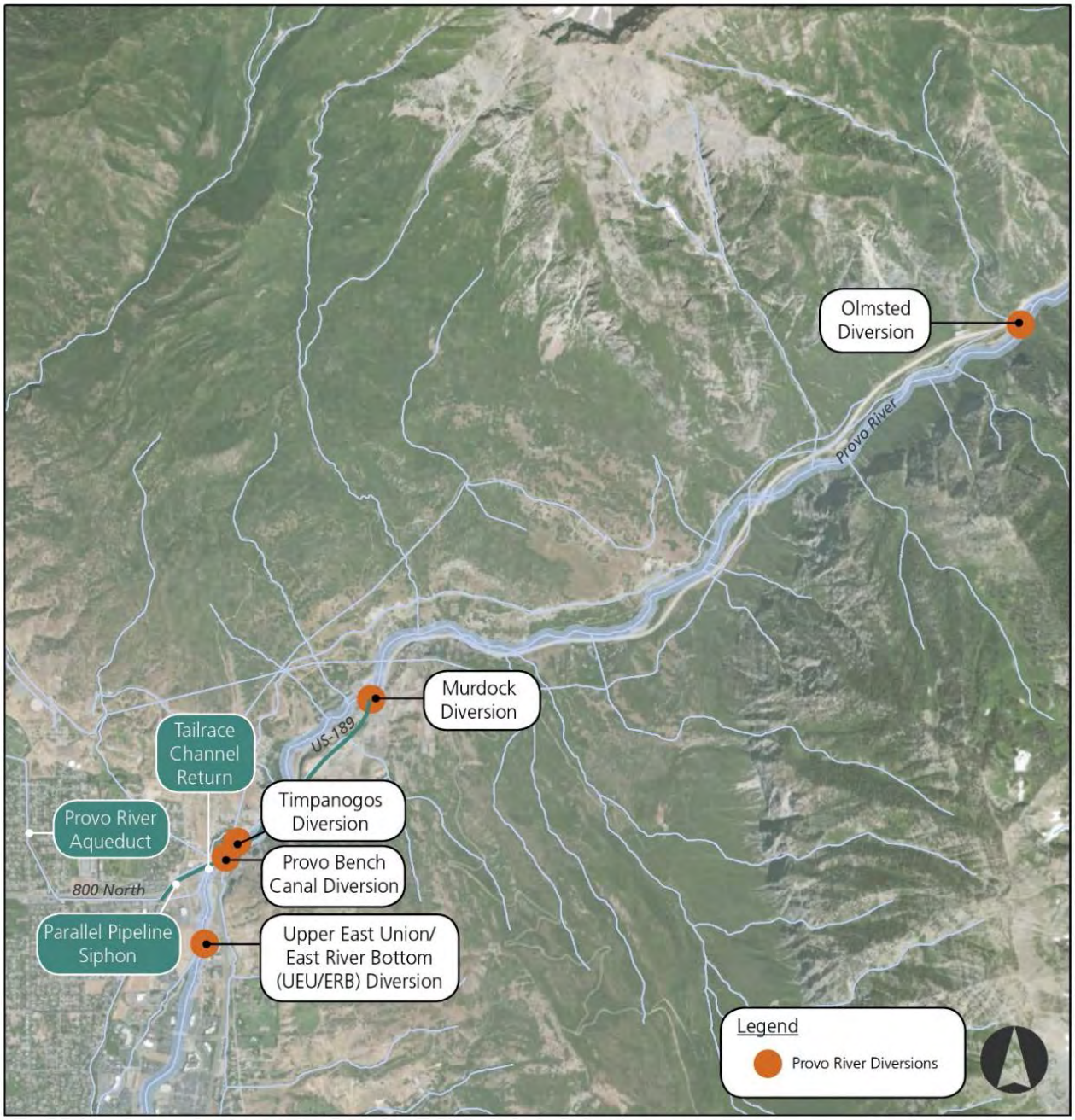


Figure 3-2 Provo River Diversion Locations and Provo River Water Users Association Features within Study Area

Wetlands

There are no wetlands within the study area.

Environmental Effects

Proposed Action Alternative

Provo River

In addition to a new powerhouse, the Proposed Action would include constructing a smaller power generation unit for flows that are less than powerhouse minimum flows. The micro hydro unit would consist of small generators and a pipeline that returns flows to the Provo River. The micro hydro unit would provide the ability to generate at low flow conditions and expand the range of generation capabilities of the Olmsted Power Plant.

The low flows that would be generated by the micro hydro unit include water from the UEU/ERB water rights. These water rights are included in the 429 cubic feet per second (cfs) Olmsted power right. As discussed above, the 2003 UEU/ERB canal companies' water conservation project diverted Provo River water at the Timpanogos Diversion, instead of the Olmsted Diversion, increasing flows between the Olmsted Diversion and the Timpanogos Diversion by about 16 cfs. Under the Proposed Action, water for the micro hydro plant would be diverted at the Olmsted Diversion, as was done historically (before 2003). The water would be used for generation and then released to the Provo River above the Timpanogos Diversion. This would allow the UEU/ERB canal companies to divert the water at the existing Timpanogos Diversion. Flows in the Provo River, from the Olmsted Diversion to the Timpanogos Diversion, would be lower than the flow conditions experienced between 2003 and the present (by about 16 cfs), but would be the same as the 2003 pre-canal piping project. Winter flows in this section would remain unchanged.

During the non-irrigation season and while the micro hydro unit is online, flows from the Timpanogos Diversion to the tailrace return channel, a distance of about 850 feet, could be approximately 6 to 19 cfs higher.

Tailrace

The Proposed Action would require constructing a channel to tie the new power house to the tailrace, which would require realigning a small portion of the tailrace. The tailrace would be dewatered during construction to inspect and make repairs.

Provo River Water Users Association (PRWUA)

During the scoping process, the Provo River Water Users Association (PRWUA) submitted a comment making the project team aware of their facilities along the Provo River, including the Murdock Diversion, the Provo River Aqueduct (also known as the Murdock Canal), and the Parallel Pipeline Siphon (see Figure 3-2). The Proposed Action would have no impact to these facilities.

Wetlands

The Proposed Action would have no impact to wetlands within the study area because none exist within the study area.

No-action Alternative

The No-action Alternative would have no impact to water resources or wetlands within the study area because it would not construct facilities that would impact these resources.

Mitigation

A Stream Alteration Permit would be obtained from the Utah Division of Water Rights for work to be conducted within the Provo River.

3.8 Water Quality

Water quality in Utah is regulated by the U.S. Environmental Protection Agency (EPA) through the federal Clean Water Act and by the rules of the Utah Department of Environmental Quality (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 Provo River, between Utah Lake and the Murdock Diversion 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. The Provo River, between Utah Lake and the Murdock Diversion, is on the Section 303(d) list and is considered impaired, which means that it is not meeting its designated uses.

Low dissolved oxygen (DO) concentrations are a common water quality problem downstream from hydropower facilities; however, low DO concentrations are generally more of a concern for hydropower facilities that are powered by impounded water. Because the Olmsted Hydroelectric Power Plant is a run-of-the-river facility, low DO concentrations in the Provo River are not an issue.

Environmental Effects

Proposed Action Alternative

During the scoping process, Orem City expressed concern about storm water issues after construction and explained that storm water would need to be detained and pretreated prior to discharging into the Provo River or the canal system.

The Proposed Action would include the construction of additional buildings, associated pavement, and an access road, increasing the impervious surface area. The additional storm water runoff associated with this increased impervious surface area would be treated through BMPs, including collecting and rerouting the water through an oil/water separator prior to discharge; therefore, the Proposed Action would not further impair water quality in the receiving waters.

The Proposed Action Alternative would have no impact to water quality in the Provo River. Even though the flows between the Murdock diversion and the Timpanogos diversion would be less under the Proposed Action (as discussed in Section 3.7 Water Resources and Wetlands), the overall Provo River flows between the Murdock diversion and Utah Lake would remain the same; therefore, pollutants, nutrients, and sediments would continue to remain in the water in the same ratios as current conditions.

The Proposed Action Alternative would replace or improve existing hydropower features and would not change the status of the Olmsted Hydroelectric Power Plant as a run-of-the-river facility; therefore, there would be no impacts to DO concentrations in the Provo River.

Measures to protect surface water quality from the effects of erosion during construction would be taken. These measures would be outlined in a Storm Water Pollution Prevention Plan (SWPPP) (see mitigation section below). No impacts to surface water quality are expected because the SWPPP would be followed.

No-action Alternative

The No-action Alternative would have no impact to water quality in the Provo River. Pollutants, nutrients, and sediments would continue to remain in the water in the same ratios as current conditions.

Mitigation

Construction activities that disturb more than one acre require the development of a 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 the surrounding receiving waters. The project would be constructed in compliance with the District's standards and specifications for Drainage and Sediment Control.

3.9 Groundwater

Affected Environment

According to the U.S. Geological Survey, Utah Valley is bounded by the Wasatch Range, West Mountain, and the northern extension of Long Ridge. The Valley is divided into two groundwater basins, northern and southern, which are separated by Provo Bay in northern Utah Valley (see Figure 3-3). Groundwater in Utah Valley occurs in unconsolidated basin-fill deposits under both water-table and artesian conditions, but most wells discharge from artesian aquifers. The principal groundwater recharge area for the basin-fill deposits is in the eastern part of the valley, along the base of the Wasatch Range (*Groundwater Conditions in Utah, Spring of 2013*, U.S. Geological Survey).

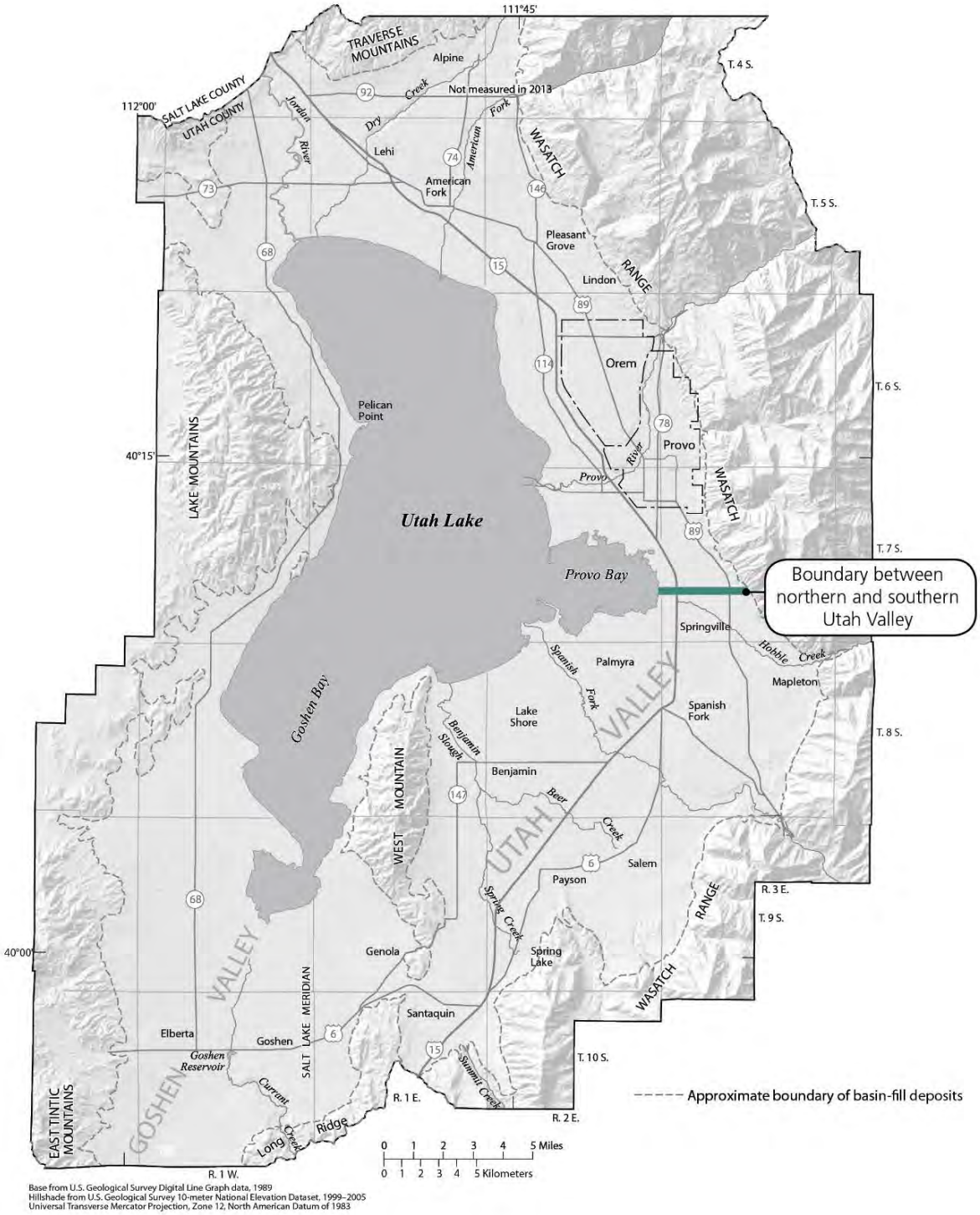


Figure 3-3 Groundwater Basins (Image courtesy of the U.S. Geological Survey)

Groundwater conditions could vary considerably depending on the season, climate conditions, and proximity to the river. Groundwater may occur in permeable gravel zones, and/or locally perch on top of bedrock surfaces. (*Summary of Geotechnical Data, Spanish Fork Provo Reservoir Canal Pipeline – Orem Reach 1B and Areas to North*, June 2013).

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would not change the amount of water that infiltrates into the ground and would have no impact to groundwater supply or groundwater quality.

No-action Alternative

The No-action Alternative would have no impact to groundwater because it would not change the amount of water that infiltrates into the ground.

3.10 Floodplains

Floodplains are defined as normally dry areas that are occasionally inundated by high stream flows or high lake water. Development in floodplains can reduce their flood-carrying capacity and extend the flooding hazard beyond the developed area.

A stream has a *regulatory floodplain* if the floodplain is identified and mapped by the Federal Emergency Management Agency (FEMA). Floodplains mapped by FEMA are managed at the local level by communities to prevent flooding. 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

Within the study area, FEMA has mapped a Special Flood Hazard Area at the Provo River. The floodplain along the Provo River is designated as Zone A, which is an area that could be flooded by a 100-year flood, as generally determined using approximate methods.

Environmental Effects

Proposed Action Alternative

The Proposed Action would construct a micro hydro unit that would include a pipeline that returns flows to the Provo River. This pipeline would be within the Provo River floodplain; however, the pipeline would not change the base flood elevations of the Provo River and would not adversely impact the Provo River floodplain.

The Proposed Action would also construct a power transmission line to connect the proposed powerhouse to the Hale substation. This power line would cross the Provo River; however, the proposed power line would span the Provo River and would not adversely impact the Provo River floodplain.

No-action Alternative

The No-action Alternative would not construct facilities that would impact the Provo River floodplain; therefore, the No-action Alternative would have no effect to floodplains.

3.11 Cultural Resources

Historic Structures

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 3-2.

Table 3-2 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

Historic Structures

A Reconnaissance Level Survey was completed in June 2014 in connection with this project to document all structures and historic elements within the Area of Potential Effects (APE) and to identify those historic elements which are either currently on or are eligible for nomination to the National Register of Historic Places (NRHP). The APE is an irregular shape that includes approximately 34 acres located at the mouth of Provo Canyon in Orem, Utah (see Figure 3-5). Generally, the APE runs north to south extending from the 10 MG Olmsted Equalization Reservoir to SR-52 (800 North in Orem). The APE includes the area near the existing power house, but does not include the entire Olmsted Campus due to ownership of the campus being divided between two different entities—PacifiCorp (a private corporation which owns property outside of the APE) and the Interior (which owns property within the APE). The APE also includes the tailrace channel, the access road to the pressure box, and the Olmsted Flowline between the 10 MG Olmsted Equalization Reservoir to the Power House.

As part of the Reconnaissance Level Survey, 15 features were surveyed (see Figure 3-4 and Table 3-3). Fourteen of those features were within the historic period and 13 were found to be eligible/contributing to the historic Olmsted Power Station. The Power House, which is one of the 13 eligible buildings, is currently listed on the NRHP.

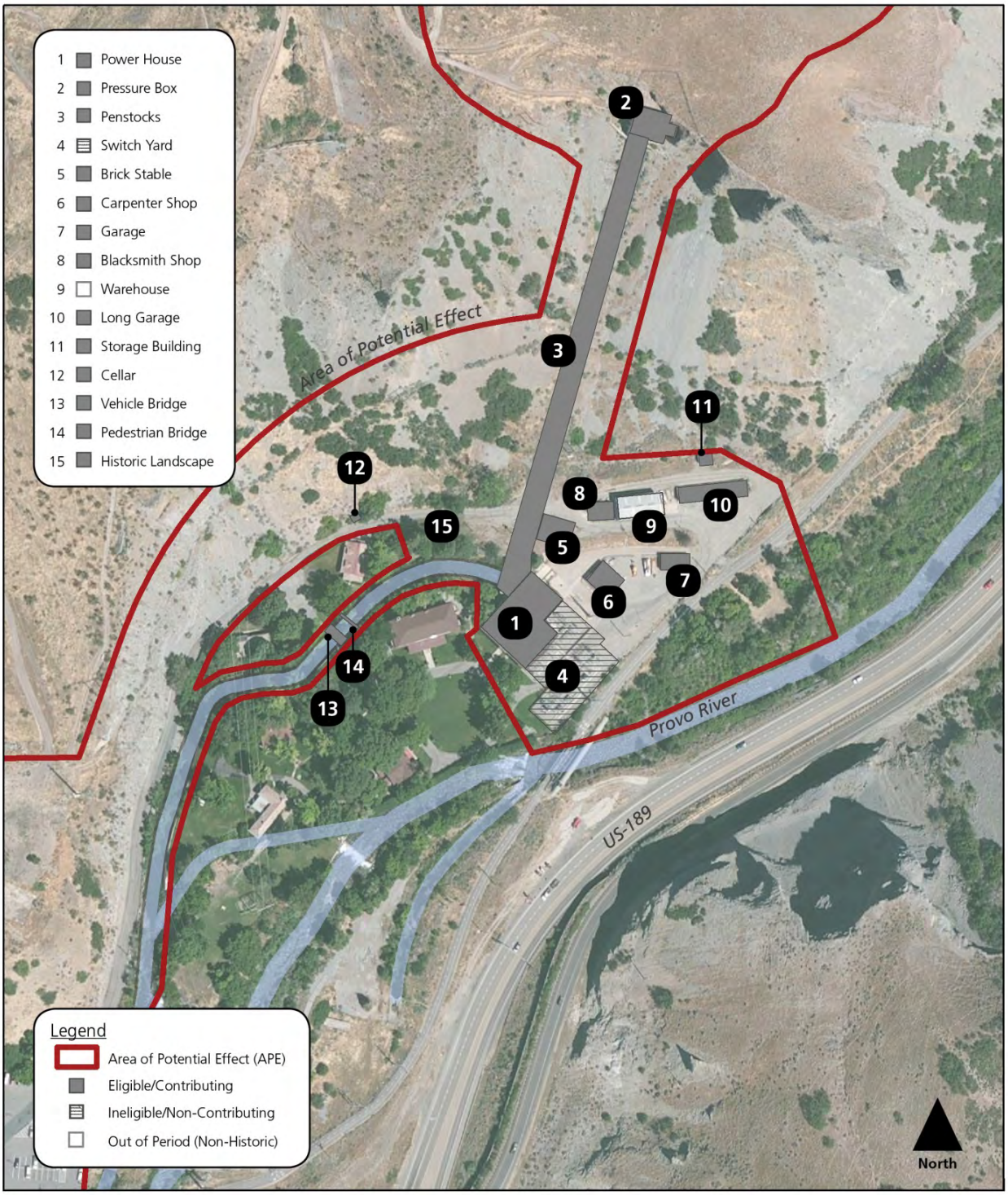


Figure 3-4 Structures and Elements Recorded in the Reconnaissance Level Survey

Table 3-3 Structures in the Study Area

ID	Structure	Description	NRHP Eligibility
1	Power House	Concrete structure with brick veneer constructed in 1904. A 1917 addition on the northwest corner is also concrete construction. This building houses the 4 hydroelectric generators and other appurtenances required for hydroelectric power generation.	National Register listed
2	Pressure Box	Constructed in 1917, the Pressure Box sits visibly on the hillside above the Power House. The steel frame structure is covered with corrugated metal and is constructed on a large concrete foundation. The gabled roof is also covered with corrugated metal.	Eligible
3	Penstocks	Four riveted steel pipes approximately 350 feet long connecting the Pressure Box to the Power House. The three 48-inch penstocks were constructed in conjunction with the Power House in 1904 with the fourth, 72-inch penstock being added in 1917.	Eligible
4	Switchyard	The switchyard—located in the area south of the Power House with electrical transmission equipment—was originally constructed in 1904 with improvements and additions occurring in 1980. The original equipment has been replaced.	Ineligible
5	Brick Stable	Arts and Crafts style brick stable with hay loft constructed in 1904. The hipped, wood-shingled roof has two large dormers.	Eligible
6	Carpenter Shop	Constructed in 1904, this brick workshop-type building exhibits both Victorian Eclectic and Bungalow styles.	Eligible
7	Garage	Brick garage with Victorian Eclectic and Bungalow style elements built in 1904. Hipped roof is covered with corrugated metal. Alteration from historic period.	Eligible
8	Blacksmith Shop	Wood frame structure covered with clapboard siding. Damaged gable roof covered with corrugated metal. Constructed in 1917.	Eligible
9	Warehouse	Kirby Systems prefabricated steel structure constructed circa 1980.	Out-of-period (constructed outside of historic period)
10	Long Garage	Long shed-type structure with wood ram construction covered with corrugated metal. The Long Garage was constructed around 1940.	Eligible
11	Storage Building	Concrete block shed with a corrugated metal shed roof. Constructed in 1968.	Eligible
12	Cellar	Cellar built (circa 1904) into the hillside north of the main access road. Front faced with slab lumber.	Eligible
13	Vehicle Bridge	Steel outrigger-type bridge over the tailrace. The vehicle bridge was constructed circa 1950.	Eligible
14	Pedestrian Bridge	The Pedestrian Bridge was constructed around 1910 and is a steel outrigger-type bridge over the tailrace.	Eligible
15	Historic Landscape	Various trees, shrubs, and lawn in a designed landscape which contribute to the historic look and feel of the property. The historic landscape has been part of the Olmsted campus since 1904.	Eligible

Cultural Resources

A Class I Cultural records search and a Class III Cultural Resources Survey was conducted within the APE. Seven archaeological resources were found within the APE (see Figure 3-5).

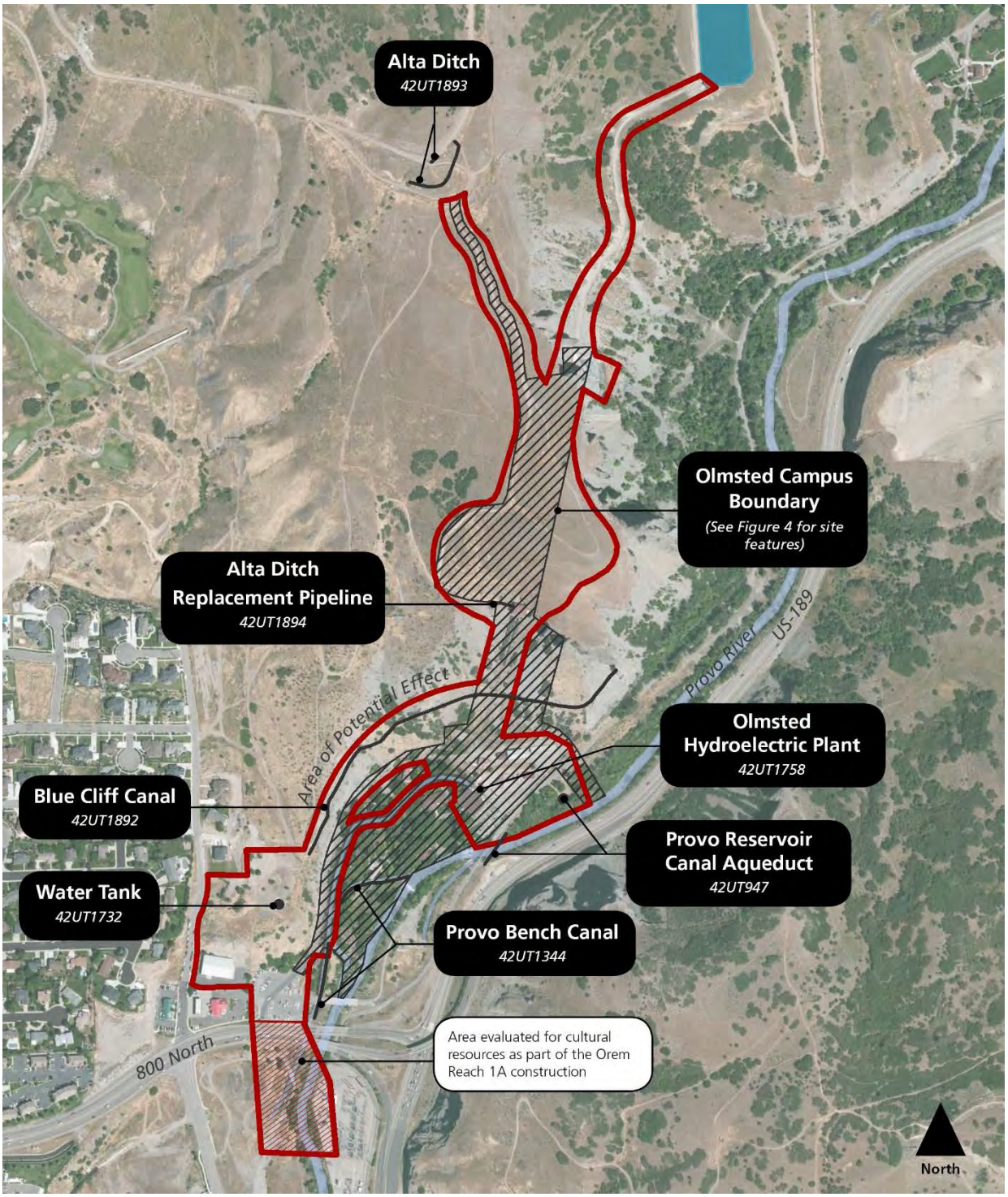


Figure 3-5 Olmsted Campus Boundary (see Figure 3-6 for Site Features)

Additionally, a portion of the proposed power transmission line would extend outside of the APE. This area was evaluated for cultural resources as part of the Orem Reach 1A construction. According to the evaluation, the only cultural site that was found within the small area that extends outside of the APE was the Provo Bench Canal (42UT1344). A brief description of cultural sites and their NRHP eligibility are indicated in Table 3-4 below.

Table 3-4 Cultural Resources within Study Area

ID	Name	Description	NRHP Eligibility
42UT947	Provo River Aqueduct	Also known as the Provo Reservoir Canal or Murdock Canal; it was recently renamed as the Provo River Aqueduct. This canal carries water from the Provo River upstream of the Olmsted Campus.	Not Eligible
42UT1344*	Provo Bench Canal	This historic canal originates near the southern boundary of the Olmsted Campus. The canal was constructed in 1863-1864 to provide irrigation water to the Provo Bench area (now called Orem). It diverts and carries water from the Olmsted tailrace channel. A total of eight features were recorded as contributing to the canal including diversion structures, pedestrian bridges, canal channel, and headgates.	Eligible
42UT1732*	Water Tank	This previously recorded site was a concrete water tank located to the west and above the Olmsted Campus. The site was replaced with a fallout shelter.	Not Eligible
42UT1758*	Olmsted Hydroelectric Plant	See discussion in Table 3-3	National Register listed
42UT1892**	Blue Cliff Canal	Historic canal constructed in 1885 and located north and above the Olmsted Campus. The ditch was replaced with an Orem City Pipeline.	Not Eligible
42UT1893**	Alta Ditch	Historic ditch constructed in 1875 and is located north and above the Olmsted campus near the access road to the pressure box.	Not Eligible
42UT1894**	Alta Ditch Replacement Pipeline	Pipeline constructed in the late 1950s.	Not Eligible

*Previously recorded sites

**New sites recorded as part of this survey

The archaeologist also recorded several features that contribute to the character of the Olmsted Campus (see Table 3-5).

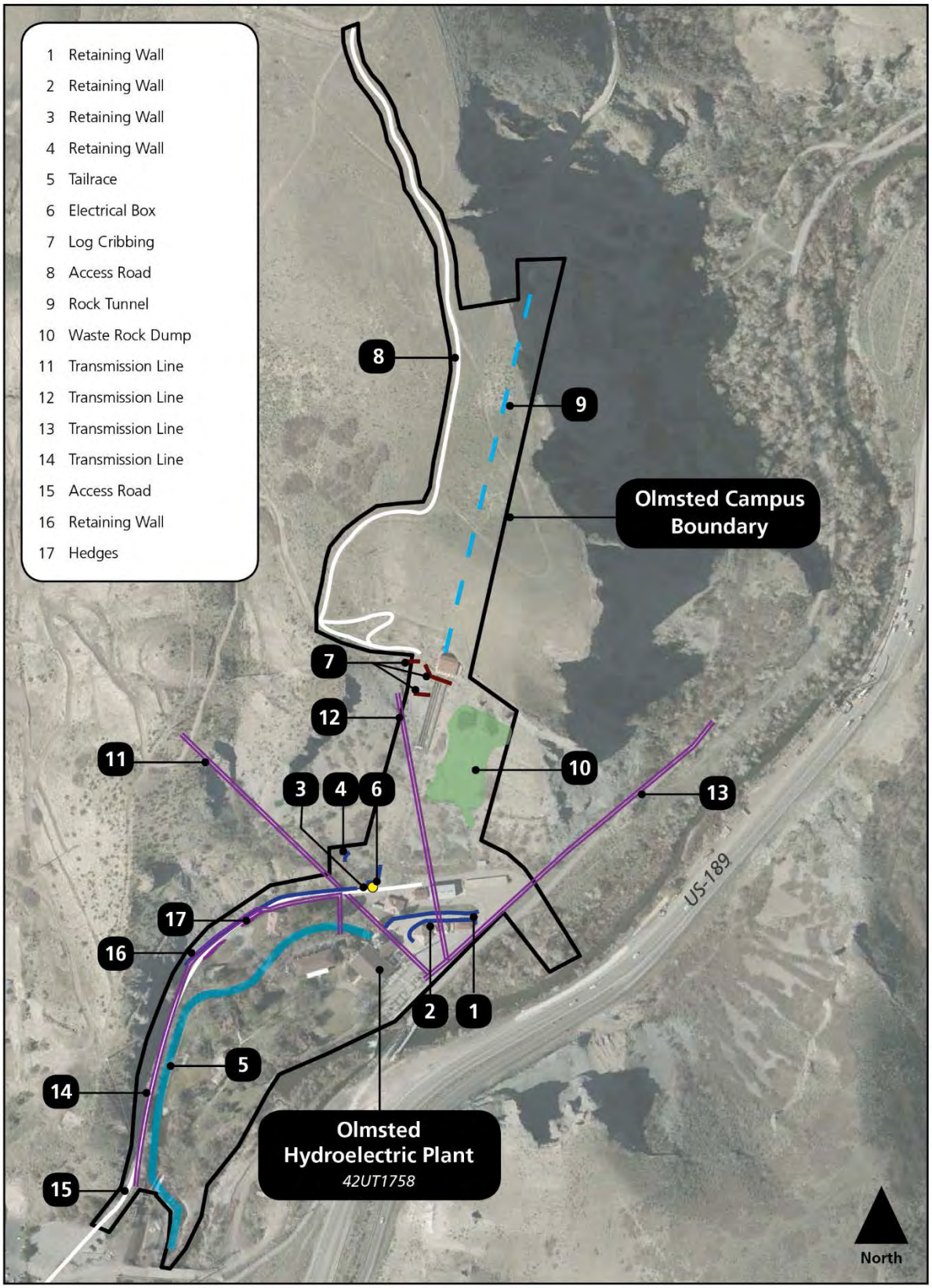


Figure 3-6 Olmsted Campus Features associated with Olmsted Hydroelectric Plant

Table 3-5 Olmsted Campus Features within the APE (recorded as part of the Archaeological Resources Report)

Feature No.	Name	Description
1	Retaining Wall	Fieldstone and mortared retaining wall approximately 262 feet long with a height ranging between at-grade and 5 ½ feet. Includes two staircases.
2	Retaining Wall	Fieldstone and mortared retaining wall approximately 135 feet long with a height ranging between at-grade and 2 feet.
3	Retaining Wall	Fieldstone and mortared retaining wall approximately 130 feet long with a height ranging between at-grade and 5 ½ feet. Runs along part of the Olmsted access road.
4	Retaining Wall	Fieldstone and mortared retaining wall approximately 50 feet long with a height of approximately 2 feet.
5	Tailrace	Olmsted power house tailrace extends from the generation building to the Provo River paralleling the access road. It is constructed with mortared stone. The tailrace is approximately 1,300 feet long, 23 feet wide, and varies between 8 and 16 feet deep.
6	Electrical Box	Concrete electrical box measuring 36 inches wide, 30 inches long, by 34 inches tall.
7	Log Cribbing	Located on the slopes above the power house and just below the pressure box.
8	Access Road to the Pressure Box	This road provides access to the pressure box. It measures approximately 2,800 feet long.
9	Rock Tunnel	Noted as a stone tunnel in the report. The rock tunnel is approximately 950 feet long extending from the Olmsted flowline to the pressure box.
10	Waste Rock Dump	Located to the east of the penstocks, this rock was removed from the tunnel during construction.
11	Transmission Line	Known as the Olmsted-Lehi-Jordan Narrows electrical transmission line.
12	Transmission Line	Known as the Olmsted-Geneva electrical transmission line.
13	Transmission Line	Known as the Olmsted-Park City electrical transmission line.
14	Transmission Line	Local electrical distribution line provides power to the Olmsted Campus.
15	Access Road	Former county road now used as access into the Olmsted campus.
16	Retaining Wall	Dry-laid stone retaining wall along the uphill side of the access road. The wall measures approximately three feet tall.
17	Hedges	Line the access road – in places along both sides.

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 historic properties affected" is used in three instances: (1) No cultural resources are present in the Area of Potential Effect (APE), eligible or ineligible; (2) cultural resources are present in the APE, but no eligible properties are present; and (3) eligible properties are present in the APE, but the undertaking will have no effect on them.

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. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (See 36 CFR §800.5(a)(1)).

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 Joint Lead Agencies and was submitted for concurrence by the State Historic Preservation Office (SHPO). The Joint Lead Agencies determined that the Proposed Action would have an Adverse Effect on the historic campus and SHPO concurred with that determination in a letter dated July 14, 2014.

Proposed Action Alternative

The following tables detail the impacts the Proposed Action would have to historic structures and cultural resources (those eligible for the NRHP) within the study area.

Table 3-6 Impacts to Historic Structures Eligible for the NRHP within the APE

ID	Structure	Effect
1	Power House	**No Adverse Effect** A portion of the existing gantry crane rails located outside of the power house would require removal. However, the building would remain intact.
2	Pressure Box	**Adverse Effect** The Proposed Action would require the removal of the pressure box.
3	Penstocks	**Adverse Effect** The Proposed Action would require the removal of the four penstocks. The proposed penstock would be buried along the same alignment as the existing penstocks, requiring their removal.
5	Brick Stable	**Adverse Effect** The Proposed Action would require the removal of the brick stable building. This building is located within the footprint of the proposed power house.
6	Carpenter Shop	**Adverse Effect** The Proposed Action would require the removal of the carpenter shop. This structure needs to be removed in order to provide construction staging for the proposed power house.

ID	Structure	Effect
7	Garage	**Adverse Effect** The Proposed Action would require the removal of the garage. This structure needs to be removed in order to provide construction staging for the proposed power house.
8	Blacksmith Shop	**Adverse Effect** The Proposed Action would require the removal of the blacksmith shop. To provide access during and after construction this structure requires removal.
10	Long Garage	**Adverse Effect** The Proposed Action would require the removal of the long garage. This structure needs to be removed in order to provide construction staging for the proposed power house.
11	Storage Building	**Adverse Effect** The Proposed Action would require the removal of the storage building. This structure needs to be removed in order to provide construction staging for the proposed power house.
12	Cellar	**No Effect** The Proposed Action would avoid the structure.
13	Vehicle Bridge	**No Effect** The Proposed Action would avoid the structure.
14	Pedestrian Bridge	**No Effect** The Proposed Action would avoid the structure.
15	Historic Landscape	**Adverse Effect** The Proposed Action would impact the original, designed landscape of the Olmsted Campus requiring an alteration of the access road and several retaining walls. These features were part of the original landscape.

Table 3-7 Impacts to Cultural Resources Eligible for the NRHP within the APE

ID	Name	Effect Determination
42UT1334	Provo Bench Canal	**No Effect** The Proposed Action would avoid the site. The proposed power transmission line would span the Provo Bench Canal, and would have no impact to this cultural resource.
42UT1758	Olmsted Hydroelectric Plant (Powerhouse)	**No Adverse Effect** The structure would be impacted by construction, but impacts would not affect the structure's eligibility for the National Register.

Table 3-8 Impacts to the Olmsted Campus Features within the APE (recorded as part of the Archaeological Resources Report)

Feature No.	Name	Effect Determination
1	Retaining Wall	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
2	Retaining Wall	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
3	Retaining Wall	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.

Feature No.	Name	Effect Determination
4	Retaining Wall	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
5	Tailrace	**No Adverse Effect** Less than 100 feet of the tailrace would be impacted by the construction of the proposed power house.
6	Electrical Box	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
7	Log Cribbing	**Adverse Effect** The construction of the penstock and proposed power house would impact this feature.
8	Access Road to the Pressure Box	**No Adverse Effect** The access road would be improved for construction, but would retain historic integrity and be in the same location.
9	Rock Tunnel	**Adverse Effect** A 96” steel lining would be placed within the rock tunnel and the voids between the lining and rock would be filled with concrete.
10	Waste Rock Dump	**No Adverse Effect** A small portion of the waste rock dump may be impacted for the construction of the penstock and removal of the pressure box.
11	Transmission Line	**No Adverse Effect** This power line and poles may be relocated but would retain historic integrity.
12	Transmission Line	**No Adverse Effect** The portion of this transmission line between the pressure box and the power house would be removed. The remainder of the transmission line would remain with some modifications.
13	Transmission Line	**No Adverse Effect** This power line and poles may be relocated but would retain historic integrity.
14	Transmission Line	**No Adverse Effect** This power line and poles may be relocated but would retain historic integrity.
15	Access Road	**Adverse Effect** This access road would require minor improvements and upgrades. Approximately 200 feet of the access road would require relocation because of the proposed power house.
16	Retaining Wall	**Adverse Effect** This retaining wall would remain intact except where the access road would be relocated.
17	Hedges	**No Effect** The hedges would not be impacted.

No-Action Alternative

Under the No-action Alternative, the District would discontinue operation of the Power Plant and on-site facilities. Because these structures would not be used and maintained on a regular basis, they would most likely fall into greater disrepair than under the Proposed Action Alternative.

Mitigation

During the public scoping process a few comments were received regarding the historic nature of the Olmsted Hydroelectric Power Plant. One commenter would like to see the creation of a museum that would describe the history of power generation in Utah County. Another commenter would like an effort to be made to preserve the historic powerhouse and trees.

A Memorandum of Agreement (MOA) has been agreed upon and executed by the District, the Interior, and the Utah State Historic Preservation Officer (see Appendix A). Mitigation measures outlined in the MOA include:

- Data recovery
- Intermountain Antiquities Computer System (IMACS) site forms
- Intensive Level Surveys (ILSs)
- Virtual rendering of historic structures
- Structural improvements to the existing Olmsted powerhouse
- Commitment to preserving the historic integrity of the existing Olmsted powerhouse
- National Register of Historic Places nomination amendment
- Aesthetic treatments of the proposed powerhouse
- Discovery procedures

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, an archaeologist would be on-call 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. The 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. Under this policy, as well as the Bureau of Reclamation's ITA policy, the Bureau of Reclamation is 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.

Trust assets 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 is considered to have an adverse impact to the resources.

Indian Trust Asset Status

The Interior sent letters 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 Northwestern Band of Shoshoni Nation of Utah, the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, 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 Economics

Affected Environment

Of the amount of water that makes up the Bonneville Unit municipal and industrial (M&I) system, approximately 65% comes from the power rights associated with the Olmsted Hydroelectric Power Plant. This system supplies water to over one million people in Salt Lake, Utah, and Wasatch Counties. The water that comes from the water rights associated with the Power Plant is a reliable source of M&I water for Salt Lake, Utah, and Wasatch Counties, and is very important to the economies of these counties.

Environmental Effects

Proposed Action Alternative

Under the Proposed Action, the water rights associated with the Olmsted Hydroelectric Power Plant would not be affected, and Salt Lake, Utah, and Wasatch Counties would continue to receive water deliveries. There would be no impact to the economies of these counties as a result of the Proposed Action.

The District does not anticipate hiring additional permanent staff to operate or maintain the new hydropower facility. There would be short-term employment and spending on goods, services, and materials during the construction period with an overall increase in the level of income in the County during the construction phase. This would benefit local communities and businesses, as well as increase taxes collected on these purchases.

No-Action Alternative

Under the No-action Alternative, the District would discontinue operation of the Power Plant, greatly reducing the Bonneville Unit water supply. On average, over 65,000 acre-feet of water would be lost per year, corresponding to over $13 Million in lost annual revenue for the District; however the economic loss as a result of diminished water supplies to Salt Lake, Utah, and Wasatch Counties would be much greater and would negatively affect the economies of these counties.

3.14 Visual Resources

This section describes the existing visual resources within the study area and the potential impacts as a result of the Proposed Action.

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 include historical structures and site features, established vegetation and landscapes, and cultural landmarks. 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 project area include those adjacent to the study area (workers and recreationists) and those traveling near the study area (motorists on adjacent roadways).

Visual Conditions of the Study Area

Views from the Roadway

The Olmsted Campus is located at the mouth of Provo Canyon on the west side of the Provo River and the major highway between Utah Valley and Heber Valley, US-189.

Olmsted Campus at the mouth of Provo Canyon

The 7-acre campus sits up against the mountainside to the north, has mature vegetation, and sits far enough below the roadway that the majority of the historic campus—with the exception of the Pressure Box—is not visible to viewers traveling on US-189.

The Pressure Box sits 350 feet above the campus and is highly visible to viewers approaching Provo Canyon from both Orem (800 North) and Provo (University Avenue/US-189). The Pressure Box is made of concrete and metal and sits on a rocky, south-facing slope that has little noticeable vegetation making

the structure and the associated penstocks that run down the hillside highly visible. Because the Pressure Box has been noticeable since its construction in 1917, it serves as a local landmark in Utah Valley and marks the gateway to Provo Canyon. Additionally, the Pressure Box has become more noticeable over the last several years as it has served as the backdrop to an electrically-lit star which is displayed annually during the holiday season (from Thanksgiving to New Year's Day). During the public scoping process, a comment was received explaining that the star has become a Christmas tradition.

Views of the Pressure Box traveling North on University Avenue/US-189 (Provo)

First View of the Pressure Box

View of Pressure Box just prior to entering Provo Canyon

Views of the Pressure Box traveling East on 800 North (Orem)

First View of the Pressure Box

View of the Pressure Box just prior to entering Provo Canyon

Other elements of the hydroelectric generation system are visible to viewers from the roadway, including an existing pipeline (Reach A Pipeline), which extends from the 10 MG Reservoir to the existing spillway structure, and the inlet of the rock tunnel. This 102-inch diameter pipeline was constructed in the 1950's. It was later anchored to the cliff and encased with reinforced concrete in 2002. The pipeline

encasement was carefully designed and constructed to blend into the existing rock face of the mountain side, but still remains an architectural element that can be seen as one travels Provo Canyon.

A cliff spill structure exists in conjunction with the pipeline, just prior to the rock tunnel. When the generators at the Power Plant are offline, the unused water cascades down the rock slope into the Provo River. During these spill events, the water exiting through the spillway provides a temporary "waterfall" that is highly noticeable.

View of the Encased Pipeline with Spillway from US-189

View of a Spill Event (from above)

Views from the Provo River Parkway Trail

Although not visible from the road, the Olmsted campus is visible to Provo River Parkway Trail users. Because users of this trail are moving at slower speeds, they have opportunities to view the historic architectural elements and mature vegetation of the campus in greater detail than vehicles do from the road.

View of Olmsted Power House and Auxiliary Buildings from the Provo River Parkway Trail

View into the Olmsted Campus from the Provo River Parkway Trail

View of the pressure box from the Provo River Parkway Trail

The encased pipeline and spillway are less visible to users of the Trail, due to the viewers' proximity to these elements and the fact that they are not at the viewer's eye height. That said, interpretive signage located along the Trail point out and provide information on these elements. Users of the Trail who stop at these interpretive signs can view these elements.

View of the Pipeline Encasement and Spillway from the Provo River Parkway Trail

Interpretive Signage for the Pipeline Encasement and Spillway

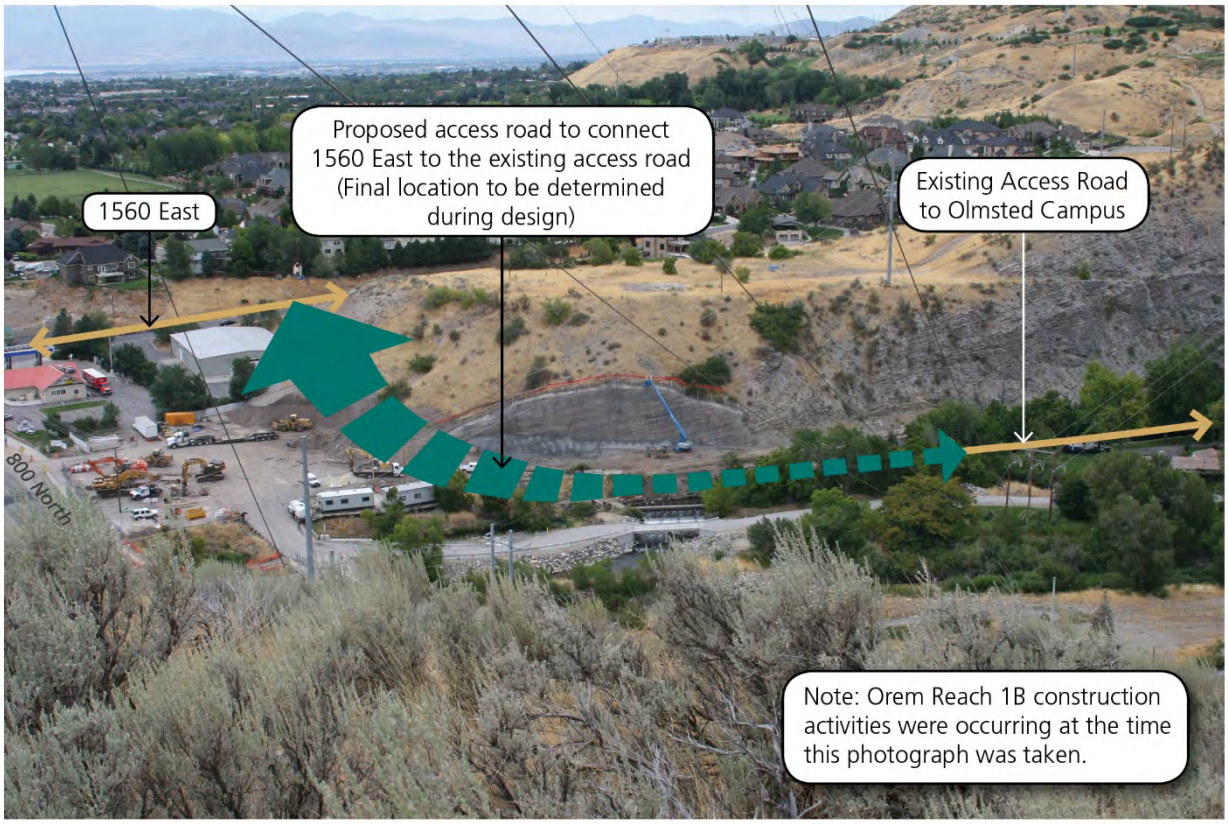
The 10 MG reservoir has minimal visibility from the US-189 or the Provo River Parkway Trail.

View of 10 MG Reservoir from US-189

Environmental Effects

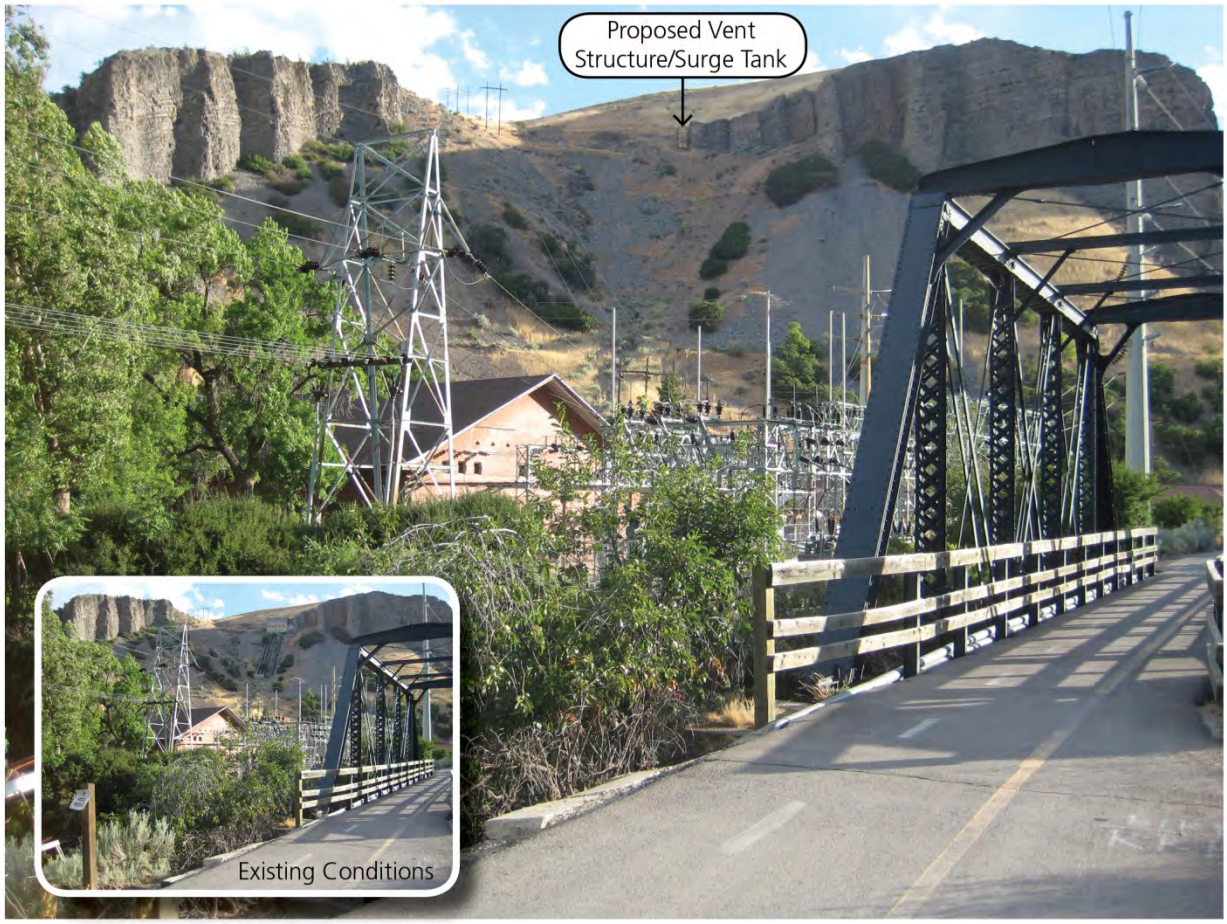
Proposed Action Alternative

The new access road from 1560 East would require excavation of the hillside southwest of the Olmsted campus. The access road would most likely be 24-ft wide and would require a retaining wall or alteration (laying back) of the existing slope. These alterations would change the visual character of the area—which is primarily a naturally vegetated hillside. However, the Orem Reach 1B Project, which is currently under construction, includes elements (soil nail wall, new structure, etc.) which are altering the hillside and, thereby, the overall visual character of the area. Once completed, the excavation and/or structure necessary for the proposed access road would have less of an impact to the visual character. The proposed access road would change the visual character of the existing area for travelers coming both up and down Provo Canyon, as well as for nearby neighbors and businesses.



View of Proposed Access Road Area (Photo taken from hillside on the east side of US-189)

The Pressure Box, associated power lines, and Penstocks would be removed as part of the Proposed Action Alternative. A new vent structure/surge tank—to provide air venting during the filling and draining of the rock tunnel and penstock—would be located at roughly the same location as the existing pressure box. The vent structure/surge tank would consist of a 96” diameter pipe that would either be buried or encased in reinforced concrete that would sit approximately 20 feet above the ground. The concrete encasement would be colored and textured to blend into the natural face of the cliff.



Proposed Action View of Slope above the Olmsted Campus

A new, 84-inch penstock would be buried (minimum of 3.5 feet of cover) in the same location as the existing penstocks. It is likely that the hillside was originally excavated to build the existing penstocks and burying the new penstock would restore the hillside to conditions similar to those prior to their construction. Restoration efforts to the hillside would also include slope stabilization and revegetation.

Because the pressure box and the penstocks were constructed nearly 100 years ago, their removal would change the visual character of the area. To some viewers—despite their current, dilapidated condition—the pressure box and penstocks serve as a long-standing landmark, have cultural importance (star), and their removal would be considered a negative visual impact. However, other viewers consider the structures an “eye sore” and would consider their removal a visual improvement.

The removal of six historic structures in order to accommodate a new power house would also change the visual setting of the historic campus. These six buildings include the stable, carpenter shop, garage, blacksmith shop, long garage, and storage building (see Section 3.11 Cultural Resources).

The new powerhouse would be located just north of the existing structure and would be a two-level cast-in-place concrete structure with a metal roof. The structure would be approximately 45 feet tall. Details of the exterior architectural treatments have yet to be determined, but would likely include features that facilitate the structure blending in with the existing architectural elements. Even with these architectural treatments, the proposed powerhouse would look different from the other structures on the Olmsted Campus. Contemporary building materials and construction practices vary greatly from those of the early 1900's and a new structure would change the visual character of the campus.

Because this area is not highly visible from the road, the changes to historic structures and the addition of a new structure would not impact the visual character of the area for viewers using US-189. These changes would, however, change the visual character area and would be highly noticeable to the users of the Provo River Parkway Trail.

Spillway modifications would include raising the spillway structure approximately 25 feet. The structure would be located near the current location and, similar to the surge tank, would be encased in colored, textured concrete to match the surrounding hillside. The spillway structure would also be tucked into the cliff face to reduce visibility and would have minimal impact to the visual character of the area. These improvements would reduce the emergency spills from the spillway and, therefore, the periodic/seasonal man-made waterfall would occur less often.

The proposed power transmission line would be constructed above ground in some areas; however there would be no change in visual character since there are already several above ground power lines within the study area.

No-Action Alternative

The No-action Alternative would not change the visual conditions of the study area.

Mitigation

Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

See Section 3.11 Cultural Resources for efforts to mitigate impacts to historic structures.

3.15 Recreation

Affected Environment

The mouth of Provo Canyon is home to a network of both paved and unpaved recreational trails (see Figure 3-7). Two major trails run through the study area: the Provo River Parkway Trail and the Bonneville Shoreline Trail. These trails serve as access ways to a network of city and county-owned parks in Provo Canyon and to the Timpanogos State Wildlife Area—within the Uinta National Forest, respectively. Two major trailheads in the area connect recreational users to these major trails—the Provo River and Orem Trailheads.

Provo River Parkway Trail

The Provo River Parkway Trail, a 15-mile trail that runs from Utah Lake and terminates in Vivian Park in Provo Canyon, connects several county and city parks and provides recreational opportunities for a variety of users, including walkers, runners, cyclists, rollerbladers, and long boarders. Through the Power Plant area, the Provo River Parkway Trail crosses from the east side of Provo River, over a bridge, and then runs along the west side of the river.

The Bonneville Shoreline Trail

The Bonneville Shoreline Trail (BST) follows the bench of the ancient Bonneville Lake along the mountain ranges of Utah. Segments of this trail, which will one day stretch from the Idaho border to Nephi, have been developed and are currently being used throughout northern Utah. The Orem Trailhead serves as an access point to not only the Bonneville Shoreline Trail and its intersecting trails, but also the Orem Bench Trail which heads north from the Trailhead. The Orem Trailhead is a small trailhead (small parking lot and restroom) located behind the City of Orem's water tanks and is accessed via Cascade Drive in Orem. The Bonneville Shoreline Trail heads north and east from the Trailhead and the portion that heads east acts as a connector to a network of intersecting trails just north of and above the 10 MG Reservoir and the Great Western Trail (a system of motorized and non-motorized trails that covers over 4,000 miles of trails throughout Arizona, Utah, Idaho, Wyoming and Montana). From the Orem Trailhead, the Bonneville Shoreline Trail is a 10 to 12-ft access road which is the primary route for maintenance vehicles to access the Pressure Box. To minimize unauthorized traffic, the trail/road is gated and locked.

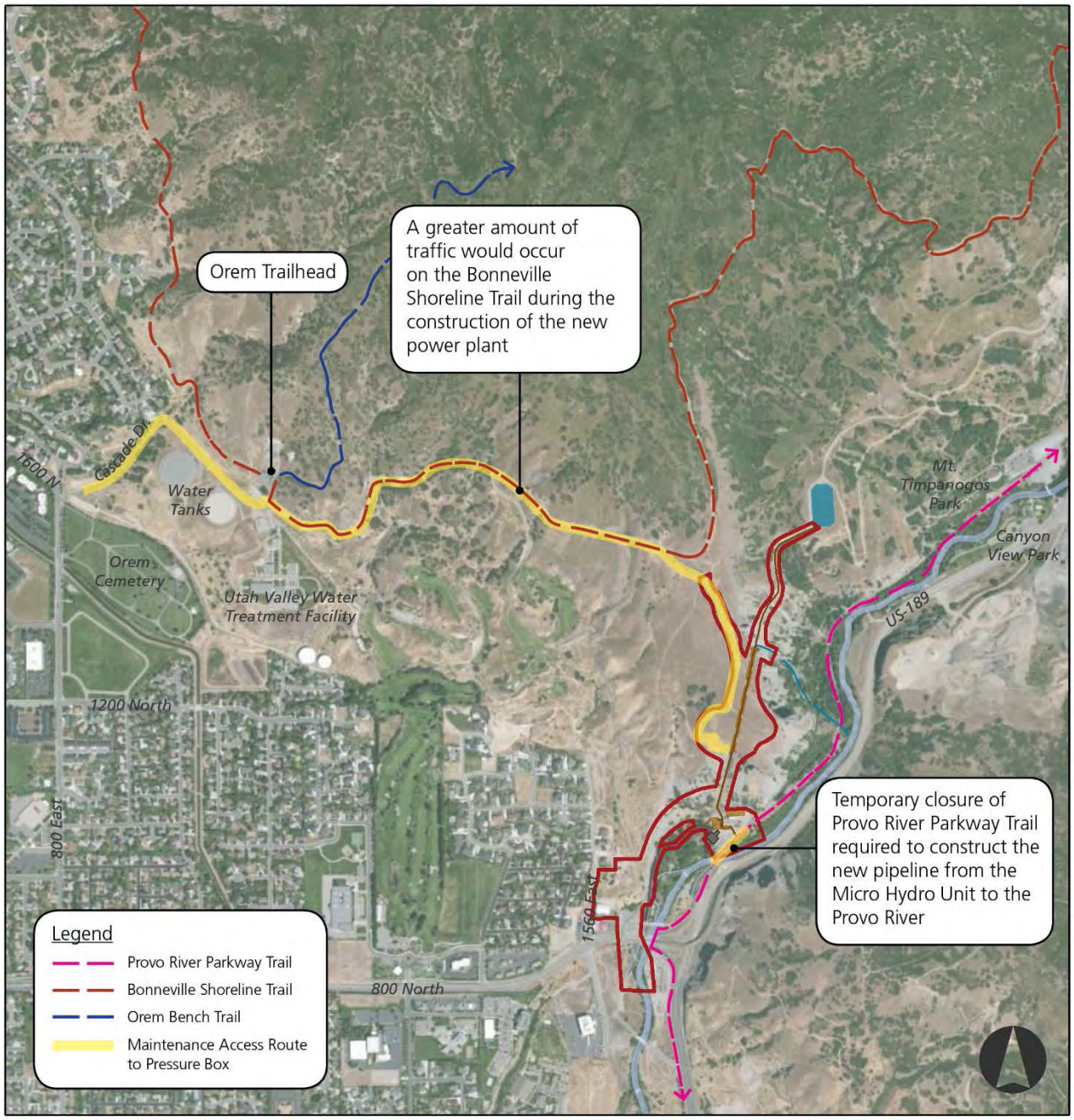


Figure 3-7 Recreation Trails in the Study Area

Environmental Effects

Proposed Action Alternative

Provo River Parkway Trail

The Provo River Parkway Trail would need to be temporarily closed for approximately 30 days during the installation of a 24” pipe that runs from the micro hydro unit down the trail to the Provo River. Additionally, trail users would also experience construction noise (see Section 3.16 Noise and Vibration) during the construction of the Proposed Action Alternative.

Bonneville Shoreline Trail

The demolition and removal of the Pressure Box would most likely require access to the upper portions of the site. Additionally, improvements to the spillway and the construction of the new penstock would also require access from above. During demolition and construction, construction traffic would occur on the maintenance road which also serves as the Bonneville Shoreline Trail. Trail users would encounter increased, construction-related traffic in an area that typically only experiences occasional traffic. An increase in traffic during construction would also occur on Cascade Drive, the road that accesses the Orem Trailhead parking lot.

No-Action Alternative

The No-action Alternative would have no impact on the existing recreational trails in the study area because it would not construct facilities that would impact trails or trail users.

Mitigation

To prevent trail user and construction traffic conflicts, informational signage would be installed to inform trail users of construction traffic on the Bonneville Shoreline Trail. The closure of the Provo River Parkway Trail would be limited to a short duration—approximately 30 days. The District would coordinate the closure of both trails with local, city and county agencies and race/event organizers and coordinators.

3.16 Noise and Vibration

The Environmental Protection Agency 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. A decibel (dB) is the unit of measurement used for evaluating the loudness associated with sound. For ease of reference while measuring noise levels, an adjusted dB scale is used to account for both volume and frequency. This scale is referred to as the A-weighted decibel scale and provides a single number to account for what the human ear actually perceives. The unit of measurement is designated as dBA. As a reference, the smallest change in noise level that a human ear can perceive is approximately 3 dBA. A 10 dBA increase is perceived by most people as a doubling of sound level. Figure 3-8 shows the sound level (in dBA) of common sounds.

Figure 3-8 Sound Levels (in dBA) of Common Sounds (compiled from Federal Transit Administration and Environmental Protection Agency Data)

Affected Environment

Noise levels were measured at two locations within the study area on July 29, 2014 to determine existing noise conditions (see Table 3-9 and Figure 3-9). These noise measurements were taken in areas where frequent human use occurs.

Site 1

Site 1 is located at the north northwest corner of the powerhouse, near the historic training center. The reading was taken near an open window and the dominant noise source at Site 1 is the noise associated with the turbines and generators within the existing powerhouse. A noise level of approxiamtely 68 dBA was measured.

Site 2

Site 2 is located on the Provo River Parkway Trail. The dominant noise source at Site 2 is automobile and truck traffic from US-189. A noise level of approximately 58 dBA was measured.

Environmental Effects

Proposed Action Alternative

Site 1

The Proposed Action would construct a new powerhouse directly north of the existing powerhouse. The new powerhouse would be similar in design to the Jordanelle Hydroelectric Power Plant. To determine Proposed Action noise levels at Site 1, a noise reading was taken at the Jordanelle Hydroelectric Power Plant. The noise reading was taken at approximately 130 feet from the Jordanelle powerhouse (the same distance as Site 1 would be to the proposed Olmsted powerhouse). A noise level of 65 dBA was measured at the Jordanelle Hydroelectric Power Plant; therefore, the estimated Proposed Action noise level would be approximately 65 dBA, a decrease of 3 dBA compared to existing noise levels.

Site 2

The dominant noise source at Site 2 (Provo River Parkway Trail) is automobile and truck traffic from US-89. This is not anticipated to change under the Proposed Action; therefore, noise levels at Site 2 are expected to be the same as existing conditions, or 58 dBA.

Table 3-9 Summary of Existing and Proposed Action Noise Levels

Site #	Location	Field Measurements (Existing)	Proposed Action Alternative (Estimated)
1	Northwest corner of the powerhouse	68 dBA	65 dBA
2	Provo River Parkway Trail	58 dBA	58 dBA

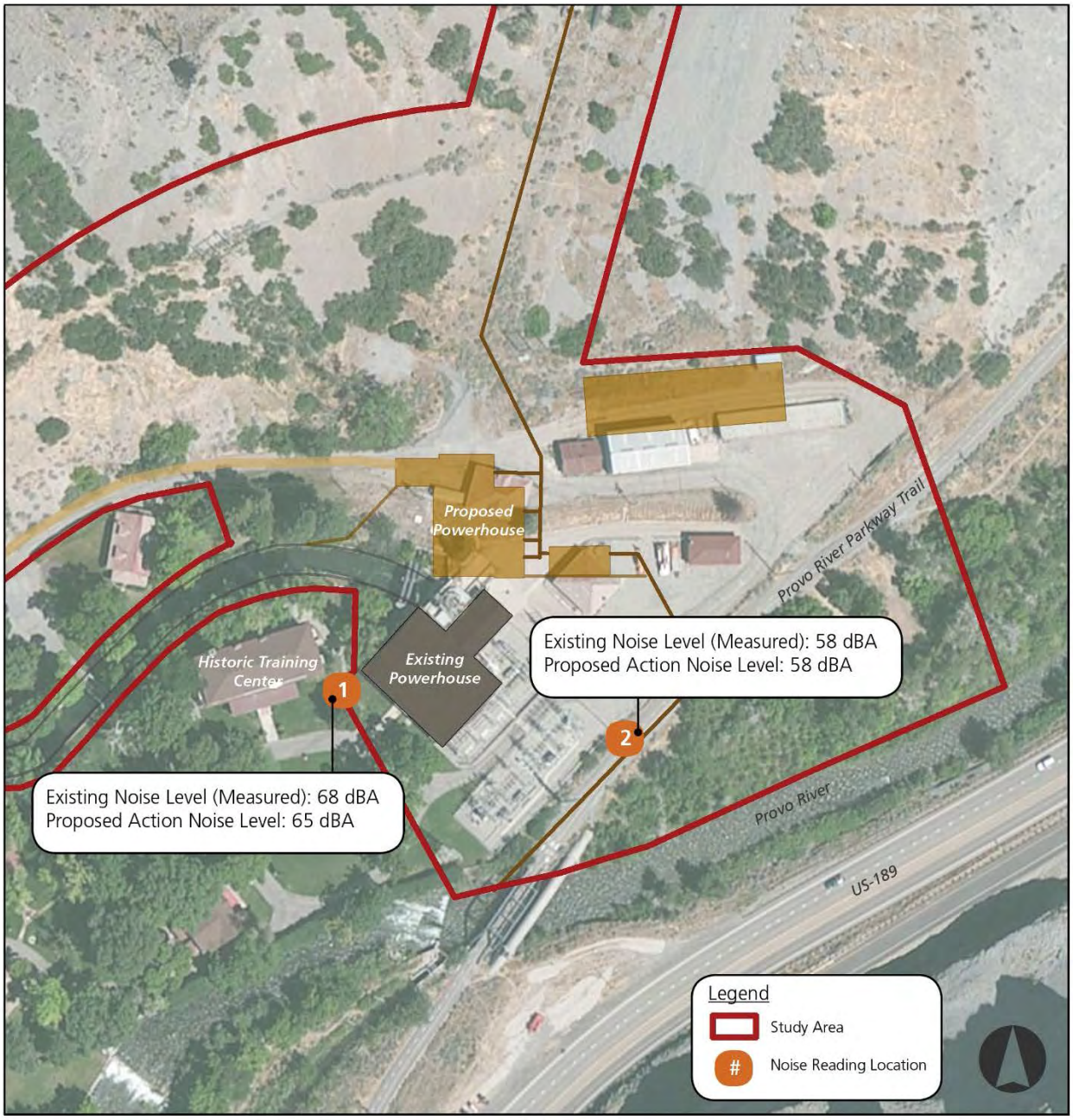


Figure 3-9 Noise Reading Locations

During construction of the Proposed Action residents and businesses adjacent to the construction area would experience temporary inconvenience due to construction noise. Extended disruption of normal activities is not anticipated, since no single area is expected to be exposed to construction noise of long duration.

Vibration would be generated during the construction of the Proposed Action Alternative and could be an inconvenience to nearby residents and businesses. However, the impacts would be temporary and

only occur during the construction phase of this project. The majority of construction vibration is a result of heavy equipment use.

No-Action Alternative

Under the No-action Alternative noise levels at Site 1 would decrease because the Power Plant would eventually cease operation. Noise levels at Site 2 would remain the same.

Mitigation

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

3.17 Transportation

Affected Environment

Major transportation facilities in the study area include 800 North in Orem and US-189. 800 North is an east-west arterial that begins at Geneva Road to the west, crosses I-15, and extends to US-189. US-189 is a highway that runs through Provo Canyon.

Current access to the Olmsted Hydroelectric Power Plant is through the Provo River Parkway Park and Ride Lot off of 800 North in Orem. Because the parking lot is located near the mouth of Provo Canyon, just prior to where the highway splits sending traffic north (Provo Canyon) or south (toward Provo City), site distance is limited and vehicles exiting the parking area/access road can only make a right-out movement (see Figure 3-10).

Environmental Effects

Proposed Action Alternative

The Proposed Action includes constructing a private access road from 1560 East in Orem to the Olmsted Hydroelectric Power Plant (constructing the access road would likely require the acquisition of property). Constructing an access road from 1560 East would improve the current traffic conditions over existing conditions for those who have permission to access the Olmsted property. The proposed access road would allow for egress in both directions on 800 North, rather than a right-out only configuration. The access road would have little to no impact to 800 North or US-189, or to transportation resources near the study area overall (see Figure 3-10) since it would be used primarily for access to the Olmsted Campus, which is restricted to authorized personnel. The access road would be gated (with access limited to authorized personnel), and have no public connection to the Provo River Parkway Park and Ride Lot.

Figure 3-10 Existing and Proposed Access

Construction traffic related to the Proposed Action would be small and would not cause delays on nearby roads; however, there would be temporary impacts to businesses and local residents as a result of construction traffic. Concrete and gravel materials would likely come from local sources and transportation of these materials would not cause delays on the local roads. Other materials would likely be delivered using 800 North in Orem, and this road can absorb the minimal amount of traffic without causing delays.

During construction of the proposed power transmission line across 800 North there would be short-term, construction-related impacts to travelers on 800 North, including travel delays.

No-Action Alternative

Under the No-action Alternative, the existing access to the Power Plant through the Provo River Parkway Park and Ride Lot would still need to be utilized, perpetuating the unsafe conditions associated with the limited site distance and the difficulties with the right-out only configuration on 800 North. The No-action Alternative would have no impacts to transportation near the study area since no change in access and construction would occur.

3.18 Energy

Affected Environment

The Olmsted Hydroelectric Power Plant is a clean, run-of-the river hydropower plant that currently produces an average of approximately 11,700 MWh of energy per year and was originally constructed with a capacity of 10 MW. The plant contains three 100 cfs units and a fourth 250 cfs unit. Only two of the 100 cfs units are operational and operate at 50% efficiency. The third unit is inoperable and is used for spare parts. The fourth 250 cfs generating unit that was last overhauled in 1980 operates at 70% efficiency.

Environmental Effects

Proposed Action Alternative

The Proposed Action would construct a new hydroelectric Power Plant that would produce an average of approximately 27,000 MWh of energy per year, an average increase of 15,300 MWh over the current plant. The new Power Plant would have a capacity of approximately 12 MW. The new Power Plant would produce more energy over the current plant because it would be more efficient (the new generating units are anticipated to operate at over 90% efficiency), operate with an additional 15 feet of head provided by the 10 million gallon (MG) Olmsted Flow Equalization Reservoir, and be capable of generating power at a lower flow range (down to 7 cfs) thereby increasing power generation (capacity and energy).

No-Action Alternative

Under the No-action Alternative, the District would eventually discontinue operation of the Power Plant, and energy production at the Power Plant would end. The 11,700 MWh of energy that would be lost as a result of discontinuing operations would need to be generated from other sources, including fossil fuels.

3.19 Hazardous Waste

Hazardous waste sites are regulated by the Resource Conservation and Recovery Act (RCRA); by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and by Utah Administrative Code Title 19, Environmental Quality Code.

Affected Environment

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 that have the potential for contamination in the proposed study area. These regulatory agency databases include the Utah Division of Environmental

Response and Remediation's (DERR) interactive maps and the EPA's EnviroMapper. Hazardous waste–related incidents and facilities were screened to identify sites with a higher probability for existing soil or groundwater contamination.

High Probability of Environmental Degradation. The following sites have a high probability of existing soil or groundwater contamination:

- Open LUST (leaking underground storage tank) sites (not yet remediated or closed)

Moderate Probability of Environmental Degradation. The following sites have a moderate probability of environmental degradation:

- Closed LUST sites
- Active UST (underground storage tank) sites

Low Probability of Environmental Degradation. The following sites have a low probability of environmental degradation:

- Removed and closed USTs
- Tier II Facilities (A Tier II facility is a facility that stores hazardous chemicals. The Emergency Planning and Community Right-to-Know Act (EPCRA)) requires Tier II Facilities to report on the storage, use, and releases of hazardous chemicals to federal, state, and local government.)

The following sites are located within a half mile of the study area. See Figure 3-11 for site locations.

Table 3-10 Hazardous Waste Sites within a Half Mile of the Study Area

Site #	Site Name	Probability of Environmental Degradation	Location	Database/Site Description
1	Will's Canyon Stop (1000453)	Moderate	1565 East 800 North, Orem	2 LUSTs (Removed/Closed) 4 USTs (Active)
2	Utah Power and Light Company (1000356)	Moderate	Hale Plant – 1600 East 800 North, Orem	2 LUSTs (Removed/Closed) 3 USTs (Removed/Closed)
3	Provo Canyon School Orem Campus (1000509)	Moderate	1350 East 750 North, Orem	1 LUST (Removed/Closed) 1 UST (Removed/Closed)
4	Olmsted Hydroelectric Plant (DERR ID 5349)	Low	1018 North 1630 East, Orem	Tier II Facility

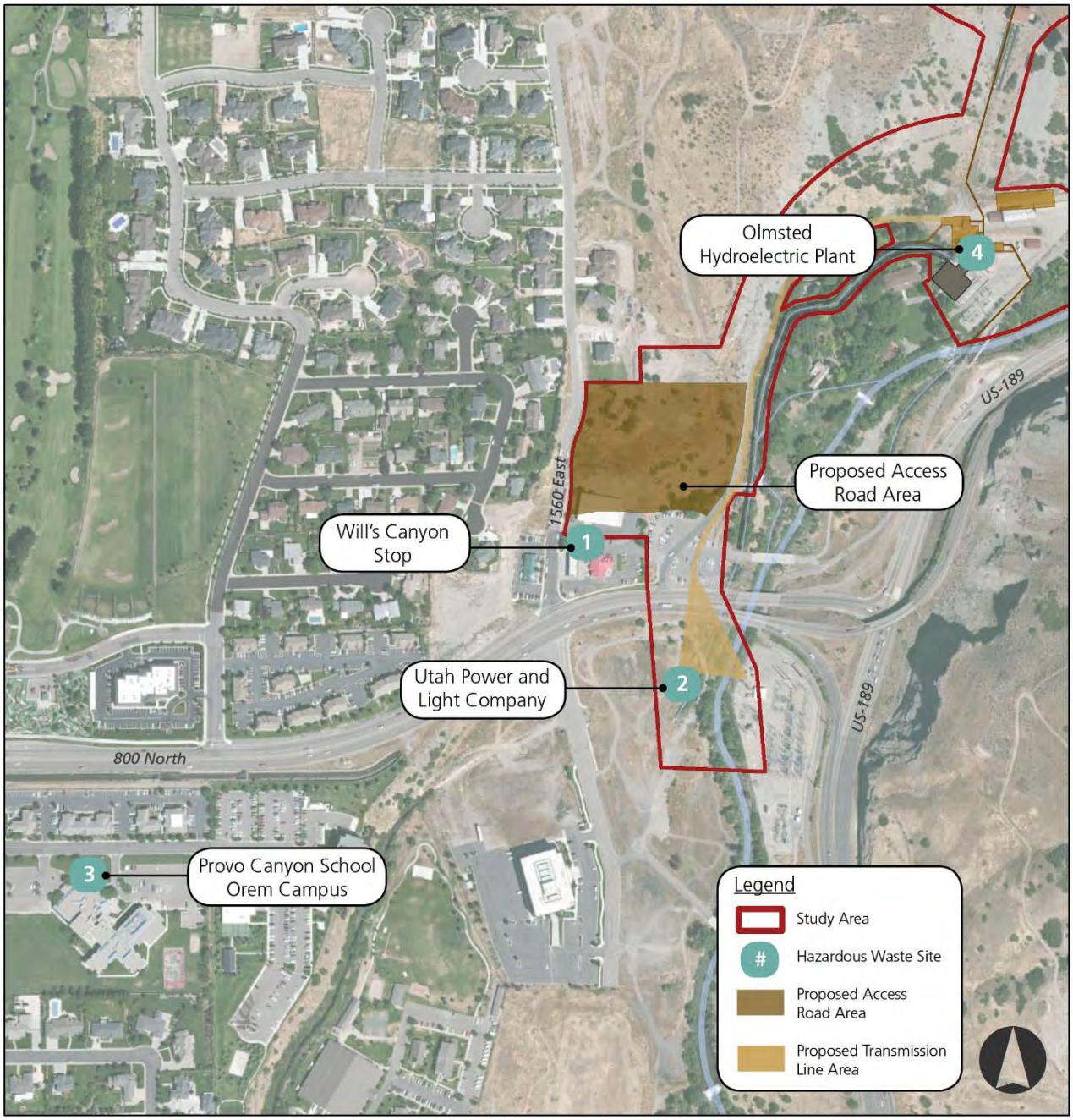


Figure 3-11 Hazardous Waste Sites

Environmental Effects

Proposed Action Alternative

The impact analysis reviewed known and potentially hazardous waste sites within a half mile of the study area. Two sites were identified that could be directly or indirectly impacted by the Proposed Action. These sites are discussed below.

Will's Canyon Stop (Site 1)

This site is an active gas station at 1565 East 800 North in Orem with USTs and 2 closed LUSTs. Petroleum could be present in the soil from previous and/or currently undetected fuel releases. The Proposed Action would construct an access road adjacent to this property (see Figure 3-11). Appropriate measures would be taken if construction disturbs this site; therefore, no impacts to workers or the environment would be expected.

Utah Power and Light Company (Site 2)

This site is the old Hale Plant located at 1600 East 800 North in Orem with 2 closed LUSTS and 3 closed USTs. Petroleum could be present in the soil from previous and/or currently undetected fuel releases. The Proposed Action would construct a power transmission line adjacent to this property. Appropriate measures would be taken in the handling and transfer of hazardous chemicals; therefore, no impacts to workers or the environment would be expected.

Olmsted Hydroelectric Plant (Site 4)

This site is the Olmsted Hydroelectric Power Plant. The Power Plant stores hazardous chemicals, including lubricating oil and batteries that are wet and filled with acid. The Proposed Action would construct a new Power Plant adjacent to the existing powerhouse. Appropriate measures would be taken in the handling and transfer of hazardous chemicals; therefore, no impacts to workers or the environment would be expected.

Construction activities have the potential to discover unknown hazardous materials. In addition, typical construction activities may involve the use of known hazardous chemicals or materials which must be disposed of in accordance with federal, state, and local regulations.

No-Action Alternative

No impacts to potentially hazardous waste sites would occur.

Mitigation

The District would follow Utah Hazardous Waste Management Regulations.

Hazardous materials (defined by 40 CFR 261.3; Federal Standard No. 313) used by the District or discovered during work would be disposed of in accordance with applicable federal, state, and local laws and regulations. Waste materials discovered at the construction site would be immediately reported to the appropriate officials.

3.20 Vegetation and Invasive Species

Affected Environment

Invasive Species and Noxious Weeds

Invasive species and noxious weeds were not identified with the study area at the time of review; however weedy species do exist and are common to the area. According to data provided from the Utah Automatic Geographic Reference Center just north of the study area there are areas where Dalmatian toadflax and Goatgrass are known to occur.

Vegetation

Vegetation within the study area includes sagebrush, grasses, box elder trees, wild rose, golden currant, Siberian elm, and gamble oak. Evergreens and deciduous trees exist on the Olmsted Campus.

Environmental Effects

Proposed Action Alternative

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.

Vegetation

The footprint of the new powerhouse and proposed access road, as well as the area for construction staging, would require vegetation removal. Additionally, the replacement of the penstocks would require vegetation removal on the slope above the Olmsted Campus.

No-Action Alternative

The No-action Alternative would have no impact to vegetation and would not affect the establishment or spread of invasive species and noxious weeds since no ground disturbing activities would occur.

Mitigation

The District would be required to comply with its Integrated Pest Management Program, which requires ongoing monitoring for invasive species and noxious weeds and treatment, and to reestablish vegetation in impacted construction areas. Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

3.21 Utilities

A utility investigation to assist in locating overhead and underground utilities for the existing Olmsted Power Plant was conducted as part of the *Olmsted Hydroelectric Power Plant Design Basin Report* (June 2014, CH2MHill). Utility companies identified in the study area include:

- Utah Department of Transportation (UDOT) (UDOT Region III Utilities)
- Orem City
- Provo River Water Users (Provo Reservoir Canal)
- Provo Bench Canal Company
- Timpanogos Canal Company
- American Fiber, Inc
- AT&T (Fiber Optic and Telephone)
- AT&T/Comcast Utah (Fiber Optic and Telephone)
- Clyde Companies, Inc. (Fiber Optic and Telephone)
- Integra Telecom Utah County (Fiber Optic and Telephone)
- Questar Gas Zone IV
- Questar Gas, Low Pressure

- Qwest Network Zone IX
- Olmsted Power Plant Property (Operation & Maintenance (O&M), Power Generation)
- Rocky Mountain Power, Substation Property (Power distribution)
- UTOPIA (Fiber Optic)
- Verizon Business (Fiber Optic)
- XO Communications (Fiber Optic)

During the scoping process, both Provo City and Orem City submitted comments regarding utilities within or near the study area. Provo City explained that a 36 inch culinary pipeline is located between the Provo River Parkway Trail and the Provo River near the spillway location. Orem City explained that an 8-inch waterline runs through the study area along the existing access road. Additionally, Orem City would like the sewage from the new Power Plant and other buildings to connect into its sewer system. The Proposed Action would likely require relocating utilities.

Mitigation

Coordination and cooperation with utility companies and municipalities would be conducted prior to and during construction.

3.22 Permits and Agreements

Implementation of the Proposed Action Alternative would require application for and approval of the regulatory permits and agreements listed in Table 3-11.

Table 3-11 Required Permits and Clearances

Permit	Granting Agency(ies)	Applicable Portion of Project
Stream Alteration Permit	Utah Division of Water Rights	Work to be conducted in the Provo River
Section 402 Permit (UPDES)	Utah Department of Water Quality	Stormwater quality during construction phase
MOA	Utah SHPO and ACHP	Adverse Impacts to cultural resources

3.23 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

Indirect impacts identified for this project are associated with induced growth. The Proposed Action (constructing a new powerhouse as a replacement of the existing powerhouse, replacing the penstocks, making improvements to utilize the hydraulic head of the 10 million gallon (MG) Olmsted Flow

Equalization Reservoir, etc.) would replace or improve existing features and operations and would not cause growth inducing effects. The Proposed Action would have no indirect impacts.

No-action Alternative

Under the No-action Alternative, the District would discontinue operation of the Power Plant, greatly reducing the Bonneville Unit water supply. The diminished water supplies to Salt Lake, Utah, and Wasatch Counties as a result of the No-action Alternative could cause development and growth to slow in these areas.

3.24 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. 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. The geographic area addressed for this cumulative impact analysis is the area within the M&I system of the Bonneville Unit of the Central Utah Project (see Figure 1-2 in Section 1.6 Purpose and Need of Chapter 1).

Past, Present, and Reasonably Foreseeable Future Actions

The cumulative effects analysis considered the following past, present, and reasonably foreseeable actions:

Past Actions

- **Land Development** – Land development has occurred in northern Utah County as agricultural/undeveloped lands have been converted to residential and commercial uses.
- **M&I System, Bonneville Unit, Central Utah Project**
    - **Alpine and Jordan Aqueducts** – The Alpine and Jordan Aqueduct systems were constructed to convey Central Utah Project Water from the Provo River to northern Utah County and Salt Lake County. The 14-mile-long Alpine Aqueduct carries water to northern Utah County and the 38-mile-long Jordan Aqueduct carries water to Salt Lake County.
    - **Construction of Jordanelle Reservoir and Dam –** The Jordanelle Dam and Reservoir is located on the Provo River about six miles north of Heber City. Construction of the reservoir and dam occurred between 1987 and 1992 and currently provides water storage at an upstream site by exchange for Bonneville Unit water in Utah Lake and Strawberry Reservoir and for most of the water presently regulated in small reservoirs on the headwaters of the Provo River. The reservoir functions as a long term holdover reservoir to provide storage through a six year drought period. The municipal and industrial water stored in Jordanelle Reservoir is delivered to Salt Lake County by way of the Provo River and Jordan Aqueduct, and to northern Utah County by way of the Provo

River and Alpine Aqueduct. Jordanelle is also a recreational destination for camping, fishing, waterskiing, and wildlife viewing.

- **Provo River Project/Construction of Deer Creek Dam and Reservoir** – The Provo River Project provides a supplemental water supply for the irrigation of farmlands in Utah, Salt Lake, and Wasatch Counties, as well as a domestic water supply for Salt Lake City, Provo, Orem, Pleasant Grove, Lindon, American Fork, and Lehi, Utah. The key feature of the project, Deer Creek Dam, is located on the Provo River and was completed in 1941.
- **Olmsted Flowline Rehabilitation and Replacement** – This project rehabilitated or replaced up to approximately 16,200 feet of the Olmsted Flowline within the existing alignment on the north side of lower Provo Canyon. The Olmsted Flowline was improved to convey water pressure throughout most of its length and through the Alpine Tunnel.
- **Provo Reservoir Canal Enclosure** – The Provo Canal alignment begins at the Murdock Diversion structure at the west entrance of Provo Canyon and proceeds west then north and then through the northeastern portion of Utah County to the Point of the Mountain on the west side of Traverse Mountain in Utah County. The canal is approximately 22 miles in length. The Provo Reservoir Canal Enclosure project enclosed the canal in a pipe or box culvert for the entire length of the canal.
- **Utah Valley Water Treatment Plant** – The Utah Valley Water Treatment Plant is located on the east Orem Bench and services Orem and Provo cities. The plant treats water conveyed from the Provo River and Deer Creek Reservoir and is designed to provide municipal and irrigation water to Provo City and north Utah County communities.
- **US-189 Reconstruction** –US-189 is a principal arterial highway that runs from Provo, Utah to Heber City, Utah. Highway 189 was widened from two lanes to four lanes.
- **800 North in Orem Reconstruction –** 800 North was widened from five lanes to seven lanes from 400 West to 1000 East in Orem, Utah.

Present Actions

- **Land Development** – The conversion of agricultural/undeveloped land to residential and commercial developments is ongoing in northern Utah County.
- **Central Utah Water Conservancy District Water Development Project (CWP) –** This project is developing new infrastructure and water sources to utilize approximately 65,000 acre-feet of surface and ground water rights. The CWP includes: 800 North Aqueduct, which conveys treated surface water from the Utah Valley Water Treatment Plant to the High Head well field near the former Geneva Steel site; development of a well field near the former Geneva Steel site; the North Shore Aqueduct, which conveys water north to a final storage reservoir; and the Cascade Pump Station and aqueduct which will convey surface water from the mouth of Provo Canyon to the Utah Valley Water Treatment Plant for treatment.
- **Spanish Fork Provo Reservoir Canal Pipeline – Orem Reach 1B** – Construction of the project is currently underway and includes constructing a pipeline immediately south of 800 North in Orem at the mouth of Provo Canyon to the proposed Provo River Flow Control Structure to be located a few hundred feet north of 800 North.

Reasonably Foreseeable Future Actions

- **Land Development** – Urban growth along the Wasatch Front is expected to continue in the foreseeable future. As this growth continues, the demand for municipal and industrial (M&I) water will increase.
- **Transportation** – The following projects are included in the Utah Department of Transportation's (UDOT) Long Range Transportation Plan:
    - 800 North (SR-52), 1000 East, Orem to University Avenue, Provo (Phase 3: 2031-2040) – Widening
    - University Avenue (SR-189), University Parkway, Provo to 800 North, Orem (Phase 3: 2031-2040) - Widening

Cumulative Impacts Analysis

The cumulative impact analysis focuses on environmental resources which would have direct or indirect impacts or be affected by a connected action. Most resources would either not have direct impacts or they are not of a nature to result in cumulative impacts. The Proposed Action would have no effect or a minimal effect on many environmental resources; therefore, there would be no cumulative effect to these resources. These resources include:

- Prime, Unique, and Statewide Important Farmland
- Agricultural Resources
- Floodplains
- Wild and Scenic Rivers
- Wilderness
- Land Use Plans and Policies
- Social/Environmental Justice
- Public Health and Safety
- Climate Change
- Air Quality
- Soils and Geotechnical
- Threatened & Endangered Species
- Wildlife
- Water Resources and Wetlands
- Water Quality
- Groundwater
- Floodplains
- Economics
- Visual Resources
- Recreation
- Noise
- Transportation
- Energy
- Hazardous Waste
- Vegetation and Invasive Species

Cultural Resources

The Proposed Action would have an adverse effect to the overall Olmsted Campus; however, there would be no cumulative impact.

3.25 Summary of Mitigation Commitments

Air Quality

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

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

Additionally, the District would adhere to the following standards and specifications:

- **Abatement of Air Pollution:** The District 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 District would comply with all applicable federal, state, and local laws and regulations, regarding the prevention, control, and abatement of dust pollution. The District would attend to all dust control requirements within 500-feet of residences and buildings. The methods of mixing, handling, and storing cement and concrete aggregate would include means of eliminating atmospheric discharges of dust.

Soils and Geotechnical

During final design the District would conduct static and seismic stability analysis to assure appropriate design for long-term slope performance.

Wildlife

If it is necessary to remove vegetation during the migratory bird nesting season (February 1 through August 31), a qualified biologist would conduct nesting surveys to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted within the construction footprint and within a 100-foot buffer zone directly adjacent to the project boundary. The survey area for active bird nests would include areas where vegetation removal and disturbance is necessary. These surveys would be conducted in consultation with UDWR.

During the dewatering of the tailrace, the District would coordinate with UDWR to relocate the fish, either by electroshocking the fish and transferring them to the Provo River, or electroshocking the fish and floating them to the Provo River.

Hunter access to suitable areas surrounding the study area would be maintained during construction.

Water Resources and Wetlands

A Stream Alteration Permit would be obtained from the Utah Division of Water Rights for work to be conducted within the Provo River.

Water Quality

Construction activities that disturb more than one acre require the development of a 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 the surrounding receiving waters. The project would be constructed in compliance with the District's standards and specifications for Drainage and Sediment Control.

Cultural Resources

To mitigate adverse effects to cultural resources the following mitigation commitments would be implemented:

A MOA has been agreed upon and executed by the District, the Interior, and the Utah State Historic Preservation Officer (see Appendix A). Mitigation measures outlined in the MOA include:

- Data recovery
- Intermountain Antiquities Computer System (IMACS) site forms
- Intensive Level Surveys (ILSs)
- Virtual rendering of historic structures
- Structural improvements to the existing Olmsted powerhouse
- Commitment to preserving the historic integrity of the existing Olmsted powerhouse
- National Register of Historic Places nomination amendment
- Aesthetic treatments of the proposed powerhouse
- Discovery procedures

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, an archaeologist would be on-call to evaluate the site, document cultural resources, and coordinate with SHPO.

Visual Resources

Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

Recreation

To prevent trail user and construction traffic conflicts, informational signage would be installed to inform trail users of construction traffic on the Bonneville Shoreline Trail. The closure of the Provo River Parkway Trail would be limited to a short duration—approximately 30 days. The District would

coordinate the closure of both trails with local, city and county agencies and race/event organizers and coordinators.

Noise and Vibration

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

Hazardous Waste

The District would follow Utah Hazardous Waste Management Regulations.

Hazardous materials (defined by 40 CFR 261.3; Federal Standard No. 313) used by the District or discovered during work would be disposed of in accordance with applicable federal, state, and local laws and regulations. Waste materials discovered at the construction site would be immediately reported to the appropriate officials.

Vegetation and Invasive Species

The District would be required to comply with its Integrated Pest Management Program, which requires ongoing monitoring for invasive species and noxious weeds and treatment, and to reestablish vegetation in impacted construction areas. Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

Utilities

Coordination and cooperation with utility companies and municipalities would be conducted prior to and during construction.

CHAPTER 4: CONSULTATION AND COORDINATION

Chapter 4 describes the early and ongoing coordination activities and summarizes 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 National Historic Preservation Act of 1966 (NHPA), the Joint Lead Agencies initiated a public scoping process in December 2013 to inform the public and agencies about the EA, the Proposed Action, the purpose and need (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 1501.6, 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). Four agencies have accepted responsibilities to be cooperating agencies and include:

- Bureau of Reclamation (Reclamation)
- Western Area Power Administration (Western)
- Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission)
- Utah Division of State History (SHPO)

Scoping Activities

The scoping period for the Olmsted Hydroelectric Power Plant Replacement Project extended from December 15, 2013 to January 31, 2014. 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; and
- Contact information including telephone numbers and email and web site addresses.

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 Packet (Newsletter)

The scoping packet or newsletter was prepared to provide a general overview of the proposed project. In addition, the newsletter presents background information on the Olmsted property and the proposed project, the purpose and need for the proposed project, the proposed action, and contact information with instructions on how to submit comments.

Web Page

A web page specific to the Olmsted project was developed and hosted on the District web page at http://www.cuwcd.com/olmsted. The web site contains a PDF version of the scoping packet, a more detailed history of the Olmsted property, and a comment form.

Letters

Letters were sent December 16, 2013 to federal, state, local agencies, and other interested groups and contained a brief description of the proposed project, project representative information, and a request for comments by the end of the scoping period. The newsletter was enclosed as well. In addition, letters and scoping packets were sent to those cities and agencies that utilize the Olmsted Flow Line and may be affected by the proposed operations at the Power Plant.

Postcard

Approximately 150 postcards were mailed to all property owners adjacent to the Olmsted property including the residential neighborhood located to the west of Olmsted. The postcards contained the project website, scoping period information, and the project contact information.

Newspaper Ad

A newspaper ad was placed in Daily Herald on December 22, 25, and 29, 2013.

Legal Notices

Legal notices were placed in Salt Lake Tribune, Deseret News and Daily Herald on December 22 and 29, 2013.

Signs

Information signs were posted along the Provo River Parkway Trail adjacent to Olmsted property announcing the proposed project along with scoping information. The signs were in-place through mid-February 2014.

Federal Register – Notice of Intent

A notice of intent to prepare an Environmental Assessment was placed in the Federal Register on December 30, 2013.

Orem City Electronic Newsletter

The proposed project information was posted in the Orem City January 2014 electronic newsletter which was sent to residents on Tuesday January 14, 2014.

Upper Colorado River Commission

A notice was placed in the January 2014 Upper Colorado River Commission newsletter.

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 Department of the Interior and included the scoping newsletter.

Utah Public Lands Policy Coordinating Office

Project information was sent to the Utah Public Lands Policy Coordinating Office, Resource Development Coordination Committee (RDCC). The RDCC is a clearinghouse agency for the state of Utah and project information was posted on their web site.

Issues Raised by the General Public and Agencies

Six respondents commented during the scoping process and expressed a variety of concerns relating to the Project, including: the historic nature of the Olmsted campus and a desire to create a museum; the Provo River Water Users Association (PRWUA)'s facilities along the Provo River, access to the Provo River Aqueduct and Parallel Pipeline Siphon, and Provo River water rights; utilities; storm water runoff; marketing the power; visual impacts; construction impacts; and historic preservation. A Scoping Report (see http://www.cuwcd.com/olmsted for a copy) has been prepared containing a more detailed summary of comments received during the scoping process.

4.2 Consultation and Coordination

Agency Meetings

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

State Historic Preservation Office (SHPO)

The project team met with SHPO on February 12, 2014 at the District and then conducted a site visit to the Olmsted Hydroelectric Power Plant site on March 7, 2014. In addition, the project team met with SHPO on April 29, 2014 and July 15, 2014. The following items were discussed:

- The property is significant for its history related to electricity, for its connection to mining, and also for its architecture
- The powerhouse is listed on the National Register of Historic Places (NRHP), and the associated buildings appear to be Eligible and in good condition
- SHPO would like the District to look for options to continue to use the powerhouse, as well as the other buildings
- Section 106 process and public outreach
- Effects determination for the Proposed Action Alternative
- Development of a Memorandum of Agreement for adverse effects to historic resources

Utah Division of Wildlife Resources (UDWR)

The project team met with the Utah Division of Wildlife Resource (UDWR) on August 4, 2014 at the Olmsted Hydroelectric Power Plant site. The following items were discussed:

Fish

- Currently the property is closed to the public, and that would continue in the future (no angling in the tailrace, etc.)
- Fish in the tailrace include brown trout, sculpin, and Bonneville cutthroat trout.

- During construction, the tailrace would need to be dewatered. Fish would need to be salvaged, either by electroshocking the fish and transferring them to the Provo River, or electroshocking the fish and floating them to the Provo River.

Migratory Birds/Raptors

- UDWR explained that there is good habitat in the study area for birds.
- If construction would occur during the nesting period a migratory bird/raptor survey would need to be conducted.
- Depending on the outcome of the survey, there would need to be a construction buffer (1/2 mile for red tail hawks, 1 mile for peregrine falcons) and/or monitoring.
- Currently, there is a potential red tail hawk nest in the cliffs above the spillway; however, this is not expected to be a problem because construction in this area would occur during the winter months.

Wildlife

- DWR's biggest concern is hunter access.
- There is ruffed grouse, chukar, deer, and elk habitat within the study area. UDWR explained that only a detailed discussion on mule deer and elk is needed.

Public Information Meeting

The Joint Lead Agencies held a public information meeting on October 9, 2014 to provide an overall project update, discuss project agreements, and disclose environmental impacts. The public had an opportunity to provide comments.

Correspondence

Correspondence letters/emails are show in Table 4-1 and are included in Appendix A.

Table 4-1 Correspondence

Date	To	From	Subject
December 18, 2013	Sarah Johnson District	Lynn C. Jeka Department of Energy, Western Area Power Administration	Acceptance of Cooperating Agency Invitation
December 23, 2013	Sarah Johnson District	Curtis A. Pledger Bureau of Reclamation	Acceptance of Cooperating Agency Invitation
January 6, 2014	Chris Elison District	Chris L. Hansen SHPO	Acceptance of Cooperating Agency Invitation
March 24, 2014	Sarah Johnson District	Michael C. Weland Mitigation Commission	Acceptance of Cooperating Agency Invitation
February 10, 2014	Honorable Gari Lafserty Chairwoman, Paiute Indian Tribe	Reed Murray Interior	Tribal Consultation
February 10, 2014	Honorable Gordon Howell Chairman, Ute Tribe Business Committee	Reed Murray Interior	Tribal Consultation

Date	To	From	Subject
February 10, 2014	Honorable Lori Bear Chairwoman, Skull Valley Band of Goshute Indians	Reed Murray Interior	Tribal Consultation
February 10, 2014	Honorable Jason S. Walker Chairman, Northwestern Band of Shoshoni Nation of Utah	Reed Murray Interior	Tribal Consultation
February 10, 2014	Honorable Nathan Small Chairman, Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho	Reed Murray Interior	Tribal Consultation
April 17, 2014	Sarah Johnson District	Chris L. Hansen SHPO	Section 106 Consultation
August 21, 2014	Larry Crist U.S. Fish and Wildlife Service	Chris Elison District	U.S. Fish and Wildlife Service Coordination
September 15, 2014	District	Larry Crist U.S. Fish and Wildlife Service	U.S. Fish and Wildlife Service Coordination
October 16, 2014	---	---	Memorandum of Agreement (MOA)

4.3 Draft Environmental Assessment Comments and Responses

The Joint Lead Agencies released a Draft EA on September 22, 2014 and asked for public and agency comments on the Draft EA through October 22, 2014. During the comment period, four members of the public and two agencies submitted comments. Appendix C contains a summary of the comments received, as well as responses to each comment.

4.4 Environmental Assessment and FONSI

This EA reflects the changes made in response to comments received on the Draft EA. Interior and the District have determined that they will issue a Finding of No Significant Impact (FONSI) for the Proposed Action Alternative.

CHAPTER 5: LIST OF REFERENCES

CH2M HILL, *Assessment and Planning Summary: Olmsted Power Plant Evaluation and Upgrade*, January 2013

CH2M HILL, *Existing Olmsted Powerhouse – Preliminary Seismic Condition Assessment*, March 2014

Federal Emergency Management Agency, *Flood Insurance Rate Map, City of Orem, Utah, Utah County*, September 1984

Federal Emergency Management Agency, *Flood Insurance Rate Map, City of Provo, Utah, Utah County*, September 1988

Golder Associates Inc, *Summary of Geotechnical Data Spanish Fork Provo Reservoir Canal Pipeline - Orem Reach 1B and Areas to North*, June 2013

Horrocks Engineers, *Reconnaissance Level Survey, Olmsted Power Station, Orem, Utah County*, June 2014

Project Engineering Consultants, *An Archaeological Resource Investigation of the Olmsted Hydroelectric Plant Replacement Project, Orem, Utah County, Utah*, June 2014

United States Department of the Interior, Bureau of Reclamation, *Facility Condition Assessment of the Olmsted Power Plant*, January 2010

United States Geological Survey, *Groundwater Conditions in Utah Spring of 2013*, 2013

United States Geological Survey, *Liquefaction Potential Map for a Part of Utah County, Utah*, August 1994

Utah Division of Air Quality (UDAQ), *Utah Nonattainment Areas*, January 2013

Utah Division of Wildlife Resources, *Utah's State Listed Species by County*, March 2011

Utah Natural Heritage Program, Division of Wildlife Resources, GIS files provided by Sarah Lindsey, July 2014

CHAPTER 6: LIST OF PREPARERS

Name	Degree(s)	Project Role
U.S. Department of the Interior, Central Utah Project Completion Act Office		
W. Russ Findlay	M.S. Wildlife and Range Resource Management	Project Review
Central Utah Water Conservancy District		
Sarah Johnson	B.S. Outdoor Recreation/Resource Management	Environmental Programs Manager
Chris Elison, P.E.	M.S. Civil and Environmental Engineering B.S. Civil and Environmental Engineering	NEPA Compliance Coordinator
Daryl Devey		Bonneville O&M Manager
Rich Tullis, P.E.	M.S. Civil Engineering B.S. Civil Engineering	Project Review
Dave Pitcher, P.E.	M.S. Civil and Environmental Engineering B.S. Civil Engineering	Project Manager
Utah Reclamation Mitigation and Conservation Commission		
Maureen Wilson	M.S. Limnology B.S. Wildlife Biology	Project Review
Horrocks Engineers		
Stan Jorgensen, P.E.	M.S. Civil and Environmental Engineering B.S. Civil and Environmental Engineering	Consultant Project Manager
Nicole Tolley, P.E.	B.S. Civil and Environmental Engineering	Document Preparation
Jennifer Hale, P.L.A.	Master in Landscape Architecture B.A. Humanities	Document Preparation
Ryan Pitts, P.L.A.	Masters in Landscape Architecture B.S. Horticulture	Threatened & Endangered Species, Wildlife, and Wetlands
Nancy Calkins	B.S. Botany	Cultural Resources
CH2M Hill		
Adam Murdock, P.E.	M.S. Civil Engineering/Hydraulics B.S. Civil Engineering/Hydraulics	Engineering and Hydrology/Hydraulic Support
Project Engineering Consultants		
Chuck Easton	M.A. Anthropology B.S. Anthropology	Cultural Resources
Peter Steele	M.A. Anthropology B.A. Anthropology	Cultural Resources

APPENDIX A: CORRESPONDENCE

Department of Energy
Western Area Power Administration
150 East Social Hall Avenue, Suite 300
Salt Lake City, UT 84111-1580

DEC 18 2013

Ms. Sarah Johnson
Environmental Programs Manager
Central Utah Water Conservancy District
355 West University Parkway
Orem, UT 84058

Dear Ms. Johnson:

Thank you for your invitation letter dated December 6, 2013, to participate as a cooperating agency in preparing an Environmental Assessment (EA) for the Olmsted Hydroelectric Plant Replacement Project (see 40 CFR 1501.5-1501.6 and 43 CFR 46.225). The Joint Lead Agencies for this EA will be the Central Utah Water Conservancy District (District) and the United States Department of the Interior, Central Utah Project Completion Act Office (Interior).

The Colorado River Storage Project Management Center (CRSP MC) accepts your invitation to act within its permitting authority and technical expertise to participate as a cooperating agency. In general, participation may include:

- Attending cooperating agency meetings;
- Providing comments on alternatives and issues to be analyzed in the EA;
- Providing comments on a preliminary draft EA;
- Providing input on resolution of issues associated with the proposed action; and
- Providing information as requested by the Joint Lead Agencies and assisting with analyses relevant to our agency's jurisdiction or area of special expertise.

The CRSP MC acknowledges it is the intent of the Joint Lead Agencies to prepare and publish a draft EA for a 30-day public review and comment period in the fall of 2014 with an anticipated completion within a year from now. Please note David Bennion as the CRSP MC point of contact for EA-related participation and expertise. You may contact him at bennion@wapa.gov or (801) 524-5506.

Sincerely,

Lynn C. Jeka
CRSP Manager

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Colorado Region
Provo Area Office
302 East 1860 South
Provo, UT 84606-7317

IN REPLY REFER TO:

PRO-774
ENV-6.00

DEC 23 2013

Ms. Sarah Johnson
Environmental Programs Manager
Central Utah Water Conservancy District
355 West University Parkway
Orem, UT 84058-7303

Subject: Cooperating Agency Status on the Olmsted Hydroelectric Plant Replacement Project Environmental Assessment (EA) – Central Utah Project

Dear Ms. Johnson:

In response to your December 6, 2013, letter, the Bureau of Reclamation, Provo Area Office accepts cooperating agency status for the subject EA allowing us to participate in the preparation and review of the environmental analysis.

Reclamation looks forward to working with the Joint Lead Agencies: the Central Utah Water Conservancy District, and the Department of the Interior, Central Utah Project Completion Act Office to complete the EA. If you have any questions or need additional information, please contact Mr. Peter Crookston at 801-379-1152.

Sincerely,

Curtis A. Pledger
Area Manager

cc: Mr. Don A. Christiansen
General Manager, Central Utah
Water Conservancy District
355 West University Parkway
Orem, UT 84058-7303

From: Christopher Hansen <clhansen@utah.gov>
To: Chris Elison <ChrisE@cuwcd.com>, "Johnson, Sarah" <Sarah@cuwcd.com>
CC: Christopher Merritt <cmerritt@utah.gov>
Date: 1/6/2014 9:36 AM
Subject: Re: WCWEP MOA

Hi, Chris and Sarah,
Thank you for the invitation to be a Cooperating Agency for the Olmsted project. Yes, UT SHPO would like to participate as a Cooperating Agency. Please direct any future submissions and consultation letters to me, as I will be the lead on this project in our office.

Regards,

Chris

MITIGATION COMMISSION

Utah Reclamation Mitigation & Conservation Commission
230 South 500 East Suite 230 Salt Lake City, UT 84102-2045
Phone: (801) 524-3146 – Fax: (801) 524-3148

COMMISSIONERS
Jody L. Williams, Chair
Don A. Christiansen
Brad T. Barber
Dallin W. Jensen

March 24, 2014

Ms. Sarah Johnson, Environmental Programs Manager
Central Utah Water Conservancy District
355 West University Parkway
Orem, Utah 84058-7303

Subject: Cooperating Agency Status on the Olmsted Hydroelectric Plant Replacement Project

Dear Sarah,

This letter is in response to your request for cooperating agency status for the Olmsted Hydroelectric Plant Replacement Project Environmental Assessment. We understand that the Central Utah Water Conservancy District (District) will assume the responsibility for operation and maintenance of the Olmsted power plant as a component of the Bonneville Unit of the Central Utah Project (CUP).

Congress established the Utah Reclamation Mitigation and Conservation Commission (Commission) in 1992 under the Central Utah Project Completion Act (P.L. 102-575), as a Federal Agency, to "coordinate the implementation of the mitigation and conservation provisions of this Act among the Federal and State fish, wildlife, and recreation agencies." After more than two decades of work, the Commission, along with its partners-including the District, have put in place the operational agreements, acquired stream flows and land resources that are providing partial mitigation for the impacts of the Bonneville Unit of CUP, including projects within the Provo River watershed.

Based on our involvement in the Provo River and its proximity to the Olmsted Hydroelectric Plant Replacement Project, we accept your invitation to be a cooperating agency as outlined in 40 CFR 1501.5-1501.6 and 43 CFR 46.225; to include the specific duties listed in your letter. Maureen Wilson will be the Commission's point of contact for further coordination. If you have any questions or need additional information, please contact her at (801) 524-3166 or by email at mwilson@usbr.gov.

Sincerely,

Michael C. Weland
Executive Director

cc: Reed Murray, Department of the Interior

Mr. Reed Murray
Program Director
CUP Completion Act Office
302 East 1860 South
Provo, UT 84606

United States Department of the Interior

OFFICE OF THE SECRETARY
Program Director
CUP Completion Act Office
302 East 1860 South
Provo, Utah 84606-7317

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

CA-1300
ENV-6.00

FEB 10 2014

Honorable Gari Lafserty
Chairwoman
Paiute Indian Tribe
440 North Paiute Drive
Cedar City, Utah 84720

Subject: Consultation Regarding Proposed Olmsted Hydroelectric Power Plant Replacement Project – Bonneville Unit – Section 201(e) – Central Utah Project Completion Act

Dear Chairwoman:

The United States Department of the Interior and the Central Utah Water Conservancy District (District), as Joint Lead Agencies, are proposing replacements and modifications to the Olmsted Hydroelectric Power Plant located in Orem, Utah, near the mouth of Provo Canyon. The Joint Lead Agencies are preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) as part of the proposed project. The EA will provide the necessary analysis for determining potential environmental impacts associated with the proposed action for the Olmsted Power Plant Project. The proposed action includes the construction of a new powerhouse located within the Olmsted Power Plant property, replacement of the existing penstocks, modifications or removal of the existing pressure box, modifications to the existing spillway, and lining the Olmsted rock tunnel (about 900 linear feet). We have enclosed a scoping packet prepared for the proposed Olmsted Hydroelectric Power Plant Replacement Project in order to provide additional detail of its location, description of the proposed action, and supplementary information supporting the proposed project.

In October 2015, the District will assume the responsibility for operation and maintenance of the Olmsted Power Plant as a component of the Bonneville Unit of the Central Utah Project (CUP). The proposed Olmsted Power Plant Project will utilize the same water supply as the existing power plant. The proposed project would not result in changes to quantities or quality of water, deliveries, timing, or location of the tailrace connection to the Provo River. Hydropower would continue to be generated incidental to other CUP purposes. All the existing and previous environmental commitments and agreements associated with the Bonneville Unit of the CUP will be maintained.

The purpose of this letter is to invite comments regarding the proposed project from the Paiute Indian Tribe. If, after reviewing the material included in this letter, you feel that the proposed project might affect any properties of religious or cultural importance, we request your

notification and participation as a consulting party during the EA process. A response within 30 days would be appreciated. Mr. Chris Elison of the District will be following up this letter with a telephone call to you in the next few weeks. We would be glad to meet with you to discuss the proposed project, should you desire.

We appreciate your time and consideration of the proposed project. If you have questions, or if there is additional information that you would like to receive, please contact Mr. Elison at 801-226-7166. We look forward to hearing from you in the near future.

Sincerely,

REED MURRAY

Reed R. Murray
Program Director

Enclosure: Scoping Document

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

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/o encl to each)

Similar Letter Sent To:

Honorable Gordon Howell
Chairman, Ute Tribe Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026-0190

Similar change in third paragraph: "The purpose of this letter is to invite comments regarding the proposed project from the Ute Tribe."

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

Ms. Betsy Chapoose
Director, Cultural Resources
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026-0190

Ms. Norma Gourneau
Superintendent, Uintah and Ouray Agency
Bureau of Indian Affairs
P.O. Box 130
Fort Duchesne, Utah 84026
(w/o encl to each)

Honorable Lori Bear
Chairwoman
Skull Valley Band of Goshute Indians
P.O. Box 448
Grantsville, Utah 84029

Similar change in third paragraph: "The purpose of this letter is to invite comments regarding the proposed project from the Skull Valley Band of Goshute Indians."

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

Ms. Norma Gourneau
Superintendent, Uintah and Ouray Agency
Bureau of Indian Affairs
P.O. Box 130
Fort Duchesne, Utah 84026
(w/o encl to each)

Honorable Jason S. Walker
Chairman, Northwestern Band
of Shoshoni Nation of Utah
707 North Main Street
Brigham City, Utah 84302

Similar change in paragraph 3: "The purpose of this letter is to invite comments regarding the proposed project from the Northwestern Band of Shoshoni Nation of Utah."

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

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
Fort Hall, Idaho 83203
(each w/o encl)

Honorable Nathan Small
Chairman, Shoshone-Bannock Tribes
of the Fort Hall Reservation of Idaho
P.O. Box 306
Fort Hall, Idaho 83203

Similar change in paragraph 3: "The purpose of this letter is to invite comments regarding the proposed project from the Shoshone-Bannock Tribes."

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

Mr. Darrell Dixey
Cultural Resource Coordinator
Shoshone-Bannock Tribes
of the Fort Hall Reservation of Idaho
P.O. Box 306
Fort Hall, Idaho 83203

Mr. Randy Thompson
Superintendent, Fort Hall Agency
Bureau of Indian Affairs
P.O. Box 220
Fort Hall, Idaho 83203
(w/o encl to each)

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

Ms. Norma Gourneau
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

Similar change to paragraph three: "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. A response within 30 days would be appreciated."

Similar change to paragraph four: "We appreciate your time and consideration of the proposed project and our inquiry in regard to Indian Trust Assets. We would be glad to meet with you to discuss the proposed project, should you desire. If you have questions, or if there is additional information that you would like to receive, please contact Mr. Chris Elison at 801-226-7166. We look forward to hearing from you in the near future."

cc: Ms. Sarah Johnson
Environmental Programs Manager
Central Utah Water Conservancy District
355 West University Parkway
Orem, Utah 84058
(w/o encl)

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Julie Fisher
Executive Director
Department of
Heritage & Arts

Utah Division of
State History

Brad Westwood
Director

April 17, 2014

Sarah Johnson
Central Utah Water Conservancy District
Environmental Programs Manager
355 West University Parkway
Orem, Utah 84058-7303

RE: Olmsted Hydroelectric Power Plant Replacement Project, Orem, Utah

In reply please refer to Case No. 14-0165

Dear Ms. Johnson:

The Utah State Historic Preservation Office received your Section 106 initiation of consultation letter on the above-referenced project on April 4, 2014. We also thank you for your efforts of meeting with the Utah SHPO and providing us with a site visit to discuss the undertaking. Based on the information provided to our office, we offer the following comments:
The property is a unique historic complex and is very significant for its history related to electricity, for its connection to mining, and also for its architecture. The powerhouse is listed on the National Register of Historic Places, and the associated buildings and structures appear to be Eligible (very high likelihood, but no official determinations of have been made yet). Considering the age of the buildings, maintenance issues, and other problems surrounding them, overall they do appear to be in good condition. We are confident that the powerhouse can continue to be used and included in the new project; we appreciate the efforts made to explore this option. SHPO also encourages the other buildings and features to be looked at for potential reuse to further minimize the effect of the undertaking, if they can indeed be incorporated into CUWCD plans. Further, the site does help tell the Utah hydro technology story (Telluride up the river, Olmsted linemen training college, Utah--UP&L story, Depression era developments--Deer Creek included up stream, and the massive CUP project), that history could possibly be interpreted via portions of the site.

This information is provided in the spirit of advice to assist as per Section 106 of the National Historic Preservation Act, as we are not the decision maker. Keeping the existing is what historic preservation is about, and we encourage all efforts directed to that goal in an advisory

way. We appreciate your efforts of taking the historic nature of the site into account as you work to move forward with the development of the project. If you have any questions, please contact us as we are ready and available to assist.

This information is provided to assist with Section 106 responsibilities as per §36CFR800. If you have questions, please contact me at clhansen@utah.gov or 801-245-7239.

Regards,

Chris Hansen
Preservation Planner/Deputy SHPO

Central Utah Water Conservancy District

355 WEST UNIVERSITY PARKWAY, OREM, UTAH 84058-7303
TELEPHONE (801) 226-7100, FAX (801) 226-7107
TOLL FREE 1-800-281-7103
WEBSITE www.cuwcd.com

OFFICERS
Michael H. Jensen, President
Randy Crozier, Vice President

Don A. Christiansen, General Manager
Secretary/Treasurer

August 21, 2014

Larry Crist, Utah Field Supervisor
U.S. Fish and Wildlife Service
2369 West Orton Circle, Suite 50
West Valley City, Utah 84119

RE: Olmsted Hydroelectric Power Plant Replacement Project
Environmental Assessment

Dear Mr. Crist:

The United States Department of the Interior, CUPCA Office and the Central Utah Water Conservancy District (District), as Joint Lead Agencies, are proposing replacement and modifications to the Olmsted Hydroelectric Power Plant located in Orem, Utah, near the mouth of Provo Canyon (see attached project location map). The Joint Lead Agencies are preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) as part of the proposed project. The Proposed Action would include:

- Constructing a new powerhouse as a replacement of the existing powerhouse
- Replacing the four existing penstocks with a single buried penstock
- Utilizing the hydraulic head of the 10 million gallon (MG) Olmsted Flow Equalization Reservoir (10 MG Reservoir) which includes modifications or additions to the following elements:
    - Pressure box
    - Spillway
    - Olmsted rock tunnel
    - Vent Structure/Surge Tank
- Constructing an operation and maintenance facilities building and garage
- Improving site access
- Preserving the existing historic powerhouse
- Constructing related improvements and staging, including improvements for access, parking, construction staging, and storing material during and following construction

Table 1 below identifies our determinations for federally-listed and candidate Endangered Species Act (ESA) species that are known to occur in Utah County, Utah. The purpose of this letter is to request U.S. Fish and Wildlife Service (USFWS) concurrence on these determinations.

BOARD OF TRUSTEES

Gary J. Anderson, Randy A. Brailsford, Kirk L. Christensen, David R. Cox, Randy Crozier, Michael K. Davis, Tom Dolan, Claude R. Hicken, Jani Iwamoto, George R. Jackson, Dallin W. Jensen, Michael H. Jensen, Michael J. McKee, Rondal R. McKee, Kent R. Peatross, Stanley R. Smith, Gawain Snow, Mark Wilson

Table 1 Utah County ESA Species List

Species	Status	Occurrence in the Study Area
Yellow-billed Cuckoo (*Coccyzus americanus*)	Proposed Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Greater sage-grouse (*Centrocercus urophasianus*)	Candidate	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Humpback chub (*Gila cypha*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded. The humpback chub is not found in the Provo River basin.
Colorado pikeminnow (*Ptychocheilus lucius*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded. The Colorado pikeminnow is not found in the Provo River basin.
Bonytail chub (*Gila elegans*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded. The bonytail chub is not found in the Provo River basin.
Least chub (*Lotichthys phlegethontis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
June sucker (*Chasmistes liorus*)	Endangered	Designated critical habitat for the June sucker includes the lower 4.9 miles of the Provo River, measured from its confluence with Utah Lake, upstream to the Tanner Race diversion. The Tanner Race diversion is approximately 4.8 miles downstream from the study area, and there are four diversions between the study area and Tanner Race. These diversions are not passable by June Sucker. Therefore, the June sucker is not found within or near the study area.
Razorback sucker (*Xyrauchen texanus*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded. The razorback sucker is not found in the Provo River basin.
Deseret milk-vetch (*Astragalus desereticus*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Clay phacelia (*Phacelia argillacea*)	Endangered	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Canada Lynx (*Lynx canadensis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded.

Source: USFWS (http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=49049)

Site visits to the study area were conducted to assess and inventory conditions associated with the proposed project, and to look for the presence/absence of threatened or endangered species. Also, 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 site visits, the UDCC, and the UNHP data did not reveal any observations, evidence (scat, tracks, sightings), or documented occurrences of the presence of any ESA species within or adjacent to the study area.

In summary, the District requests USFWS concurrence with the determination that the Olmsted Hydroelectric Power Plant Replacement Project Proposed Action Alternative would have **No Effect** to yellow-billed cuckoo, greater sage-grouse, humpback chub, Colorado pikeminnow, bonytail chub, least chub, June sucker, razorback sucker, Deseret milk-vetch, clay phacelia, Ute ladies'-tresses, and Canada lynx.

Migratory Bird Treaty Act

In addition to the threatened and endangered species listed above, the Joint Lead Agencies believe that the Proposed Action may effect migratory birds within the study area. Data gathered through the UDCC database and through an information request to the UNHP identified two peregrine falcon nesting sites, one within and one outside of the study area. The data indicated that the sites have been observed over multiple years and were last recorded in 2006. The nesting site outside of the study area is located near the Provo River and 800 North in the canopy of mature trees. The other site is within the study area and is located on the rocky cliffs, above the valley floor, near the spillway. In addition, red-tail hawks have been observed in this same area and nesting potentially has occurred for several years at this location.

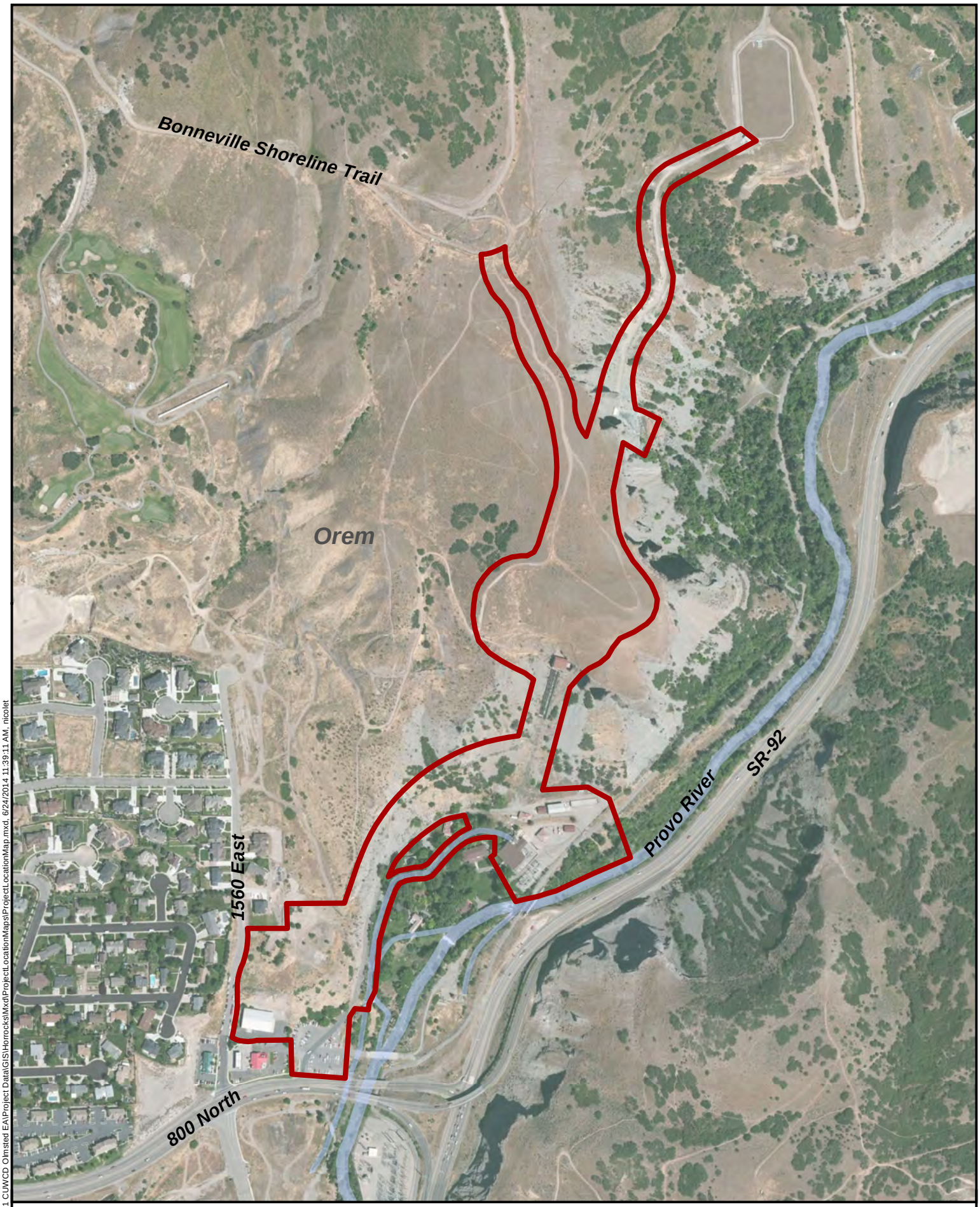
Permanent impacts to nesting, feeding, roosting, and hiding cover habitat would be minimal to non-existent. During construction, higher than usual noise levels, proximity of construction equipment, and other construction related activities may temporarily disturb migratory birds and their habitats. If it is necessary to remove vegetation during the nesting season (February 1 through August 31), nesting surveys would be conducted to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted within the construction footprint and within a 100-foot buffer zone directly adjacent to the project boundary. The survey area for active bird nests would include areas where vegetation removal and disturbance is necessary. These surveys will be conducted in consultation with the Utah Division of Wildlife Resources.

Thank you for your assistance with this matter. If you have any questions or concerns, please contact me at 801-226-7166 or ChrisE@cuwcd.com.

Sincerely,

Chris Elison
NEPA Compliance Coordinator

ec: Reed Murray – U.S. Department of the Interior, CUPCA Office
Sarah Johnson – Central Utah Water Conservancy District
Mike Mills – Central Utah Water Conservancy District
Matt Howard – Utah Division of Wildlife Resources



Legend

Study Area

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Feet

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Olmsted Hydroelectric Power Plant
Environmental Assessment

Project Location Map

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UTAH 84119

September 15, 2014

Central Utah Water Conservancy District
355 West University Parkway
Orem, Utah 84058

RE: Olmsted Hydrolelecric Power Plant Replacement Project Envionmental Assessment

Central Utah Water Conservancy District;

We are writing in response to your inquiry related to listed species, species of special concern, or Endangered Species Act (Act) issues. We have indicated our response below which we believe best meets your request. If you have any questions about your responsibilities under the Act, or require further information, please contact Becky Lorig in my office at (801) 975-3330 ext. 122. Thank you for your continued interest in conservation.

- ☐ You requested a list of endangered, threatened, proposed, and/or candidate species, and designated critical habitat which may occur in the area of your project. In an effort to expedite information sharing, we created an Information, Planning, and Conservation System (IPaC) that is available on-line at http://ecos.fws.gov/ipac/. IPaC can be used to identify any potential federally threatened or endangered species in your project area by using the "Initial Project Scoping" tool.
- ☒ Based on information from your request, we have not identified any issues that give us concern relative to species or critical habitat listed under the Act. This finding is based on our understanding of the nature of the project, local conditions, and/or current information indicating that no listed species are present. Should the nature of your project change, you may need to contact us for additional information.
- ☐ We recommend that you review your project relative to responsibilities under the Migratory Bird Treaty Act (see information at http://www.fws.gov/utahfieldoffice/migbirds.html).
- ☐ We recommend that you review your project relative to guidelines regarding placement of cell towers. Please see the following website for more information http://www.fws.gov/habitatconservation/communicationtowers.html.

Sincerely,

Larry Crist
Utah Field Supervisor

MEMORANDUM OF AGREEMENT

AMONG

THE CENTRAL UTAH WATER CONSERVANCY DISTRICT,

THE UNITED STATES DEPARTMENT OF THE INTERIOR, AND

THE UTAH STATE HISTORIC PRESERVATION OFFICER

REGARDING THE

OLMSTED HYDROELECTRIC POWER PLANT REPLACEMENT PROJECT;
OREM, UTAH COUNTY, UTAH

WHEREAS, the Central Utah Water Conservancy District (District) and the U.S. Department of the Interior Central Utah Project Completion Act Office (Interior), as Joint Lead Agencies (JLAs), propose to replace and modify the Olmsted Hydroelectric Power Plant located in Orem, Utah, near the mouth of Provo Canyon (hereafter referred to as "the Project"); and

WHEREAS, the District has been designated by federal legislation pursuant to Section 205(b) of the Central Utah Project Completion Act (Public Law 102-575) the responsibility for compliance with environmental laws and works closely with the Interior; and

WHEREAS, The JLAs have conducted archaeological and architectural resources inventories of the Area of Potential Effect (see Attachment A – Area of Potential Effect) for the Project in compliance with 36 CFR § 800, the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) (NHPA); and

WHEREAS, the JLAs, under Section 106 of the National Historic Preservation Act (NHPA), have consulted with the Utah State Historic Preservation Officer (SHPO) and SHPO has concurred with the finding of adverse effect on the eligible historic resources. The Project will have an adverse effect on cultural resources within the Area of Potential Effect (APE) listed below:

- An adverse effect to nine eligible historic structures including the pressure box, penstocks, brick stable, carpenter shop, garage, blacksmith shop, long garage, storage building, and to the historic landscape;
- An adverse effect to the contributing historic features of the Olmsted Campus within the APE including five retaining walls, an electrical box, a storage and refuse area, log cribbing near the pressure box, rock tunnel, and access road into the Olmsted Campus;
- A no adverse effect to the Olmsted Powerhouse (listed on the National Register of Historic Places), tailrace channel, access road to the pressure box, waste rock dump, and four transmission lines; and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), the JLAs have notified the Advisory Council on Historic Preservation (Council) of the project's adverse effect determination with specified documentation and the Council has chosen not to participate in this consultation; and

WHEREAS, Native American Tribes have been consulted and have raised no concerns about the Project; and

WHEREAS, if encountered, Human Remains, Associated/Unassociated Funerary Objects, Sacred Objects and Objects of Cultural Patrimony recovered will be treated in accordance with

the Native American Graves Protection and Repatriation Act (NAGPRA) and the American Indian Religious Freedom Act (AIRFA); and

WHEREAS, the consulting parties agree that it is in the public interest to expend funds to implement the Project and conduct additional documentation and actions (as outlined below) to mitigate the adverse effects of the project; and

NOW, THEREFORE, all parties agree that upon the JLAs decision to proceed with the Project, the District shall implement the following stipulations to take into account the effects of the Project on cultural resources, and that these stipulations shall govern the Project and all of its parts until this Agreement expires or is terminated.

STIPULATIONS

The JLAs shall ensure that the following measures be implemented as part of the Olmsted Hydroelectric Power Plant Replacement Project:

1. **Data Recovery for the Storage and Refuse Area**
   This stipulation is for the storage and refuse area associated with the existing Olmsted Powerhouse (42UT1758). Stipulation #1 includes the following tasks:
   a. The data recovery of the storage and refuse area will be carried-out by a licensed and qualified archeologist.
   b. A Treatment Plan will be prepared using the following format:
      i. Introduction;
      ii. Cultural Context;
      iii. Research Design (historical documentation, archaeological excavations, monitoring, discoveries, and reporting);
      iv. Detailed Recordings of Surface Artifacts; and
      v. Management Summary.
   c. The draft Treatment Plan will be reviewed by SHPO before implementation;
   d. A minimum of three test pits will be excavated within the boundaries of the storage and refuse area. The test pits will measure 1 meter by 1 meter with a maximum depth of 1 meter. Test pits will be placed throughout the site as determined by the archaeologist;
   e. Artifacts will be logged and recorded;
   f. Artifacts discovered during data recovery or construction may be retained by the JLAs for future display within the existing Olmsted Powerhouse.
      i. The JLAs will coordinate with SHPO to determine what artifacts may be retained for future display within the existing Olmsted Powerhouse. Artifacts not retained by the JLAs will be offered to local museums (e.g. Orem Heritage Museum, Tintic Mining Museum).
   g. Information yielded from excavated artifacts will be added to the revised Olmsted Powerhouse IMACS site form (see Stipulation #2).

   Stipulation #1 will be completed prior to commencing construction on the proposed powerhouse.

2. **Intermountain Antiquities Surveys (IMACS)**
   The IMACS site form for the existing Olmsted Powerhouse (no adverse effect - 42UT1758) will be updated. In addition, the updated Olmsted Powerhouse IMACS will include information discovered from the Storage and Refuse Area (see Stipulation #1). The updated Olmsted Powerhouse IMACS site form will be submitted to SHPO.

Stipulation #2 will be completed once the construction of the Project is finished.

3. **Intensive Level Surveys Historic Site Forms (ILS)**
The JLAs will document nine eligible historic structures according to the Utah SHPO ILS Standards outlined in the *Intensive Level Survey Standard Operation Procedures* prior to construction of the Project. The ILS Historic Site Forms will be completed for the following structures:
    a. Existing Olmsted Powerhouse (including the tailrace channel)
    b. Pressure Box (including rock tunnel, penstocks, and log cribbing)
    c. Brick Stable
    d. Carpenter Shop
    e. Garage
    f. Blacksmith Shop
    g. Long Garage
    h. Storage Shed
    i. Landscape and Historic Layout (including mature vegetation, retaining walls, staircases, access road, electrical boxes).

Documentation will include completed ILS Historic Site Forms, four to six black and white photographs of each resource, a site map, historic owners' biographical information, historic photographs (if available), measured floor plans, a title search, and copies of all research materials. The JLAs will submit the ILS forms to SHPO upon completion.

Stipulation #3 will be completed prior to construction of the Project.

4. **Virtual Rendering of Historic Structures**
A virtual rendering of historic structures within the APE will be produced using 3D laser scanning technology. 3D laser scanning is non-contact technology that digitally captures the shape of physical objects using a line of laser light. 3D laser scanners create "point clouds" of data from the surface of an object to digitally capture a physical object's exact size and shape. A virtual rendition inside and outside will be completed on following historic resources:
    a. Existing Olmsted Powerhouse
    b. Pressure Box (including the rock tunnel)
    c. Brick Stable
    d. Carpenter Shop
    e. Garage
    f. Blacksmith Shop
    g. Long Garage
    h. Storage Shed

The virtual renderings will be offered to area museums and interest groups for their use. In addition, the JLAs will provide on-line access to these renderings hosted on the District's website. The virtual renderings may also at some point in the future be used for educational purposes at the existing Olmsted Powerhouse.

Stipulation #4 will be completed prior to construction of the Proposed Project.

5. **Structural Improvements to the Existing Olmsted Powerhouse**
The existing, historic Olmsted Powerhouse will remain intact in its current location. However, a portion of the attached gantry crane located outside to the north may require removal during construction.

As part of the preliminary design for this project, a *Preliminary Seismic Condition Assessment* was completed in March 2014. This report noted several apparent deficiencies[1] with the existing Olmsted Powerhouse. The JLAs will conduct additional and more detailed structural evaluations of the existing powerhouse to determine specific rehabilitation needs. The rehabilitation objective will be for collapse prevention in a 2,500 year seismic event and a safety of life in a 500 year seismic event. Based on the preliminary assessment, the following are likely needed for the structural rehabilitation goals:

a. Strengthening the main floor gables end walls for out-of-plane loads;
b. Improvement and strengthening of the roof-to-wall connection;
c. Strengthening the diaphragm chord within the exterior walls;
d. Improvements to the roof diaphragm; and
e. Securing and improving the bridge crane support and attachment.

The procedure for the structural analysis will be non-invasive and not impact the historic integrity of the existing Olmsted Powerhouse. These improvements are likely needed for future occupancy of this structure. Upon completion of the structural analysis, the JLAs will provide to SHPO a recommendation of the needed improvements and in coordination with SHPO determine how to proceed with improvements, keeping financial considerations in mind.

Stipulation #5 will be completed as funding and opportunities become available. However, the JLAs will revisit the tasks within this stipulation and report to SHPO by September 2019.

6. **Commitment to Preserving the Historic Integrity of the Existing Olmsted Powerhouse**
The JLAs are committed to preserving the historic integrity of the existing Olmsted Powerhouse. In addition to rehabilitating the historic structure (see stipulation #5), the following features within or associated with the powerhouse will be preserved in-place:

a. **Penstocks** - Three of the four penstocks as they enter into the powerhouse will remain; one penstocks is buried and not visible as it enters the structure. The penstocks will be removed as they cross-over the tailrace; however, they will be left in-place as they enter the powerhouse for display purposes.
b. **Generators and Turbines** – All four generators and turbines will remain within the existing Olmsted Powerhouse.
c. **Bridge Crane** – The overhead bridge crane will be left in-place.
d. **Water Wheel Exciter** – This feature which is located near the generators and turbines and used during start-up will remain.
e. **Other Notable Features or Equipment:**
    i. A section of penstock that is planned for removal will be placed within the existing Olmsted Powerhouse for future display.

[1] The deficiencies listed are likely to require rehabilitation. These deficiencies are identified based on judgment considering performance of similar structures and are not based on quantitative analysis of the existing Olmsted Powerhouse. More analysis is required for a definitive determination.

ii. Artifacts discovered during construction or as part of Stipulation #1 will be stored within the existing Olmsted Powerhouse for future display.

f. **Roof Eves** – The wood within the roof eves have deteriorated over time. As funding becomes available, the wood in the roof eves would be replaced.

g. **Exterior Brick** – Some of the bricks on the exterior of the existing Olmsted Powerhouse have deteriorated over time. As funding becomes available, the bricks and mortar would be repaired.

The intent of the JLAs is to improve the existing Olmsted Powerhouse structural reliability (see stipulation #5) while preserving its historic integrity. At some point in the future when funding and opportunity become available, the JLAs plan to provide scheduled tours of the historic Olmsted Powerhouse.

Stipulation #6 has no completion date. However, the JLAs will revisit the tasks within this stipulation and report to SHPO by September 1, 2019.

7. National Register Nomination Amendment

The National Register of Historic Places nomination of the Olmsted Station Powerhouse will be updated to reflect the changes that have occurred to it since its original listing in 1972.

Stipulation #7 will be completed after work is done to the building so that the new description and photographs cover the finished building.

8. Aesthetic Treatments of the Proposed Powerhouse

During final design and construction, the JLAs will incorporate aesthetic features to the proposed powerhouse. The following aesthetic treatments will be utilized:

a. Hipped-roof design;
b. Stamped concrete brick veneer and stained to look like bricks; and
c. Vegetation plan.

The JLAs will contract with a qualified architect to develop aesthetic treatments proposed powerhouse. The JLAs will coordinate with SHPO prior to final design and construction.

Stipulation #8 will be completed as part of the construction of the Project.

9. Discoveries

The JLAs will contract with a qualified archaeologist to provide training, be on-call for discoveries, and monitoring as needed during construction of the Project. The archaeologist will meet or exceed the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-44739).

If human remains or historic or prehistoric cultural resources are discovered during construction, activities shall immediately cease within 50 feet of the discovery and the JLAs will take steps necessary to protect the discovery of these resources. The discovery will be promptly reported to the District's Environmental Programs Manager who will then notify and consult with SHPO within 48 hours regarding the appropriate treatment of the discovery (see paragraph below). All construction personnel will be required to have cultural resource training prior to working on the Project.

Upon a discovery of an artifact during construction, the JLAs will adhere to the following procedures:

a. All construction related activities will cease within 50 feet of the discovery and the artifact will be protected in-place;
b. The Contractor will notify the District's Environmental Programs Manager within 24 hours of the discovery;
c. A qualified archaeologist will evaluate the artifact's NRHP eligibility. If the discovery is determined eligible the following steps will occur:
    i. The archaeologist will document the discovery including:
        1. Photographs;
        2. Location within the APE;
        3. Sketches and/or diagrams; and
        4. Written description of the artifact.
    ii. Preparation of a Treatment Plan including:
        1. Introduction;
        2. Cultural Context;
        3. Research Design (historical documentation, archaeological excavations, monitoring, discoveries, and reporting); and
        4. Management Summary.
    iii. The archaeologist will monitor the construction activities within the vicinity of the discovery.
    iv. The JLAs will coordinate with SHPO to determine what artifacts may be retained for future display within the existing Olmsted Powerhouse. Eligible artifacts not retained by the JLAs will be offered to local museums (e.g. Orem Heritage Museum, Tintic Mining Museum).
d. During the excavation for the proposed powerhouse, penstock, and other features, the JLAs will provide a monthly, written report to SHPO. The report will include:
    i. Description of construction activities;
    ii. Monitoring results; and
    iii. Itemized list of artifacts discovered or unearthed.

10. Dispute Resolution

Should any signatory to this Agreement object to any actions proposed or the manner in which the terms of this Agreement are implemented, the JLAs will consult with such party to resolve the objection. If JLAs determine that such objection cannot be resolved, they will:

a. Forward all documentation relevant to the dispute to the Council. The Council will provide the JLAs with its advice within thirty (30) days. The JLAs will prepare a written response that takes into account advice from the Council and signatories, and provide them with a copy of this written response. The JLAs will then proceed according to its final decision.
b. Make a final decision on the dispute and proceed accordingly if the Council does not provide its advice within thirty (30) days. The JLAs will prepare a written response that takes into account comments regarding the dispute and provide signatories and the Council with a copy of the written response.
c. Carry out all other actions subject to the terms of this Agreement that are not the subject of the dispute.

11. Amendments

Any signatory to this Agreement may propose that the agreement be amended pursuant to 36 CFR § 800.6 (c)(7). The JLAs will then consult with other parties to consider the proposed amendment.

12. Duration

This Memorandum of Agreement will expire on May 1, 2024 and may be extended past upon concurrence with the signatories below. Execution of this Agreement is evidence that the JLAs have taken into account the effects of the undertaking on historic properties.

13. Termination

Any signatory may terminate the Agreement by providing 30 day written notification of intent to terminate to the other signatories. During this 30 day period, the signatories may consult to seek agreement on amendments or other actions that would avoid termination of this Agreement.

This agreement shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.

SIGNATORIES

CENTRAL UTAH WATER CONSERVANCY DISTRICT

By: Sarah Johnson Date: Oct. 3, 2014

Title: Environmental Programs Manager

UNITED STATES DEPARTMENT OF INTERIOR, CUPCA OFFICE

By: Reed R. Murray Date: 6 Oct 2014

Title: Program Director

UTAH STATE HISTORIC PRESERVATION OFFICER

By: Barbara Murphy Date: Oct. 16, 2014

Title: Deputy SHPO

Attachment A – Area of Potential Effects

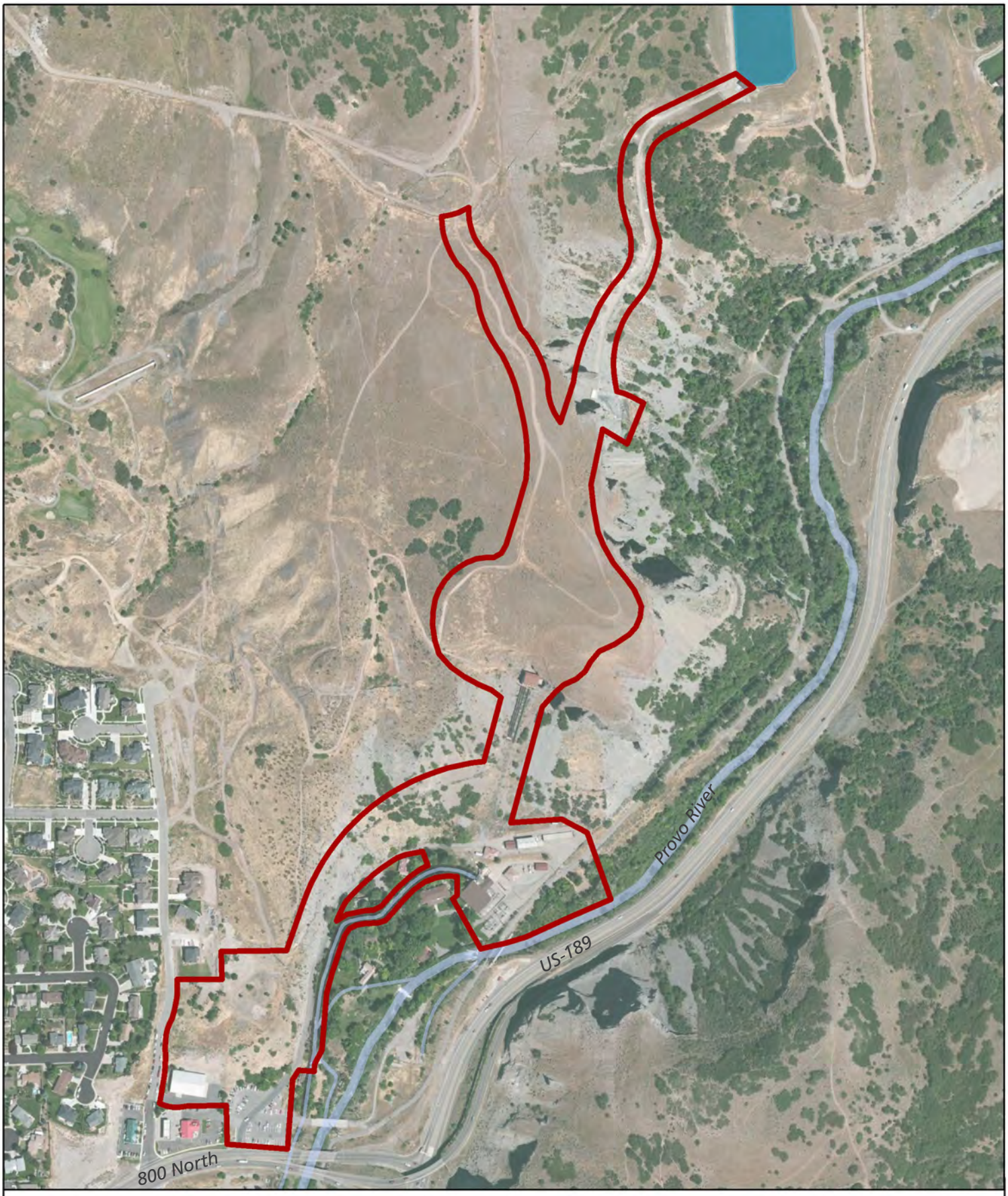

Figure 1: Area of Potential Effect (APE)

Olmsted Hydroelectric Power Plant Replacement Project
Orem, Utah County, Utah

0 125 250 500 Feet

June 2014

APPENDIX B: FEDERAL REGISTER – NOTICE OF INTENT

as joint leads, are evaluating the impacts of a proposed increase in operation, maintenance and replacement activities associated with the Wasatch County Water Efficiency Project (WCWEP) and have prepared a Draft Environmental Assessment.

DATES: Submit written comments on the Draft Environmental Assessment by January 31, 2014.

ADDRESSES: Send written comments on the Draft Environmental Assessment to Ms. Sarah Johnson, 355 W. University Parkway, Orem, UT 84058–7303, by email to *sarah@cuwcd.com,* by facsimile to 801–226–7171, or through the project Web site at *www.wcwepea.com.*

Copies of the Draft Environmental Assessment are available for inspection at:

- Central Utah Water Conservancy District, 355 West University Parkway, Orem, Utah 84058–7303
- Central Utah Water Conservancy District, WCWEP Office, 626 East 1200 South, Heber City, Utah 84032
- Department of the Interior, Central Utah Project Completion Act Office, 302 East 1860 South, Provo, Utah 84606
- Utah Reclamation Mitigation and Conservation Commission, 230 South 500 East #230, Salt Lake City, Utah 84102–3146

In addition, the document is available at *www.cuwcd.com* and *www.cupcao.gov.*

FOR FURTHER INFORMATION CONTACT: Mr. Lee Baxter, Central Utah Project Completion Act Office, 302 East 1860 South, Provo, Utah 84606; by calling 801–379–1174; or email at *lbaxter@usbr.gov.*

SUPPLEMENTARY INFORMATION: The Department, CUWCD, and the Mitigation Commission are publishing this notice pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. The Draft Environmental Assessment presents analysis of the anticipated environmental effects of a proposed increase in operation, maintenance and replacement activities associated with WCWEP. The WCWEP Operation, Maintenance, and Replacement Proposed Action in the Draft Environmental Assessment includes: Stabilizing canal banks; lining, piping, or enclosing the canals for safety and continued efficiency; improving access; and updating pump stations and regulating ponds to accommodate the changing pattern of water demand and increased urbanization.

We are requesting public comment on the Draft Environmental Assessment. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: December 24, 2013.

Reed R. Murray,

Program Director, Central Utah Project Completion Act, Department of the Interior.

[FR Doc. 2013–31306 Filed 12–30–13; 8:45 am]

BILLING CODE 4310–MN–P

DEPARTMENT OF THE INTERIOR

[133R0680R1, RR.17549897.1000000.01, RC0ZCUPCA0]

Office of the Assistant Secretary—Water and Science; Environmental Assessment of the Olmsted Hydroelectric Power Plant Replacement Project

AGENCY: Central Utah Project Completion Act Completion Office, Interior.

ACTION: Notice of intent.

SUMMARY: The Department of the Interior and the Central Utah Water Conservancy District (District), as joint leads, are preparing an Environmental Assessment (EA) to evaluate the impacts of a proposed project to replace the Olmsted Hydroelectric Power Plant.

DATES: Please submit scoping comments by January 31, 2014.

ADDRESSES: A Scoping Document associated with this effort is available at *www.cuwcd.com* and *www.cupcao.gov.* Send written comments to Mr. Chris Elison, 355 W. University Parkway, Orem, UT 84058–7303; by email to *chrise@cuwcd.com;* or by facsimile to the attention of Mr. Chris Elison at 801–226–7171.

FOR FURTHER INFORMATION CONTACT: Mr. Lee Baxter, Central Utah Project Completion Act Office, 302 East 1860 South, Provo, Utah 84606; by calling 801–379–1174; or email at *lbaxter@usbr.gov.*

SUPPLEMENTARY INFORMATION: The proposed project is located in Orem, Utah near the mouth of Provo Canyon. In October 2015, the District will assume the responsibility for operation and maintenance of the Olmsted power plant as a component of the Bonneville Unit of the Central Utah Project. The EA will provide the necessary analysis for determining potential environmental impacts associated with replacement of the Olmsted power plant and its continued operation. Principal components of the proposed project include construction of a new powerhouse; replacement of existing penstocks; incorporating the existing 10 million gallon equalization reservoir into the power plant configuration with potential impacts to the existing pressure box, raising the existing spillway, and lining a portion of the Olmsted Flowline tunnel.

Dated: December 24, 2013.

Reed R. Murray,

Program Director, Central Utah Project Completion Act, Department of the Interior.

[FR Doc. 2013–31304 Filed 12–30–13; 8:45 am]

BILLING CODE 4310–MN–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[14X LLIDB00100 LF1000000.HT0000 LXSS024D0000 241A 4500060956]

Notice of Public Meeting, Gateway West Project Subcommittee of the Boise District Resource Advisory Council

AGENCY: Bureau of Land Management, U.S. Department of the Interior.

ACTION: Notice of public meeting.

SUMMARY: In accordance with the Federal Land Policy and Management Act (FLPMA) and the Federal Advisory Committee Act of 1972 (FACA), the U.S. Department of the Interior, Bureau of Land Management (BLM) Gateway West Project Subcommittee of the Boise District Resource Advisory Council (RAC), will hold a work session as indicated below.

DATES: The work session will be held on January 14, 2014, at the Boise District Office located at 3948 Development Avenue, Boise, ID 83705, beginning at 12:30 p.m. and adjourning at 5:00 p.m. Members of the public are invited to attend. A public comment period will be held.

FOR FURTHER INFORMATION CONTACT: Marsha Buchanan, Supervisory Administrative Specialist and RAC Coordinator, BLM Boise District, 3948 Development Ave., Boise, ID 83705, Telephone (208) 384–3364.

SUPPLEMENTARY INFORMATION: The Gateway West Project Subcommittee advises the Boise District Resource Advisory Council on matters of planning and management of the Gateway West Project (sections 8 and 9). The Boise District Resource Advisory

APPENDIX C: COMMENTS AND RESPONSES

Name		Comment	Response
Public Comments			
1a	Nathan Davenport	I'd like to thank you and everyone else who presented at the information meeting on October 9th. I'm excited about the overall project and fully support the idea of continued power generation at the Olmsted. 1. However, I have a few concerns about the proposed access on 1560 E and any proposed changes to the 800 N Ride Lot. I have worked at the nearby Xactware campus and driven this stretch of 800 N for nearly 18 years. Additionally, I have lived on 1560 E for 9 years now and currently live at the closest affected residence to the project. I am intimately familiar with the intersection at 1560 E and 800 N. I've seen numerous accidents over the years and nearly participated in a few myself. 2. My first comment is that 1560 E cannot easily support additional traffic as currently designed. There already exists a number of problems with the area around the proposed access. The accesses to the gas station and restaurant parking lots on either corner are too close to 800 N. It is very common for people turning off 800 N onto 1560 E to immediately stop and block the traffic lane as they attempt to access the gas station and restaurant parking lots. People trying to leave these lots often do not check for traffic coming down 1560 E before pulling out onto the street. Most often they are in a hurry to secure a place in line at the intersection which often takes a significant amount of time to turn from, especially to the east. There is only room for 5 - 6 cars waiting there before people can't get out of the parking lots into line. Additionally, we get a lot of people parking all the way up the street because the restaurant doesn't have an appropriately sized parking lot for the number of patrons it has. It is often not possible for two way traffic on some sections of the street. These restaurant patrons also frequently speed up our street to turn around, which often happens in our driveways. To top it off, the crosswalk at the end of the street is treated by cyclists as a bike lane which they usually use to cross the street at high speeds -at least the ones coming down the hill. All of these things together create an environment where I observe accidents or near misses on weekly if not daily basis.	1. The Proposed Action does not include any improvements to the 800 North Park and Ride Lot. 2. The Proposed Action would include constructing a private access road from 1560 East to the Olmsted Hydroelectric Power Plant. The Proposed Action would only minimally increase the amount of traffic on 1560 East since access to the Olmsted Hydroelectric Power Plant is restricted to authorized personnel (see Section 3.17 Transportation in Chapter 3). Additionally, the proposed access road would be set far enough back from the 1560 East/800 North intersection that it would not interfere with intersection operations.

Name		Comment	Response
1b	Nathan Davenport (cont.)	3. Second, I'd like to note that the situation at this intersection is not likely to change. Some have said that Orem may put in a light. I've been hearing that for 18 years now and it has yet to happen. I believe that has at least something to do with the how the current business accesses are simply too close to the intersection as mentioned above. Regardless, having a light here will not significantly change most of the problems I've mentioned. 4. Part of the proposed Olmstead project is to alter this already problematic area. It seems that there were a number of possibilities mentioned by people after the meeting, none of which are yet detailed in the Olmsted Draft EA document. They all involved adding an access road north of the storage building on 1560 E by altering the south end of the hill separating the current Olmstead access road from 1560 E. Some of the possibilities mentioned were: a. Creating an access road from 1560 E connected only to the current Olmstead access road. b. Creating an access road from 1560 E connected through the 800 N Ride Lot to the current Olmstead access road. c. Creating an access road from 1560 E connected through the 800 N Ride Lot to the current Olmstead access road and closing off the current Ride Lot entrance on 800 N.	3. A signal is not in the scope of the Olmsted Hydroelectric Power Plant project. The Utah Department of Transportation (UDOT) could put a light in at the 800 North/1560 East intersection once that intersection meets certain conditions or warrants. There are eight warrants, which include considerations such as crash rates, crash severity, traffic volumes, and intersection delay. If an intersection meets any one of the eight warrants, a signal could be installed. 4. The final configuration of the access road will be determined during final design and will include coordination with Orem City and affected property owners. However, the access road is expected to be 20 feet wide, gated (with access limited to authorized personnel), and have no public connection to the 800 North Park and Ride Lot.

Name		Comment	Response
1c	Nathan Davenport (cont.)	5. I do not believe that regular usage of the Olmstead area will greatly add to the current traffic level on 1560 E. During construction it may temporarily be a problem, but not in the long term. 6. However, adding this access along the east side of 1560 E will take away area that is currently being used by patrons to the nearby restaurant for parking. Especially since a portion of the curb will likely need to be red to allow enough visibility for traffic coming out of the access road. This will push more people further up the road to park. It is already only possible to drive in one direction at a time when cars are parked along the road. As cars park further up the road, especially along the curves this problem will get worse. We've seen more than one person lose a mirror. It also makes it very difficult to walk down to the gas station which is a favorite pastime of the kids in the neighborhood. The current closure of the Park Lot has made this much worse, but it has been an issue as long as I have lived in the neighborhood. 7. Connecting the access road to the parking lot as well, will not only push parked cars further up the road, it will increase the amount of traffic through the problem end of 1560 E. This increase is guaranteed if the Ride Lot access to 800 N is closed. The current situation is far from ideal, however it is at least somewhat working. 8. We were told that the traffic in and out of the Olmstead would be minimal once construction is complete. This makes me question the need for any long term access changes, since any changes would make the situation worse for everyone currently utilizing 1560 E.	5. There would be additional, temporary traffic during construction. During construction of the access road and the Hydroelectric Power Plant, the Central Utah Water Conservancy District will provide flaggers, temporary signals, etc. 6. The new access road is expected to be 20 feet wide, which would affect only a small area of on-street parking. Please coordinate with Orem City on the limited parking at the nearby restaurant. 7. The proposed access road would not provide a public connection to the 800 North Park and Ride Lot. 8. Current access to the Olmsted Hydroelectric Power Plant is through the Provo River Parkway Park and Ride Lot off of 800 North in Orem. Because the parking lot is located near the mouth of Provo Canyon, just prior to where the highway splits sending traffic north (Provo Canyon) or south (toward Provo City), site distance is limited and vehicles exiting the parking area/access road can only make a right-out movement. The proposed access road would allow for egress in both directions on 800 North, rather than a right-out only configuration.

Name		Comment	Response
1d	Nathan Davenport (cont.)	9. Turning right out of the Ride Lot onto 800 N is actually easier than doing it from 1560 E because traffic from the east hasn't gotten up to the allowed 45 miles an hour usually at that point. Turning left is a problem at either point. I understand that during construction there will be issues, but I am not sure a permanent change is the solution to the long term problem. Whatever ends up needing to happen, we would like to be a part of the process. All of us who live on 1560 E are already not happy with the current situation. Anything that might make it worse would be unfortunate. Something that might improve the situation would be certainly be welcomed. I can't think of any solutions where the project would improve situation, but I'm open to ideas.	9. The final configuration of the access road will be determined during final design and will include coordination with Orem City and affected property owners.
2	Katrina Larson	I'd like to second Nathan's comments. He has covered all of the concerns I have as a neighbor just around the corner on 1060 N. I use 1560 E daily to get to and from my home and experience all of the same problems and risks Nathan has explained. I appreciate the chance to comment and hope to participate in the process as it moves forward.	See response in Comment 1.
3	Scott L. Soelberg	I endorse and echo the concerns outlined by Nathan Davenport in his email to you yesterday. I would submit that the current problems are even more serious than expressed by Nathan, and some of the proposed changes would definitely exaggerate the current problems and dangers for all using 1560 East, patronizing Mama Chus restaurant and the gas station, and those wishing to park to use the Provo River trail and canyon. I highly recommend further public dialogue to discuss these issues and to explore possible solutions.	See response in Comment 1.

	Name	Comment	Response
4	Kyle Lefebvre	Thank you to everyone for their input and responses. I apologize for the lateness of my additions but it took until this afternoon to read through everything and find time to respond. The only item that I feel compelled to make Mr. Elison aware of is the sheer number of small children we have in the area. There are 23 children below the age of 18 who reside in the first eight homes along 1560 E. If we expand that count to a few of the homes directly adjacent to 1560 E., then the number swells to 35+. We already deal with neighbors and friends who speed down the street at 45 mph or faster. My concern is that the introduction of hundreds of people (and their cars) to 1560 E is sure to bring a lot more non-residence traffic up 1560 E. This we have already experienced with the current situation. Perhaps we can use CUWCD's influence on Orem City to post lighted speed limit signs or a sign stating that the neighborhood is open to local traffic only. In an ideal world we would get a few, large, well placed, speed bumps like they have on Palisades.	See response in Comment 1.
	Agency Comments		

Name		Comment	Response

1	PacifiCorp Energy Mark Adams	On September 25th 2014, PacifiCorp received a small generator interconnection request from Western Area Power regarding the Olmsted Hydroelectric Power Plant Replacement Project.
		
		On October 14th 2014, an initial scoping meeting/conference call was held between PacifiCorp, Western Area Power and several other interested parties to discuss the project size, scope, in-service date and where Western would like the new generator to be connected to the electrical grid of PacifiCorp.
		
		The interconnection application indicated that the United States would like to establish a new transmission inter-connection point between the project and the PacifiCorp transmission grid at the existing 46 kV bus at PacifiCorp's Olmsted substation near the project. In the meeting, the PacifiCorp transmission planning team, indicated that the area master plan calls for the removal of the Olmsted substation once the existing generation at Olmsted is discontinued, because the PacifiCorp Operations team believes the area has some serious maintenance concerns that need to be addressed. PacifiCorp is also in the middle of a long term voltage conversion master plan that will eventually replace most (if not all) of the area's 46 kV system with 138 kV. Western was encouraged to review their application and consider attaching their project to PacifiCorp's 138 kV system (perhaps at the Hale substation about a half mile away).
		
		A system impact study agreement between the two parties has not yet been signed, so work has not been started to further investigate this interconnection request.
		
		PacifiCorp does have some concern the Olmsted Hydroelectric Power Plant Replacement Project's draft EA does not address the impact of bringing a new transmission line from the project to some future interconnection point which has not been identified or studied at this time.
			The Environmental Assessment (EA) has been updated to include the addition of a transmission line from the Olmsted Hydroelectric Power Plant to the Hale substation. The new transmission line would follow the alignment of the existing access road and cross 800 North, the Provo Bench Canal, and the Provo River to connect to the Hale substation. The new transmission line would have no additional environmental impacts.
			
			The following sections have been revised in the EA:
			• <u>Chapter 1</u>
			  o Figure 1-1 Study Area
			• <u>Chapter 2</u>
			  o Proposed Action Alternative descriptions and associated figures
			• <u>Chapter 3</u>
			  o Section 3.6 Wildlife
			  o Section 3.7 Water Resources and Wetlands
			  o Section 3.10 Floodplains
			  o Section 3.11 Cultural Resources
			  o Section 3.14 Visual Resources
			  o Section 3.17 Transportation
			  o Section 3.19 Hazardous Waste

Name		Comment	Response
2	PacifiCorp Energy Claudia Conder	PacifiCorp is working with Central Utah Water Conservancy District (CUWCD), Department of Interior, and the Bureau of Reclamation Provo Office on several property and operational matters related to the proposed replacements and modifications to the Olmsted Hydroelectric Power Plant (Proposed Action) as well as other matters as identified in the Environmental Assessment for the Olmsted Hydroelectric Power Plant (EA). PacifiCorp desires to briefly comment on a few specific issues identified in the EA. 1. The study area delineated in the EA includes fee property owned by PacifiCorp. It also includes structures and personal property owned by PacifiCorp. Therefore, cooperation with PacifiCorp by the project proponents is crucial to ensuring that PacifiCorp's ratepayer interests are kept whole. 2. Reference to site access improvements, specifically from 1560 East Street (Chapter 2 page 8, Improving Site Access, of the EA): The new access that is being proposed in the EA would require use of PacifiCorp property. To date the project proponents have not discussed this with PacifiCorp. 3. PacifiCorp holds an access right through the Department of Interior property in the location of the new proposed plant. Any interruption or disturbance of this right will require a replacement access acceptable to PacifiCorp. 4. A power transmission line is located where the new plant is proposed. The transmission line will need to be relocated without cost to PacifiCorp and in a location acceptable to PacifiCorp. In addition, several additional transmission and distribution lines are located within the broader study area that will need to be contemplated as part of the project. 5. The installation of facilities to return water to the Provo River would require the use of PacifiCorp property. This use has not been discussed with PacifiCorp. 6. PacifiCorp requests that wildlife attributes be addressed in the tailrace for fish and water fowl during construction dewatering. 7. PacifiCorp requests that it is made aware of any hazardous materials or contaminants that are known or discovered in the course of performance of project activities that could in any way affect PacifiCorp's fee or personal property.	1 – 5. The Department of the Interior and the Central Utah Water Conservancy District will coordinate with PacifiCorp to develop an agreement that will set forth terms for right-of-way acquisitions, replacement accesses, and power transmission line relocations, as well as any other impacts the Proposed Action would have on PacifiCorp's facilities and operations. 6. See Section 3.6 Wildlife for discussion on dewatering the tailrace during construction. As discussed in that section, fish relocation for dewatering will be coordinated with the Utah Department of Wildlife Resources (UDWR). 7. The Central Utah Water Conservancy District will inform PacifiCorp of any hazardous waste discovered during construction.

Name		Comment	Response
3	Provo River Water Users Association Steve Cain	After reviewing the information available as of the date of this letter [October 24, 2014], the Association is not aware of any impacts that the Olmsted Replacement Project will have on PRP water rights or operations. However, any project on the Provo River system may have effects on these water rights and contracts. The Association will monitor the NEPA and design process for the Olmsted Replacement Project to evaluate any potential impacts to these rights and obligations. It is assumed that Association personnel will be able to access all PRP features in the affected area. We further assume there may be times when coordination between the Association, CUWCD and the District's contractors will be necessary. The Association commits to cooperate at those times. The Association desires to be included in any and all further environmental and design review as appropriate.	Not response necessary.