ULS Orem Reach 2

REALIGNMENT

ENVIRONMENTAL ASSESSMENT

SUBMITTED BY:

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

CENTRAL UTAH WATER CONSERVANCY DISTRICT

UTAH RECLAMATION MITIGATION AND
CONSERVATION COMMISSION

JULY 2015

Utah Lake Drainage Basin Water Delivery System (ULS)

Orem Reach 2 Realignment

ENVIRONMENTAL ASSESSMENT

July 2015

Joint Lead Agencies:

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

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U.S. Bureau of Reclamation

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ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BMP	Best Management Practice
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
CO_2	carbon dioxide
CUP	Central Utah Project
CUPCA	Central Utah Project Completion Act
DERR	Utah Division of Environmental Response and Remediation
District	Central Utah Water Conservancy District
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
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
ULS	Utah Lake System
UNHP	Utah Natural Heritage Program
UPDES	Utah Pollutant Discharge Elimination System
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank

CHAPTER ONE: PURPOSE AND NEED

1.1 Introduction

The Central Utah Water Conservancy District (District); the U.S. Department of the Interior, Central Utah Project Completion Act Office (Interior); and the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission), as Joint Lead Agencies, have prepared this Environmental Assessment (EA) to analyze the environmental impacts of realigning the planned Orem Reach 2 segment of the Spanish Fork—Provo Reservoir Canal Pipeline (SFPRCP) located near the Olmsted Hydroelectric Power Plant. The proposed project is located in Orem, Utah, near the mouth of Provo Canyon. The SFPRCP is a component of the Utah Lake Drainage Basin Water Delivery System (ULS) of the Central Utah Project (CUP)—Bonneville Unit.

Past Studies

The SFPRCP connection to the Alpine Aqueduct has been identified in several previous planning and environmental documents. These include:

- 2004—Supplement to the 1988 Definite Plan Report for the Bonneville Unit, Central Utah Project Completion Act;
- 2004-2005—Environmental Impact Statement and Records of Decision for the Utah Lake Drainage Basin Water Delivery System (ULS EIS);
- 2010—Environmental Assessment and Finding of No Significant Impact for the Realignment of a Portion of the Utah Lake Drainage Basin Water Delivery System (Realignment EA). The Realignment EA shows the SFPRCP connection to the Alpine Aqueduct further west of the Olmsted Hydroelectric Power Plant[1].

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 ULS Orem Reach 2 project requires a federal action.

National Environmental Policy Act

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

[1] Construction of the SFPRCP as shown in the Realignment EA would be difficult due to the steepness of the terrain, known geologic hazards, poor soil conditions, close proximity to an established residential neighborhood and high operation and maintenance costs. See Chapter 2 for further details.

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), Public Involvement as required by the Central Utah Project Completion Act (CUPCA), and other state and local regulatory requirements.

1.2 Proposed Action

The Proposed Action would realign the planned route of the ULS Orem Reach 2 pipeline from the Provo River Flow Control Structure. The proposed pipe alignment would run along the Olmsted Hydroelectric Power Plant access road to the planned Olmsted Hydroelectric Power Plant. It would then use the planned Olmsted penstocks and rock tunnel (both to be replaced as part of the Olmsted Hydroelectric Power Plant Replacement Project) and flowline to connect to the Alpine Aqueduct at the District's existing 10 million gallon (MG) reservoir. The Proposed Action provides an opportunity to generate hydroelectric power on the ULS supplemental water delivered to the Provo River through the planned Olmsted Hydroelectric Power Plant. Additionally, the Proposed Action includes construction of a secondary access road into the Olmsted Hydroelectric Power Plant. The Proposed Action is described in more detail in Chapter 2.

ULS Supplemental Water:

ULS Supplemental Water delivered to Utah Lake includes:

- Exchange Water
- Conserved Water

See Section 2.3 of Chapter 2 for complete definition

1.3 Cooperating Agencies

In addition to the Joint Lead Agencies, the U.S. Bureau of Reclamation (Reclamation) is participating in the preparation and review of this EA as a formally designated Cooperating Agency.

As defined by the Council on Environmental Quality (CEQ) 40 CFR 1501.6, a Cooperating Agency actively participates in the NEPA process, provides information for preparing environmental analyses for which the Cooperating Agency has jurisdiction by law or special expertise, and is part of the 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 Figures 1-1 and 1-2 for the location of the study area.

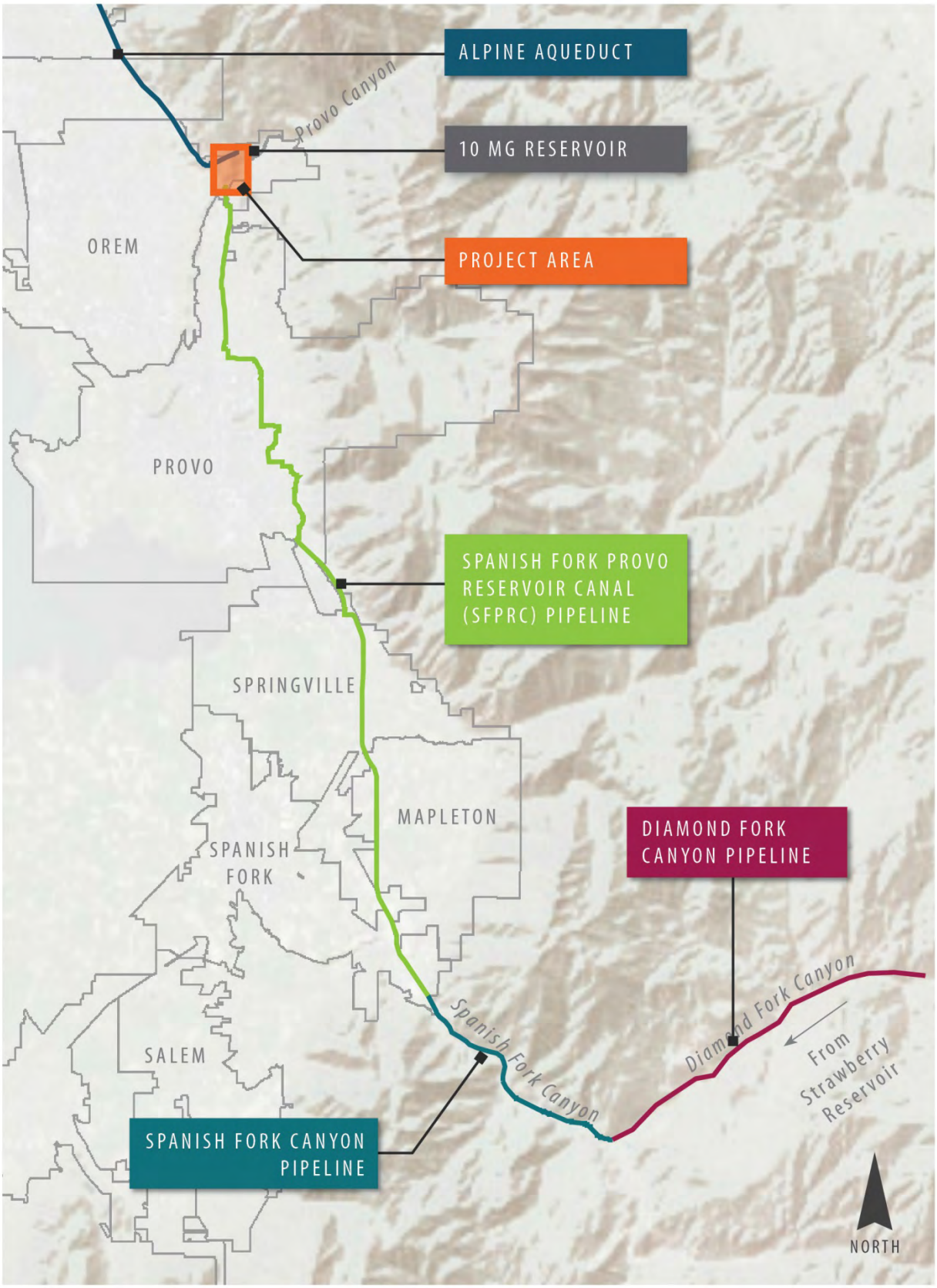


Figure 1-1 Vicinity Map

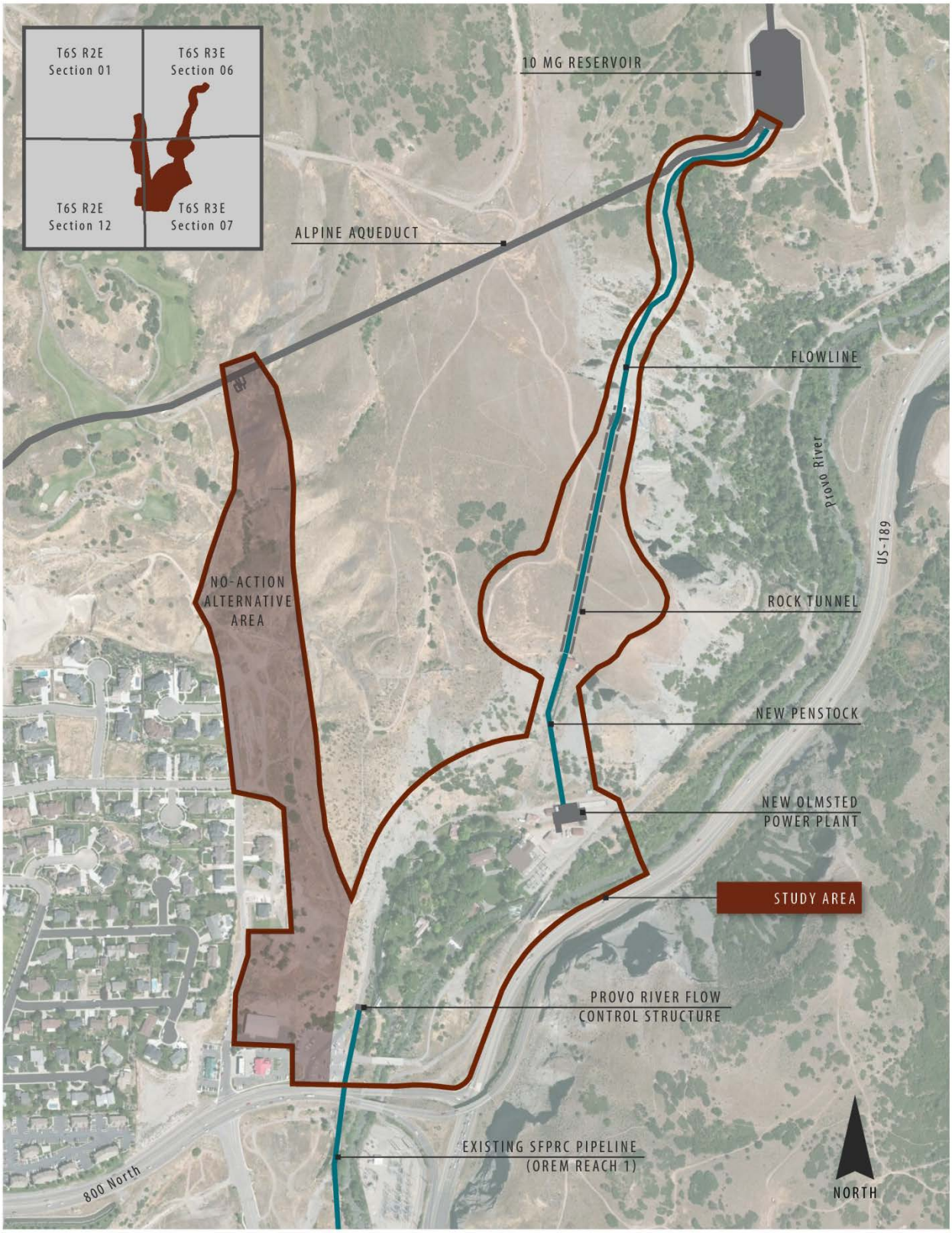
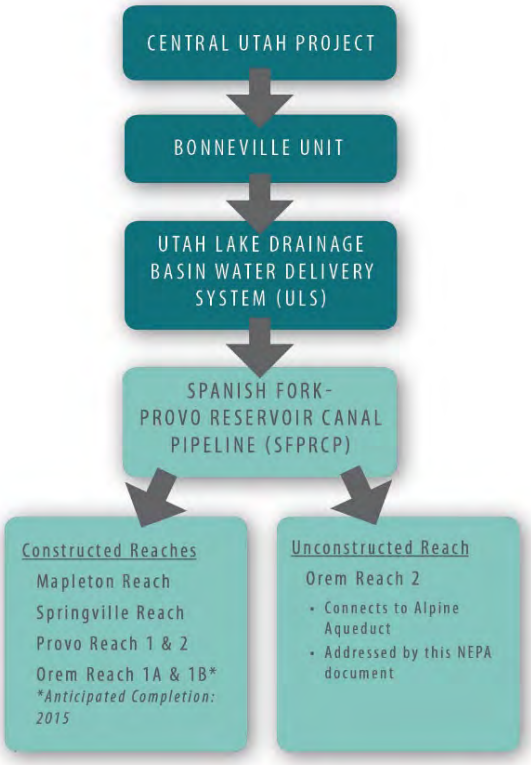


Figure 1-2 Study Area

1.5 Project Background

Spanish Fork—Provo Reservoir Canal Pipeline (SFPRCP)

The ULS, a feature of the Central Utah Project-Bonneville Unit, includes the SFPRCP which begins with a connection to the Spanish Fork Canyon pipeline near the mouth of Spanish Fork Canyon, extending approximately 18 miles northward (see Figure 1-1). Upon completion the pipeline will deliver water to the Provo River, the Provo River Aqueduct[2], and the Alpine Aqueduct. The SFPRCP is a buried 60-inch welded steel pipe which has been under construction in segments since 2009. The Orem Reach 1B segment of the SFPRCP includes the construction of the Provo River Flow Control Structure and is scheduled for completion in the summer of 2015. The final segment of the SFPRCP to be constructed is the Orem Reach 2.



The purpose of the SFPRCP is to deliver water stored in Strawberry Reservoir to Hobble Creek[3], to the Provo River, and to customers in Salt Lake County. The deliveries to Salt Lake County will be made through the SFPRCP to the Alpine Aqueduct and the Provo River Aqueduct. The Provo River Flow Control Structure will regulate and provide flow control for these deliveries. The Alpine Aqueduct begins at the Olmsted 10 MG Equalization Reservoir (10 MG Reservoir), runs along the foothills of Mount Timpanogos, and delivers water to northern Utah County communities. The Alpine Aqueduct also connects to the Jordan Aqueduct which delivers water into Salt Lake County. Water deliveries to Salt Lake County are not anticipated to begin before 2021.

Olmsted Hydroelectric Power Plant

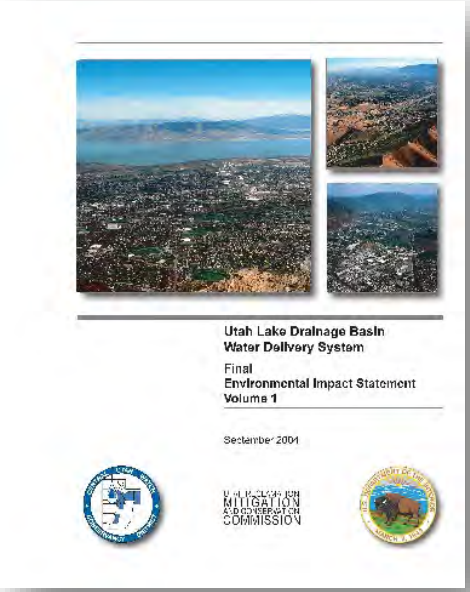
As part of a plan to meet the projected water demand for Wasatch Front communities, the United States of America, acting through the Bureau of Reclamation of the Department of the Interior, acquired the Olmsted Flowline in 1987 and the Olmsted Hydroelectric Power Plant in 1990. The acquisitions included 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

[2] Previously known as the Provo Reservoir Canal.
[3] Deliveries to Hobble Creek will be temporarily made from the SFPRCP. When contracted demand meets capacity of the SFPRCP, Hobble Creek deliveries will be made through the Mapleton-Springville Lateral.

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. In the fall of 2013, the District and the Interior initiated the NEPA process and preliminary design for the Olmsted Hydroelectric Power Plant Replacement Project (Olmsted Replacement Project). The Finding of No Significant Impact for the Olmsted Replacement Project was signed on January 16, 2015.

A Value Engineering study was conducted in December 2014 on the preliminary design plans for the Olmsted Replacement Project. The VE study recommended the connection of the SFPRCP (Orem Reach 2 project) to the Alpine Aqueduct through the planned Olmsted Hydroelectric Power Plant facilities—which includes the penstock, rock tunnel, and flowline (see Figure 1-2).

1.6 Purpose and Need



This EA tiers from and updates a portion of the ULS EIS pursuant to 40 CFR 1502.20 and 1508.28. The ULS EIS may be accessed electronically at the Joint Lead Agencies' websites:
http://www.cuwcd.com/oremreach2realignment
http://www.cupcao.gov/bonneville/uldbwds.html
http://www.mitigationcommission.gov/watershed/provoriver/watershed_provo.html

The need for the proposed project is to connect the Orem Reach 1B SFPRCP to the Alpine Aqueduct.

The purposes of the proposed project are to minimize environmental impacts, provide an opportunity to generate hydroelectric power on the ULS supplemental water delivered to the Provo River through the planned Olmsted Hydroelectric Power Plant, and minimize construction costs and potential operational and maintenance concerns associated with known geologic hazards with the alignment shown in the Realignment EA.

1.7 Statutes, Regulations, or Other Related Documents

Statutes and Regulations

The ULS Orem Reach 2 Realignment 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 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, Central Utah Completion Act (2004)
- Utah Lake Drainage Basin Water Delivery System Final Environmental Impact Statement (2004) and Records of Decision (2004/2005)
- 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)
- Olmsted Hydroelectric Power Plant Replacement Project Final Environmental Assessment and FONSI (2015)

CHAPTER TWO: ALTERNATIVES

2.1 Introduction

This chapter discusses the No-Action Alternative and the Proposed Action Alternative.

2.2 No-Action Alternative

The No-Action Alternative has been developed to provide a comparison with the Proposed Action. Under the No-Action Alternative the Orem Reach 2 pipeline would be constructed along the alignment identified in the Environmental Assessment for the Realignment of a Portion of the Utah Lake Drainage Basin Water Delivery System (Realignment EA). The No-Action alignment would begin at the Provo River Flow Control Structure, proceed northwest across steep terrain, adjacent to the residential neighborhood west of the study area, and connect to the Alpine Aqueduct (see Figure 2-1).

2.3 Proposed Action Alternative

As shown on Figure 2-1 the Proposed Action Alternative would include:

SFPRCP – Orem Reach 2 Realignment

The proposed realignment of the SFPRCP – Orem Reach 2 would extend from the Provo River Flow Control Structure, northward along the existing Olmsted Hydroelectric Power Plant access road and continue northeastward to the connection to the Alpine Aqueduct at the 10 MG Reservoir. The Orem Reach 2 pipeline alignment would include:

- Constructing approximately 1,200 linear feet of pipeline within the existing Olmsted Hydroelectric Power Plant access road between the Provo River Flow Control Structure and the planned Olmsted Hydroelectric Power Plant. The pipeline would be a 60-inch welded steel pipe.
- Mortar-lining approximately 1,400 linear feet of the existing 102-inch diameter welded steel Olmsted Flowline between the rock tunnel and the 10 MG Reservoir.

The Proposed Action would also include features first outlined in the Olmsted Replacement EA. These features could be constructed by either project and would be considered joint features of both projects. These include:

- A planned 84-inch penstock between the planned Olmsted Hydroelectric Power Plant and the rock tunnel. The planned penstock will be buried.
- A planned 84-inch welded steel pipe within the rock tunnel between the penstock and the 102-inch welded steel Olmsted Flowline.

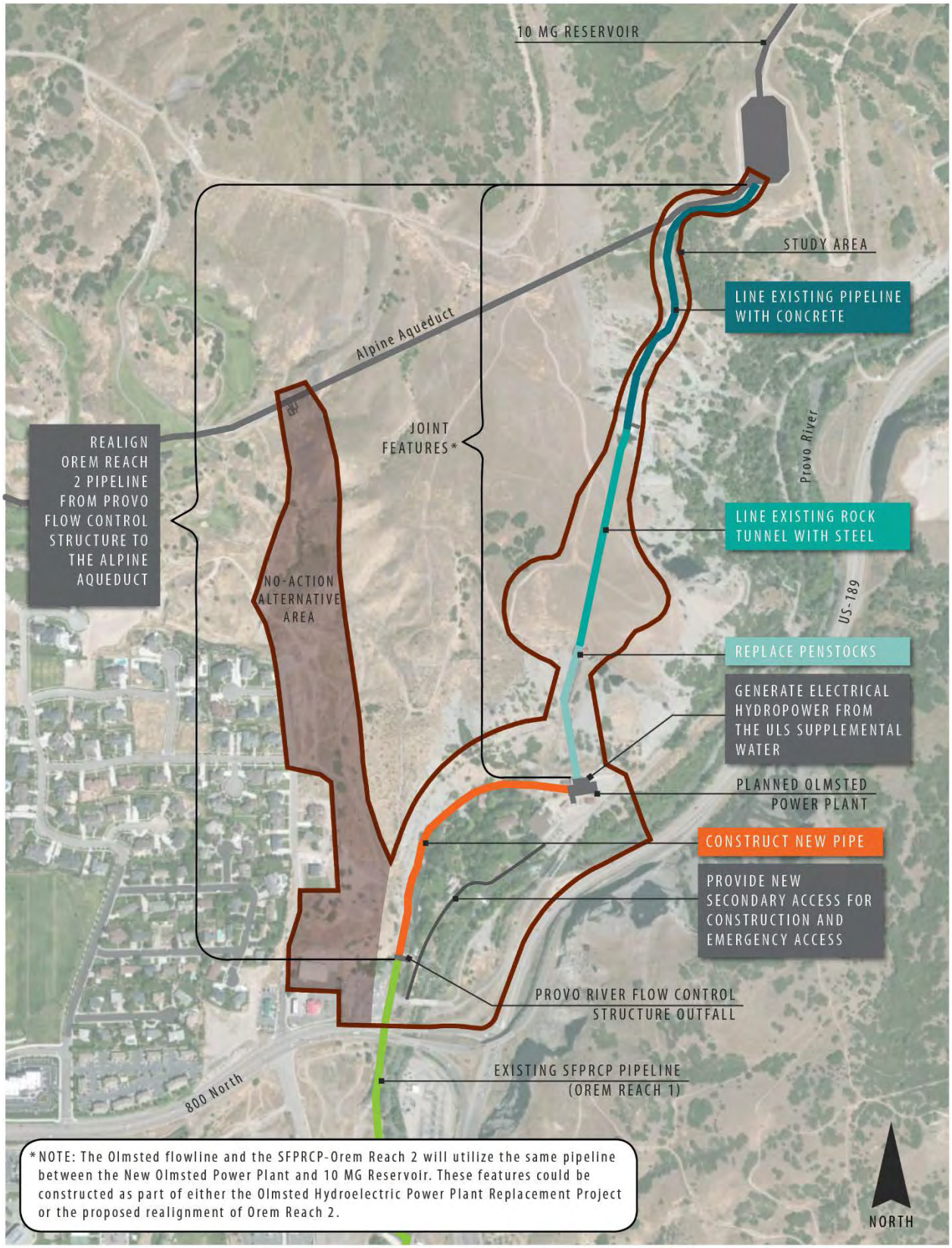


Figure 2-1 Proposed Action

Hydroelectric Power Generation on the ULS Supplemental Water

The Proposed Action includes hydroelectric power generation on ULS supplemental water delivered to the Provo River through the planned Olmsted Hydroelectric Power Plant. The ULS supplemental water is defined as:

- **Exchange Water** is water delivered from Strawberry Reservoir to Utah Lake for replacement of Provo River water that is stored in Jordanelle Reservoir. This trans-basin water may be delivered through the SFPRCP to the Provo River on its way to Utah Lake. This trans-basin exchange follows requirements of Bonneville Unit water rights and the State Engineer's Utah Lake Interim Water Distribution Plan (Utah Division of Water Rights 1993).
- **Conserved Water** is water that can be turned over to the Secretary of the Interior to use as in-stream flows under section 207 of the CUPCA. If the conserved water is turned over, the Secretary must give a credit against the repayment obligations of the District for the water received. For example, when the Provo Reservoir Canal was enclosed, 8,000 acre-feet of conserved water became available for in-stream use on the Provo River. Conserved water originates from the Bonneville Unit municipal and industrial water supply and as such is subject to the same shortages as other municipal and industrial water uses. This water may be delivered through the joint facilities[1] operated by the District.

Secondary Access

The Proposed Action Alternative includes the acquisition of a 30-foot wide perpetual easement for use as a secondary access and would require approximately 0.5 acres of property currently owned by PacifiCorp. This proposed perpetual easement would extend from the tailrace return channel to the property owned by the Department of the Interior (location of the existing and planned power plant). This alignment provides an alternate access into the Olmsted Hydroelectric Power Plant from the parking lot and trailhead located off of 800 North in Orem (see Figure 2-1). The proposed secondary access would utilize the same alignment and roadway built as a temporary access into the Olmsted Hydroelectric Power Plant during and for the construction of the Provo River Flow Control Structure under the Orem Reach 1B project. It would remain 15 feet wide, use existing bridge crossings over the Provo Bench Canal and tail race return channel. The secondary access purpose is to provide an alternate route into the Olmsted Hydroelectric Power Plant during construction

Construction-Related Improvements and Staging

Due to the limited space of the location and topography of the site, improvements may be needed 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, and installation of storm water Best Management Practices (BMPs). If any additional staging or storage areas beyond what is identified in this document are needed, the contractor would be required to complete additional environmental clearances and obtain any necessary permits.

[1] For the Orem Reach 2 Realignment Project, the joint facilities are considered the flowline, the rock tunnel, and the penstock.

2.4 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). Because the construction period would be shorter than the No-Action Alternative, these temporary impacts would be less. • No long term adverse effects.	• 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	• The proposed action would cause a slight decrease in carbon dioxide (CO_2) and other greenhouse emissions, because additional power would be generated from hydroelectric sources. The action would not create vulnerability to climate changes.	• The No-Action Alternative would not result in the same slight decrease in carbon dioxide (CO_2) and other greenhouse gas emissions as the Proposed Action.
Soils and Geotechnical	• Would result in soil disturbance, vegetation removal, and the placement of fill material over existing soils, but to a lesser degree than the No-Action Alternative. • Would result in decreased geologic hazards.	• Would result in soil disturbance, vegetation removal, and the placement of fill material over existing soils. • Increased project risks from known soil and geologic hazards.
Threatened and 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.	• Same as Proposed Action.

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. • Lower impacts to habitat due to reduced ground disturbance.	• 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 water resources or wetland impacts.	• Same as Proposed Action.
Water Quality	• Would not impact water quality in receiving waters.	• Same as Proposed Action.
Groundwater	• No effect.	• Same as Proposed Action.
Floodplains	• Would not change the base flood elevations of the Provo River and would not adversely impact the Provo River floodplain.	• Same as Proposed Action.
Cultural Resources	• Adverse effect to features of the historic Olmsted Campus. The adverse effect would be mitigated.	• No effect.
Socioeconomics	• No permanent effect. • During the construction period there would be short-term benefits to the local economy (employment, spending on goods, services, and materials).	• Same as Proposed Action
Visual Resources	• Removal of historic features and vegetation would affect the overall visual resources of the Olmsted Campus. • The secondary access road would also affect the overall visual resources of the Olmsted Campus.	• Temporary, short-term construction impacts. • Minor long-term impacts due to pipeline valves/connection structures, access points, and scars from the placement of the pipe.
Recreation	• Temporary, short-term effects on the availability of the 800 North trailhead for the Provo River Parkway Trail and Murdock Canal Trail during construction.	• Same as Proposed Action.

Subject	Proposed Action Alternative	No-Action Alternative
Noise and Vibration	• Short-term noise impacts during construction to adjacent residents and businesses. The Proposed Action is further from sensitive receptors than the No-Action Alternative, and would have lower impacts. • Potential vibration impacts to buildings on the Olmsted Campus.	• Short-term noise impacts during construction to adjacent residents and businesses • Potential vibration impacts to nearby homes.
Transportation	• Temporary impacts to businesses and local residents as a result of construction traffic. • No impact to other transportation resources in the study area. • No long-term effects.	• Rerouting of normal traffic conditions during construction. • Temporary impacts to residential streets. • No long-term effects.
Energy	• Produce approximately 3,207 kilowatt-hours per acre-foot of additional energy per year depending on the volume of ULS supplemental water delivered through the Olmsted Hydroelectric Power Plant before being delivered to the Provo River.	• The 3,207 kilowatt-hours per acre-foot of energy generated under the Proposed Action would not be produced. • No effect
Hazardous Waste	• Potential to encounter areas of environmental concern from historical incidents.	• Same as 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.	• 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. • Vegetation removal.

CHAPTER THREE: AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 Introduction

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

Affected Environment

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

Olmsted Campus

The term Olmsted Campus is used to describe a portion of the affected environment. The limits of the Olmsted Campus are the Olmsted Access Road on the west and north, the Provo River on the east, and the Provo Bench Canal on the south.

Environmental Effects

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

- **Direct impacts** are those caused by the action and occur at the same time and place (40 CFR §1508.8). These are discussed in each resource area subsection.
- **Indirect impacts** are those caused by the action and occur later in time or are farther removed in distance, but are still reasonably foreseeable (40 CFR §1508.8). Indirect effects are generally less quantifiable but can be reasonably predicted to occur. Indirect impacts are discussed in Section 3.21.
- **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 3.22.

The scoping process identified the following resource topics of concern:

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

Resources not Addressed in the EA

Resources not addressed in this 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** –According to the 2010 Census Urban Areas, the study area is within the Provo-Orem, UT urbanized area. There are no farmlands within the project 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.

- **Groundwater Quality** – 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. 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). The Proposed Action would have no effect on Groundwater Quality.

- **Floodplains** – Defined as normally dry areas that are occasionally inundated by high stream flows or high lake water. The *base flood elevation* is the computed elevation to which floodwater is anticipated to rise during the *base flood*, which is the flood that has a 1-percent chance of being equaled or exceeded in any given year. This is also called the 100-year flood. The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on National Flood Insurance Program (NFIP) maps. The Proposed Action is not located within a regulatory floodplain; therefortherefore no effects would occur to a regulatory floodplain.

- **Land Use Plans and Policies** – The study area is located in Orem City and is zoned in the Controlled Manufacturing (CM) and R12 Residential Zones. The CM Zone was established to provide areas for planned manufacturing parks. The R12 Zone allows for low-density residential development. 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. Impacts and benefits from the Proposed Action (such as meeting existing contractual obligations) 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.

- **Public Health and Safety** – 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 sulfur dioxide (SO_2). Particulate matter is broken into two categories: particulate matter with a diameter of 10 micrometers or less (PM_{10}) and particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$). The CAAA requires that air quality conditions within all areas of a state be designated with respect to the NAAQS as attainment, maintenance, nonattainment, or unclassifiable. Areas that do not exceed the NAAQS are designated as attainment, while areas that exceed the standards are designated as nonattainment. A maintenance area is an area previously designated as a nonattainment area where a state or local government has developed a plan to reduce the criteria pollutant concentrations to levels below NAAQS standards.

Affected Environment

According to the Utah Division of Air Quality (UDAQ), the study area is located in an area that has been designated as nonattainment for PM_{10} and $PM_{2.5}$. Additionally, a small portion of the study area is located in an area 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. There will be no anticipated air quality emissions from operation of the pipeline.

CO

Emissions of CO would be generated from construction equipment and vehicle exhaust during construction activities. The Proposed Action would have no long-term adverse impacts on air quality.

No-Action Alternative

Impacts associated with the No-Action Alternative were evaluated in the November, 2010, Environmental Assessment for the Realignment of a Portion of the Utah Lake Drainage Basin Water Delivery System (Realignment EA), Section 3.12 Air Quality. The Realignment EA concluded that temporary impacts would be anticipated for construction; however, use of BMPs for dust control would minimize or mitigate the impacts. There would be no anticipated air quality emissions from operation of the pipeline. The No-Action Alternative would require a longer construction period and would result in slightly increased temporary emissions in closer proximity to homes and other receivers when compared with the Proposed Action.

Mitigation

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

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

Additionally, the 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 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.

No-Action Alternative

The No-Action Alternative would not cause a significant increase in CO_2 or other greenhouse gas emissions; therefore, the No-Action Alternative would not contribute to climate change, nor would it create vulnerability to climate change impacts.

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

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. Manning Canyon Shale is a moisture-sensitive, clay-rich rock which, when exposed is susceptible to slumping and landslides.

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 800 North trailhead for the Provo River Parkway Trail, just north of 800 North. 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.

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).

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. The Proposed Action would be constructed on an alignment with lesser potential for slope and seismic instability when compared with the No-Action Alternative.

No-Action Alternative

Under the No-Action Alternative, the pipeline would be constructed on an alignment with greater potential for slope and seismic instability due to its close proximity to the Wasatch Fault Zone. Impacts associated with the No-Action Alternative were evaluated in the Realignment EA, Section 3.8 Soils and Geologic Hazards. The Realignment EA concluded that should fault movement occur, there is a risk that the pipeline could be ruptured. Such a rupture would result in loss of use of the pipeline during repairs and erosion from flooding in surrounding areas. Site-

specific geotechnical analysis would be required during final design to assess hazard-reduction techniques and to properly design facilities for long-term 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 minimize the possibility that it neither jeopardizes the continued existence of federally-listed ESA species, nor results in the destruction or adverse modification of designated Critical Habitat.

Affected Environment

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*)	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*)	Conservation Agreement	No suitable habitat and no documented occurrences within or near the study area have been recorded.
June sucker (*Chasmistes liorus*)	Endangered	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 review of the Utah Data Conservation Center (UDCC) database was conducted and a request was sent to the Utah Natural Heritage Program (UNHP) to identify any known documented occurrences of any ESA species in the study area.

The UDCC and UNHP data did not reveal any 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, and predation by 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 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.

The JLA's 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. 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 would not affect flows in the lower Provo River.

The Proposed Action Alternative would have **No Effect** on the federally-listed ESA species that are known to occur in Utah County, Utah 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.

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

No-Action Alternative

According to Section 3.11.4 of the Realignment EA, there are no threatened or endangered species within the No-Action Alternative area; therefore, there would be no effect to any listed or candidate species during the construction, operation, or maintenance of the No-Action Alternative.

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 UDCC database and through an information request to the UNHP to identify any known documented occurrences of conservation agreement species and state sensitive species within the study area. Based on the UDCC and UNHP data and coordination with the UDWR, 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 fish. 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.

Migratory Birds within Study Area

The UNHP data revealed two raptor nesting sites, both for peregrine falcon, within or near the study area. The data indicated that the sites have been observed over multiple years and were last recorded in 2006. One nesting site is located near the Provo River and 800 North in the canopy of the mature trees. The other site is located on the rocky cliffs, above the valley floor, near the existing Olmsted Flowline spillway. In addition, red-tail hawks have

been observed in this same area and nesting has potentially occurred for several years at this location. A May 2015 survey confirmed that there were no nesting peregrine falcons in the study area, and that the red-tailed hawk nest was occupied by a nesting pair. This nest is located on the cliffs above Provo Canyon, near the northern end of the Olmsted tunnel. Other raptors, including an American kestrel and an osprey, were also observed during the survey, but no additional nests were located.

Aquatic Species

The existing Olmsted Powerplant 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 in 2014 and 2015 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, which may include brown trout, sculpin, and Bonneville cutthroat trout.

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.

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. Several mature trees as well as shrubs will be removed or trimmed during construction. However, because of the numerous mature trees on the Olmsted Campus, this vegetation represents only a small portion of the available habitat in the study area. Permanent impacts to nesting, feeding, roosting, and hiding cover habitat would be minimal.

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

Aquatic Species

The Proposed Action would not permanently impact aquatic habitat in the study area, including impacts to Bonneville cutthroat trout habitat.

No-Action Alternative

The No-Action Alternative would have slightly greater temporary impacts to suitable wildlife habitat, as it would not use the joint features (penstock, steel pipe within the rock tunnel, and 10 MG Reservoir). Therefore, the No-Action alternative would require increased ground disturbance in an area that retains more natural vegetation. Restoration of vegetation would require additional time to establish due to steep slopes along the No-Action alignment. The No-Action Alternative would have no impacts to the Provo River or other aquatic habitat.

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, prior to construction activities, to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted 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 USFWS.

As part of the Olmsted Replacement EA the tailrace will be dewatered. During any 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 Olmsted 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 both the existing and planned powerhouse is known as the tailrace. The tailrace begins at the powerhouse and extends to the Provo River, paralleling the access road.

Wetlands

Wetlands within the study area are confined to the Provo River channel.

Environmental Effects

Proposed Action Alternative

Provo River

The Proposed Action would have no effect on the Provo River.

Wetlands

The Proposed Action would have no impact to wetlands within the study area because Proposed Action features are not located near the Provo River.

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

No mitigation required.

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.

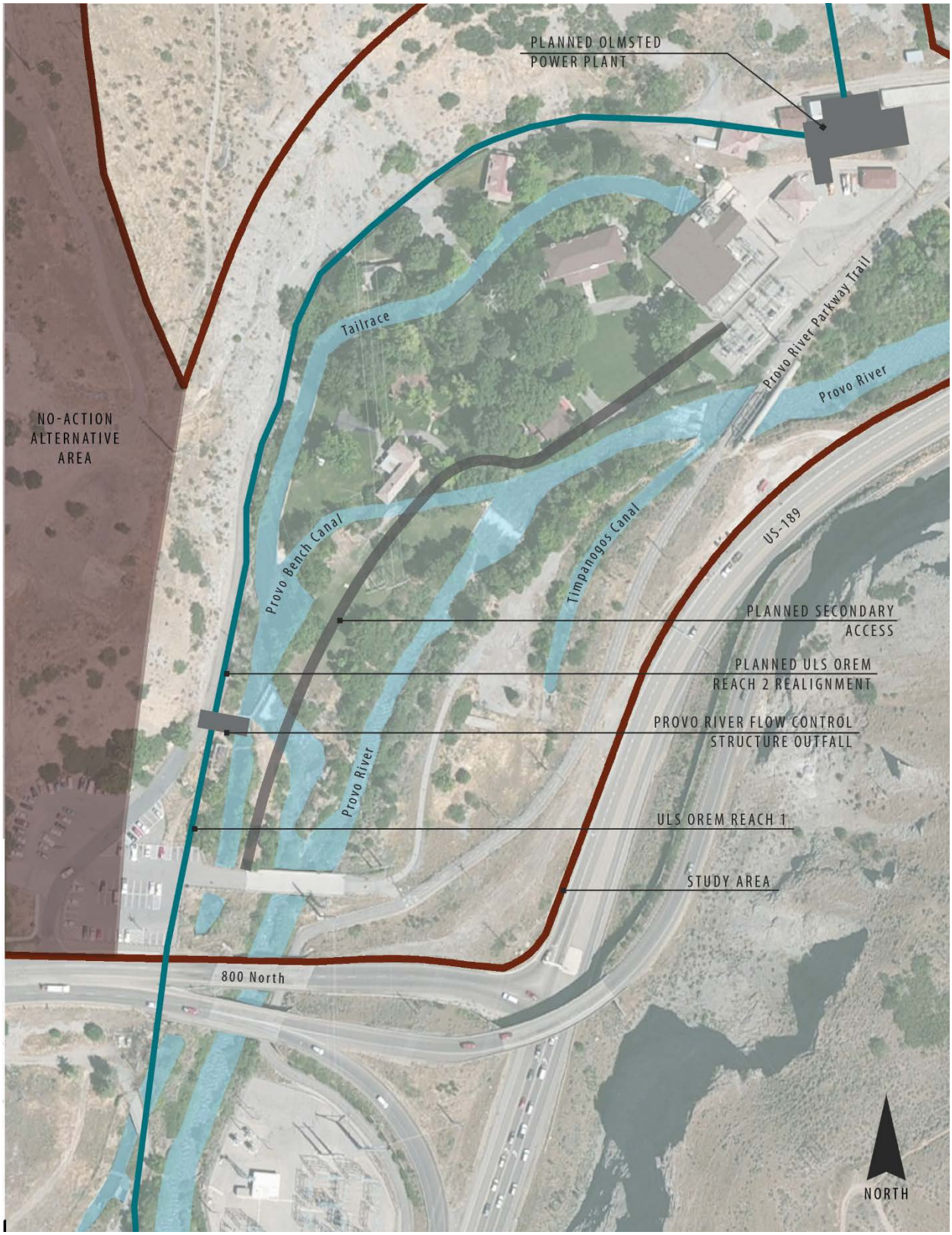


Figure 3-1 Water Resources in the Study Area.

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 for the Olmsted Replacement EA, Orem City expressed concern about storm water issues after construction and stated that storm water would need to be detained and pretreated prior to discharging into the Provo River or canal system. Orem did not provide additional comments for the current EA.

After construction is completed, the Proposed Action would increase the area of impervious surface by approximately 0.5 acres due to the new secondary access road. This road would not have drainage features installed; stormwater would sheet flow off the road into grassy areas on either side. Although a small amount of this water might reach the tailrace, most would be absorbed locally. There would be no impact to biological diversity in the Provo River; therefore, the Proposed Action would not further impair water quality.

The Proposed Action Alternative would have minimal impact to water quality in the Provo River. According to Section 3.3.8.3.3 of the ULS EIS, water quality conditions in the lower Provo River would generally improve because of the Bonneville Unit water provided for in-stream flows. Dissolved oxygen flows would increase substantially in the lower Provo River. Total dissolved solids, nitrate plus nitrite, ammonia, and selenium concentrations would decrease or remain unchanged. Water temperatures would decrease during summer months and increase during winter months, improving fish habitat conditions. pH values would decrease or remain unchanged. Total phosphorus concentrations would remain unchanged on an annual average basis. Monthly phosphorus concentrations would be higher in July, August, and October but lower in May and September. These changes in concentrations are not considered substantial.

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

As recorded in Section 3.9.4 of the Realignment EA, 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 use 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 receiving waters. The project would be constructed in compliance with the District's standards and specifications for Drainage and Sediment Control.

3.9 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

Surveys of historic buildings and archaeological sites were completed in June 2014 and in March 2015 in connection with the Olmsted Replacement EA and the current EA. These surveys documented all structures and historic elements within the project's Area of Potential Effects (APE) and identified those historic elements which are either currently on or are eligible for nomination to the National Register of Historic Places (NRHP). A meeting was held on February 18, 2015 with the State Historic Preservation Office to discuss project scoping and identification of resources. Generally, the APE runs north to south extending from the 10 MG Olmsted Equalization Reservoir to SR-52 (800 North in Orem). Resources recorded by the 2014 and 2015 surveys that have the potential to be affected by the Proposed Action are listed in Table 3-3 and on Figure 3-2. Full results of the 2014 survey can be found in the Olmsted Replacement EA.

Table 3-3 Cultural Resources within APE

Map ID	Name	Description	NRHP Eligibility
Architectural Resources			
1	Quarters Building	Three story brick structure constructed in the 2nd Renaissance Revival style in 1904. Built as a dormitory/school building house for the Telluride Institute.	Eligible
2	Paul N. Nunn Cottage	Arts and Crafts style bungalow constructed in 1903 of rubble stone and wood shingle.	Eligible
3	Superintendent's Cottage	Dutch Colonial Revival Cottage constructed in 1903 of brick and wood shingle. Has a large in-period addition.	Eligible
4	Telluride Laboratory	Single story cross-wing building constructed in the 2nd Renaissance Revival style out of brick in 1904 and 1910. Used as laboratory for the Telluride Institute and has a large in-period addition and one out-of-period addition.	Eligible
5	Double Cottage	Arts and Crafts Bungalow constructed of brick circa 1908. Altered from single residence to duplex prior to 1913.	Eligible
6	Home of Ideas	International style brick house constructed in 1937 as a model home for public tours.	Eligible
7	Denver Rio Grande Western Railroad Bridge	Pratt open-truss iron bridge moved to this location in 1919.	Eligible
8	Historic Landscape	Historic Landscape was also recorded in the Olmsted Replacement Project survey but did not include the entire Olmsted Campus. The Central Campus Landscape was recorded in the addendum survey. For purposes of the proposed project, *Historic Landscape* includes features such as designed landscape, roadways, lawns, shrubbery, trees, stone walls, and hedges within the Olmsted Campus. The Historic Landscape is a contributing feature of the Olmsted Hydroelectric Power Plant.	Eligible
9	Cellar	The Cellar was constructed circa 1904 and was built into the hillside north of the main access. It is front-faced with slab lumber.	Eligible
Archaeological Resources			
10	Stone Retaining Wall	Site 42UT1758 is the historic Olmsted Hydroelectric Power Plant which has been listed on the NRHP. This Stone Retaining Wall has been recorded as a contributing feature of the Olmsted Hydroelectric Power Plant located along the northwestern bank of the Provo River. The base of the wall is concrete with a mortared stone wall on top. It measures approximately 10-12 feet high and 500 feet long. A hedge is growing next to the wall. The buildings on the Olmsted Campus site, as well as the contributing archaeological features, are excellent and rare examples of the style of early hydroelectric plants.	Eligible
11	Timpanogos Canal (site 42UT1361)	The Timpanogos Canal construction began in 1878 and was completed in 1882. Almost the entire length of the canal has been piped with the only remaining above-ground section stretching 405 feet south from its Provo River diversion (within the APE). The current survey revisited the diversion dam, headgate, and concrete and rock retaining wall. These features appear unchanged from previous recordations. The canal itself is earthen and measures approximately 20 feet across the top, 6.5 feet across the bottom, and 8 feet deep. The Timpanogos Canal is determined eligible for the NRHP under criteria A and C due to the presence of features typical of Provo River canal diversions and its association with the settlement of Provo City.	Eligible

Environmental Effects

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

A finding of **No Historic Properties Affected** is made when "[e]ither there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in §800.16(i)" (See 36 CFR §800.1(d)(1)).

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

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

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 submitted for concurrence by the State Historic Preservation Office (SHPO). This letter was sent on May 1, 2015 and signed by the SHPO on May 6, 2015. A meeting was also held with the Orem City Historic Preservation Advisory Commission on April 9, 2015 to discuss effects. The results of the Finding of Effect can be found in Table 3-4 and Figure 3-3.

Table 3-4 Effect on Cultural Resources

Map ID	Name	Description of Effect	Effect
Architectural Resources			
8	Historic Landscape	Construction of the new pipe and secondary access road would require the removal of historic trees, hedges, and lawn.	Adverse Effect
9	Cellar	Construction of the new pipe would require removal of the cellar.	Adverse Effect
Archaeological Resources			
10	Stone Retaining Wall	Construction of the micro-hydro unit pipeline would impact 25 linear feet of the retaining wall.	No Adverse Effect
11	Timpanogos Canal	Construction of the micro-hydro unit pipe would impact the headgate, canal, and concrete.	Adverse Effect

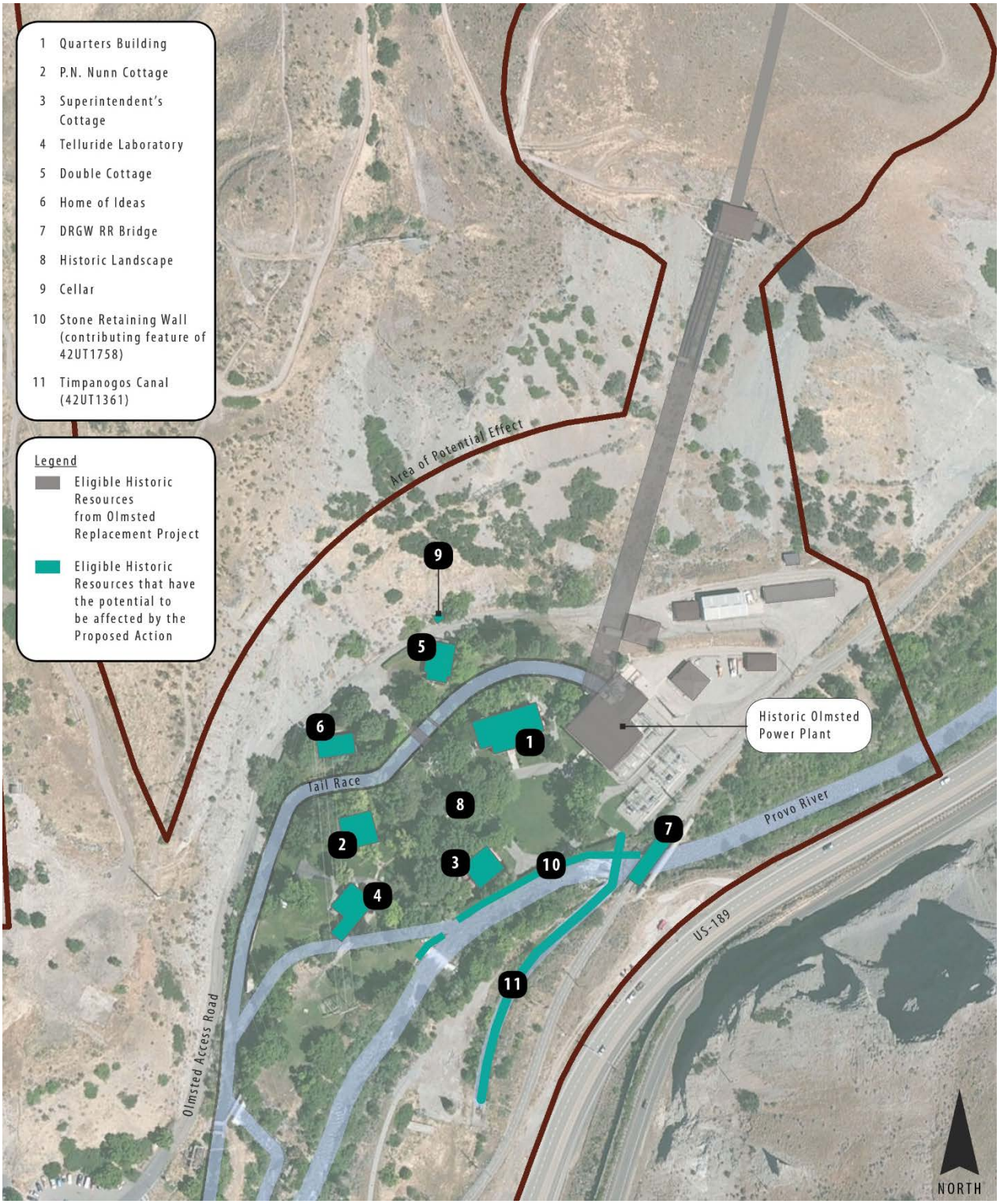


Figure 3-2 Historic Features

No-Action Alternative

According to Section 3.13.4 of the Realignment EA, the No-Action Alternative would be unlikely to impact historic properties eligible for the NRHP.

Mitigation

A meeting was held with SHPO on June 11, 2015 to discuss mitigation for adverse effects. A Memorandum of Agreement (MOA) is being agreed upon and executed by the District, the Interior, the Mitigation Commission, and the Utah State Historic Preservation Officer (see Appendix A). Mitigation measures outlined in the MOA include:

- Intensive Level Surveys Historic Site Forms (ILS)
    - ILS Historic Site Form for Cellar
    - Update of ILS Historic Site Form for the Historic Landscape
- Virtual Rendering of Historic Structures, including:
    - Exterior of the Olmsted Campus
    - Quarters Building
    - Nunn Cottage
    - Superintendent Cottage
    - Home of Ideas (interior only if permission is obtained by the owner
- Interpretive Sign of the importance of irrigation/Timpanogos Canal to the region and development of Utah Valley

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.

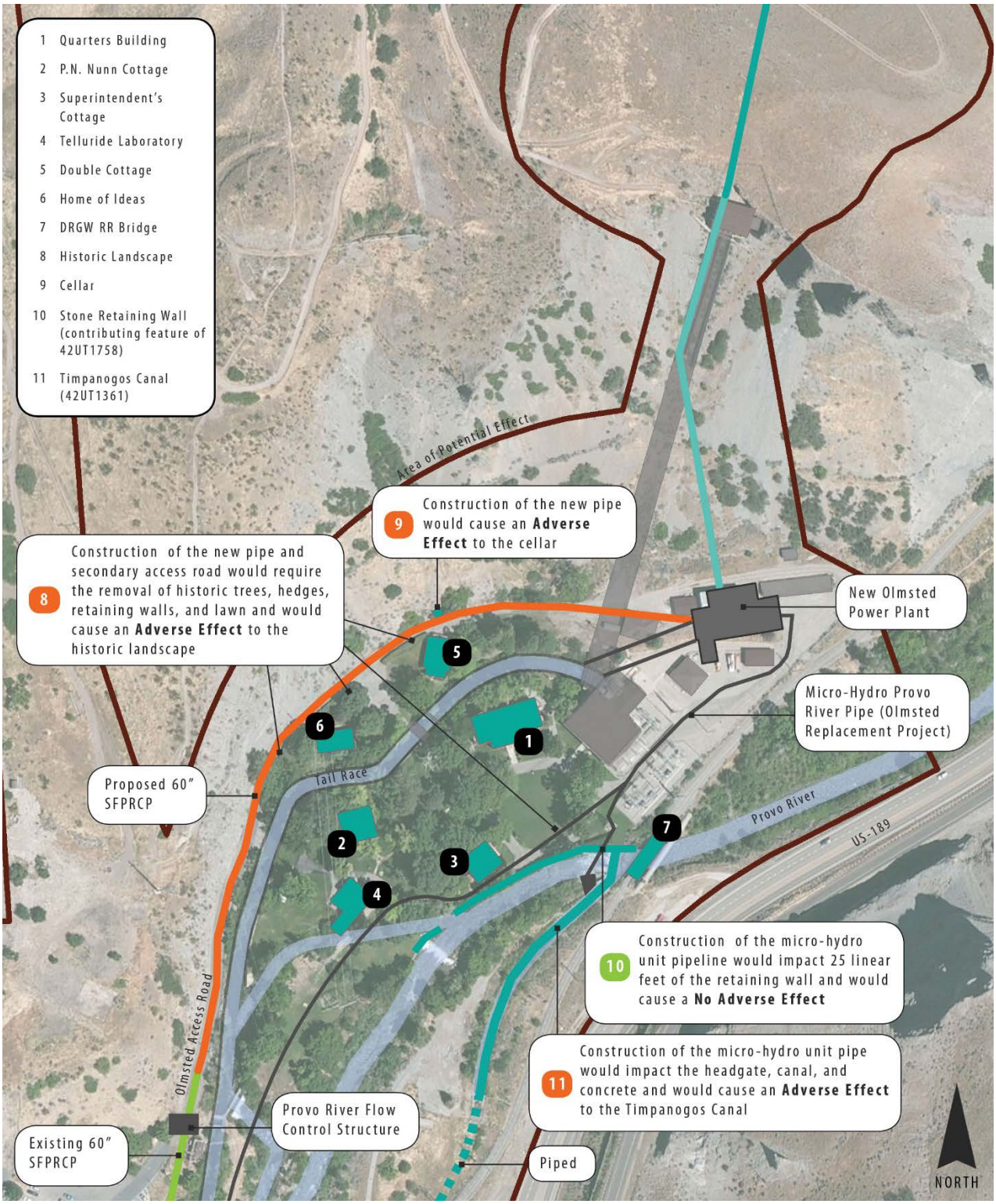


Figure 3-3 Effects to Historic Features

3.10 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.

ITAs may include lands, minerals, hunting and fishing rights, traditional gathering grounds, and water rights. Impacts to ITAs are evaluated by assessing how the action affects the use and quality of ITAs. Any action that adversely affects the use, value, quality or enjoyment of an ITA has an adverse impact to the resources.

Indian Trust Asset Status

Interior sent letters during the scoping phase of this project 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.

3.11 Economics

Affected Environment

The ULS EIS evaluated five topics for socioeconomic effects. These were employment, income, public and business services and fiscal conditions, agriculture, and recreational fishing. The Realignment EA further examined impacts to schools and residences. Utah County hosts approximately 215,000 jobs, making it the second largest county in the state by employment. The largest employment segment in the county is Educational and Health Services, followed by Government, Professional and Business Services, and Retail Trade. Employment located in and near the project area include Professional and Business Services; Educational and Health Services; Natural Resources, Mining, and Construction; and Retail Trade positions.

Environmental Effects

Proposed Action Alternative

Under the Proposed Action, there would be no additional impacts to those discussed in Section 3.12 of the ULS EIS and Section 3.7 of the Realignment EA.

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 during the construction phase. This would benefit local communities and businesses, as well as increase taxes collected on these purchases.

No-Action Alternative

Effects from the No-Action Alternative would be the same as those described for the Proposed Action Alternative.

3.12 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. For the No-Action Alternative, these include established natural vegetation and hill slopes. Visual resources or scenic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. The primary viewer groups of the study area include those adjacent to the study area (workers and recreationists) and those traveling near the study area (motorists on adjacent roadways). The primary viewer groups for the No-Action Alternative include local residents and those traveling in the area.

View from 800 North.

View into Olmsted from the Provo River Parkway Trail

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.

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 is not visible to viewers traveling on US-189.

Views from the Provo River Parkway Trail

The Olmsted Campus is visible to Provo River Parkway Trail users and is partially visible from 800 North in Orem and US-189. 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 roads.

Environmental Effects

Proposed Action Alternative

Installation of the new pipe along the Olmsted access road would require the modification or removal of several mature trees as well as the hedges lining the roadway. In addition, the new secondary access road would remain in place through the southern portion of the Olmsted Campus. These changes would slightly modify the visual character within the Olmsted Campus, but would have little to no effect on the visual resources visible from the roadways or the Provo River Parkway Trail.

No-Action Alternative

As outlined in Section 3.6.4 of the Realignment EA, the No-Action Alternative would result in the introduction of permanent features to the landscape including pipeline valves, access points, and a possible maintenance corridor.

Mitigation

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

See Section 3.9 Cultural Resources for efforts to mitigate impacts to historic resources.

3.13 Recreation

Affected Environment

The mouth of Provo Canyon is home to a network of both paved and unpaved recreational trails (see Figure 3-4). Several trails run through the study area: the Provo River Parkway Trail, the Murdock Canal Trail, and the Bonneville Shoreline Trail. These trails provide access to a network of city and county-owned parks in Provo Canyon as well as a larger network of trails. A trailhead for the Provo River Parkway Trail and the Murdock Canal Trail is located in a parking lot at the southern end of the study area.

Trails

The Provo River Parkway Trail, a 15-mile paved 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 study 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 adjacent to the Olmsted Campus. The Provo River Parkway Trail includes a connection to the Murdock Canal Trail at the parking lot at the southwest corner of the project area. In addition, a section of the Bonneville Shoreline Trail runs along the foothills above the Olmsted Campus, passing near the Alpine Aqueduct and the 10 MG Reservoir.

Environmental Effects

Proposed Action Alternative

Provo River Parkway Trail

The Provo River Parkway Trail could be affected by the temporary, partial closure of the 800 North parking lot and trailhead during construction for staging. Trail users would also experience increased noise (see Section 3.14 Noise and Vibration) during the construction of the Proposed Action Alternative.

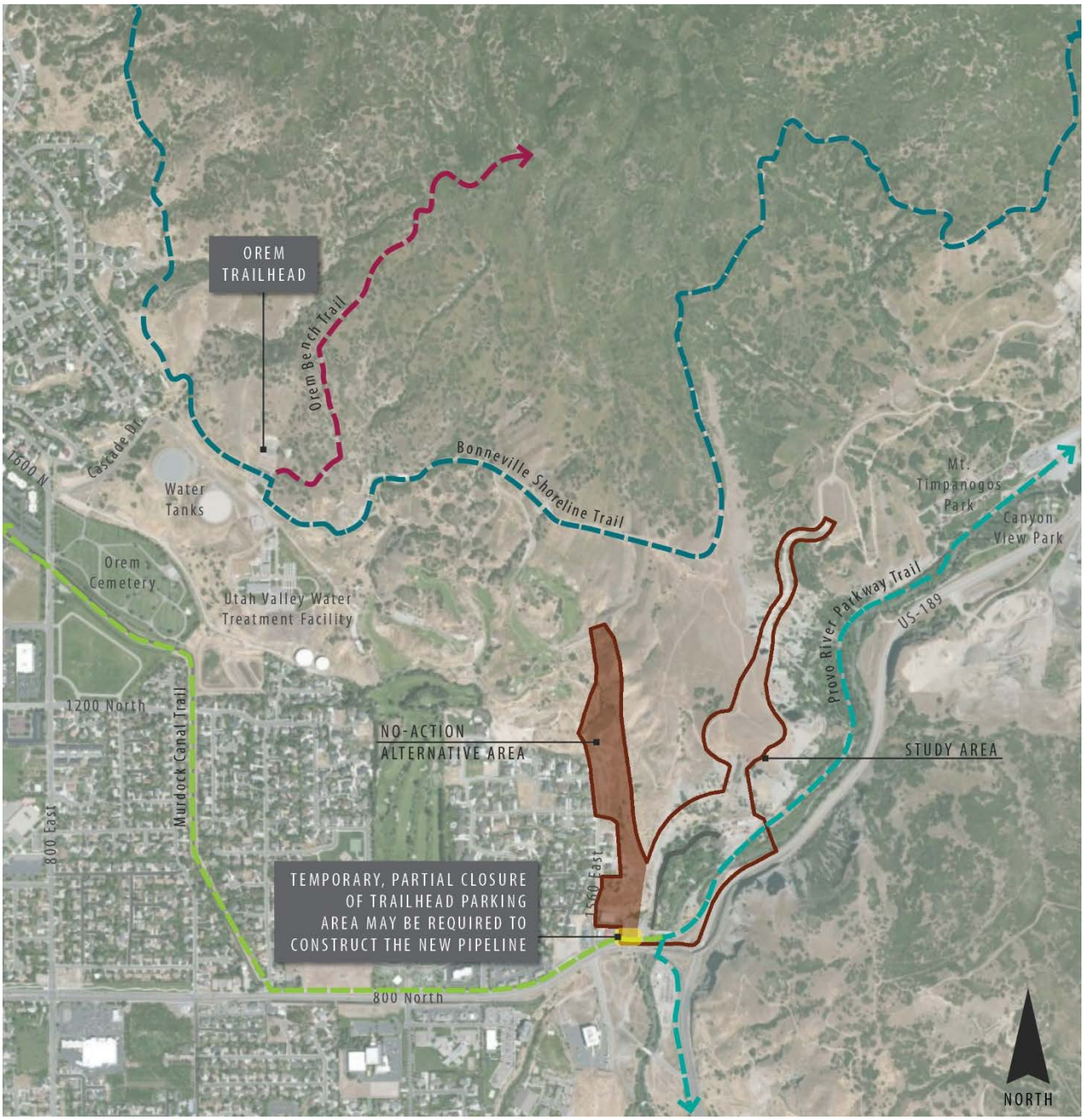


Figure 3-4 Trails in and near the Study Area

Murdock Canal Trail

The Murdock Canal Trail could be affected by the temporary, partial closure of the parking lot and trailhead during construction.

Bonneville Shoreline Trail

The Bonneville Shoreline Trail would not be impacted by the Proposed Action.

No-Action Alternative

The No-Action Alternative would have an impact on the 800 North parking lot and trailhead for the Provo River Parkway Trail and Murdock Canal Trail, and could require the temporary closure of the parking lot. The Bonneville Shoreline Trail could also potentially be temporarily closed during construction of the No-Action Alternative.

Mitigation

The Provo River Parkway and Murdock Canal Trails would remain open during construction.

3.14 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.

Affected Environment

The major noise influences in the Proposed Action study area are vehicular traffic on US-189 and 800 North, the operation of the Olmsted Hydroelectric Plant and the Provo River. For the No-Action Alternative, major noise influences include vehicular traffic on 800 North and adjacent residential streets.

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would not result in any long-term or permanent changes to noise levels in the study area. There would be a temporary increase in noise levels during construction as a result of trench excavation, backfilling, grading, use of jackhammers, or limited blasting. 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 the project. The majority of construction vibration would be a result of heavy equipment use.

No-Action Alternative

According to Section 3.5.4 of the Realignment EA, under the No-Action Alternative there would be a temporary increase in construction-related noise and vibration. This temporary increase would be localized and short term. However, the No-Action Alternative would be located closer to residential properties and could produce greater temporary impacts to those properties when compared to the Proposed Action Alternative.

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.

Structures located adjacent to the access road will be documented prior to the start of construction to allow later comparison for vibration damage. Documentation and assessment will be coordinated with Pacificorp.

3.15 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. A parking lot is located north of 800 North, adjacent to the Provo River Parkway Trail. Although this lot primarily serves the trail, it may also be used as an informal Park-and-Ride lot by carpooling commuters. The No-Action Alternative area also includes 1560 East, a residential road.

Environmental Effects

Proposed Action Alternative

The Proposed Action Alternative would not make any changes to transportation facilities. 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. The location of staging areas could also influence traffic on 800 North, temporarily increasing the amount of truck traffic on the roadway.

No-Action Alternative

Under the No-Action Alternative, as discussed in section 3.2.4 of the Realignment EA, temporary, short-term impacts would occur due to construction-related traffic. Trucks and other construction vehicles would use 1560 East, a residential road, leading to increased traffic and short-term impacts to residents. These impacts would be neither severe nor permanent.

3.16 Energy

Affected Environment

The Olmsted Hydroelectric Power Plant is a clean, run-of-the river hydropower plant. The plant contains three 100 cubic-foot per second (cfs) units and a fourth 250 cfs unit. Only two of the 100 cfs units are operational and operate at approximately 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 approximately 70% efficiency. The Plant currently produces an average of approximately 11,700 megawatt-hours (MWh) of energy per year and was originally constructed with a capacity of 10 megawatts (MW).

The Olmsted Replacement EA approved the construction of a new hydroelectric Power Plant that will produce an average of approximately 27,000 MWh of energy per year. The new Power Plant will have a capacity of approximately 12 MW.

Environmental Effects

Proposed Action Alternative

The Proposed Action would allow for hydroelectric power generation at the Olmsted Power Plant on the ULS supplemental water delivered through the planned Olmsted Power Plant to the Provo River. Supplemental water includes water acquired for the endangered June sucker for spawning and rearing flows and water released to

Utah Lake from Strawberry Reservoir for exchange to Jordanelle Reservoir. This ULS supplemental water would allow the power plant to generate approximately 0.32 MWh per additional acre-foot.

No-Action Alternative

Under the No-Action Alternative, the ULS supplemental water would not be used to generate hydroelectric power. The additional energy that would be lost as a result of lower water flow would need to be generated from other sources, including fossil fuels.

3.17 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 have the potential for contamination in the study area. These agency databases include the Utah Division of Environmental Response and Remediation's (DERR) interactive maps and the 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 to regulatory standards or otherwise 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[1]

The following sites are located within a half mile of the study area. See Figure 3-5 for site locations.

[1] 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.

Table 3-7 Hazardous Waste Sites within a Half Mile of the Study Area

Site #	Site Name	Probability of 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, Remediated Petroleum Products Dumping Area

Environmental Effects

Proposed Action Alternative

The impact analysis reviewed known and potentially hazardous waste sites within a half mile of the study area. Only one of these sites is located within the study area and would be potentially affected by the project.

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. When the property was purchased by the United States, an area of soil contaminated by toluene and other petroleum products was discovered and remediated. Additional areas of contamination may exist near the Power Plant. The Proposed Action would install a pipeline near the existing power plant. 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

According to Section 3.15.4 of the Realignment EA, the No-Action Alternative would have a low potential to encounter petroleum contaminated soils from Will's Canyon Stop (Site 1).

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.

Figure 3-5 Hazardous materials sites near the project area.

3.18 Vegetation and Invasive Species

Affected Environment

Invasive Species and Noxious Weeds

Invasive species and noxious weeds were not identified within 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 installation of new pipe would require vegetation removal along the Olmsted access road. This includes the removal of large, mature trees, shrubs, bushes, and other planted and natural vegetation that have been a part of the Olmsted Campus. Some trees in the study area may be trimmed. In addition, the secondary access road would require approximately ½ acre of property. A temporary secondary access road was constructed under a previous project. The Proposed Action would make the temporary secondary access road permanent. Construction of the temporary road required the removal of vegetation along the access road route.

No-Action Alternative

The No-Action Alternative would include construction activities that would disturb the ground surface. In comparison to the Proposed Action, the No-Action Alternative would require the removal of more ground cover-type vegetation and would take longer to reestablish due to steep slopes. Ground disturbance could allow for the establishment or spread of invasive species and noxious weeds.

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 on lands administered by the District. Vegetated areas disturbed during construction would be returned to their natural contours and be revegetated with appropriate native species.

3.19 Utilities

Existing Environment

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 Basis Report* (June 2014, CH2MHill). Multiple utilities were identified in the study area.

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. The Proposed Action would have no impact to these facilities.

During the scoping process for the Olmsted Replacement EA, both Provo City and Orem City submitted comments regarding utilities within or near the study area. Provo City explained that they own a 36 inch culinary waterline 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 up the slope from the existing access road.

Within the No-Action Alternative study area, utilities are expected to include Orem City, Questar Gas, Rocky Mountain Power, and various fiber optic and telephone lines.

Environmental Effects

Proposed Action Alternative

The Proposed Action would require the relocation of existing utilities. These include the relocation of Orem City's 8-inch water line, to be replaced with a 10-inch line adjacent to the proposed pipeline; relocating Centurylink lines underground adjacent to the proposed pipeline, and possibly installing fiber optic conduits.

No-Action Alternative

Under the No-Action Alternative, there could be temporary impacts to local utilities during construction. In addition, Orem City would need to relocate their 8-inch water line if they desired to have it moved from its current alignment.

Mitigation

Coordination and cooperation with utility companies, the Provo River Water Users Association and municipalities would be conducted prior to and during construction. Utilities would be avoided to the extent possible or relocated.

3.20 Permits and Agreements

Implementation of the Proposed Action Alternative would require application for and approval of the regulatory permits and agreements listed in Table 3-8.

Table 3-8 Required Permits and Clearances

Permit	Granting Agency(ies)	Applicable Portion of Project
Section 402 Permit (UPDES)	Utah Department of Water Quality	Stormwater quality during construction phase
MOA	Utah SHPO and ACHP	Adverse Impacts to cultural resources
Stream Alteration Permit	State Engineer	Micro-hydro return line to Provo River. This permit was also listed in the Olmsted Replacement EA (2015), but could be acquired by this project, if required.

3.21 Indirect Impacts

Indirect impacts are those caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR §1508.8). Indirect effects are generally less quantifiable but can be reasonably predicted to occur. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Proposed Action Alternative

The Proposed Action would have no indirect impacts.

No-Action Alternative

The No-Action Alternative would have no indirect impacts.

3.22 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.

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** –The M&I system is a series of water storage features, aqueducts, pipelines, and related improvements that transfers water from the Colorado River drainage to the Wasatch Front.
    - **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 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 formerly regulated in small reservoirs at 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.

  - **Olmsted Flowline Rehabilitation and Replacement** – This project rehabilitated or replaced 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 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. Water is delivered through the Provo River Aqueduct/Provo Reservoir Canal and the Salt Lake Aqueduct.
- **Provo Reservoir Canal Enclosure** – The Provo Reservoir Canal Enclosure project enclosed the canal in a box culvert for approximately 1000 feet from its diversion and in a pipe for the rest of its length. The Provo Canal alignment begins at the Murdock Diversion structure at the mouth of Provo Canyon and proceeds west along 800 North in Orem. It turns northwest through the northeastern portion of Utah County to the Point of the Mountain in Utah County. The canal is approximately 22 miles in length.
- **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 industrial water to Provo City, Orem City, and other northern 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. The section near the study area was completed in 1991.
- **800 North in Orem Reconstruction** – 800 North was widened from five lanes to seven lanes from 400 West to 1000 East in Orem, Utah. This project was completed in 2008.

Present Actions

- **Land Development** – The conversion of agricultural/undeveloped land to residential and commercial developments is ongoing in 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 the 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 was recently completed in July 2015. It includes a connection to SFPRCP Orem Reach 1A (just south of 800 North), construction of approximately 400 linear feet of 60-inch welded steel pipe (from Orem Reach 1A to the Provo River Flow Control Structure), a connection to the Provo River Aqueduct[2], construction of an outfall line to the Provo River, and the construction of the Provo River Flow Control Structure.

[2] Previously known as the Provo Reservoir Canal.

- **Olmsted Hydroelectric Plant Replacement**—Environmental documentation for the project is complete and construction is proposed for 2016 through 2018. The project includes the replacement of the Olmsted Hydroelectric Power Plant and penstocks, lining the rock tunnel, and other related modifications.

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 which may be affected by a connected action. Most resources which would not be subject to cumulative impacts either do not have direct impacts or by nature do not result in cumulative impacts. The Proposed Action would have no cumulative impacts or a minimal impact 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. This adverse effect would be mitigated, and would include an MOA that outlines the following mitigation measures:

- Intensive Level Surveys Historic Site Forms (ILS)
    - ILS Historic Site Form for Cellar
    - Update of ILS Historic Site Form for the Historic Landscape
- Virtual Rendering of Historic Structures, including:
    - Exterior of the Olmsted Campus

  - Quarters Building
  - Nunn Cottage
  - Superintendent Cottage
  - Home of Ideas (interior only if permission is obtained by the owner
- Interpretive Sign of the importance of irrigation/Timpanogos Canal to the region and development of Utah Valley

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.

3.23 Summary of Mitigation Commitments

Air Quality

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

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

Additionally, the 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 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, prior to construction activities, to verify that no migratory birds are nesting in the vegetation to be removed. These pre-construction nesting bird surveys would be conducted 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 USFWS.

As part of the Olmsted Replacement EA the tailrace will be dewatered. During any 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.

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

- Intensive Level Surveys Historic Site Forms (ILS)
    - ILS Historic Site Form for Cellar
    - Update of ILS Historic Site Form for the Historic Landscape
- Virtual Rendering of Historic Structures, including:
    - Exterior of the Olmsted Campus
    - Quarters Building
    - Nunn Cottage
    - Superintendent Cottage
    - Home of Ideas (interior only if permission is obtained by the owner
- Interpretive Sign of the importance of irrigation/Timpanogos Canal to the region and development of Utah Valley

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

The Provo River Parkway and Murdock Canal Trails would remain open during construction.

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 on lands administered by the District. 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, the Provo River Water Users Association and municipalities would be conducted prior to and during construction. Utilities would be avoided to the extent possible or relocated.

CHAPTER FOUR: COMMENTS 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 National Environmental Policy Act (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 February 2015 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). One agency has accepted the responsibility to be a cooperating agency:

- Bureau of Reclamation (Reclamation)

Scoping Activities

The scoping period for the Olmsted Hydroelectric Power Plant Replacement Project extended from February 20, 2015 to March 27, 2015. Information delivered as part of scoping included:

- Listing the project proponents (the Joint Lead Agencies);
- Stating that a NEPA document will be prepared;
- Project background;
- 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 presented 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 Orem Reach 2 Realignment project was developed and hosted on the District web page at http://www.cuwcd.com/oremreach2realignment. The web site contains a PDF version of the scoping packet, links to the ULS EIS and Realignment EA, and a comment form.

Letters

Letters were sent February 20, 2015 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 also enclosed.

Postcard

Approximately 150 postcards were mailed to all property owners adjacent to the study area including the residential neighborhood located to the west. The postcards contained the project website address, scoping period information, and the project contact information. Postcards were mailed on February 20, 2015.

Newspaper Ad

A newspaper ad was placed in the Daily Herald on February 22, February 26, and March 1, 2015.

Legal Notices

Legal notices were placed in Salt Lake Tribune, Deseret News, and Daily Herald on February 22 and March 1, 2015.

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 (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.

Public Scoping Meeting

A public scoping meeting was held March 10, 2015 at Foothill Elementary School in Orem, Utah. Attendees were given information about the project background, the Proposed Action, environmental resources of concern, and the project schedule. Attendees were also invited to provide comments on the project. Seven members of agencies and the public signed in at the meeting.

Issues Raised by the General Public and Agencies

Three members of the public commented during the scoping process and expressed general support for the Proposed Action. The Provo River Water Users Association expressed their desire to cooperate in maintaining access to their facilities. Pacificorp expressed concerns regarding impacts to their property adjacent to the Olmsted access road, including the width of the right-of-way, drainage, grade changes, landscaping, potential damage to adjacent houses, existing utilities and other issues.

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 18, 2015 as part of the scoping process and again on June 11, 2015 to discuss mitigation of adverse effects to historic properties. Meetings were held at the Division of State History.

Orem City Historic Preservation Advisory Commission

The project team met with the Orem City Historic Preservation Advisory Commission on April 9, 2015. Topics discussed included the project scope and impacts to historic properties.

Correspondence

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

Table 4-1 Correspondence

Date	To	From	Subject
February 25, 2015	Chris Elison District	Steve Cain Provo River Water Users Association	Scoping Comments
February 26, 2015	Honorable Gari Lafferty Chairwoman, Paiute Indian Tribe	Reed Murray Interior	Tribal Consultation
February 26, 2015	Honorable Gordon Howell Chairman, Ute Tribe Business Committee	Reed Murray Interior	Tribal Consultation
February 26, 2015	Honorable Lori Bear Chairwoman, Skull Valley Band of Goshute Indians	Reed Murray Interior	Tribal Consultation
February 26, 2015	Honorable Jason S. Walker Chairman, Northwestern Band of Shoshoni Nation of Utah	Reed Murray Interior	Tribal Consultation
February 26, 2015	Honorable Nathan Small Chairman, Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho	Reed Murray Interior	Tribal Consultation
February 26, 2015	James Williams Superintendent, Southern Paiute Agency Bureau of Indian Affairs	Reed Murray Interior	Tribal Consultation
February 26, 2015	Ms. Norma Gourneau Superintendent, Uintah and Ouray Agency Bureau of Indian Affairs	Reed Murray Interior	Tribal Consultation
February 26, 2015	Mr. Randy Thompson Acting Superintendent, Fort Hall Agency Bureau of Indian Affairs	Reed Murray Interior	Tribal Consultation
March 6, 2015	Chris Elison District	Kent Kofford for Wayne Pullan, Bureau of Reclamation	Acceptance of Cooperating Agency Invitation

Date	To	From	Subject
March 25, 2015	Chris Elison District	Claudia Conder Pacificorp	Scoping Comments
March 27, 2015	Chris Elison District	Roger and LeJean Broberg	Scoping Comments
March 27 , 2015	Chris Elison District	Nathan Davenport	Scoping Comments
May 1, 2015	Christopher Merrit Utah Division of State History	Chris Elison District	Section 106 Consultation
May 8, 2015	Larry Crist U.S. Fish and Wildlife Service	Chris Elison District	U.S. Fish and Wildlife Service Coordination
June 8, 2015	Chris Elison District	Larry Crist U.S. Fish and Wildlife Service	No Effect Determination
---	---	---	Memorandum of Agreement (MOA)

CHAPTER FIVE: REFERENCES

CH2M HILL, *Olmsted Hydroelectric Power Plant Design Basis Report*, June 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

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 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 SIX: 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 Review
Lee Wimmer, P.E.	M.S. Civil Engineering B.S. Civil Engineering	Project Review
Mark Breitenbach, P.E.	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 of Landscape Architecture B.A. Humanities	Document Preparation
Peter Steele	M.A. Anthropology B.A. Anthropology	Document Preparation
Ryan Pitts, P.L.A.	Master of Landscape Architecture B.S. Horticulture	Threatened & Endangered Species, Wildlife, and Wetlands
Marley Haupt	B.S. Biology	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

APPENDIX A: CORRESPONDENCE

PROVO RIVER
WATER USERS
ASSOCIATION

BOARD OF DIRECTORS
MICHAEL L. WILSON, PRESIDENT
LEROY W. HOOTON, JR., VICE PRESIDENT
GENEVIEVE ATWOOD
MERRIL L. BINGHAM
JEFFREY J. BRYANT
PATRICIA COMARELL
TOM GODFREY
DONALD Y. MILNE
JEFF NIERMEYER
SHANE E. PACE
CHRISTOPHER R. TSCHIRKI

G. KEITH DENOS, GENERAL MANAGER

February 25, 2015

Chris Elison
Central Utah Water Conservancy District
355 West University Parkway
Orem, UT 84058-7303

RE: Comments on Scoping Process for the Orem Reach 2 Realignment Project

Dear Chris,

The Provo River Water Users Association (Association) operates the Deer Creek Division of the Provo River Project (PRP) and owns and operates the Provo River Aqueduct (PRA). The PRP consists of a number of diversion works and conveyance systems and Deer Creek Dam and Reservoir for delivery of water from the Weber, Provo, and Duchesne River Basins, to Summit, Wasatch, Utah and Salt Lake counties for irrigation and municipal and industrial purposes. The full-allocation yield of the PRP is 100,000 acre-feet per year. PRP shareholders consist of municipalities, water districts, and private irrigation companies that in turn provide water to their customers and shareholders.

Deer Creek Division of Provo River Project
The Deer Creek Division of the PRP consists of five primary features shown on the attached Figure 1-1 and described briefly below.

- *Duchesne Collection System Facilities* divert and transport water from the Duchesne River to the Provo River. Features include the Duchesne Diversion Dam, Broadhead Diversion Dam, and the Duchesne Tunnel.
- *Weber-Provo Canal System Facilities* divert and transport water from the Weber River to the Provo River. Features include the Weber-Provo Diversion Dam, the Weber-Provo Canal, and the Beaver Creek Diversion Structure.
- *Provo River Features* include dikes and flood easements. Due to water imported by the Association from the Weber and Duchesne River drainages, provisions were needed to protect adjoining lands from the increased flows. In some locations, dikes were created to protect the adjoining lands from flooding. Flood easements were also obtained to allow for flooding from the increased flows to occur without causing damage.
- *Deer Creek Dam and Reservoir Features* are used for water storage. Facilities include Deer Creek Dam and Deer Creek Reservoir.
- *Provo River Aqueduct System Facilities* divert and deliver project water from the Provo River to water users in northern Utah and Salt Lake Counties. Facilities include the Murdock Diversion Dam, the Provo River Aqueduct, and the Point of Mountain (POM) facilities. POM facilities include diversions to several shareholders and the Jordan Narrows Penstock and Pump Station.

285 WEST 1100 NORTH • PLEASANT GROVE, UT • 84062 • 801.796.8770 • 877.896.0933 TOLL FREE • 801.796.8771 FAX • www.prwua.org

Provo River Project Operations near the Olmsted Power Plant

The Association has responsibility for the Murdock Diversion Dam and Provo River Aqueduct inlet facilities. It is also responsible for the Olmsted Siphon and the Parallel Pipeline Siphon that are adjacent to the Olmsted Power Plant. Operations include impounding water in the Murdock Diversion and allowing water that is not diverted into the PRA to proceed down the Provo River and past the Olmsted Power Plant. Inspections and maintenance work are performed on the siphons on a regular basis. Siphon manway and pumping vaults are routinely accessed by Association personnel. The siphons are pumped dry each fall. Ordinarily Association personnel access the Olmsted Siphon vaults by crossing the lands occupied by the Olmsted Power Plant and its support facilities.

The water rights and related contracts for the PRP are varied in their nature and application. The Association has responsibility for the operation and protection of those rights and the terms of the contracts.

Comments on the Orem Reach 2 Realignment Project

After reviewing the information available as of the date of this letter, the Association is not aware of any impacts that the Orem Reach 2 Realignment 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 Orem Reach 2 Realignment 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. Please list as your Association contact for this project:

Steve Cain
Facilities and Lands Manager
Provo River Water Users Association
285 West 1100 North
Pleasant Grove, Utah 84065
801-796-8770
shc@prwua.org

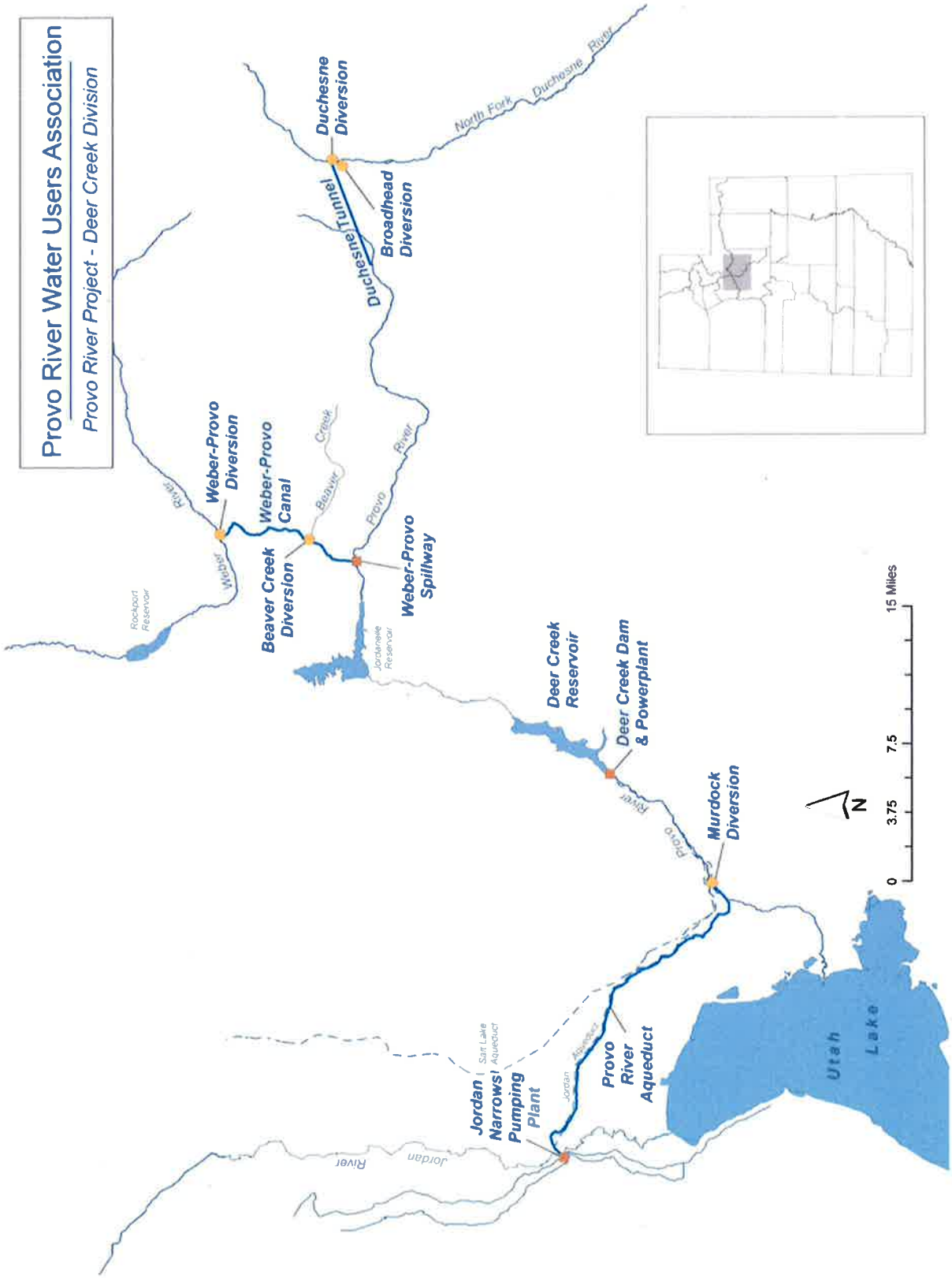
We appreciate the opportunity to provide comments on the scoping process. If you have any questions or concerns, please feel free to contact me.

Sincerely,

Steve Cain,
Facilities and Lands Manager

Attachment

Figure 1


Provo River Water Users Association
Provo River Project - Deer Creek Division
Duchesne Diversion
North Fork
Duchesne
River
Duchesne Tunnel
Broadhead Diversion
Weber-Provo Diversion
Weber-Provo Canal
Beaver
Creek
Provo
River
Weber
River
Rockport Reservoir
Beaver Creek Diversion
Weber-Provo Spillway
Jordanelle Reservoir
Deer Creek Reservoir
Deer Creek Dam & Powerplant
Murdock Diversion
Provo River Aqueduct
Jordan Narrows Pumping Plant
Salt Lake Aqueduct
Jordan Aqueduct
Jordan River
Utah Lake
N
0
3.75
7.5
15 Miles

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 26 2015

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

Subject: Consultation Regarding Proposed Orem Reach 2 Realignment Project – Bonneville Unit – Section 201(e) – Central Utah Project Completion Act

Dear Chairwoman:

The Central Utah Water Conservancy District (District), the United States Department of the Interior, the Central Utah Project Completion Act Office (CUPCA Office), and the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission), as Joint Lead Agencies, are proposing to realign the Orem Reach 2 segment of the Spanish Fork – Provo Reservoir Canal (SFPRC) pipeline located near the Olmsted Power Plant in Orem, Utah. The SFPRC pipeline is a component of the Utah Lake Drainage Basin Water Delivery System (ULS) of the Bonneville Unit, Central Utah Project (CUP).

To meet the projected water demand for Wasatch Front communities, the Bureau of Reclamation acquired the Olmsted Power Plant along with most of its water rights in 1990 as part of the Bonneville Unit of the CUP. An agreement reached in September 1990 among the District, Reclamation, and PacifiCorp stated that beginning September 21, 2015, the District would assume the operation and maintenance of the Olmsted Power Plant. In the fall 2013, the District and the CUPCA Office initiated the National Environmental Policy Act process for the Olmsted Hydroelectric Power Plant Replacement Project (Olmsted Replacement Project). A Final Environmental Assessment (EA) was completed and a Finding of No Significant Impact was signed January 2015 for the Olmsted Replacement Project. A Value Engineering (VE) study was conducted in December 2014, on 30 percent design plans for the Olmsted Replacement Project. One option from the VE concluded that connection of the SFPRC pipeline – Orem Reach 2 to the Alpine Aqueduct through the new Olmsted Power Plant would be advantageous. The final segment of the SFPRC pipeline to be constructed is the Orem Reach 2 project. Its realignment will be analyzed in an EA.

The SFPRC pipeline connection to the Alpine Aqueduct would be accomplished through the proposed Orem Reach 2 pipeline. The Orem Reach 2 pipeline would be installed along the

Olmsted Power Plant access road and would provide a connection to the Olmsted Power Plant. From the power plant, the Orem Reach 2 pipeline would continue on to connect with the Alpine Aqueduct at the 10 MG Reservoir through the proposed 84-inch penstock and the Olmsted flowline (between the penstock and 10 MG Reservoir). The Proposed Action includes the following:

- SFPRC – Orem Reach 2 pipeline Realignment between the Provo River Flow Control Structure and the Alpine Aqueduct and
- Hydroelectric power generation on the ULS supplemental water designated for release to the Provo River.

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. We would be glad to meet with you to discuss the proposed project, should you desire. Enclosed is the project Scoping Packet that contains more information. A public information meeting open house will be held on Tuesday, March 10, 2015, from 6:30 to 8:00 p.m. at Foothill Elementary School (921 North 1240 East) in Orem, Utah.

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. Chris Elison at 801-226-7166 or by e-mail at chrise@cuwcd.com. We look forward to hearing from you in the near future.

Sincerely,

for W. RUSS FINDLAY

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 persons on next page.

Similar Letter Sent To:

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

Change in paragraph four, first sentence, "The purpose of this letter is to invite comments regarding the proposed project from the Ute Indian Tribe."

Change in cc recipients as follows:

cc: 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

Change in paragraph four, first sentence, "The purpose of this letter is to invite comments regarding the proposed project from the Skull Valley Band of Goshute Indian Tribe."

Change in cc recipients as follows:

cc: 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

Change in paragraph four, first sentence, "The purpose of this letter is to invite comments regarding the proposed project from the Northwestern Band of Shoshoni Nation of Utah Indian Tribe."

Change in cc recipients as follows:

cc: 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
(w/o encl to each)

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

Change in paragraph four, first sentence, "The purpose of this letter is to invite comments regarding the proposed project from the Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho Indian Tribe."

Change in cc recipients as follows:

cc: 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)

WBR:WFindlay:dhilton:2/24/2015:801-379-1084:t:\sec\FindlayW_ca1300\Orem Reach 2 Realignment EA – Tribal Cultural Resources Consultation and BIA ITA Letters 2-20-15.docx

United States Department of the Interior

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

IN REPLY REFER TO:

CA-1300
ENV-6.00

FEB 26 2015

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

Subject: Consultation Regarding Proposed Orem Reach 2 Realignment Project – Bonneville Unit – Section 201(e) – Central Utah Project Completion Act

Dear Mr. Williams:

The Central Utah Water Conservancy District (District), the United States Department of the Interior, the Central Utah Project Completion Act Office (CUPCA Office), and the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission), as Joint Lead Agencies, are proposing to realign the Orem Reach 2 segment of the Spanish Fork – Provo Reservoir Canal (SFPRC) pipeline located near the Olmsted Power Plant in Orem, Utah. The SFPRC pipeline is a component of the Utah Lake Drainage Basin Water Delivery System (ULS) of the Bonneville Unit, Central Utah Project (CUP).

To meet the projected water demand for Wasatch Front communities, the Bureau of Reclamation acquired the Olmsted Power Plant along with most of its water rights in 1990 as part of Bonneville Unit of the CUP. An agreement reached in September 1990 among the District, Reclamation, and PacifiCorp stated that beginning September 21, 2015, the District would assume the operation and maintenance of the Olmsted Power Plant. In the fall 2013, the District and the CUPCA Office initiated the National Environmental Policy Act process for the Olmsted Hydroelectric Power Plant Replacement Project (Olmsted Replacement Project). A Final Environmental Assessment (EA) was completed and a Finding of No Significant Impact was signed January 2015 for the Olmsted Replacement Project. A Value Engineering (VE) study was conducted in December 2014 on 30 percent design plans for the Olmsted Replacement Project. One option from the VE concluded that connection of the SFPRC pipeline – Orem Reach 2 to the Alpine Aqueduct through the new Olmsted Power Plant would be advantageous. The final segment of the SFPRC pipeline to be constructed is the Orem Reach 2 project. Its realignment will be analyzed in an EA.

The SFPRC pipeline connection to the Alpine Aqueduct would be accomplished through the proposed Orem Reach 2 pipeline. The Orem Reach 2 pipeline would be installed along the Olmsted Power Plant access road and would provide a connection to the Olmsted Power Plant. From the power plant, the Orem Reach 2 pipeline would continue on to connect with the Alpine Aqueduct at the 10 MG Reservoir through the proposed 84-inch penstock and the Olmsted flowline (between the penstock and 10 MG Reservoir). The Proposed Action includes the following:

- SFPRC – Orem Reach 2 pipeline Realignment between the Provo River Flow Control Structure and the Alpine Aqueduct; and
- Hydroelectric power generation on the ULS supplemental water designated for release to the Provo River.

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, Interior 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. Enclosed is the project Scoping Packet that contains more information. A public information meeting open house will be held on Tuesday, March 10,2015, from 6:30 to 8:00 p.m. at Foothill Elementary School (921 North 1240 East) in Orem, Utah.

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 or by e-mail at chrise@cuwcd.com. We look forward to hearing from you in the near future.

Sincerely,

for W. RUSS FINDLAY

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
(w/o encl)

Identical letter sent to the persons on the next page.

Identical Letter Sent To:

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

WBR:WFindlay:dhilton:2/25/2015:801-379-1174:t:\sec\FindlayW_ca1300\Orem Reach 2 Realignment EA – Tribal Superintendent Consultation Letters 2-20-15.docx

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

MAR 0 6 2015

Mr. Chris Ellison
NEPA Compliance Coordinator
Central Utah Water Conservancy District
355 West University Parkway
Orem, UT 84058-7303

Subject: Cooperating Agency Status on the ULS: Orem Reach 2 Realignment Project– Central Utah Project

Dear Mr. Ellison:

In response to your letter dated February 19, 2015, the Bureau of Reclamation's, Provo Area Office accepts cooperating agency status for the subject project 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, the Department of the Interior, the Central Utah Project Completion Act Office, and the Utah Reclamation Mitigation and Conservation Commission to complete the project. If you have any questions or need additional information, please contact Ms. Beth Reinhart at 801-379-1161.

Sincerely,

ACTING FOR

Kent Kofford

Wayne G. Pullan
Area Manager

cc: Gene Shawcroft, P.E.
General Manager, Central Utah
Water Conservancy District
355 West University Parkway
Orem, UT 84058-7303

Mr. Mark Holden
Project Manager, Utah Reclamation Mitigation
and Conservation Commission
230 South 500 East, Suite 230
Salt Lake City, UT 84102-2045

ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

1407 West North Temple
Salt Lake City, Utah 84116

March 25, 2015

Chris Elison, PE
Central Utah Water Conservancy District
NEPA Compliance Coordinator
355 West University Parkway
Orem, UT 83058-7303

RE: Comments on Environmental Assessment for ULS: Orem Reach 2 Realignment Project

Dear Mr. Elison,

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 replacement and modification to the Olmsted Hydroelectric Power Plant. While the Orem Reach 2 Realignment Project is a separate project, there are overlaps in the property issues related to both projects. PacifiCorp desires to briefly comment on a few specific issues identified in the EA.

- The study area delineated in the EA includes fee property owned by PacifiCorp. Cooperation with PacifiCorp by the project proponents is crucial to ensuring that PacifiCorp's ratepayer interests are kept whole.
- The new Orem Reach 2 pipeline is proposed to be located on the historic access road into PacifiCorp's fee owned property. PacifiCorp is concerned about several impacts including but not limited to: the narrow limited space through the entire length of the pipeline; other existing easement grants within the same right of way; the actual width of the existing right of way vs what is necessary; grade changes; drainage as a result of grade changes; increased disturbance to the hillside; existing landscaping, i.e. hedges, lawns, etc.; potential damage to 2 houses in close proximity; utilities that currently exist that would need to be relocated; new utilities that are anticipated by the Olmsted Hydroelectric Power Plant project being buried within the same limited space; access to PacifiCorp's property during construction; general disturbance and disruption to PacifiCorp's enjoyment of its fee owned property.

Thank you for considering these comments. PacifiCorp continues to meet with CUWCD, Bureau of Reclamation and Department of Interior on this project and the Olmsted Hydroelectric Plant project. PacifiCorp desires that its concerns be considered and that any impacts to PacifiCorp's property be fully mitigated. Should you have any questions, please contact me at 801-220-2252.

Cordially,

Claudia Conder
Water Rights Administrator/Senior Property Agent
PacifiCorp

Comment Submittal Form

ULS Orem Reach 2 REALIGNMENT

The following comments, which identify my issues, concerns, and/or information, are provided for the U.S. Department of the Interior, CUPCA Office, the Central Utah Water Conservancy District, and the Utah Reclamation Mitigation and Conservation Commission to consider in the project planning process:

I like the plan with the construction of the new pipe. It makes a lot of ~~[illegible]~~ sense! That has the least impact on roads, neighborhood, and environment.

This form may be copied or additional sheets added. To make comments meaningful, please be as specific as possible by providing details about an issue or concern. Please refer to a specific location where appropriate.

Your Name: Roger + LaJean Broberg

Organization:

Address: 1452 E. 920 N. Orem

E-Mail: Kpup58@msn.com Phone Number: 801-636-9576

To Mail: Fold this form in thirds, making sure to display the Central Utah Water Conservancy District address on front; tape and apply correct postage.

Website: Comments may also be submitted on the project website at www.cuwcd.com\oremreach2realignment

Contact Information: For additional information about this project please contact:
Chris Elison – CUWCD (801) 226-7166; email address chrise@cuwcd.com

Comments must be received no later than Friday March 27, 2015

Nathan Davenport Homeowner 978 N 1560 E nfdavenport@yahoo.com 801-592-4993

I am the closest Orem resident to the affected area of this project. Aside from appearing to be the more cost effective alternative, I think the proposed action is the best alternative for those of us who live nearby as well. We would be more separated from the construction as well as isolated from any effects of flooding should something go wrong with pipeline.

I would also be in favor of anything that would prevent or shorten further closure of the nearby park and ride lot, like having the district purchase and use the Olmsted area for a staging area during the construction.

I appreciated the efforts of all involved to find the best solution both for the district as well as those of us who live in the area.

CENTRAL UTAH WATER
CONSERVANCY DISTRICT

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

OFFICERS
Michael H. Jensen, President
N. Gawain Snow, Vice President
Gene Shawcroft, General Manager

May 1, 2015

Christopher W. Merritt, Ph.D.
Senior Preservation Specialist
Utah Division of State History
300 South Rio Grande Street
Salt Lake City, Utah 84101

RE: An Addendum to the Cultural Resource Surveys for the Olmsted Hydroelectric Power Plant as part of the Orem Reach 2 Realignment Project, Orem, Utah County, Utah
- Eligibility Determination and Effects of the Proposed Action
- Signature page for concurrence

Dear Dr. Merritt:

The Central Utah Water Conservancy District (District), the U.S. Department of the Interior, CUPCA Office, and the Utah Reclamation Mitigation and Conservation Commission, as Joint Lead Agencies, initiated an Environmental Assessment (EA) in compliance with the National Environmental Policy Act of 1969 (NEPA) on the proposed Orem Reach 2 Realignment Project (Undertaking) in February 2015. In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470 et seq.), and Utah Code Annotated (U.C.A. 9-8-404), the Joint Lead Agencies are taking into account the effects of the undertaking on historic properties and are providing the Utah State Historic Preservation Officer (SHPO) an opportunity to comment on the undertaking's effects. This letter contains the Joint Lead Agencies Section 106 determination of eligibility and effect for historic properties within the Area of Potential Effects (APE). Please review this letter and enclosed information and, if you agree with the findings outlined herein, please sign and date the signature line at the end of the letter.

Olmsted Hydroelectric Power Plant Replacement Project and Section 106
As a reminder, the District and CUPCA Office completed a Final EA and signed a Finding of No Significant Impact on January 16, 2015 for the Olmsted Hydroelectric Power Plant Replacement Project (Olmsted Replacement Project). The District and CUPCA Office also completed the Section 106 process for the Olmsted Replacement Project and are currently working on the stipulations agreed to in the signed Memorandum of Agreement. As part of the Section 106 process for the Olmsted Replacement Project, a reconnaissance level survey (RLS) and archaeological report were prepared and copies were sent to SHPO. At the same time, the District and CUPCA Office sent SHPO the determination of eligibility and effect which were detailed in a letter dated June 27, 2014. SHPO concurred with the determinations of eligibility and effect for the Olmsted Replacement Project. A copy of this letter is found in Attachment A.

Description of the Orem Reach 2 Realignment Project
As part of the Olmsted Replacement Project, a Value Engineering (VE) study was conducted in December 2014 on the preliminary design plans. The VE study recommended that the Orem Reach 2 segment (Proposed Action) of the Spanish Fork-Provo Reservoir Canal Pipeline (SFPRCP) to the Alpine Aqueduct be realigned and connected through the new Olmsted Power Plant facilities (including the penstock, rock tunnel, and flowline).

The Proposed Action for the Orem Reach 2 Realignment project (see Figure 1) would extend the SFPRCP 60-inch pipe from the Provo River Flow Control Structure, northward along the existing Olmsted Power Plant access road. Then utilizing features of the Olmsted Replacement Project, it would continue northward and connect with the Alpine Aqueduct at the 10 MG Reservoir.

60-Inch Welded Steel Pipe Alignment

The Orem Reach 2 pipeline alignment would include:

- Constructing approximately 1,200 linear feet of pipeline within the existing Olmsted Power Plant access road between the Provo River Flow Control Structure and the planned Olmsted Power Plant. The pipeline would be a 60-inch welded steel pipe.
- Mortar-lining approximately 1,400 linear feet of the existing 102-inch diameter welded steel Olmsted Flowline between the rock tunnel and the 10 MG Reservoir.

Reroute existing utilities to make room for the planned Olmsted power plant including the installation of a fiber optic conduit. The Orem Reach 2 Realignment Project would also include features covered in the Olmsted Replacement EA. These features could be constructed by either project and are considered joint features of both projects. These include:

- A planned 84-inch penstock between the planned Olmsted Hydroelectric Plant and the rock tunnel. The planned penstock will be buried.
- A planned 84-inch welded steel pipe within the rock tunnel between the penstock and the 102-inch welded steel Olmsted Flowline.

Hydroelectric Power Generation on the ULS Supplemental Water

The Proposed Action includes hydroelectric power generation on ULS supplemental water delivered to the Provo River through the planned Olmsted Power Plant. ULS supplemental water has been obtained by the Joint Lead Agencies through water conservation projects (e.g. enclosure of the Provo Reservoir Canal, piping of the Mapleton-Springville Lateral) for use as in-stream flows in Hobble Creek and the Provo River.

Secondary Access

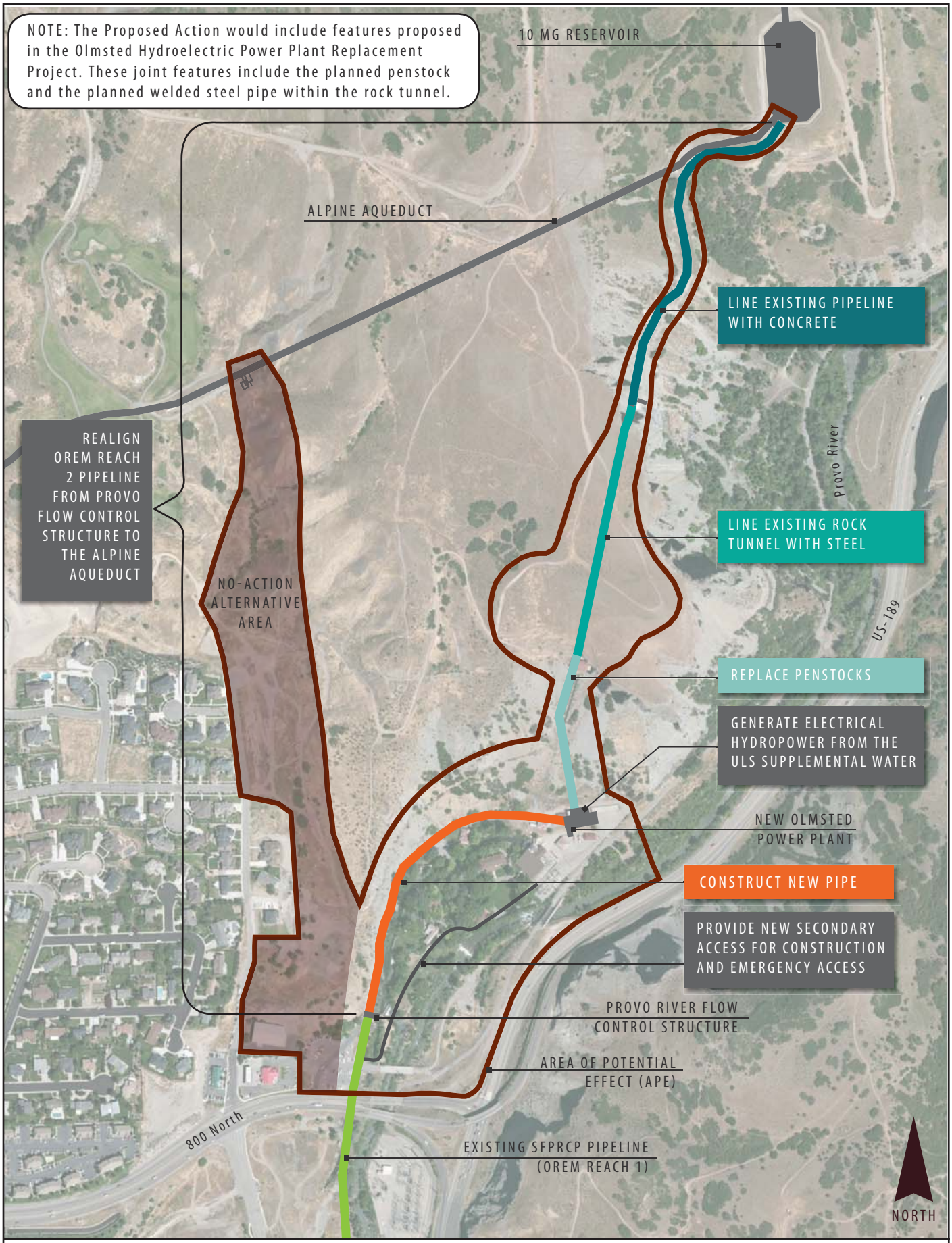
The Orem Reach 2 Realignment Project includes the acquisition of a 30-foot wide perpetual easement for use as a secondary access. It would require approximately ½ acres of property currently owned by PacifiCorp. The proposed perpetual easement would extend from the tailrace return channel northward to the property owned by the Department of the Interior (location of the existing and planned power plant). This alignment provides an alternate access into the Olmsted Power Plant from the park-in-ride lot located off of 800 North in Orem (see Figure 1). The proposed secondary access would utilize the same alignment and roadway built as a temporary access into the Olmsted Power Plant during the construction of the Provo River Flow Control Structure (Orem Reach 1B project). It would remain 15 feet wide and use the existing bridges over the Provo Bench Canal and tail race return channel. The secondary access purpose is to provide an alternate route into the Olmsted Power Plant during construction of the Orem Reach 2 Realignment project and for emergencies in case the existing access road becomes unusable.

Area of Potential Effects

The Area of Potential Effects is an irregular shape and is located at the mouth of Provo Canyon in Orem, Utah. Generally, the APE runs from the Alpine Aqueduct southward to 800 North; the eastern boundary is the Olmsted Flowline and US-189 extending westward to 1560 East Orem. The APE includes the entire Olmsted Campus and is shown in Figure 1. Much of the APE was surveyed for the Olmsted Replacement Project.

Cultural Resource Reports

As discussed above, the District and CUPCA Office recently completed the NEPA and Section 106 processes for the Olmsted Replacement Project including the preparations of a reconnaissance level survey and an archaeological report. In consultation with your office, the Joint Lead Agencies have prepared an addendum to the reconnaissance level survey titled *Addendum to the Reconnaissance Level Survey: Olmsted Power Station, Orem, Utah County* (Calkins, 2015) and a supplemental to the archaeological survey titled *A Supplemental Archaeological Investigation of the Olmsted Hydroelectric Plant Replacement Project* (Steele, 2015). For the Orem Reach 2 Realignment Project, additional Class I records search, Class III field inventories, and consultation with Native American tribes have been conducted to identify cultural resources within the APE. Both of these reports are enclosed with this letter and electronic copies of each has been forwarded onto you via email.



Legend

Area of Potential Effect (APE)

Figure 1: Area of Potential Effect (APE) and Proposed Action

Determinations of Eligibility and Effect

The addendum reconnaissance level survey identified eight historic resources[1] as eligible for inclusion to the NRHP; the supplemental archaeological report identified two sites eligible for inclusion to the NRHP. A detailed discussion on each historic resource is found in the addendum reconnaissance level survey and the supplemental archaeological report.

Table 1 summarizes each resource identified within the addendum survey and supplemental archaeological report, provides a brief description, and lists each resource's NRHP eligibility. In addition, several historic features that were identified as part of the Olmsted Replacement Project and impacted by the Proposed Action are listed in Table 1 as well. Each of the eligible historic structures listed in Table 1 contribute to the overall historic Olmsted Campus (see Figure 2 for Historic Resources). Table 1 does not list all of the historic resources within the APE; some were identified in the Olmsted Replacement Project reconnaissance level survey and supplemental archaeological report.

Table 1 – Historic Architectural Structures and Archaeological Resources

Map No.	Structure Name	Brief Description	NRHP Eligibility	Effect Determination
Architectural Resources				
1	Quarters Building	Three story brick structure constructed in the 2nd Renaissance Revival style in 1904. Built as a dormitory/school building house for the Telluride Institute.	Eligible	**No Effect**
2	Paul N. Nunn	Arts and Crafts style bungalow constructed in 1903 of rubble stone and wood shingle.	Eligible	**No Effect**
3	Superintendent's Cottage	Dutch Colonial Revival Cottage constructed in 1903 of brick and wood shingle. Has a large in-period addition.	Eligible	**No Effect**
4	Telluride Laboratory	Single story cross-wing building constructed in the 2nd Renaissance Revival style brick in 1904 and 1910. Used as laboratory for the Telluride Institute and has a large in-period addition and one out-of-period addition.	Eligible	**No Effect**
5	Double Cottage	Arts and Crafts Bungalow constructed of brick circa 1908. Altered from single residence to duplex prior to 1913.	Eligible	**No Effect**
6	Home of Ideas	International style brick house constructed in 1937 as a model home for public tours.	Eligible	**No Effect**
7	Denver Rio Grande Western Railroad Bridge	Pratt open-truss iron bridge move to this location in 1919.	Eligible	**No Effect**
8	Historic Landscape	Historic Landscape was also recorded in the Olmsted Replacement Project RLS but did not include the entire Olmsted Campus. The Central Campus Landscape was recorded in the addendum RLS. For purposes of the proposed project, *Historic Landscape* is used which include features such as designed landscape, roadways, lawns, shrubbery, trees, stone walls, and hedges within the Olmsted Campus. The Historic Landscape is a contributing feature of the Olmsted Hydroelectric Power Plant.	Eligible	**Adverse Effect**
9	Cellar	The Cellar was constructed circa 1904 and was built into the hillside north of the main access road. Front faced with slab lumber. The Cellar was recorded in the Olmsted Replacement Project Reconnaissance Level Survey and not in the addendum RLS. However, the Orem Reach 2 Project would result in an Adverse Effect on the Cellar.	Eligible	**Adverse Effect**

[1] The addendum RLS identified seven structures and more information on the historic landscape that were not included in the APE nor identified in the RLS for the Olmsted Replacement Project.

Table 1 – Historic Architectural Structures and Archaeological Resources

Map No.	Structure Name	Brief Description	NRHP Eligibility	Effect Determination
Archaeological Resources				
10	Stone Retaining Wall	Site 42UT1758 is the historic Olmsted Hydroelectric Power Plant which has been listed on the NRHP. This Stone Retaining Wall has been recorded as a contributing feature of the Olmsted Hydroelectric Power Plant located along the northwestern bank of the Provo River. The base of the wall is concrete with a mortared stone wall on top. It measures approximately 10–12 feet high and 500 feet long. A hedge is growing next to the wall. The buildings on the Olmsted Campus site, as well as the contributing archaeological features, are excellent and rare examples of the style of early hydroelectric plants.	Eligible	**No Adverse Effect**
11	Timpanogos Canal (site 42UT1361)	The Timpanogos Canal construction began in 1878 and was completed in 1882. Most the entire length of the canal has been piped with the only remaining above ground section stretching 405 feet south from its Provo River diversion (within the APE). The current survey revisited the diversion dam, headgate, and concrete and rock retaining wall. These features appear unchanged from previous recordations. The canal itself is earthen and measures approximately 20 feet across the top, 6.5 feet across the bottom, and 8 feet deep. The Timpanogos Canal is determined eligible for the NRHP under criteria A and C due to the presence of features typical of Provo River canal diversions and its association with the settlement of Provo City.	Eligible	**Adverse Effect**

Description of Effects

The NRHP effects for each of the resources with Adverse Effect and No Adverse Effect are discussed. Figure 3 shows the effects for each resource listed in Table 1.

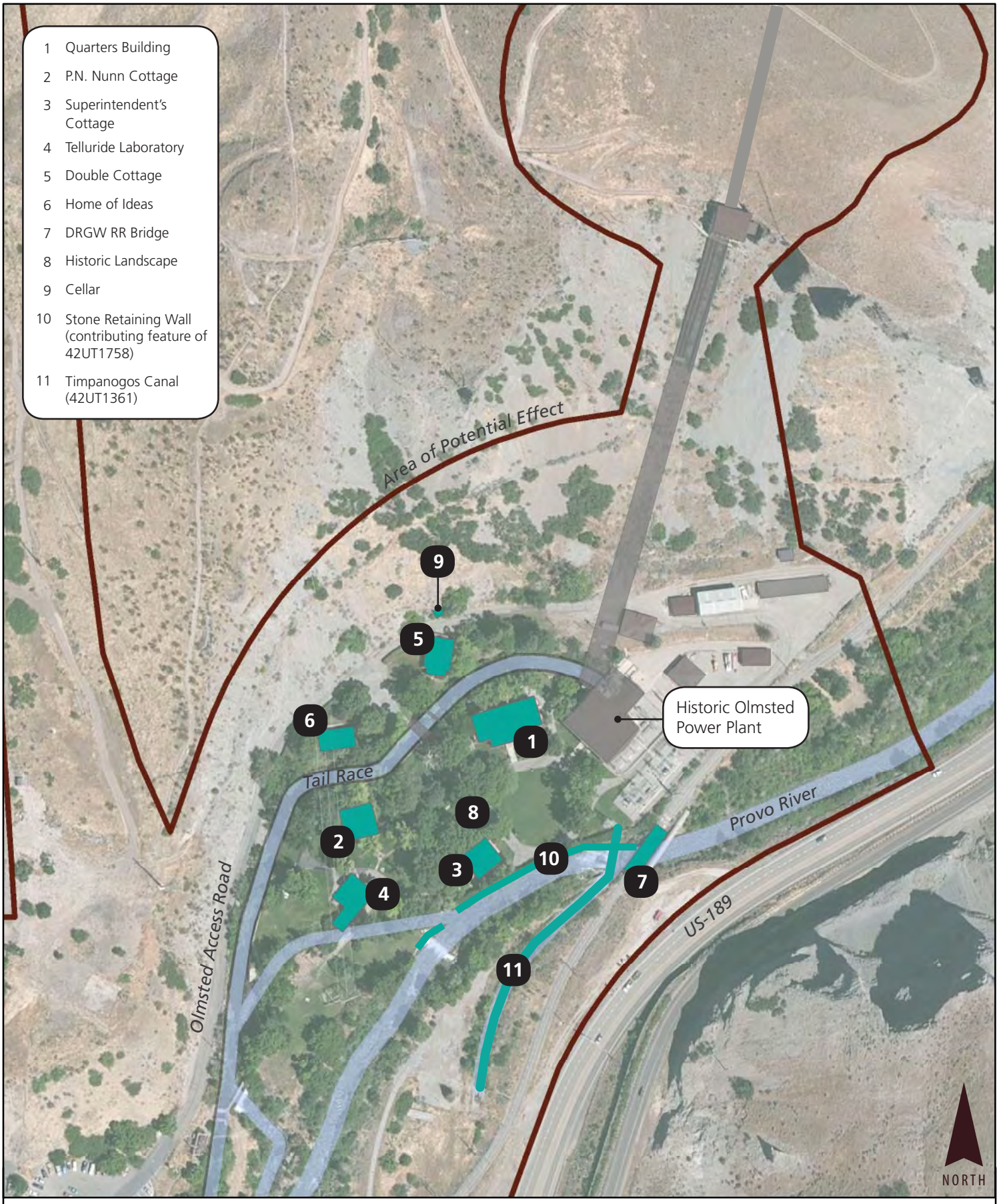
Historic Landscape (Adverse Effect)

The Proposed Action would have an Adverse Effect on the Historic Landscape. Specifically, it would require the removal of approximately ten mature trees for the construction of the 60-inch welded steel pipe within the Olmsted access road. These trees are located within the construction zone of the welded steel pipe and need to be removed. Other historic landscape features affected by the Proposed Action include the removal of hedges, bushes, natural vegetation, and, the loss lawn area (see Figure 3).

The proposed secondary access would utilize the same alignment and roadway built as a temporary access into the Olmsted Power Plant during the construction of the Provo River Flow Control Structure. The temporary access road would not be restored as previously planned. Therefore, the secondary access would remain in place would impact approximately ½ acre of lawn area planned for restoration.

Cellar (Adverse Effect)

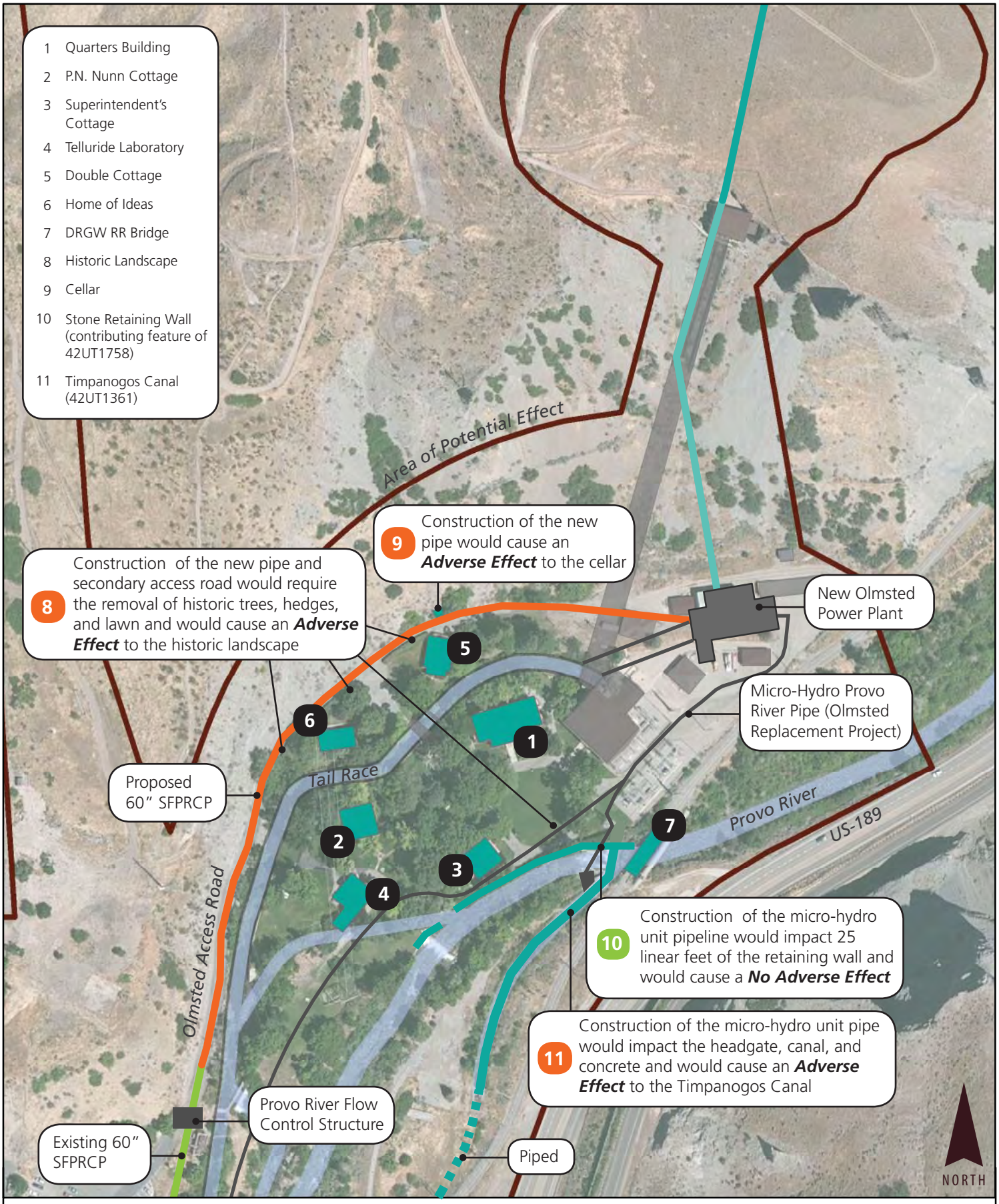
The Proposed Action would require the removal of the historic cellar located north of the Olmsted access road directly across from the Double Cottage. It requires removal during construction of the new 60-inch pipeline within the Olmsted Access Road (see Figure 3).



Legend

- Area of Potential Effect (APE)
- Eligible Historic Resources from Addendum or that have the potential to be affected by the Proposed Action
- Eligible Historic Resources from Olmsted Replacement Project

Figure 2: Eligible Historic Resources



Legend

- No Historic Properties Affected
- No Adverse Effect
- Adverse Effect

Figure 3: Effects to Eligible Historic Resources

Stone Retaining Wall (No Adverse Effect)
The Stone Retaining Wall (see Figure 3) is a contributing feature of the Olmsted Hydroelectric Power Plant (site 42UT1758) and would be impacted by the construction of the Olmsted Replacement Project. The Olmsted Replacement Project includes the construction of a 30-inch pipe, crossing over the Provo River, and discharging into the Timpanogos Canal. This would require the removal of approximately 25 feet of the stone retaining wall (see Figure 3).

Timpanogos Canal (Adverse Effect)
The Olmsted Replacement Project includes the construction of a 30-inch pipe from the micro-hydro unit at the new power plant to the Provo River above the Timpanogos Canal diversion (see section 2.3 of the Olmsted Hydroelectric Power Plant Replacement Project Final Environmental Assessment). This connection may impact and/or require the removal of the head gate, concrete work, and other contributing features of the resource.

Measures to Minimize Harm
Several design measures are being incorporated to minimize the harm to historic resources for the Orem Reach 2 Project and the Olmsted Replacement Project. These include:

- Utilizing a concrete cap on top of the 60-inch welded steel pipe to minimize its depth. The concrete cap allows for less fill material to be placed on top of the pipe reducing the depth needed to bury it and maintaining the Olmsted access road at its original elevation.
- A drain line for the 60-inch pipe will not be directly connected to the tail race channel therefore avoiding further impacts to this resource.
- Moving the new Olmsted Power Plant away from the existing historic power plant (see Figure 3). Originally, the new power plant was planned directly adjacent to the historic Olmsted Power Plant. The new Olmsted Power Plant will be constructed further to the north and east away from the historic Olmsted Power Plant.

Consultation Summary
A meeting was held on February 18, 2015 at the SHPO offices between the Joint Lead Agencies and SHPO. In addition, a site visit to the Olmsted Power Plant was held on March 7, 2014. The Joint Lead Agencies appreciate SHPO being a cooperating agency on the Olmsted Replacement and the Orem Reach 2 projects. The Joint Lead Agencies have also contacted local, state, and federal agencies regarding the proposed project. On February 26, 2015, the CUCPA Office sent letters with project information to Native American tribes that have ancestral lands within or near the APE. No response has been received from any Native American tribe. On April 23, 2015, the District met with the Orem City Historic Preservation Commission regarding the proposed project and a review of the Olmsted Replacement Project.

Summary
Please review this letter and the enclosed reports. Providing you (and Chris Hansen) agree with the findings contained herein, sign and date the signature line at the end of this letter. Should you have any questions please feel free to give me a call or send an email. I can be reached at (801) 226-7166 or. By email at chrisE@cuwcd.com.

Sincerely,

Chris Elison, PE
NEPA Compliance Coordinator

ec: Reed Murray, U.S. Department of the Interior, CUPCA Program Manager
Mark Holden, Utah Reclamation Mitigation and Conservation Commission, Project Manager
Sarah Johnson, Central Utah Water Conservancy District, Environmental Programs Manager

Enclosures: *Addendum to the Reconnaissance Level Survey: Olmsted Power Station, Orem, Utah County*
A Supplemental Archaeological Investigation of the Olmsted Power Plant Replacement Project
Cover Page and IMACS Site Forms

Regarding Central Utah Water Conservancy District, the United States – Department of the Interior CUPCA Office, and the Utah Reclamation Mitigation and Conservation Commission, as Joint Lead Agencies, for the Orem Reach 2 Realignment Project, I concur with the eligibility determinations and effects, submitted to the Utah State Historic Preservation Officer in accordance with Section 106 of the NHPA. This letter outlines the historic architectural and archeological resources found within the project APE (see Figure 1) and the effects that the proposed undertaking will have on each. The Joint Lead Agencies have determined that the proposed undertaking would have an **Adverse Effect** on historic properties within the APE.

Chris Hansen
Preservation Planner/Deputy SHPO
Division of State History

5/6/15
Date

For Lori Hunsaker
Deputy SHPO
Division of State History, Archaeology

5/6/15
Date

Attachment A

Olmsted Hydroelectric Power Plant Replacement Project

- Determination of Eligibility and Effect Letter with Utah State Historic Preservation Office Concurrence

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
Gawain Snow, Vice President

Don A. Christiansen, General Manager
Secretary/Treasurer

June 27, 2014

Mr. Chris Hansen, Deputy State Historic Preservation Officer
Utah Division of State History
300 South Rio Grande Street
Salt Lake City, Utah 84101

RE: Olmsted Hydroelectric Power Plant Replacement Project, Orem, Utah County, Utah
- Submittal of Reconnaissance Level Survey and Archeological Survey
- Eligibility Determination and Effects of the Proposed Undertaking
- Signature page for Concurrence

Dear Mr. Hansen:

The Central Utah Water Conservancy District (District) and the U.S. Department of the Interior, CUPCA Office, as Joint Lead Agencies, initiated an Environmental Assessment in compliance with the National Environmental Policy Act of 1969 (NEPA) on the proposed Olmsted Hydroelectric Power Plant Replacement Project in December 2013. The referenced project is located near the mouth of Provo Canyon in Orem, Utah. In September 2015, the District assumes the responsibility for operation and maintenance of the Olmsted power plant as a component of the Bonneville Unit of the Central Utah Project (CUP). In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470 et seq.), and U.C.A.9-8-404, the Joint Lead Agencies are taking into account the effects of the proposed undertaking on historic properties and are providing the Utah State Historic Preservation Officer (SHPO) an opportunity to comment on the proposed project effects. This letter contains the Joint Lead Agencies Section 106 determination of eligibility and effects for historic properties within the APE. We appreciate your willingness to assist and meeting with us through the Section 106 process. The enclosed Tables 1, 2, and 3 summarize the determination of eligibility and the effects of the proposed undertaking. Please review this letter and enclosed information and, if you agree with the findings outlined herein, please sign and date the signature line at the end of the letter.

Undertaking Description
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. The components to the proposed undertaking are described on the following pages:

BOARD OF TRUSTEES

Gary J. Anderson, E. James (Jim) Bradley, Randy A. Brailsford, Kirk L. Christensen, Michael K. Davis, Tom Dolan, Larry Ellertson, Steve Frischknecht, Claude R. Hicken, George R. Jackson, Michael H. Jensen, Dallin W. Jensen, David R. Labrum, Michael J. McKee, Greg McPhie, Kent R. Peatross, Gawain Snow, Boyd Workman

Construct a New Power House

A new power house would be constructed directly north of the existing power plant. This location was selected for the following reasons:

- Located on property currently owned by the United States;
- Close proximity to existing resources necessary for power generation, including the Olmsted flowline and rock tunnel, the penstocks alignment, Provo River, tailrace channel, Provo Bench Canal, and PacifiCorp power substations; and
- Allows the historic Olmsted power house to be preserved in its current position.

The existing Olmsted power house would remain in-place, but would no longer be used for hydroelectric power generation. In order to construct the proposed power house within the property and easements owned by the United States and maintain the existing power house, several existing structures – including the stable, pressure box, penstocks, carpenter shop, garage, blacksmith's shop, and other maintenance sheds – would need to be removed (see Tables 1 and 3 below).

Replacement of the Penstocks

The existing plant currently has three 48-inch and one 72-inch riveted/welded steel penstocks which originate at a pressure box above the existing power house. The existing penstocks are in very poor condition, have no corrosion protection, have broken and displaced ground supports, and are lacking structural integrity. The proposed project includes removing and replacing the four existing penstocks with one larger diameter, buried penstock in the same general location.

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

The proposed project includes the use of the flow equalization reservoir located along the Olmsted flowline. The reservoir would provide a constant pressure for the hydroelectric power plant, increase power generation, simplify the power plant operation, and improve the control of water deliveries to the Provo River and Provo Bench Canal. To utilize the 10 million gallon (MG) reservoir, the following modifications or additions would be required:

Olmsted Rock Tunnel Modifications

Installing a steel pipe within the existing 950' long rock tunnel to handle the water pressure from the 10 MG reservoir and prevent water from seeping through existing fractures in the limestone tunnel.

Spillway Modifications

Raising the spillway approximately 15 feet in the same location to maintain pressurization of the system, better balance flows, and simplify operation of the system. The spillway structure would still be used for operational and emergency spills and other maintenance activities as needed.

Pressure Box Removal

Removing the pressure box and its associated power line. The pressure box has become a safety hazard and an attractive nuisance. The pressure box is not needed with the construction of the proposed power house; operational control of the water would be from the 10 MG reservoir.

Vent Structure/Surge Tank Installation

Constructing a vent structure/surge tank just north of the existing pressure box to control system water surges. The surge tank would be approximately 20 feet high, placed back into the rock cliffs, and encased with a textured concrete that would help it blend into the natural face of the cliff.

Preserve the Historic Olmsted Power House Structure
The existing Olmsted power house (42UT1758) is listed on the National Register of Historic Places (NRHP) and is the central feature of the Olmsted Campus. The proposed undertaking would leave in-place the existing power house. However, it would not be utilized for power generation.

Improving Site Access
The proposed undertaking includes the construction of an access road from 1560 East in Orem into the Olmsted property. Current access is through the Provo River Parkway Park and Ride Lot accessed from 800 North with limited site distance.

Other Components of the Proposed Undertaking

- Potential construction of an Operation and Maintenance facilities building and garage to support the power plant and other District activities;
- Construction of smaller hydroelectric power generation units to handle flows that are less than power house minimum flow limitations. These would be located in a vault directly east of the new power house;
- Potential construction of a relay control room for PacifiCorp's operation of the substation (located on PacifiCorp property); and
- A bypass valve into the tailrace channel.

Cultural Resource Results Summary
A Class I records search, Class III field inventories, and consultation with Native American tribes were conducted to identify cultural resources within the undertaking's Area of Potential Effects (APE). An architectural report titled *Reconnaissance Level Survey: Olmsted Power Station, Orem, Utah County* (Calkins, 2014) and an archaeological report titled *An Archaeological Resource Investigation of the Olmsted Hydroelectric Plant Replacement Project, Orem, Utah County, Utah* (Steele, 2014) identify the cultural resources within the APE. Both of the reports are enclosed with this letter and electronic copies of each has been forwarded onto you via email.

Area of Potential Effects
The Area of Potential Effects is an irregular shape that includes approximately 34 acres located at the mouth of Provo Canyon in Orem, Utah. Generally, the APE runs north to south extending from the 10 MG Olmsted Equalization Reservoir to SR-52 (800 North Orem). It includes the area near the existing power house but not the entire Olmsted Campus due to property ownerships. 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. The APE is shown in Figure 1 on page 4.

Architectural Resources – Eligibility Determinations and Effects
Horrocks Engineers conducted a reconnaissance level survey for historic structures within the project APE. The reconnaissance level survey identified 15 historic structures; 1 is out of period, 1 is not eligible for the NRHP, and 13 are considered eligible for inclusion to the NRHP. The Olmsted power house was listed on the NRHP in 1971 (site 42UT1758). A detailed discussion on each historic architectural resource is found in the reconnaissance level survey. Table 1 (found on pages 5 and 6) summarizes each resource identified within the APE, provides a brief description, lists each resource's NRHP eligibility, and documents the NRHP effect determination with a description of the impact. Each of the eligible historic structures listed in Table 1 contribute to the overall Olmsted Campus. However, due to property ownerships, only the structures of the Olmsted Campus within property owned by United States were evaluated. The historic structures are shown in Figure 2 on page 7.

Figure 1: Area of Potential Effect (APE)

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

0 125 250 500 Feet

June 2014

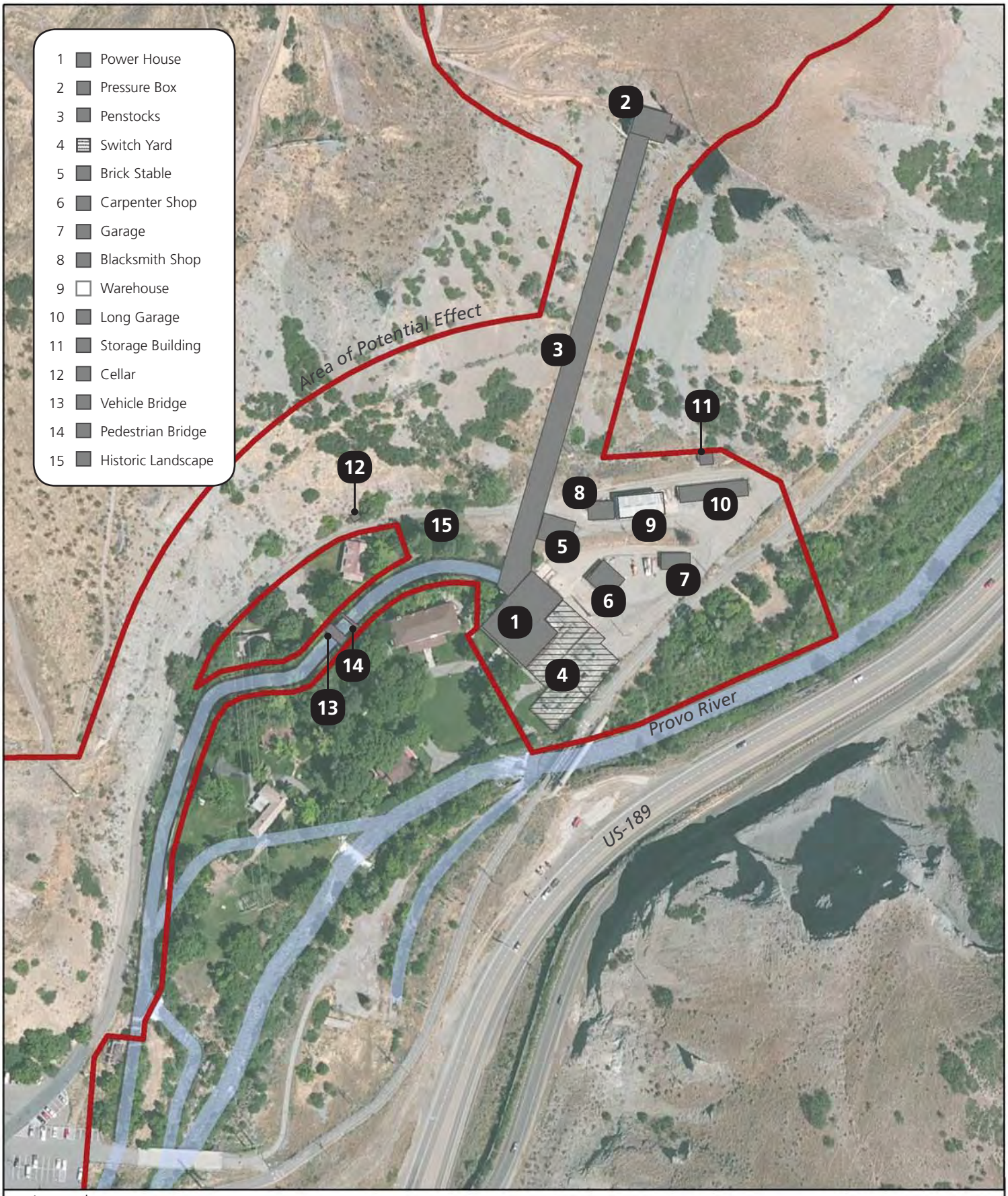
Table 1 - Historic Architecture Resources

Map No.	Structure Name	Description	NRHP Eligibility	Effect Determination and Descriptions of Impacts
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	**No Adverse Effect** The existing gantry crane located outside of the power house would require removal. However, the building would remain intact.
2	Pressure Box	This feature sits visibly on the hillside above the power house and was constructed in 1917. The structure is a steel frame construction covered with corrugated metal. It is constructed on a large concrete foundation. The gabled roof is covered with corrugated metal.	Eligible	**Adverse Effect** The undertaking would require the removal of the pressure box.
3	Penstocks	The three 48-inch penstocks were constructed at the same time as the power house in 1904. The 72-inch penstock was added in 1917. They are riveted/welded steel pipes approximately 350 feet long connecting the Pressure Box to the power house.	Eligible	**Adverse Effect** The undertaking 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.
4	Switchyard	Originally constructed in 1904 with improvements and additions in 1980. Area south of the power house with electrical transmission equipment. The original equipment has been replaced.	Ineligible	Not Applicable
5	Brick Stable	Constructed in 1904 this is an Arts and Crafts style brick stable with hay loft. The hipped, wood-shingled roof has two large dormers.	Eligible	**Adverse Effect** The undertaking would require the removal of the brick stable building. This building is located within the footprint of the proposed power house.
6	Carpenter Shop	Constructed in 1904 the brick workshop-type building, exhibits both Victorian Eclectic and Bungalow styles.	Eligible	**Adverse Effect** The undertaking would require the removal of the carpenter shop. This structure requires removal in order for the construction of the proposed power house.
7	Garage	The Brick garage was constructed in 1904 with Victorian Eclectic and Bungalow style elements. Hipped roof is covered with corrugated metal. Alterations from historic period.	Eligible	**Adverse Effect** The undertaking would require the removal of the garage. This structure requires removal in order for the construction of the proposed power house.

Table 1 - Historic Architecture Resources

Map No.	Structure Name	Description	NRHP Eligibility	Effect Determination and Descriptions of Impacts
8	Blacksmith Shop	The Blacksmith Shop was constructed in 1917 and is a wood frame structure covered with clapboard siding. The gable roof is covered with corrugated metal and has been damages.	Eligible	**Adverse Effect** The undertaking would require the removal of the blacksmith shop. To provide access during and after construction this structure requires removal.
9	Warehouse	Kirby Systems prefabricated structure that was constructed circa 1980.	Out-of-Period	Not applicable
10	Long Garage	The Long Garage was constructed in 1940 and is a long shed-type structure. It is wood frame construction covered with corrugated metal.	Eligible	**Adverse Effect** The undertaking would require the removal of the long garage. This structure requires removal in order for the construction of the proposed power house.
11	Storage Building	The Storage building was constructed in 1968 and is a concrete block shed with a corrugated metal roof	Eligible	**Adverse Effect** The undertaking would require the removal of the storage building. This structure requires removal in order for the construction of the proposed power house.
12	Cellar	The cellar was constructed circa 1904 and was built into the hillside north of the main access road (see Table 3). Front faced with slab lumber.	Eligible	**No Effect**
13	Vehicle Bridge	The vehicle bridge was constructed in 1950 and is steel outrigger-type bridge over the tailrace.	Eligible	**No Effect**
14	Pedestrian Bridge	The pedestrian bridge was constructed circa 1910 and is a steel outrigger-type bridge over the tailrace.	Eligible	**No Effect**
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	**Adverse Effect** The undertaking would impact the original, designed landscape of the Olmsted Camp requiring an alteration of the access road and several retaining walls. These features were part of the original landscape.

Of the 13 eligible historic structures documented within the APE, the proposed undertaking would result in an **Adverse Effect** to nine (including the Historic Landscape), a **No Adverse Effect** to one, and a **No Effect** on the other three. The Olmsted power house, listed on the NRHP, would be impacted by the removal of the gantry crane located outside on the northwest quadrant of the structure. The gantry crane is attached to the existing power house. However, the undertaking would avoid adversely impacting this historic resource.



Legend

- Area of Potential Effect (APE)
- Eligible/Contributing
- Ineligible/Non-Contributing
- Out of Period (Non-Historic)

0 50 100 200 Feet

Figure 2: Historic Architecture Resources

Olmsted Power Station
Orem, Utah County

June 2014

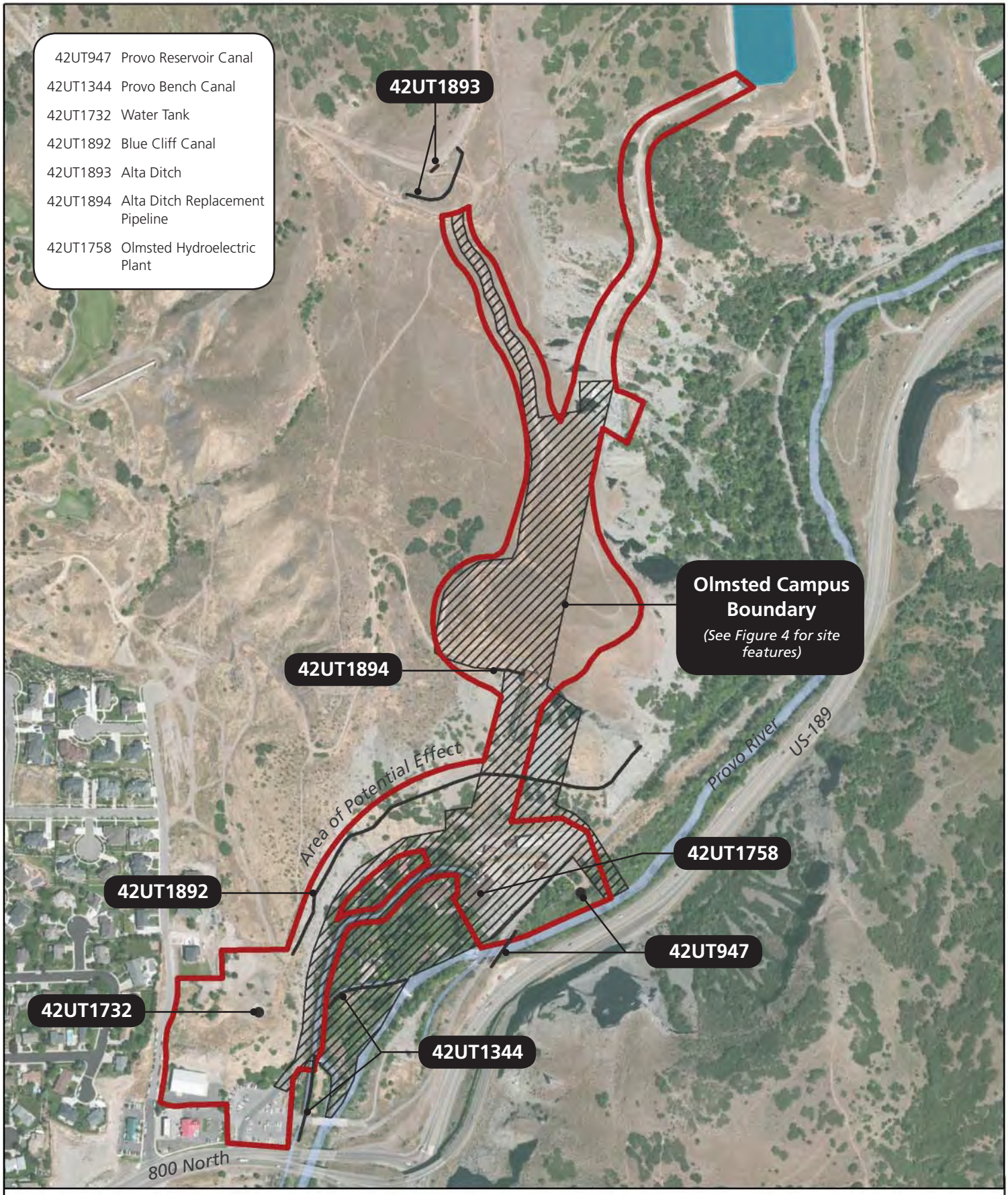
Archaeological Resources – Eligibility Determinations and Effects

Project Engineering Consultants (PEC) conducted an archaeological resources investigation within the APE including Class I records search at SHPO and Class III field surveys. The investigations resulted in seven sites within the APE – 42UT947, Provo River Aqueduct (also known as the Provo Reservoir Canal or Murdock Canal); 42UT1334, Provo Bench Canal; 42UT1732, abandoned water tank; 42UT1758, Olmsted Hydroelectric Plant (also known as the Olmsted power house); 42UT1892, Blue Cliff Canal; 42UT1893, Alta Ditch; and 42UT1894, Alta Replacement Pipeline. Sites 42UT1334, 42UT1732, and 42UT1758 have been previously recorded; sites 42UT1892, 42UT1893, and 42UT1894 are new sites recorded as part of this survey. In addition, six isolated occurrences, including cans and glass insulator fragments, were also recorded. Site 42UT1758, the Olmsted power house, is listed on the NRHP and site 42UT1344 Provo Bench Canal has been determined eligible for inclusion onto the NRHP. A detailed discussion on each site is found within the archaeological resources report but not detailed in this letter. Table 2 lists the seven archaeological resource found within the APE, including a brief description, NRHP eligibility, and the effect determination resulting from the proposed undertaking. The seven archaeological sites are shown in Figure 3 on Page 9. Also, PEC recorded a total of 19 features that are considered contributing to the overall Olmsted Campus; these are discussed in Table 3 on pages 10 and 11. Other archaeological sites within ½ mile of the APE and also documented in the archaeological survey include 42UT107, 42UT1361, 42UT1564, 42UT1568, 42UT1821, 42UT1822 (not included in this letter nor Table 2).

Table 2 - Archaeological Resources

Site No.	Name	Description	NRHP Eligibility	Effect Determination and Descriptions of Impacts
42UT947	Provo River Aqueduct	Also knows as the Provo Reservoir Canal or Murdock Canal; it was recently renamed as the Provo River Aqueduct. This canal diverts water from the Provo River upstream of the Olmsted Campus.	Not Eligible	Not Applicable
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 water from the Olmsted tailrace channel. A total of eight features were recorded as contributing to the canal including diversion structures, a pedestrian bridges, canal channel, and a headgates.	Eligible	**No Effect**
42UT1732	Water Tank	This previously recorded site is a buried concrete water tank located to the west and above the Olmsted Campus.	Not Eligible	Not Applicable
42UT1892	Blue Cliff Canal	Historic canal constructed in 1885 and located north and above the Olmsted Campus.	Not Eligible	Not Applicable
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	Not Applicable
42UT1894	Alta Ditch Replacement Pipeline	Pipeline constructed in the late 1950s.	Not Eligible	Not Applicable
42UT1758	Olmsted Power House	See discussion in Table 1 (**No Adverse Effect**)		

The proposed undertaking would have a **No Effect** to site 42UT1344 (Provo Bench Canal) and a **No Adverse Effect** to site 42UT1758 – Olmsted Power House (see determination in Table 1 above).



Legend

Area of Potential Effect (APE)

Olmsted Campus

0 125 250 500 Feet

Figure 3: Archaeological Resources within the APE

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

June 2014

Olmsted Campus

The Olmsted Campus includes a number of historic structures located on approximately seven acres at the mouth of Provo Canyon in Orem, Utah. The entire campus area was not surveyed as part of this project. The property within the Olmsted Campus is owned by two entities: PacifiCorp, a private corporation, and the United States, Department of the Interior. The in-period structures found within the campus and the APE include the power house (42UT1758 – NRHP listed), pressure box, penstocks, stable, carpenter shop, garage, blacksmith shop, long garage, storage building, cellar, two bridges, and the historic landscape (see Table 1 and Figure 2). Other Olmsted Campus buildings within PacifiCorp property (not within the APE) include the Telluride Institute, House of Ideas, boarding house, double cottage, cottage (Nunn residence), superintendent's cottage, cottage (caretakers), and laboratory. Other structures have been removed (not as part of this undertaking) including an office building, two cottages, an oil tank, an oil shed, a depot, a paint shed, a warehouse, and a garage. PEC recorded 19 other features that contribute to the Olmsted Campus. These are listed in Table 3 and shown in Figure 4.

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

Feature No.	Name	Description	Effect Determination and Descriptions of Impacts
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.	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
2	Retaining Wall	Fieldstone and mortared retaining wall approximately 135 feet long with a height ranging between at-grade and 2 feet.	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
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.	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
4	Retaining Wall	Fieldstone and mortared retaining wall approximately 50 feet long with a height of approximately 2 feet.	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
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.	**No Adverse Effect** Less than 100 feet of the tailrace would be impacted by the construction of the proposed power house.
6	Electrical Box	Concrete electrical box measuring 36 inches wide, 30 inches long, by 34 inches tall.	**Adverse Effect** The footprint of the proposed power house would require the removal of this feature.
7	Storage and Refuse Area	This area is located north of the existing power house just above the blacksmith building. Several items were identified within this area	**Adverse Effect** The construction of the penstock and proposed power house would impact this feature.
8	Log Cribbing	Located on the slopes above the power house and just below the pressure box.	**Adverse Effect** The construction of the penstock and proposed power house would impact this feature.
9	Access Road to the Pressure Box	This road provides access to the pressure box. It measures approximately 2,800 feet long.	**No Adverse Effect** The access road would be improved for construction but would retain historic integrity and be in the same location.

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

Feature No.	Name	Description	Effect Determination and Descriptions of Impacts
10	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.	**Adverse Effect** A 96" steel lining would be placed within the rock tunnel and the voids between the lining and rock will be filled with concrete.
11	Waste Rock Dump	Located to the east of the penstocks, this water rock was removed from the rock tunnel during construction.	**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.
12	Transmission Line	Known as the Olmsted-Lehi-Jordan Narrows electrical transmission line.	**No Adverse Effect** This power line and poles may be relocated but would retain historic integrity.
13	Transmission Line	Known as the Olmsted-Geneva electrical transmission line.	**No Adverse Effect** This power line and poles may be relocated but would retain historic integrity.
14	Transmission Line	Known as the Olmsted-Park City electrical transmission line.	**No Adverse Effect** This power line and poles may be relocated but would retain historic integrity.
15	Transmission Line	Local electrical distribution line provides power to the Olmsted Campus.	**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.
16	Trash Scatter	Area of discarded power poles and other materials.	**No Effect** This site would not be impacted by the proposed undertaking.
17	Access Road	Former county road now used as access into the Olmsted campus.	**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.
18	Retaining Wall	Dry-laid stone retaining wall along the uphill side of the access road. The wall measures approximately three feet tall.	**Adverse Effect** This retaining wall would remain intact except where the access road would be relocated.
19	Hedges	Line the access road – in places along both sides.	**No Effect** The hedges would not be impacted.

<u>Olmsted Campus – Effects Determination</u>

The proposed undertaking would have an **Adverse Effect** to nine eligible historic buildings (including the Historic Landscape) within the Olmsted Campus (see Table 1), a **No Adverse Effect** to the Olmsted Power House, and a **No Effect** on the other three structures (cellar and two bridges). As a result of the Class III survey, 19 contributing features to the Olmsted Campus were recorded within the APE. The proposed undertaking would have an **Adverse Effect** to ten features, a **No Adverse Effect** to seven features, and a **No Effect** on two. The District has determined that these impacts would result in an **Adverse Effect** to the overall Olmsted Campus.

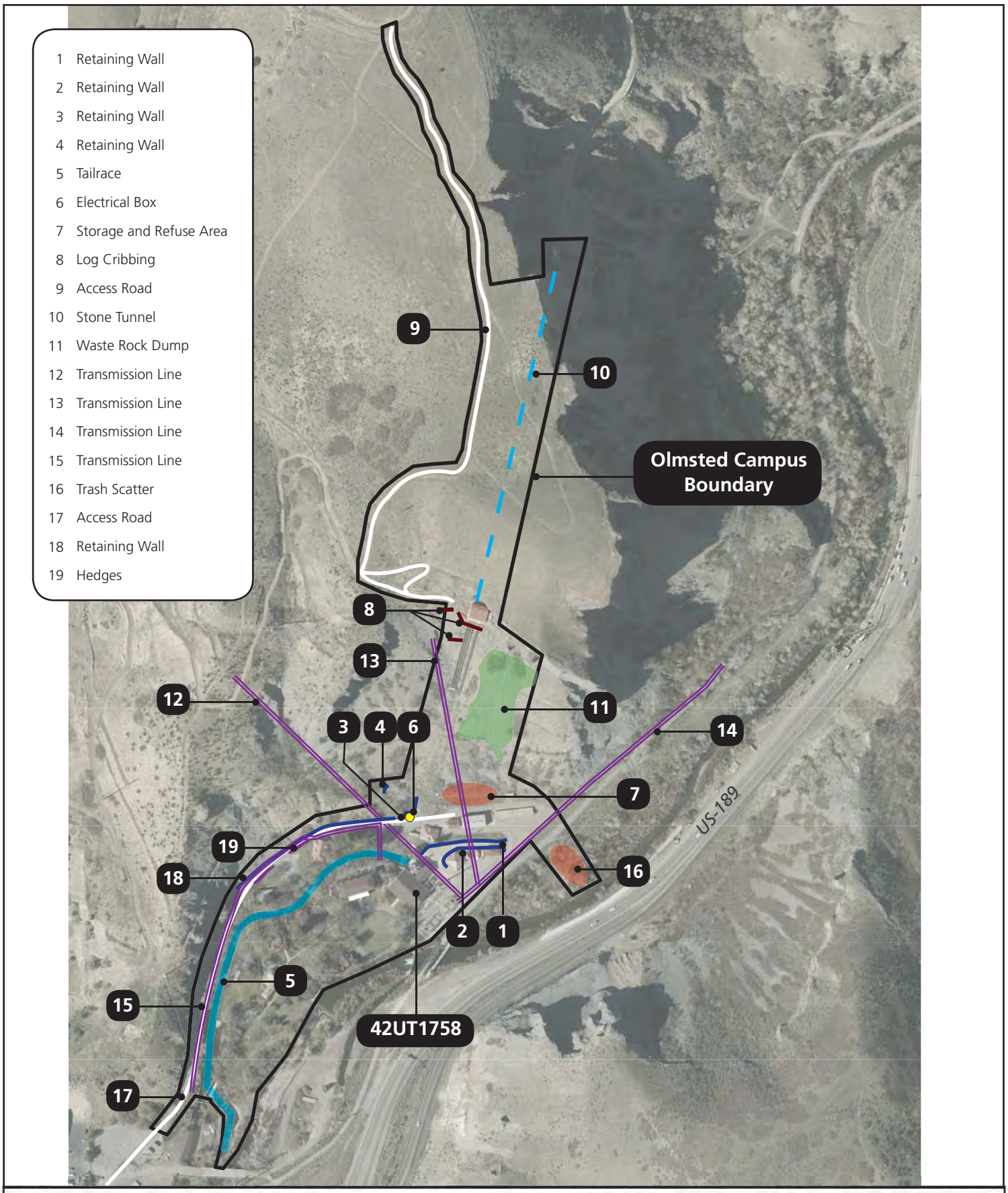


Figure 4: Olmsted Campus Features within the APE

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

June 2014

Consultation Summary
A meeting was held on February 12, 2014 at the District offices between the Joint Lead Agencies and SHPO. Two other follow-up meetings were held between the Joint Lead Agencies and SHPO – a site visit to the Olmsted power plant on March 7 and a meeting held at SHPO offices on April 29, 2014. At these meetings, multiple issues were discussed – NEPA and the Section 106 processes, review of the project's purpose and need statement, public and agency outreach, the overall Olmsted history and background, how the United States and the District became involved with Olmsted, why the Olmsted Campus was divided into two separate parcels, how the CUP water rights are tied to power generation at Olmsted, verification of the APE, reporting structure, and other issues. The Joint Lead Agencies appreciate SHPO being a cooperating agency on the Olmsted Hydroelectric Power Plant Replacement Project. Another meeting has been scheduled for July 17, 2014 to discuss these findings and potential mitigation.

The Joint Lead Agencies have also contacted local, state, and federal agencies regarding the proposed Olmsted project. On February 10, 2014, the Department of the Interior sent letters with project information to Native American tribes that have ancestral lands within or near the APE. As of this writing, no response has been received from any Native American tribe. On May 1, 2014, the Joint Lead Agencies met with the Orem City Historic Preservation Commission regarding the proposed project.

Summary
Please review this letter and the enclosed reports. Providing you (and Lori Hunsaker) agree with the findings contained herein, sign and date the signature line at the end of this letter. Should you have any questions please feel free to give me a call or send an email. I can be reached at (801) 226-7147 or sarah@cuwcd.com. Also, you may contact Chris Elison at (801) 226-7166 or chrisE@cuwcd.com.

Sincerely,

Sarah Johnson

Sarah Johnson
Environmental Programs Manager

ec:
- Reed Murray, U.S. Department of the Interior, CUPCA Program Manager (w/o enclosures)

Enclosures:
- Cover Letters
- Reconnaissance Level Survey, Olmsted Power Station, Orem, Utah (Nancy Calkins of Horrocks Engineers)
- An Archaeological Resource Investigation of the Olmsted Hydroelectric Plant Replacement Project, Orem, Utah County, Utah
- IMACS Site Forms

Regarding Central Utah Water Conservancy District and the United States – Department of the Interior CUPCA Office as Joint Lead Agencies for the Olmsted Hydroelectric Plant Replacement Project, I concur with the eligibility determinations and effects, submitted to the Utah State Historic Preservation Officer in accordance with Section 106 of the NHPA. This letter outlines the historic architectural and archeological resources found within the project APE (see Figure 1) and the effects that the proposed undertaking will have on each. The Joint Lead Agencies have determined that the proposed undertaking would have an **Adverse Effect** on historic properties within the APE.

Chris Hansen
Preservation Planner/Deputy SHPO
Division of State History

7/14/14
Date

. Chris Merritt, Ph.D.
Senior Preservation Planner
USHPO
for Lori Hunsaker

Lori Hunsaker
Deputy SHPO
Division of State History, Archaeology

7/14/14
Date

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May 8, 2015

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

RE: Endangered Species Act coordination for the Orem Reach 2 Realignment Project

Dear Mr. Crist:

The Central Utah Water Conservancy District (District), the U.S. Department of the Interior, CUPCA Office, and the Utah Reclamation Mitigation and Conservation Commission, as Joint Lead Agencies, initiated an Environmental Assessment (EA) in compliance with the National Environmental Policy Act of 1969 (NEPA) on the proposed Orem Reach 2 Realignment Project in February 2015. The purpose of this letter is to coordinate with U.S. Fish and Wildlife Service (USFWS) and request a No Effect determination for threatened and endangered species for the Orem Reach 2 Realignment Project.

Project Description of the Orem Reach 2 Realignment Project

As part of the Olmsted Replacement Project, a Value Engineering (VE) study was conducted in December 2014 on the preliminary design plans. The VE study recommended that the Orem Reach 2 segment (Proposed Action) of the Spanish Fork-Provo Reservoir Canal Pipeline (SFPRCP) to the Alpine Aqueduct be realigned and connected through the new Olmsted Power Plant facilities (including the penstock, rock tunnel, and flowline).

The Proposed Action for the Orem Reach 2 Realignment project (see attached figure) would extend the SFPRCP 60-inch pipe from the Provo River Flow Control Structure, northward along the existing Olmsted Power Plant access road. Then utilizing features of the Olmsted Replacement Project, it would continue northward and connect with the Alpine Aqueduct at the 10 MG Reservoir.

<u>60-Inch Welded Steel Pipe Alignment</u>

The Orem Reach 2 pipeline alignment would include:

- Constructing approximately 1,200 linear feet of pipeline within the existing Olmsted Power Plant access road between the Provo River Flow Control Structure and the planned Olmsted Power Plant. The pipeline would be a 60-inch welded steel pipe.
- Mortar-lining approximately 1,400 linear feet of the existing 102-inch diameter welded steel Olmsted Flowline between the rock tunnel and the 10 MG Reservoir.

Reroute existing utilities to make room for the planned Olmsted Power Plant including the installation of a fiber optic conduit. The Orem Reach 2 Realignment Project would also include features covered in the Olmsted Replacement EA. These features could be constructed by either project and are considered joint features of both projects. These include:

- A planned 84-inch penstock between the planned Olmsted Hydroelectric Plant and the rock tunnel. The planned penstock will be buried.
- A planned 84-inch welded steel pipe within the rock tunnel between the penstock and the 102-inch welded steel Olmsted Flowline.

<u>Hydroelectric Power Generation on the ULS Supplemental Water</u>

The Proposed Action includes hydroelectric power generation on ULS supplemental water delivered to the Provo River through the planned Olmsted Power Plant. ULS supplemental water has been obtained by the

Joint Lead Agencies through water conservation projects (e.g. enclosure of the Provo Reservoir Canal, piping of the Mapleton-Springville Lateral) for use as in-stream flows in Hobble Creek and the Provo River.

Secondary Access

The Orem Reach 2 Realignment Project includes the acquisition of a 30-foot wide perpetual easement for use as a secondary access. It would require approximately ½ acres of property currently owned by PacifiCorp. The proposed perpetual easement would extend from the tailrace return channel northward to the property owned by the Department of the Interior (location of the existing and planned power plant). This alignment provides an alternate access into the Olmsted Power Plant from the park-in-ride lot located off of 800 North in Orem (see Figure 1). The proposed secondary access would utilize the same alignment and roadway built as a temporary access into the Olmsted Power Plant during the construction of the Provo River Flow Control Structure (Orem Reach 1B project). It would remain 15 feet wide and use the existing bridges over the Provo Bench Canal and tail race return channel. The secondary access purpose is to provide an alternate route into the Olmsted Power Plant during construction of the Orem Reach 2 Realignment project and for emergencies in case the existing access road becomes unusable.

Endangered Species Act

Table 1 below identifies the Joint Lead Agencies determinations for federally-listed and candidate Endangered Species Act (ESA) species that are known to occur in Utah County and have the potential to occur within the project study area (Colorado River species not listed). The purpose of this letter is to request U.S. Fish and Wildlife Service (USFWS) concurrence on these determinations.

Table 1: ESA Species List for Orem Reach 2 Realignment Project (taken from the Utah County ESA list)

Species	Status	Determination	Occurrence in the Study Area
Yellow-billed Cuckoo (*Coccyzus americanus*)	Proposed Threatened	**No Effect**	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Greater sage-grouse (*Centrocercus urophasianus*)	Candidate	**No Effect**	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Least chub (*Iotichthys phlegethontis*)	Candidate	**No Effect**	No suitable habitat and no documented occurrences within or near the study area have been recorded.
June sucker (*Chasmistes liorus*)	Endangered	**No Effect**	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 Effect**	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Clay phacelia (*Phacelia argillacea*)	Endangered	**No Effect**	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	**No Effect**	No suitable habitat and no documented occurrences within or near the study area have been recorded.
Canada Lynx (*Lynx canadensis*)	Threatened	**No Effect**	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 Joint Lead Agencies request USFWS concurrence with the determination that the Proposed Action for the Orem Reach 2 Realignment would have **No Effect** to yellow-billed cuckoo, greater sage-grouse, least chub, June 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 Olmsted Flowline spillway. In addition, red-tail hawks have been observed in this same area and nesting potentially has occurred for several years at this location.

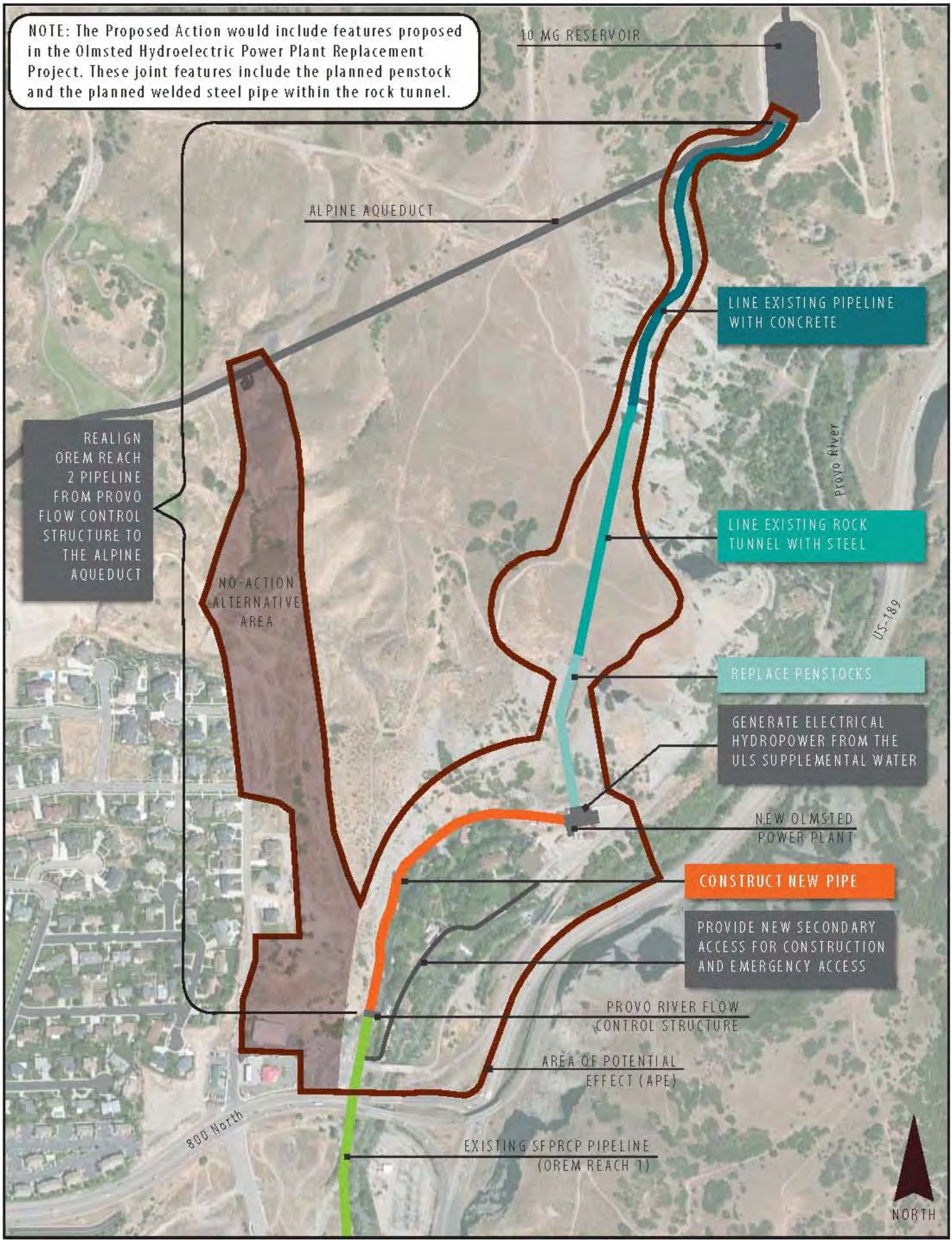
Permanent impacts to nesting, feeding, roosting, and hiding cover habitat would be minimal to non-existent. During construction, higher than usual noise levels, proximity of construction equipment, and other construction related activities may temporarily disturb migratory birds and their habitats. If 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
Mark Holden – Utah Reclamation Mitigation and Conservation Commission
Sarah Johnson – Central Utah Water Conservancy District
Mike Mills – Central Utah Water Conservancy District
Matt Howard – Utah Division of Wildlife Resources


NOTE: The Proposed Action would include features proposed in the Olmsted Hydroelectric Power Plant Replacement Project. These joint features include the planned penstock and the planned welded steel pipe within the rock tunnel.
10 MG RESERVOIR
ALPINE AQUEDUCT
LINE EXISTING PIPELINE WITH CONCRETE
REALIGN OREM REACH 2 PIPELINE FROM PROVO FLOW CONTROL STRUCTURE TO THE ALPINE AQUEDUCT
Provo River
LINE EXISTING ROCK TUNNEL WITH STEEL
NO-ACTION ALTERNATIVE AREA
US-189
REPLACE PENSTOCKS
GENERATE ELECTRICAL HYDROPOWER FROM THE ULS SUPPLEMENTAL WATER
NEW OLMSTED POWER PLANT
CONSTRUCT NEW PIPE
PROVIDE NEW SECONDARY ACCESS FOR CONSTRUCTION AND EMERGENCY ACCESS
PROVO RIVER FLOW CONTROL STRUCTURE
AREA OF POTENTIAL EFFECT (APE)
800 North
EXISTING SFPRCP PIPELINE (OREM REACH 1)
NORTH

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

June 8, 2015

Chris Elison
355 W. University Parkway
Orem, Utah 84058-7303

RE: Orem Reach 2 Realignment Project

Chris Elison;

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 Melissa Burns in my office at (801) 975-3330 ext. 123. 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

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

Chris Elison
355 W. University Parkway
Orem, Utah 84058-7303

ADDENDUM TO MEMORANDUM OF AGREEMENT

AMONG

THE CENTRAL UTAH WATER CONSERVANCY DISTRICT,

THE UNITED STATES DEPARTMENT OF THE INTERIOR,

THE UTAH RECLAMATION MITIGATION AND CONSERVATION COMMISSION, AND

THE UTAH STATE HISTORIC PRESERVATION OFFICER

REGARDING THE

OREM REACH 2 REALIGNMENT PROJECT;
OREM, UTAH COUNTY, UTAH

WHEREAS, a Memorandum of Agreement (Agreement) for the Olmsted Hydroelectric Power Plant Replacement Project (Olmsted Power Plant Project) was executed in October 2014. The Orem Reach 2 Realignment Project (hereafter known as "the Project") is located in the same general area as the Olmsted Power Plant Project; and

WHEREAS, the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) was not a signatory to the Agreement but is a Joint Lead Agency for the Project; and

WHEREAS, the Central Utah Water Conservancy District, the U.S. Department of the Interior Central Utah Project Completion Act Office, and the Mitigation Commission, as Joint Lead Agencies (JLAs), propose to realign the Orem Reach 2 segment of the Spanish Fork-Provo Reservoir Canal Pipeline, connecting it to the Alpine Aqueduct at the Olmsted 10 million gallon reservoir (see Attachment A). The Project includes:

- The construction of a 60-inch welded-steel pipe within the Olmsted Campus access road between the Provo River Flow Control Structure and the new Olmsted Power Plant – a distance of approximately 1,200 linear feet;
- The connection between the new Olmsted Power Plant and Alpine Aqueduct will be made through a new penstock[1], lined rock tunnel, and mortar-lining approximately 1,400 linear feet of the existing 102-inch diameter welded-steel Olmsted Flowline between the rock tunnel and the 10 million gallon reservoir;
- Conversion of a temporary construction access to a secondary access into the Olmsted Power Plant;
- Rerouting existing utilities for the planned Olmsted Power Plant and installing a fiber optic conduit;
- Hydroelectric power generation at the new Olmsted Power Plant on the supplemental water obtained by the JLAs; and

[1] The existing penstocks will be replaced and the Olmsted rock tunnel will be lined as part of the Olmsted Power Plant Project. These features were covered as part of the Agreement signed October 2014.

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

WHEREAS, the Project includes additional impacts to historic resources determined eligible for or are included on the National Register of Historic Places (NRHP) that were not covered in the Agreement. The JLAs, under Section 106 of the 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 effects on historic resources include:

- An adverse effect to the Cellar, Historic Landscape, and the Timpanogos Canal (42UT1361);
- A no adverse effect to the Stone Retaining Wall which is a contributing feature of the Olmsted Powerhouse (42UT1758); 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 Orem Reach 2 Realignment Project:

1. **Intensive Level Surveys Historic Site Forms (ILS)**
   The JLAs will complete an ILS Historic Site Form for the Cellar and update the ILS Historic Site Form for the Historic Landscape according to the Utah SHPO ILS Standards outlined in the *Intensive Level Survey Standard Operation Procedures* prior to construction of the Project. 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), a measured floor plan for the Cellar, a title search, and copies of all research materials. The JLAs will submit the ILS forms to SHPO upon completion.

   Stipulation #1 will be completed prior to construction of the Project.

2. **Virtual Rendering of Historic Structures**
   A virtual rendering of historic structures within the Olmsted Campus are currently being developed as part of the Olmsted Power Plant Project. The JLAs have asked permission from the property owner (Pacificorp) to do virtual renderings on the remainder of the Olmsted Campus and interior of several buildings listed below. Upon their approval, the following resources will be completed:
   a. Exterior of the Olmsted Campus
   b. Quarters Building
   c. Nunn Cottage
   d. Superintendent Cottage
   e. Home of Ideas (interior only if permission is obtained by the owner)

   The interiors of the Double Cottage and Lab are not in a condition to do virtual renderings. 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 #2 will be completed prior to May 1, 2019.

3. **Interpretive Sign**
   The JLAs will install an interpretive sign along the Provo River Parkway Trail near the Timpanogos Canal diversion to mitigate Project effects to the historic Timpanogos Canal. The interpretive sign will include historical photos and a brief discussion on importance of irrigation/Timpanogos Canal to the region and development of Utah Valley.

   Stipulation #3 will be completed prior to construction impacts to the Timpanogos Canal.

4. **Other Terms and Stipulations**
   All other terms and stipulations of the Agreement shall remain in full force and effect.

SIGNATORIES

CENTRAL UTAH WATER CONSERVANCY DISTRICT

By: _____ Date: _____

Title: _____

UNITED STATES DEPARTMENT OF INTERIOR, CUPCA OFFICE

By: _____ Date: _____

Title: _____

DRAFT

UTAH RECLAMATION MITIGATION AND CONSERVATION COMMISSION

By: _____ Date: _____

Title: _____

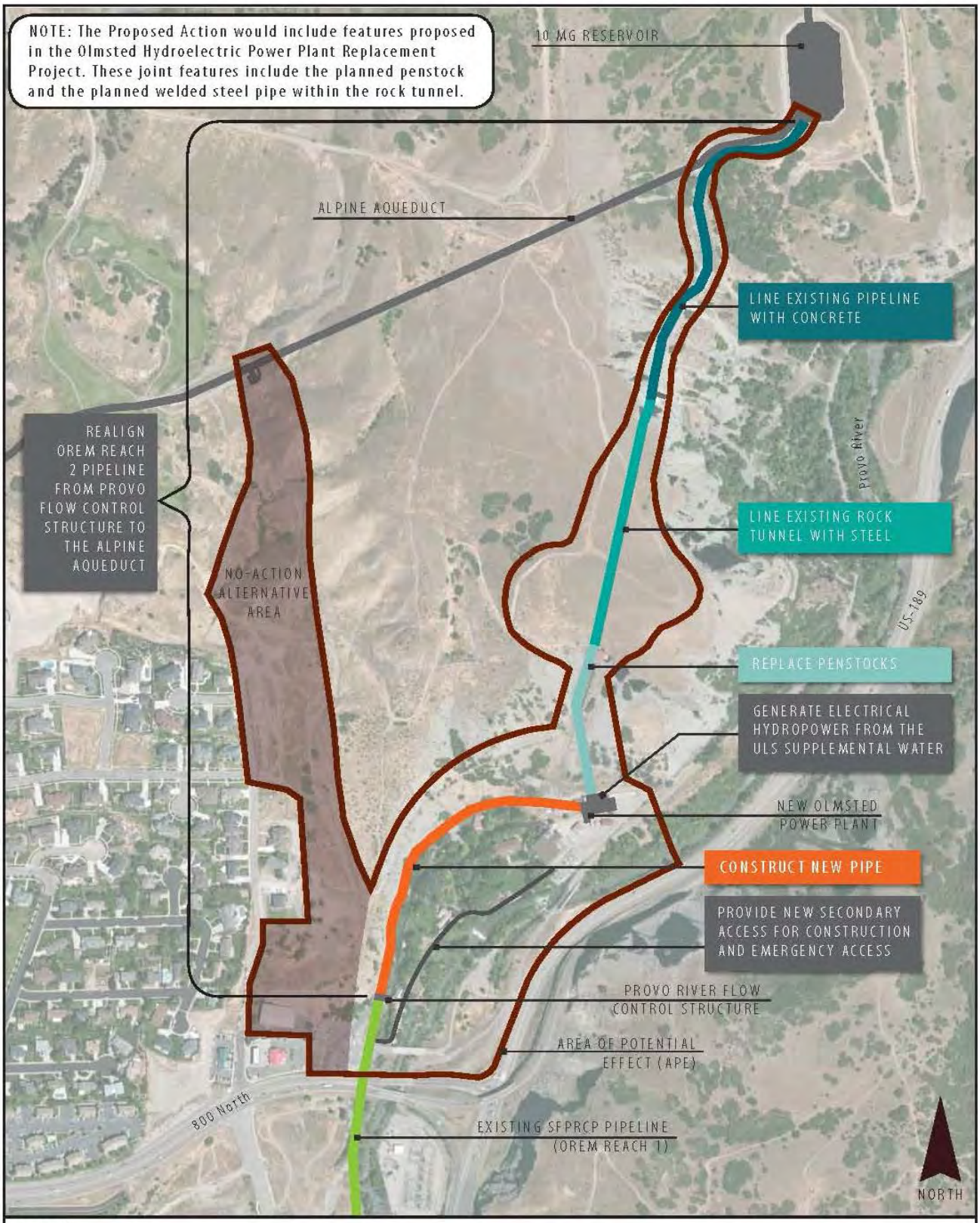
UTAH STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____

Title: _____

DRAFT

Attachment A



Legend

Area of Potential Effect (APE)

Figure 1: Area of Potential Effect (APE) and Proposed Action