RECLAMATION

Managing Water in the West

Parallel Pipeline Project Final Environmental Assessment and Finding of No Significant Impact PRO-EA-11-001

Utah County Utah
Upper Colorado Region
Provo Area Office

U.S. Department of the Interior
Bureau of Reclamation

March 2011

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

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

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Utah County Utah
Upper Colorado Region
Provo Area Office

prepared by: Provo Area Office
Provo, Utah

U.S. Department of the Interior
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Acronyms

APE	**Area of Potential Effects**
Association	**Provo River Water Users Association**
BA	**Biological Assessment**
CRSPA	**Colorado River Storage Project Act**
CUP	**Central Utah Project**
CUPCA	**Central Utah Project Completion Act**
CUWCD	**Central Utah Water Conservancy District**
DOI	**Department of Interior**
EA	**Environmental Assessment**
EIS	**Environmental Impact Statement**
FWHA	**Federal Highway Administration**
FONSI	**Finding of No Significant Impact**
GLO	**General Land Office**
JVWCD	**Jordan Valley Water Conservancy District**
MWDSLS	**Metropolitan Water District of Salt Lake and Sandy**
NEPA	**National Environmental Policy Act of 1969**
PRC	**Provo Reservoir Canal**
PRCEP	**Provo Reservoir Canal Enclosure Project**
proposed Project	**Proposed Parallel Pipeline Project**
PRP	**Provo River Project**
PRWUC	**Provo Reservoir Water Users Company**
Reclamation	**Bureau of Reclamation**
SAP	**Stream Alteration Permit**
Service	**U.S. Fish and Wildlife Service**
UDSH	**Utah Division of State History**
ULS	**Utah Lake System**
UPDES	**Utah Pollution Discharge Elimination System**
URMCC	**Utah Reclamation Mitigation and Conservation Commission**

Chapter 1 – Need for Proposed Action and Background

This Environmental Assessment (EA) is prepared in compliance with the National Environmental Policy Act (NEPA), to analyze the potential effects of constructing a 4,200 foot long pipeline in Utah County, Utah, which would be a component of the Provo Reservoir Canal (PRC), a feature of the Provo River Project (PRP).

1.1 Background

The PRC, also known as the Murdock Canal, is a feature of the Deer Creek Division of the PRP. The PRP, which also includes Deer Creek Dam and Reservoir, was constructed by the Bureau of Reclamation (Reclamation) in the early 1940's to provide irrigation water and culinary water to residents in northern Utah and Salt Lake Counties. The Provo River Water Users Association (Association) is the sponsor of the PRP and the operating and managing entity for Reclamation.

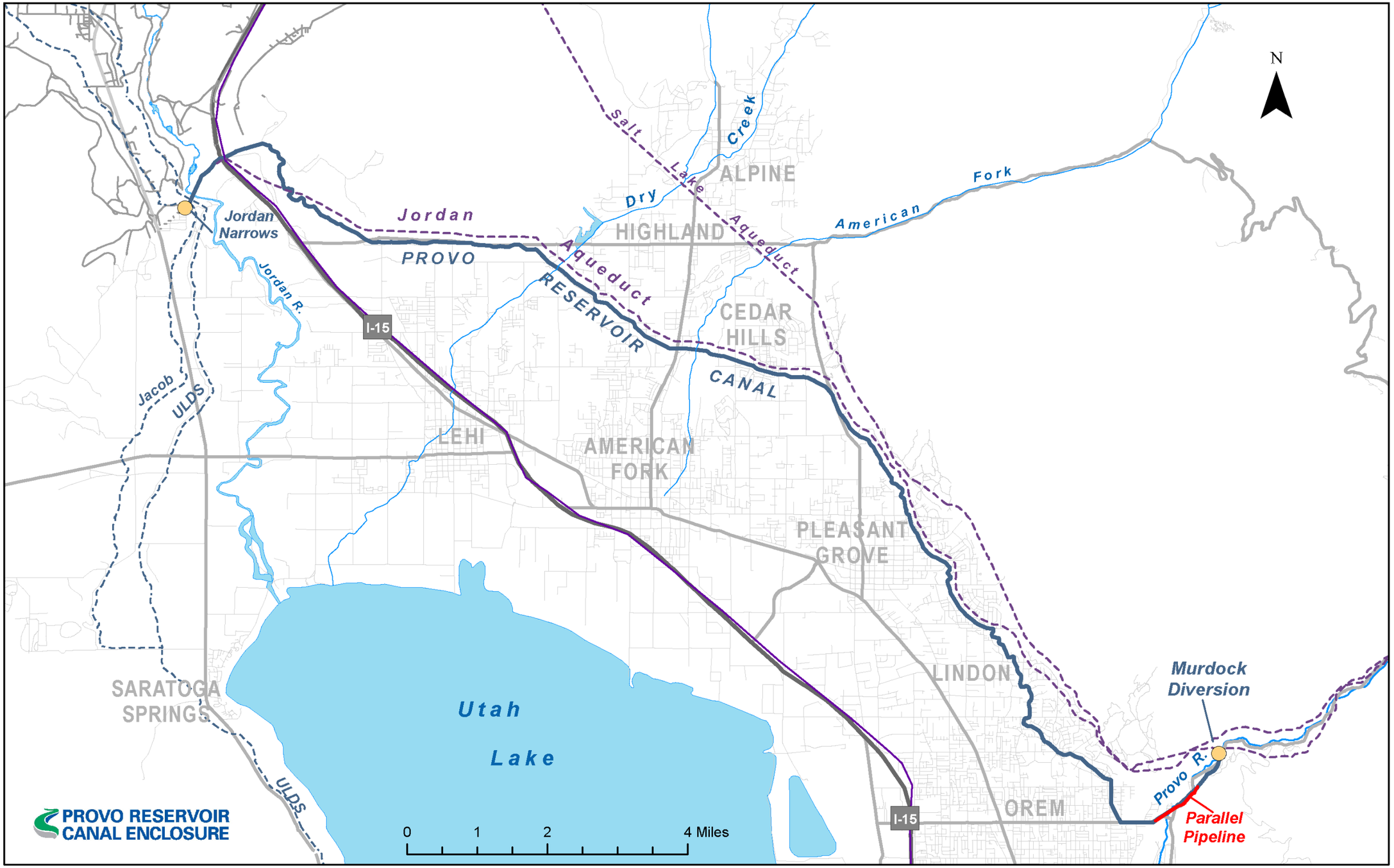
The proposed Parallel Pipeline Project (proposed Project) is a new component of the Provo Reservoir Canal Enclosure Project (PRCEP). The PRCEP consists of enclosing the entire 21.5-mile length of the PRC with pipe, as described in more detail in Section 1.5.1 below. During final PRCEP design, it was determined that constructing a new pipeline parallel to the existing PRC to reduce the friction losses (head loss) through that section of the PRC was the most cost effective way to achieve the flow characteristics needed to meet PRCEP water delivery requirements. Since this new pipeline had not been analyzed in the 2003 Provo Reservoir Canal Enclosure Project Environmental Assessment, a new NEPA document is required. This EA will satisfy that requirement to reliably accommodate delivery of ULS water to ULS petitioners in the Salt Lake Valley.

The proposed Project consists of constructing an approximately 4,200 foot long, 96-inch diameter, steel pipeline parallel to the existing PRC Siphon from the inlet of the existing PRC Siphon in the mouth of Provo Canyon to the outlet of the existing PRC Siphon on 800 North in Orem as shown on Figure 1. The proposed Project is sized to meet the flow rates requested by the Association and other PRCEP participants.

Consistent with its role as the PRP managing entity, the Association oversaw design and will be managing construction of the PRCEP for Reclamation. The Association will perform the same role with the proposed Project. When

completed, the PRCEP and the proposed Project will remain features of the PRP under Federal ownership until PRC title transfer occurs as discussed in Section 1.5.2.

Figure 1 - Site Map and PRCEP Overview Map



Reclamation has prepared this EA to comply with procedural requirements of NEPA, as amended, and the Council on Environmental Quality and Department of the Interior regulations implementing NEPA. This EA analyzes the potential impacts of the proposed action in comparison with a no action alternative. As required by the NEPA implementing regulations, if potentially significant impacts to the human environment are identified, an environmental impact statement would be prepared. If no significant impacts are identified, Reclamation will issue a Finding of No Significant Impact (FONSI). This EA describes the environmental effects of constructing the proposed Project. Under the No Action Alternative, Reclamation would not construct the proposed Project. This EA also serves as a Biological Assessment (BA) for purposes of consulting with the U.S. Fish and Wildlife Service (Service) pursuant to Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531-1534).

1.2 Purpose of and Need for the Proposed Action

With exception of the existing PRC Siphon segment of the PRC, the entire 21.5-mile length of the PRC is being replaced with pipeline under the PRCEP construction contract awarded March 25, 2010. The PRCEP pipeline was designed to meet the capacity requests of the PRCEP participants as explained in Section 1.5.1. The high head losses (friction losses) through the existing PRC Siphon limit the ability of the PRCEP to meet these capacity requests under full pipeline flow conditions. Installation of the proposed 96-inch diameter steel pipeline adjacent to the existing PRC Siphon is needed to resolve the head loss issue and allow the PRCEP to meet the capacity requests.

The purpose of the proposed Project is to: 1) provide the pressure (head) necessary to deliver a full water supply requested by all PRCEP participants, 2) improve the reliability of the PRCEP system by providing redundancy in the event of failure of the 70 year old existing PRC Siphon, and 3) improve the operation and maintenance flexibility by allowing shutdown of one of the siphons for maintenance and repair without interfering with water deliveries.

1.3 Permits, Licenses, and Authorizations Required

Implementation of the Proposed Action could require a number of authorizations or permits from state and Federal agencies. Reclamation would be responsible for obtaining all permits, licenses, and authorizations required for the Proposed Action. Potential authorizations or permits may include those listed in Table 1 and others not listed.

Table 1
Permit and Authorizations Required

Agency/Department	Purpose
Utah Division of Water Quality	Utah Pollution Discharge Elimination System (UPDES) permit required for dewatering.
Utah Division of Water Quality	Storm Water Permit under Section 402 of the Clean Water Act if water is to be discharged as a point source into the Provo River.
State of Utah Department of Natural Resources. Division of Water Rights	Stream Alteration Permit required under Section 404 of the Clean Water Act and Utah statutory criteria of stream alteration described in the Utah Code.
U.S. Army Corps of Engineers	Permit under Section 404 of the Clean Water Act for construction activities in waters of the United States, and/or construction activities affecting wetlands.
U. S. Fish and Wildlife Service	Consultation under the Fish and Wildlife Coordination Act and Endangered Species Act of 1973, as Amended
Utah State Historic Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act, 16 USC 470.
Orem City	Construction Permits
Provo City	Construction Permit
Utah Department of Transportation	Right of Way Easement
Rocky Mountain Power Company	Temporary construction easements: 25-foot wide adjacent to existing Siphon easement, use of existing trailhead parking lot, and use of land for a temporary parking lot
Provo Bench Canal Company	Crossing agreement
Timpanogos Canal Company	Crossing agreement

1.4 Scope of Analysis and Content of this EA

The purpose of this EA is to determine whether or not Reclamation should construct the proposed Project. That determination includes consideration of whether there would be significant impacts to the human environment. In order to build the proposed Project as described in Chapter 2, this EA must be completed and a FONSI issued.

This EA consists of the following chapters:
1. Need for Proposed Action and Background
2. Proposed Action and No Action Alternative
3. Affected Environment and Environmental Effects
4. Environmental Commitments
5. Consultation and Coordination
6. Preparers
7. References

1.5 Related Projects and Documents

1.5.1 PRCEP

The proposed Project is a new component of the PRCEP. Participants in PRCEP include the Association, including all its shareholders, Metropolitan Water District of Salt Lake and Sandy (MWDSLS) being the largest, the Provo Reservoir Water Users Company (PRWUC), the Jordan Valley Water Conservancy District (JVWCD), and the Central Utah Water Conservancy District (CUWCD). A Master Agreement was executed among the participating parties in March 2010 that defines the terms of construction, operation and maintenance of the PRCEP.

Currently, the PRC is predominantly an open-water, unlined canal situated in northern Utah County within a corridor that varies in width from approximately 90 to 110 feet and extends for approximately 21.5 miles from the Murdock Diversion Dam near the mouth of Provo Canyon to a location near the Jordan Narrows, as depicted on the map in Figure 1.

The original PRC, known then as the Murdock Canal, was constructed in about 1911 by PRWUC as part of an irrigation system to serve lands in Utah and Salt Lake Counties. In 1939, the United States acquired the PRC as it then existed, and reconstructed it as part of the Deer Creek Division of the PRP, a Reclamation project. The reconstruction project included the acquisition of additional lands and interests in lands, the partial relocation of the PRC corridor, the replacement of the Murdock Diversion and five siphons, and the enlargement of the PRC from 180 cubic feet per second (cfs) at the head and 110 cfs at the end, to 550 cfs at the head and 350 cfs at the end. The Association is the local sponsor of the PRP, and

is currently repaying the costs of the PRP, including the PRC, to the United States. The Association operates and maintains the PRC, at its cost and expense, pursuant to a repayment contract executed between the United States and Association. Title to the PRC is held in the name of the United States.

The United States, as owner of the PRC, and the Association, as the managing and operating entity have long desired to enclose the PRC. The benefits and advantages to be realized through the enclosure of the PRC include, but are not limited to, improved public safety, improved water quality, improved security, the resolution of problems inherent in operating an open canal through a rapidly urbanizing area, reduced maintenance costs, increased operational efficiencies, increased capacity in certain reaches, improved reliability, operational redundancy, increased recreational opportunities, and the conservation of water through the reduction of seepage and, to a lesser extent, the reduction of evaporation.

As currently constructed, the capacity of the PRC gradually decreases from an initial capacity of 550 cfs at the head to 350 cfs at the end. This decrease in capacity is commonly referred to as the "taper." The PRCEP will remove the taper and increase the capacity to accommodate capacity increase requests from some existing PRC capacity owners and a request by the CUWCD for capacity to transport Utah Lake System (ULS) water in the PRC. When the PRCEP is complete, capacity in the future enclosed canal will vary from 550 cfs at the Murdock Diversion (diversion point from the Provo River) to 626 cfs where the ULS water is introduced into the PRC, then taper back to 562 cfs at the end. Diversions into the PRC from the Provo River will not change with the PRCEP, nor will they change with the proposed Project. A construction contract for PRCEP was awarded to Ames Construction on March 25, 2010 with completion anticipated in the spring of 2013. Construction of the proposed Project is expected to begin in the spring of 2011 and be completed in the fall of 2012.

A PRCEP EA was prepared by Reclamation for the PRCEP project with a FONSI signed April 30, 2003. That EA is incorporated by reference. Approximately 48 percent of the proposed Project (2,000 feet of the total 4,200 feet) would be built within the project area analyzed by that EA and the remaining 52% would be built outside that project area within the existing UDOT US-189 right of way.

1.5.2 Title Transfer of Provo Reservoir Canal, Salt Lake Aqueduct, and Pleasant Grove Property, Provo River Project

Following Reclamation's authorization to enc1ose the PRC, Reclamation was asked to consider transferring three of its PRP facilities, including the PRC, to non-Federal ownership. An EA was prepared to analyze the potential environmental effects of this request, with Reclamation serving as lead agency and the Department of Interior, the Department of Agriculture, the Forest Service (USDA Forest Service, Uinta and Wasatch-Cache National Forests), and the National Park Service participating as cooperating agencies. In October 2004, Reclamation and the cooperating agencies issued a final EA (PRO-EA-04-001)

and FONSI (PRO-FONSI-04-006) supporting title transfer for all three facilities. Congressional authorization is required for all title transfers, and this was provided through enactment in October 2004 of the Provo River Project Transfer Act, P.L. 108-382. Ownership of the Salt Lake Aqueduct has been transferred pursuant to P.L. 108-382, but title transfer for the PRC and the Pleasant Grove Property has not yet occurred and so these facilities remain in Federal ownership. It is anticipated that title transfer of these remaining facilities will take place upon completion of PRCEP and the proposed Project.

1.5.3 Utah Lake System (ULS)

The Central Utah Project (CUP) was authorized for construction as a participating project under the Colorado River Storage Project Act of 1956 (CRSP). The CUP, as originally authorized, consisted of the following six individual units: (1) the Vernal Unit (2) the Jensen Unit, (3) the Upalco Unit, (4) the Uintah Unit, (5) the Ute Indian Unit, and (6) the Bonneville Unit.

The Bonneville Unit, the largest unit of the CUP, is located in central and northeastern Utah. The unit includes facilities to develop and more fully use waters tributary to the Duchesne River in the Uinta Basin of Utah, to facilitate a trans-basin diversion from the Colorado River Basin to the Bonneville Basin, and to develop and distribute project water in the Bonneville Basin. Titles II through VI of the Central Utah Project Completion Act (CUPCA), as amended, authorized funding for the completion of the Bonneville Unit and established the Utah Reclamation Mitigation and Conservation Commission. The ULS was authorized in Section 202(a) (1) of the CUPCA, as amended, to provide water for municipal and industrial purposes, irrigation, fish and wildlife, and recreation.

Implementation of the ULS was analyzed in an Environmental Impact Statement (EIS) prepared by the Department of Interior (DOI), CUWCD, and the Utah Reclamation Mitigation and Conservation Commission (URMCC) as joint lead agencies, with eight other agencies including Reclamation serving as cooperating agencies. The final Utah Lake System Environmental Impact Statement was published in September 2004 with a Record of Decision issued on December 22, 2004. This EIS discussed the plan to connect the pipeline coming from Spanish Fork Canyon to the PRC, at approximately 800 North in Orem, Utah.

Portions of the ULS system have been constructed or are under construction, and when complete, will deliver Bonneville Unit water to Salt Lake and Utah Counties. The Spanish Fork to Provo Reservoir Canal Pipeline is currently under construction. The pipeline connects to the Spanish Fork Canyon Pipeline just past the mouth of Spanish Fork Canyon, heads north along U.S. Highway 89 through Mapleton, 400 East in Springville, back on Highway 89 to Provo, on residential streets in Provo and discharge to the Provo River, the Jordan Aqueduct, and the enclosed PRC. Capacity in the PRC is being increased, as part of PRCEP, to provide a 50 cfs capacity for the transport of ULS water to ULS petitioners in Salt Lake Valley.

1.5.4 Realignment of a Portion of the ULS Pipeline Draft EA

A draft EA was prepared to analyze the impacts associated with the proposed realignment of a section of the ULS pipeline in Provo. The purposes of the realignment are to avoid active and historic landslides, reduce the risk associated with geologic faults, and shorten the overall pipeline length. A Final EA was completed and a FONSI signed in November 2010.

1.5.5 Provo Reservoir Canal Trails EA

In September 2008, the Federal Highway Administration (FHWA), Utah Department of Transportation (UDOT) and Reclamation as joint lead agencies published a draft EA to analyze the effects of using funds appropriated to the FHWA by Congress for the purpose of constructing non-motorized trails in the PRC right-of-way after it is enclosed. Because transfer of the PRC from federal ownership has not yet occurred, Reclamation must authorize use of the PRC right-of-way for trails. If Reclamation authorizes trail construction, it would be subject to; 1) completion of construction of the PRCEP and 2) agreement that use of the trails would be secondary to the continued priority of the right-of-way for water delivery systems. The final EA for this project was published in November 2008, along with FONSIs by both FHWA and Reclamation.

1.5.6 Provo Reservoir Canal Increased Capacity and Central Utah Project Completion Act Section 207 Funding EA

An EA to analyze increasing the canal capacity and the use of funding pursuant to Section 207 of CUPCA and the Contributed Funds Act, was prepared with Reclamation serving as the lead agency and DOI and CUWCD serving as cooperating agencies. On February 5, 2010, Reclamation and the cooperating agencies issued a final EA and FONSI authorizing the increased canal capacity these funding sources for the PRCEP.

1.6 Decisions to be Made

The purpose of this EA is to determine whether or not Reclamation should construct the proposed Project. Constructing the proposed Project would require approval from both Reclamation and the Association to install the new pipeline within the existing PRC Siphon right-of-way for approximately 2,000 feet as shown in Figure 2. It would also require that Reclamation obtain a permanent easement from UDOT for constructing the pipeline in UDOT right-of-way for approximately 2,200 feet and an agreement with Rocky Mountain Power Company for the use of an approximately 900 foot long strip of land for an easement during construction. The EA would also support UDOT's decisions to allow construction activities and associated impacts to occur within their right-of-way. Additional permits and authorizations would be obtained as listed in Table 1.

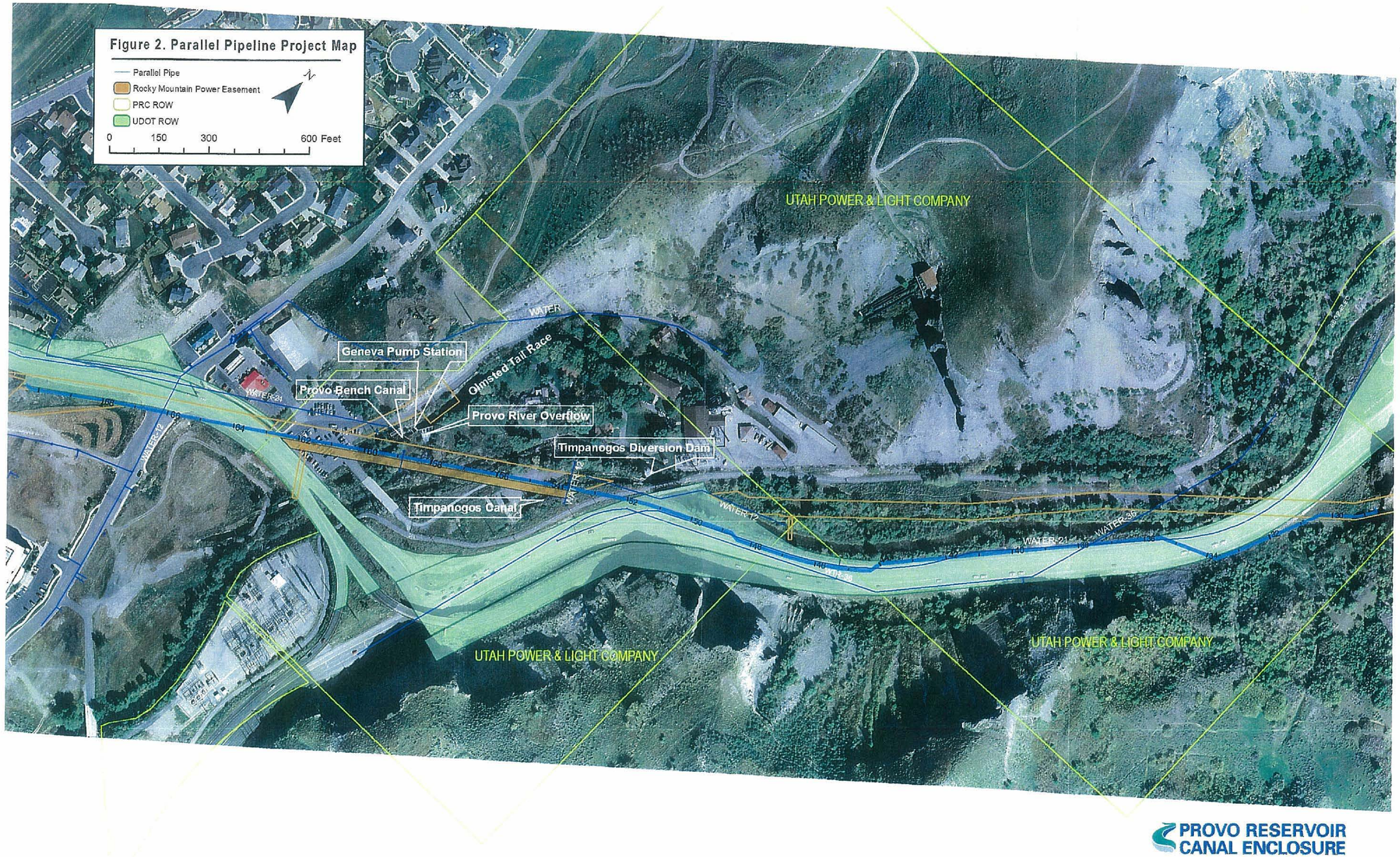


Figure 2. Parallel Pipeline Project Map
Parallel Pipe
Rocky Mountain Power Easement
PRC ROW
UDOT ROW
0
150
300
600 Feet
UTAH POWER & LIGHT COMPANY
WATER
Geneva Pump Station
Olmsted Tail Race
Provo Bench Canal
Provo River Overflow
Timpanogos Diversion Dam
Timpanogos Canal
WATER-24
WATER-12
WATER-21
WATER-36
UTAH POWER & LIGHT COMPANY
UTAH POWER & LIGHT COMPANY
PROVO RESERVOIR
CANAL ENCLOSURE

Chapter 2 – Proposed Action and No Action Alternatives

2.1 Introduction

The Proposed Action analyzed in this EA is Reclamation's construction of the proposed Project. Both the No Action and Action Alternatives are presented in this section of the report.

2.2 No Action Alternative

Under the No Action alternative, Reclamation would not construct the proposed Project. Under this alternative, all water diverted from the Provo River at the Murdock Diversion would be delivered through the existing PRC Siphon as is currently done. Friction losses (head loss) through the siphon would remain as at present and the lack of redundancy in the event of failure of the existing PRC Siphon would still exist.

As shown in Table 2, not constructing the proposed Project would result in reduced pipeline capacities in the middle reaches of the PRC by up to 57 cfs. This reduction in capacity would affect water delivery capability from the point ULS water enters the PRC (Station 69+65) to the end of the PRC. These impacts would be shared by all PRCEP participants; the Association, PRWUC, MWDSLS, JVWCD, and CUWCD, including their respective shareholders, member cities, and agencies. Section 3.1(c) of the Master Agreement signed by all five parties, states: "Any unforeseen restriction in capacity of the Provo Reservoir Canal shall be shared by the Parties on a pro-rata basis."

Table 2 shows PRCEP pipeline design capacities, allocated capacities, without Project capacities, and the reduced capacities. The reduced capacities represent the capacity differences between the Action and No Action alternatives.

Table 2
PRCEP Flow Capacities by Reach

Reach	Design Capacity[1] (cfs)	Allocated Capacity[2] (cfs)	Without Project[1] (cfs)	Reduced Capacity (cfs)
0+00 to 69+65	550	550	550	0
69+65 to 873+00	626	612	569	57
873+00 to 1089+00	585	571	569	16
1089+00 to 1116+20	562	562	562	0

[1] Provided by CH2MHill (Design Engineer) using C=145
[2] Taken from "Exhibit J" of the Master Agreement

2.3 Action Alternative

The Association has asked Reclamation to construct the proposed Project in order to complete PRCEP and assure that shareholders will receive full PRCEP benefits. The proposed action consists of constructing an approximately 4,200 foot long, 96-inch diameter, steel pipeline parallel to the existing PRC Siphon as shown on the attached maps, Figure 1. This pipeline would extend from the existing PRC Siphon inlet at approximate existing PRC Station 28+50 at the mouth of Provo Canyon to the existing PRC Siphon outlet at approximate existing PRC Station 69+50 at 800 North Street in Orem. Design, construction, and operation of the proposed Project are described in more detail in Sections 2.3.1 Project Design, Section 2.3.2 Project Construction, and 2.3.3 Project Operation below.

As noted in Section 1.5.1, construction of the PRCEP is underway. Constructing the proposed Project would reduce the friction losses in the existing PRC Siphon section of the PRC, provide redundancy in the event of a failure of the existing PRC Siphon, and improve the operation and maintenance flexibility of the PRC by allowing down-time for repairs without impacting water deliveries. The Action Alternative therefore assures reliable capacity for the PRCEP.

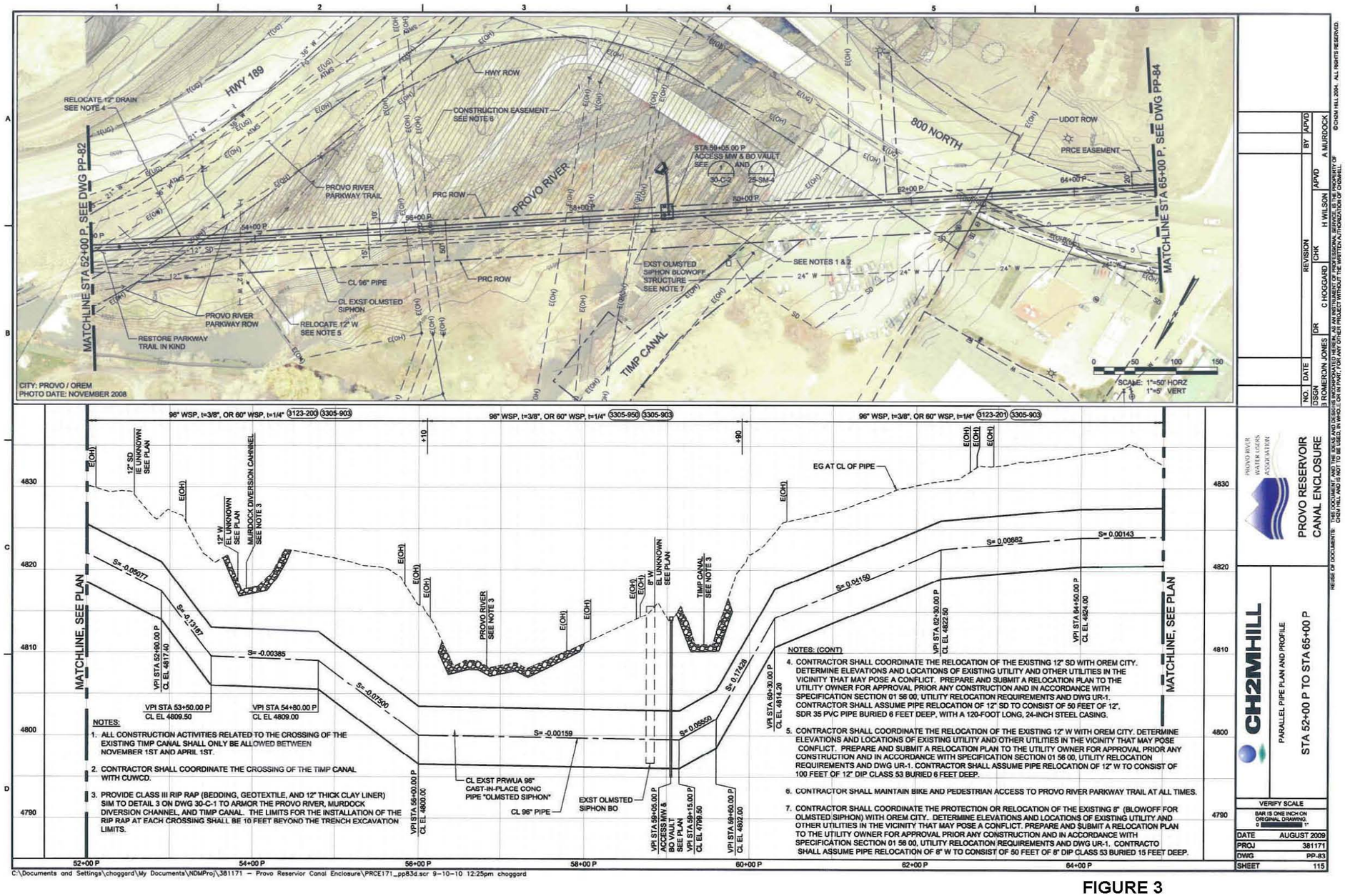
2.3.1 Project Design

Pipeline alignment for the proposed Project is shown in Figure 2. A plan and profile drawing showing where and how the pipeline crosses the Provo River is shown in Figure 3. A typical trench cross section at the pipeline's intersection with the Provo River is shown in Figure 4.

As shown on the drawings, the pipeline would consist of an approximately 4,200 foot long steel pipeline extending between the inlet and outlet portals of the existing PRC Siphon. From the inlet portal, the pipeline would follow along the east side of the existing highway right-of-way,

then cross the highway and traverse along the west side of the highway to the intersection of the existing PRC Siphon right-of-way and the west side of the existing highway right-of-way. It would then follow the existing PRC Siphon easement across the Provo River and diagonally across the highway to the outlet portal on 800 North, Orem.

Three pipe size options are being considered for the proposed Project as shown in Table 3; Option A (96-inch), Options B (84-inch) and Option C (60-inch). All options would provide the full friction reduction capability to assure full PRCEP deliveries. Since the PRCEP will not be operated at peak demand every year for the full irrigation season, Options B and C would provide operation and maintenance flexibility and redundancy capacity for a large majority of the months and years of operation. Only Option A, however, would provide full replacement capacity for the existing PRC siphon. To meet peak demands under full PRCEP operation, water would flow through both siphons (existing PRCEP Siphon and the proposed Project pipeline) in varying degrees with all three pipe size options. The volume, timing, and flow rate of water diverted from the Provo River into the PRC will not change with construction of the proposed Project and is the same with all three pipe size options.



NOTES:

1. ALL CONSTRUCTION ACTIVITIES RELATED TO THE CROSSING OF THE EXISTING TIMP CANAL SHALL ONLY BE ALLOWED BETWEEN NOVEMBER 1ST AND APRIL 1ST.
2. CONTRACTOR SHALL COORDINATE THE CROSSING OF THE TIMP CANAL WITH CUWCD.
3. PROVIDE CLASS III RIP RAP (BEDDING, GEOTEXTILE, AND 12" THICK CLAY LINER) SIM TO DETAIL 3 ON DWG 30-C-1 TO ARMOR THE PROVO RIVER, MURDOCK DIVERSION CHANNEL, AND TIMP CANAL. THE LIMITS FOR THE INSTALLATION OF THE RIP RAP AT EACH CROSSING SHALL BE 10 FEET BEYOND THE TRENCH EXCAVATION LIMITS.

NOTES: (CONT)

4. CONTRACTOR SHALL COORDINATE THE RELOCATION OF THE EXISTING 12" SD WITH OREM CITY. DETERMINE ELEVATIONS AND LOCATIONS OF EXISTING UTILITY AND OTHER UTILITIES IN THE VICINITY THAT MAY POSE A CONFLICT. PREPARE AND SUBMIT A RELOCATION PLAN TO THE UTILITY OWNER FOR APPROVAL PRIOR ANY CONSTRUCTION AND IN ACCORDANCE WITH SPECIFICATION SECTION 01 56 00, UTILITY RELOCATION REQUIREMENTS AND DWG UR-1. CONTRACTOR SHALL ASSUME PIPE RELOCATION OF 12" SD TO CONSIST OF 50 FEET OF 12", SDR 35 PVC PIPE BURIED 6 FEET DEEP, WITH A 120-FOOT LONG, 24-INCH STEEL CASING.
5. CONTRACTOR SHALL COORDINATE THE RELOCATION OF THE EXISTING 12" W WITH OREM CITY. DETERMINE ELEVATIONS AND LOCATIONS OF EXISTING UTILITY AND OTHER UTILITIES IN THE VICINITY THAT MAY POSE CONFLICT. PREPARE AND SUBMIT A RELOCATION PLAN TO THE UTILITY OWNER FOR APPROVAL PRIOR ANY CONSTRUCTION AND IN ACCORDANCE WITH SPECIFICATION SECTION 01 56 00, UTILITY RELOCATION REQUIREMENTS AND DWG UR-1. CONTRACTOR SHALL ASSUME PIPE RELOCATION OF 12" W TO CONSIST OF 100 FEET OF 12" DIP CLASS 53 BURIED 6 FEET DEEP.
6. CONTRACTOR SHALL MAINTAIN BIKE AND PEDESTRIAN ACCESS TO PROVO RIVER PARKWAY TRAIL AT ALL TIMES.
7. CONTRACTOR SHALL COORDINATE THE PROTECTION OR RELOCATION OF THE EXISTING 8" (BLOWOFF FOR OLMSTED SIPHON) WITH OREM CITY. DETERMINE ELEVATIONS AND LOCATIONS OF EXISTING UTILITY AND OTHER UTILITIES IN THE VICINITY THAT MAY POSE A CONFLICT. PREPARE AND SUBMIT A RELOCATION PLAN TO THE UTILITY OWNER FOR APPROVAL PRIOR ANY CONSTRUCTION AND IN ACCORDANCE WITH SPECIFICATION SECTION 01 56 00, UTILITY RELOCATION REQUIREMENTS AND DWG UR-1. CONTRACTO SHALL ASSUME PIPE RELOCATION OF 8" W TO CONSIST OF 50 FEET OF 8" DIP CLASS 53 BURIED 15 FEET DEEP.

NO.	DATE	REVISION	BY	APVD

DSGN J ROMERON JONES | DR | CHK C HOGGARD | APVD H WILSON | BY A MURDOCK

PROVO RIVER WATER USERS ASSOCIATION

PROVO RESERVOIR CANAL ENCLOSURE

CH2MHILL

PARALLEL PIPE PLAN AND PROFILE

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DATE	AUGUST 2009
PROJ	381171
DWG	PP-83
SHEET	115

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FIGURE 3
Parallel Pipe Plan and Profile
Parallel Pipeline Project
Provo River Crossing

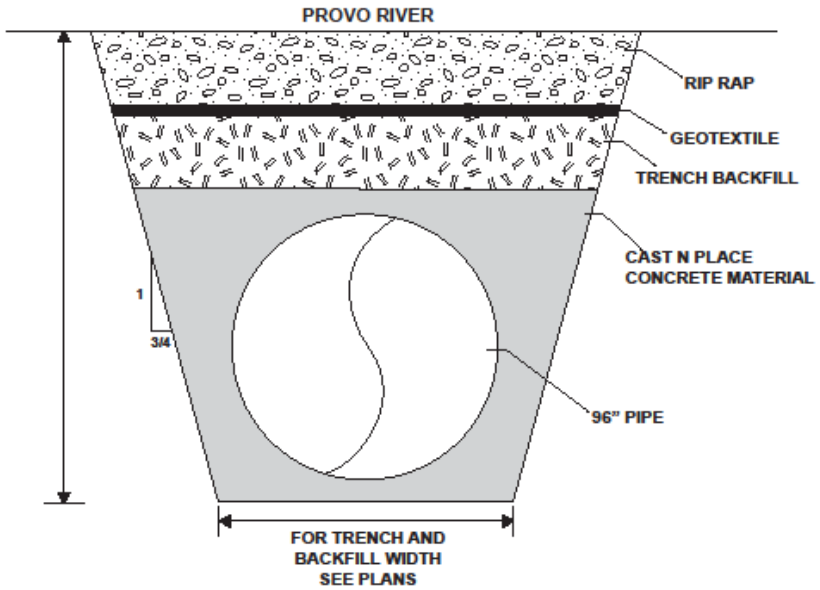

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FIGURE 4
Parallel Pipe Cross Section
Station 57+00
Parallel Pipeline Project
Provo River Crossing

Table 3
PRCEP Pipeline Options[1]

Reach	Desired Flow (cfs)	Option A 96-inch (cfs)	With existing PRC Siphon[2]		
			Option B 84-inch (cfs)	Option C 60-inch (cfs)	With 0-inch (cfs)
0+00 to 69+65	550	550	550	550	550
69+65 to 873+00	626	626	616	590	569
873+00 to 1089+00	585	585	585	585	569
1089+00 to 1116+20	562	562	562	562	562

[1] Provided by CH2MHill (Design Engineer) using a friction coefficient of C=145
[2] Option B and C capacities achieved only with simultaneous use of existing PRC Siphon

Project bid documents will include all three pipe size options and the largest pipe size that can be funded within the current PRCEP budget will be selected. Option A, the preferred option, is presented in this EA in order to evaluate the "worst case" impact scenario. Although the magnitude of impact difference between the three options would be small, installing either of the smaller pipe size options would result in fewer environmental impacts.

2.3.2 Project Construction

The United States, as owner of the PRC, will construct the proposed Project in a manner similar to the construction of the PRCEP. The United States has entered into a Contributed Funds Act contract with PRCEP participants whereby the United States collects and disburses to the Association the necessary funds to pay Project costs. The Association, consistent with its role as contractor of the United States, will manage the construction of the proposed Project and perform all other associated responsibilities under the direction of the United States.

Construction of the proposed Project consists of installing approximately 4,200 feet of 96-inch diameter steel pipeline, from the current inlet to the existing PRC Siphon at the mouth of Provo Canyon to the outlet of the existing PRC Siphon on 800 North in Orem. As shown on Figure 2, construction of the pipeline requires crossing the highway twice and crossing the Provo River once. Construction also requires crossing through a trail head parking lot, and crossing two canals.

Right-of-Way

The proposed Project would require a temporary 75 foot wide easement for construction and a permanent 50 foot wide easement for operation and maintenance. As shown in Table 4, the

existing PRC canal easement would meet these requirements for approximately 2,000 feet of the pipeline length with the remaining approximately 2,200 feet lying within UDOT highway right-of-way. Negotiation of a permanent easement with UDOT is in progress. A 25 foot wide approximately 900 foot long temporary construction easement would be required from Rocky Mountain Power Company as shown on Figure 2.

Temporary staging areas would be required along the length of the project. The need for and location of these staging areas would be determined by the contractor. It is anticipated that the contractor would select an approved site or a site that is within the cultural resource survey boundary performed for the proposed Project. If such site is not selected, however, the contractor would be responsible to obtain the necessary environmental approvals. The Association owns a small parcel of land in the Murdock Diversion Dam area that will be surveyed and would be available to the contractor.

Table 4
Right-of-way Easement Requirements

Parallel Pipeline Station	Length (feet)	Land/Easement Rights
28+50 to 30+30	180	Existing PRC easement
30+30 to 52+30	2,200	UDOT highway easement
52+30 to 70+50	1,820	Existing PRC easement
Total	4,200	

General Construction Requirements
The 96-inch steel pipeline will be installed with the use of conventional excavation and hauling equipment. Due to the narrow construction corridor along major sections of the alignment, it is anticipated that the contractor will excavate, place the pipe, and backfill in a relatively continuous manner to make the best use of the limited space. The trench will be a minimum 13-feet deep, to accommodate the 8-foot diameter pipe and the required minimum 5 feet of cover. Trench width is estimated to be about 11 feet at the bottom of the trench and about 25 feet at the top. Figure 4 shows a typical trench cross section. Assuming none of the trench excavation material is suitable for bedding material an estimated 5,000 cy of bedding material will be hauled to the site from approved off-site sources. Also based on this assumption, the entire approximately 12,000 cy of trench excavation material would be hauled to approve off-site waste locations. All disturbed lands will be contoured and reseeded to restore them to as near pre-construction condition as reasonably possible.

Construction within UDOT Highway Right-of-Way
Project construction requires crossing the highway twice and constructing adjacent to the highway within UDOT right-of-way for a length of about 2,200 feet. Construction within these areas would be coordinated closely with UDOT to minimize impacts to the highways and the

public. A traffic control plan will be prepared prior to any construction within the right of way to minimize traffic delays. Two lanes of traffic will be maintained through the construction site at all times, one lane in each direction. An easement agreement will be executed between Reclamation, the Association, and UDOT prior to construction. The contractor will comply with all requirements of the easement agreement and all requirements of other permits required by UDOT.

Canal Crossings

Several irrigation canals divert water from the Provo River upstream of the construction site as shown on Figure 2. The Timpanogos Canal, Upper East Union Canal, East River Bottom Canal, Alfred Young Ditch, and several private rights (referred to hereafter as the Timpanogos Canal) divert water at the Timpanogos Diversion Dam. Water for the Geneva Pump Station (aka Cascade Pump Station) and Provo Bench Canal is diverted from the Provo River at the Provo Bench Diversion Dam or from the Olmsted Tailrace Canal, depending on the time of year and the amount of water being taken through the Olmsted Power Plant. Crossing agreements with the Provo Bench and Timpanogos Canal Companies would be required.

Canal crossing will take place during the non-irrigation season when there is no water in the canals and when flows in the Provo River are at their lowest. In order to ensure crossings will take place "in the dry" and thus minimize impacts to the canal companies and the environment, the following steps will be taken (please refer to Figure 2):

1. Prior to beginning any crossings, make sure the Provo Bench Canal channel from its headgate at the end of the Olmsted Tailrace Canal to its diversion point back to the Provo River has adequate capacity to take all the Olmsted Tailrace Canal flow
2. Close the Provo Bench Canal headgate and remove the flashboards from the Provo River Overflow structure to divert all Olmsted Tailrace Canal water to the Provo River, then construct the crossing through the "dry" Provo Bench Canal
3. Open the Provo Bench headgate and replace the flashboards at the Provo River Overflow structure to divert all Olmsted Tailrace Canal water into the Provo Bench Canal, then construct the crossing through the "dry" Provo River Overflow Channel
4. Open the headgate to the Provo Bench Bypass Channel and place flashboards in the Provo River diversion structure to divert all Provo River flow into the Provo Bench Bypass Channel, then construct the crossing through the "dry" Provo River bed
5. Close the headgate to the Provo Bench Bypass Channel and remove the flashboards to return Provo River flows back to the Provo River
6. Construct the crossing through the "dry" Timpanogos Canal channel

Following these steps would not affect irrigation water deliveries to any of the canals nor would it require changes in operation of the Olmsted Power Plant.

Provo River Crossing
Crossing the Provo River requires a Stream Alteration Permit (SAP) from the Utah Division of Water Rights and may require permitting from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. Permits from the Utah Division of Water Quality may also be required. Stream Alteration Permit Number 10-55-24SA was issued by the State Engineer on November 4, 2010. The contractor will meet all requirements of these permits.

Prior to construction, the Provo River would be temporarily rerouted around the construction site by diverting the Provo River at the Provo Bench Canal Diversion into the existing Olmsted Tailrace Canal as described above in number 4 of the "Canal Crossings Section" and shown in Figures 2 and 5. The pipeline would then be installed by conventional open-cut methods. When complete, the temporary diversion would be removed and the river would return to its natural course. All construction activity in the river will take place during late summer or early fall when the flows in the river are at their minimum and when the June sucker is out of the river. Construction activities will follow best management practices and will comply with all permit requirements.

Recreation Trail and Parking Lot Crossing
Pipeline installation would require closure of the trailhead parking lot for up to 120 days. The commuter parking lot, west of the trailhead parking lot, would remain open. Construction would also require closure of the recreation trail for up to 15 days. An alternate parking lot would be available to trail users during the time the existing lot would be closed. This alternate parking lot is located adjacent to the trail on Rocky Mountain Power Company property approximately one-half mile south of the construction site as shown on Figure 6. Minimal improvements to the property would be made to the parking lot. Upon completion of pipeline construction, the permanent paved parking lot, the temporary parking lot, and the trail surfaces would be restored to pre-construction condition, as much as possible.

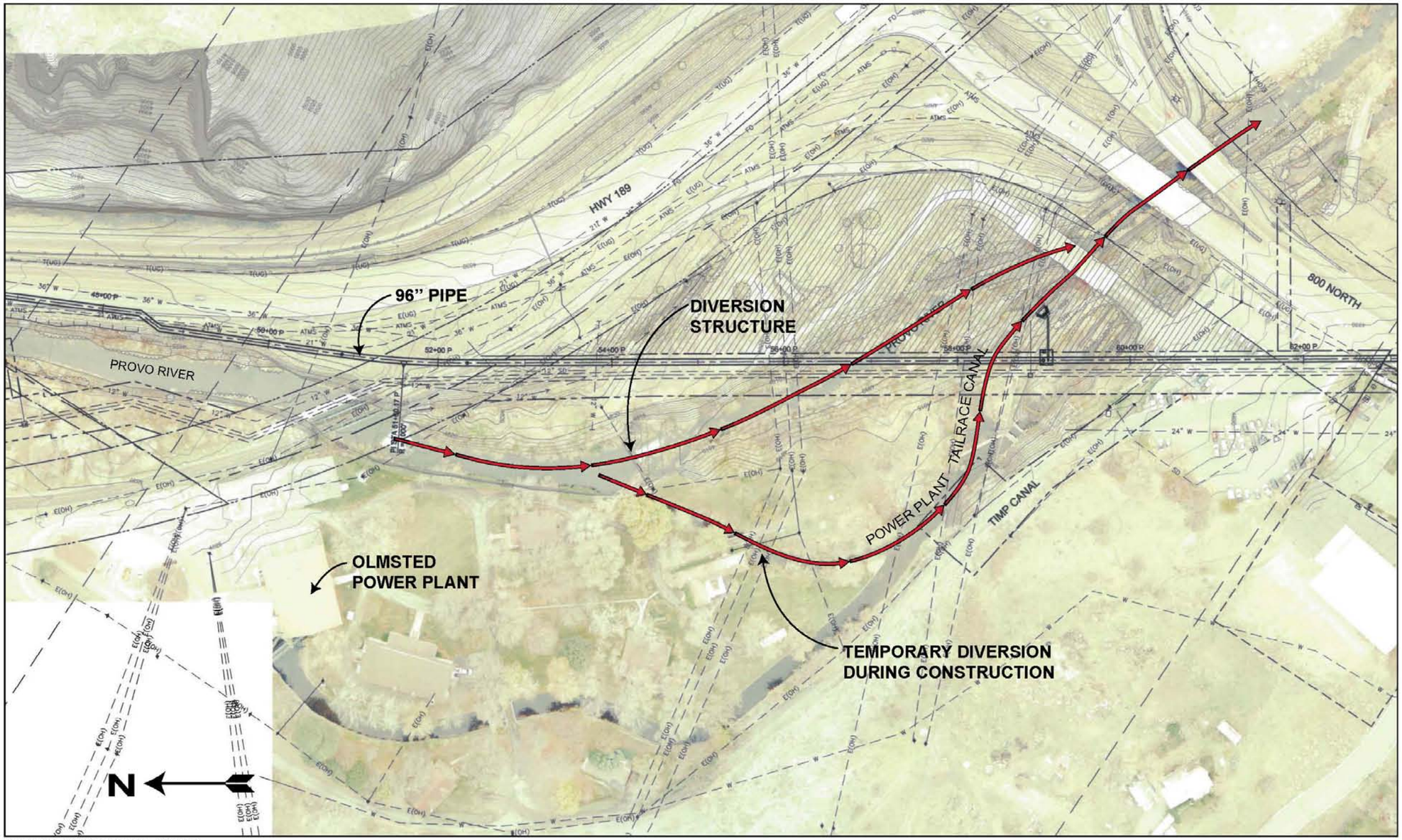

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FIGURE 5
Provo River Diversion Plan View
Parallel Pipeline Project
Provo River Crossing

Figure 6. Temporary Trail Parking Lot

2.3.3 Project Operation

PRC operation impacts as a result of constructing PRCEP were covered in the PRCEP EA completed in 2003. The use of the PRCEP to carry ULS water was discussed in the ULS EIS completed in September 2004. Enlarging a portion of the PRC to deliver ULS water and funding the project pursuant to Section 207 of Central Utah Project Completion Act were analyzed in an EA and FONSI, signed on February 5, 2010. These documents are described in more detail in Section 1.5.

Operation of the PRC will not change with construction of the proposed Project. The volume and timing of water diverted from the Provo River at the Murdock Diversion Dam will not change. Operation with the proposed Project will not violate any environmental commitments listed in the environmental documents mentioned in the previous paragraph and will comply with all operational requirements listed in the permits and this EA associated with the proposed Project. Also, construction within the Provo River will be confined to a time when the June sucker is not in the river, as described in the Provo River Crossing section of Section 2.3.2.

2.4 Alternatives Considered but Eliminated

2.4.1 Pipeline Size Alternatives

As discussed in Section 2.3.1 Project Design, three pipe sizes are being considered for the proposed Project. The size selected will be the largest size that can be constructed within the Project budget. Costs for each option won't be known until the project is bid. Therefore, the largest size (96-inch) is included in the proposed Project and evaluated in this EA. The pipeline size option selected will be based primarily on cost.

2.4.2 Pipeline Alignment Alternatives

Two alternative pipeline alignments were considered but eliminated from further consideration. Both followed the existing PRC Siphon alignment. The first alternative was to replace the existing PRC Siphon in the current alignment and the second was to place the parallel pipeline adjacent to the existing PRC Siphon for its full length. Both were eliminated because construction would require three crossings of the Provo River instead of one and would require more construction through riparian vegetation areas. These two alternatives were eliminated because their construction would have a greater adverse impact on the environment than would construction of the proposed Action alternative.

Chapter 3 - Affected Environment and Environmental Effects

3.1 Introduction

This chapter describes the affected environment and environmental consequences that would result from the construction, operation, and maintenance of proposed Project features. The affected environment discussions describe existing conditions for resources within the project area of influence, which is shown in Figure 2. Environmental effects for the quality of the human environment resulting from any change from the No Action condition are described in this chapter. The impact analyses focus on direct, indirect, and cumulative impacts on project area resources. The final section of this chapter summarizes the environmental effects that would occur if the Action Alternatives is implemented.

3.2 Cultural Resources

3.2.1 Introduction

Cultural resources are defined as physical or other expressions of human activity or occupation. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites as well as isolated artifacts or features, traditional cultural properties, Native American and other sacred places, and artifacts and documents of cultural and historic significance.

Section 106 of the National Historic Preservation Act of 1966 (NHPA), mandates that Reclamation take into account the potential effects of a proposed Federal undertaking on historic properties. Historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

3.2.2 Affected Environment

The affected environment for cultural resources is identified as the APE (area of potential effects), in compliance with the regulations to Section 106 of the NHPA (36 CFR 800.16). The APE is defined as the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties. The APE for this proposed action includes the proposed pipeline corridor, as well as access roads and staging areas. The APE for

this proposed action consists of a 4,200-foot-long by 100-foot wide corridor that crosses through several paved areas and the UDOT ROW along SR-52 and US-189.

The project area is located in the northern portion of the Utah Valley near the mouth of Provo Canyon in the foothills of the Wasatch Mountain Range. The easternmost portion of the survey area is located within the mouth of Provo Canyon with steep slopes and exposed bedrock cliffs on either side. The western portion of the survey area is characterized by areas of both flat and gently rolling terrain. Elevation of the project area ranges between 1,475 m (4,840 feet) and 1,494 m (4,900 feet) above sea level. Much of the area is capped with either concrete or asphalt.

3.2.3 Impact Analysis

A Class I literature review and a Class III cultural resource inventory were completed for the APE, defined in the Action Alternative and analyzed for the proposed action, by SWCA Environmental Consultants (SWCA) on August 26, 2010 and September 1, 2010, respectively. All cultural resource work for the project was conducted under the authority of Public Lands Policy Coordination Office permit number 56 (issued to Elisabeth Robinson of SWCA) and Utah State Antiquities project number U-10-ST-0566ps. A total of 5.8 acres were inventoried during the Class III cultural resource inventory. This was accomplished using 15 meter (50-foot) parallel transects across the survey area. Aerial maps and global positioning system (GPS) coordinates were used to navigate the APE. Portions of the survey area within the UDOT ROW for the SR-52 widening and SR-189 reconstruction were not surveyed. In addition, all areas within the UDOT ROW that were paved, disturbed, or developed were not surveyed. One previously recorded site (42UT1334) was identified as a result of the inventory.

In accordance with 36 CFR 800.4, the site was evaluated for significance in terms of NRHP eligibility. The significance criteria applied to evaluate cultural resources are defined in 36 CFR 60.4 as follows:

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

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

Site 42UT1334 consists of the Provo Bench Canal and two diversion dams associated with the canal diverting the Provo River at the mouth of Provo Canyon. During the present survey, SWCA updated the site record for a segment of the second diversion of the Provo Bench Canal. The Provo Bench Canal has been previously recommended eligible for inclusion on the NRHP under Criteria A and C by Ellis and Mullins (2002) and under Criterion C by Alpine Archaeological Consultants (2007). As evaluated during the present update, SWCA concurs with the prior recommendations (Robinson 2010). Pursuant to 36 CFR 800.5, the criteria of adverse effect were applied to the Provo Bench Canal. An adverse effect is defined as an effect that could diminish the integrity of a historic property's location, design, setting, materials, workmanship, feeling, or association. The proposed action would impact only a small portion of this site, which contains no specific elements that contribute to the eligibility of the site as a whole. The proposed action would not diminish the integrity of the Provo Bench Canal and, therefore, would result in no adverse effect to the historic property.

Action Alternative
Under the Action Alternative, there would be no adverse effect to cultural resources. The proposed project will bisect the Provo Bench Canal (42UT1334) to install the pipeline. Once the pipe is in place, the canal profile will be restored and water flow will continue in this channel.

No Action Alternative
Under the No Action Alternative, there would be no adverse effect to cultural resources. There would be no need for ground disturbance for any pipe installation, staging areas, or access roads. The existing conditions would remain intact and would not be affected.

3.3 Paleontological Resources

3.3.1 Introduction

Paleontological resources are defined as any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Any materials associated with an archaeological resource (as defined in section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb(1) and any cultural item (as defined in section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001) are not considered paleontological resources.

Section 6302 of the Paleontological Resources Preservation Act (PRPA) of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009 [Public Law 111-11 123 Stat. 991-1456]) requires the Secretary of the Interior *to* manage and protect paleontological resources on Federal land using scientific principles and expertise. Potential effects of the described alternatives on paleontological resources are the primary focus of this analysis.

3.3.2 Affected Environment

A paleontological file search was conducted by Martha Hayden, Paleontological Assistant for the Utah Geological Survey, for the APE. No paleontological localities recorded in the UGS files, however, are located in the APE. According to the UGS, Quaternary and Recent alluvial deposits that are exposed in the APE have a low potential for yielding significant fossil localities. Unless fossils are discovered as a result of construction activities, the proposed action should have no impact on paleontological resources.

3.3.3 Impact Analysis

Action Alternative

Under the Action Alternative, there would be ground-disturbing activities which have the potential to disturb subsurface fossil material. No paleontological localities recorded in the UGS files, however, are located in the APE.

No Action Alternative

Under the No Action Alternative, there would be no adverse effects to paleontological resources. There would be no need for ground disturbance for any pipe installation, staging areas, or access roads. The existing conditions would remain intact and would not be affected.

3.4 Wetlands and Vegetation

3.4.1 Introduction

This analysis addresses potential wetland impacts from construction and operation of the Action and No Action Alternatives. Stream Alteration Permit Number 10-55-24SA was issued by the State Engineer for the Project on November 4, 2010. The contractor will comply with all requirements of this permit. The only area with wetland/riparian vegetation within the APE occurs along the Provo River.

3.4.2 Affected Environment

Most of the APE consists of upland vegetation or is capped with concrete or asphalt. The only portion consisting of wetland vegetation is the riparian community along the Provo River. This riparian area is comprised of a mix of introduced and native plants species and has been influenced by human activities (water diversions, diking, operation of power plant and road construction). Numerous plant species dominate in the riparian area consisting of cottonwood (*Populus angustifolia*), box elder (*Acer negundo*), thinleaf alder (*Alnus incana*), red-osier dogwood (*Cornus sericea*), mixed willow species (*Salix sp.*) wild rose species (*Rosa sp.*), Russian olive (*Elaeagnus angustifolia*) and tamarisk (*Tamarisk sp*.). Along the rivers edge, numerous species of rushes, sedges and grasses are found.

3.4.3 Impact Analysis

Action Alternative

The pipeline will cross the Provo River once (figure 2) and will be installed using conventional open-cut excavation and hauling equipment. The trench would be a minimum of 13 feet deep to accommodate the 8 foot diameter pipe and a minimum of 5 feet of cover (figures 3 and 4). A temporary river diversion would reroute the Provo River around the crossing site into the Olmstead Power Plant tailrace which runs parallel to the Provo River and joins back into the river about 100 feet downstream. Construction activity will occur between August 15 and April 15 when the flows are at a minimum and the June suckers are out of the river. Construction activities will follow best management practices and will comply with all permit requirements. Approximately 50 feet of the river bank will be temporary impacted during construction. Less than 0.5 acres of wetlands will be impacted during construction. Once construction activities are completed, the impacted site will be re-planted with native riparian vegetation found in the area. Operation of the pipeline will not result in any new depletions or a change in the flow regime of the Provo River. There will be minor wetland and vegetation impacts during construction and no permanent impacts to wetlands or vegetation as a result of the Action Alternative.

No Action Alternative

There would be No Effect on wetlands with the selection of the No Action Alternative.

3.5 Water Resources

3.5.1 Introduction

This analysis addresses potential impacts to water resources from construction, operation, and maintenance of the Action and No Action Alternatives.

3.5.2 Affected Environment

The Provo River provides much of the agricultural, municipal, and industrial water needs in Summit, Wasatch, Utah, and Salt Lake counties. Water flowing through the proposed pipeline is delivered to lands and communities in northern Utah County and Salt Lake County. Several canals divert water from the Provo River just upstream of the construction site for agriculture of lands below the construction site. The Timpanogos Canal, Upper East Union Canal, East River Bottom Canal, and several individual rights (commonly referred to as the Timpanogos Canal) divert water at the Timpanogos Canal Diversion Dam and the Provo Bench Canal diverts water from the Provo River at the Provo Bench Diversion Dam or from the Olmsted Powerplant Tailrace Canal, as shown on Figure 2. Construction of the proposed Project would require temporarily rerouting the Timpanogos and Provo Bench Canals through the construction site.

3.5.3 Impact Analysis

As explained in Section 1.2 (Purpose of and Need for the Proposed Action), one of the purposes of the proposed Project is to provide the pressure needed to ensure an equitable distribution of water to all PRCEP participants. As explained in Section 2.3.3 Project Operation, construction of the proposed Action Alternative would not change the operation of the Provo River or the PRC. The volume and timing of water diverted from the Provo River into the PRC would not change as a result of the Action Alternative.

Crossing the Provo River, the Timpanogos Canal, the Olmsted Tailrace Canal, and the Provo Bench Canal would not disrupt, delay, or otherwise affect water deliveries or power generation.

Action Alternative

The proposed Action Alternative would have no adverse effect on water resources during construction, operation, or maintenance of the project.

No Action Alternative

There would be no effect on water resources with selection of the No Action Alternative.

3.6 Water Quality

3.6.1 Introduction

This analysis addresses potential effects on water quality from construction, operation, and maintenance of the Action and No Action alternatives.

3.6.2 Affected Environment

Potentially affected areas include the section of the Provo River from the construction site to about a quarter-mile below the construction site and the sections of the Timpanogos Canal and Provo Bench Canal within the construction area. No other waters or sections of the Provo River would be affected.

3.6.3 Impact Analysis

Construction of the pipeline within the Provo River riparian area would follow Standard Reclamation Management practices to minimize sediment and other pollutants from entering the Provo River, the Timpanogos Canal and the Provo Bench Canal. In spite of these precautions, some increased sediment/turbidity is expected to be present during construction of the pipeline, but would be of short term duration with minor impact to the river or canal system.

With the use of heavy equipment there is always a possibility of fuel spillage when refueling, so refueling will be done in a contained area outside of the Provo River riparian area. Hydraulic oil may potentially be spilled also, however, the equipment and work being done should be isolated

from the Provo River water, so that if there is any spillage it would easily be contained and cleaned up.

Action Alternative
The proposed Action Alternative would have minor short-term water quality effects during construction, but no long-term effects.

No Action Alternative
There would be no effect on water quality with selection of the No Action Alternative.

3.7 Threatened and Endangered Species

3.7.1 Introduction
This analysis addresses potential effects on Threatened and Endangered species (T&E) and their habitat from construction, operation, and maintenance of the Action and No Action Alternatives. The issue addressed in this section is whether the proposed project would affect federally listed or candidate T&E species.

3.7.2 Affected Environment
Table 5 contains a list of threatened, endangered, or candidate species that are known to occur within the proposed project or could potentially be impacted by the proposed project. This list was provided by the FWS via e-mail on August 25, 2010.

Table 5
Threatened (T), Endangered (E), and Candidate (C) Species

Status	Common Name	Biological Name
E	June sucker	*Chasmistes liorus*
T	Ute ladies'-tresses	*Spiranthes diluvialis*
C	Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*

June sucker
The June sucker was listed as endangered on April 30, 1986. The lower 4.9 miles of the main channel of the Provo River, from Tanner Race Diversion downstream to Utah Lake, were designated as critical habitat. The species is endemic to Utah Lake and its tributaries. The primary factors that have contributed to the reduction in June sucker numbers include changes that have occurred both in Utah Lake and in historical spawning tributaries. In the tributaries, these effects include water management (primarily irrigation use) that has reduced streamflows during critical spawning times, reductions in available spawning habitat caused by impassable barriers associated with irrigation diversions, introduction of nonnative species, loss of spawning

habitat, poor water quality, reduced aquatic vegetation, and channelization or channel simplification. In Utah Lake, contributing factors include changes in chemical and physical habitat and introduction of nonnative species. The adults go up the tributaries to spawn in the spring, and the larvae hatch and float downstream into Utah Lake by the end of July. The Provo River, the largest tributary of Utah Lake, has been the major spawning tributary for June sucker. However, June sucker also migrate up and spawn in Hobble Creek and the Spanish Fork River. June sucker were almost extinct, but ongoing efforts by the June Sucker Recovery Implementation Program and its signatory agencies have been successful in reversing the decline of this species. The target date for recovery listed in the June sucker Recovery Plan is 2040.

Ute Ladies'-tresses

The Ute Ladies'-tresses were listed as threatened on January 17, 1992. They are a perennial orchid found along riparian edges, gravel bars, old oxbows, and moist to wet meadows along perennial freshwater streams and springs at elevations ranging from approximately 4,300 to7,000 feet. It is an early to mid-successional species that is well adapted to low floodplain terraces along alluvial streams where scouring and sediment deposition are natural processes. It has been found in irrigated and sub-irrigated pastures that are mowed or moderately grazed. In general, the orchid occurs in relatively open grass and forb-dominated habitats and seems intolerant of dense shade. The plants bloom from late July through August (sometimes September), setting seed in the early fall. A colony is defined as any location where flowering plants have been found in a similarly delineated habitat on that geomorphic surface. Therefore, a colony may comprise one or more individuals on a sandbar (large or small) or on a large floodplain delineated by topographical changes in slope or elevation (FWS, 1992; Stone, 1993). No Ute ladies'-tresses have been located within the impact area of influence.

Yellow-billed Cuckoo

The Yellow-billed Cuckoo was listed as a candidate species in the western U.S. in 2001 (FWS, 2003). As a candidate species, this species has no protection under the ESA. However, addressing it now could reduce scheduling impacts to the project in the event it is listed during the project's construction period. This species historically flourished in western cottonwood and willow riparian forests and thickets. In Utah, they favor areas with dense undergrowth of willow combined with mature cottonwoods and an abundant subcanopy or shrub layers at elevations between 2,500 and 6,000 feet and generally within 300 feet of slow or standing water. This secretive bird is a neotropical species that breeds in North America and winters primarily south of the U.S. border. They typically arrive in the Utah in late May or early June. Southward migration usually begins in late August or early September. This species has been observed along the Provo River (UDNR, 2003), although it has not been observed within a 2-mile radius of the project area (UDNR, 2010).

3.7.3 Impact Analysis

Action Alternative

There would be "**No Effect**" to any listed or candidate species with construction, operation, or maintenance with the selection of the Action Alternative. Construction, operation, and maintenance of any of the pipeline would not impact June sucker, western yellow-billed cuckoo, and Ute ladies'-tresses. Ute ladies'-tresses and western yellowed-billed cuckoo have not been sited within the area of project impact. The June sucker have not been observed above the Lower City Dam which is about 4.95 river miles downstream from the mouth of Provo Canyon. As noted in Chapter 2, all construction activity in the river will take place between August 15 and April 15 when the flow in the river is at its minimum and when the June sucker are out of the Provo River. Operation of the pipeline will not result in any new depletions or a change in the flow regime of the Provo River.

No Action Alternative

There will be "**No Effect"** to any listed or candidate species with construction, operation, or maintenance with the selection of the No Action Alternative.

3.8 Biological Resources

3.8.1 Introduction

This section addresses potential impacts on wildlife and aquatic species and their habitats from the construction and operation of the Action and No Action alternatives.

3.8.2 Affected Environment

As noted, a significant portion of the APE is under or adjacent to paved roads and a parking lot. The only potential wildlife habitat is the area where the pipeline crosses the Provo River. The value of this habitat for wildlife is very low because of its proximity to vehicular and walking, jogging and bicycle traffic. In addition to being surrounded by roads and a parking lot, there is a considerable amount of pedestrian and bicycle traffic on the recreational trail that surrounds this area.

The Provo River above the APE to Deer Creek Reservoir contains a high quality trout fishery. The area where the pipeline crosses the Provo River is not accessible to fishing. Also, this area of the Provo River has been impacted by channelization (the Olmstead power plant tail race runs parallel to the main channel), is subjected to low flows and is immediately below the Bench Canal Diversion structure. Due to private property and limited access, the trout fishery is less significant downstream compared to the Provo River above the project APE.

3.8.3 Impact Analysis

Action Alternative

Wildlife populations and species diversity would not be affected by selection of the Action Alternative because wildlife habitat values are low to nonexistent in the pipeline corridor. Revegetation of the disturbed riparian area where the pipeline crosses the Provo River would restore the area of minimal habitat value that would be disturbed during construction.

There may be limited impacts during construction to the trout population in the area where the pipeline crosses the Provo River. The temporary diversion of the Provo River into the Olmstead power plant tail race channel could displace trout from the Provo River in the couple of hundred feet that the river will be diverted. Once construction is completed and water diverted back into the river, the trout will return to this section of the Provo River. There will be some sediment transported downstream as a result of construction. This should be temporary and minimal.

Operation of the pipeline would have no impact on wildlife or aquatic habitat or populations as it would not create or eliminate any aquatic or wildlife habitat. No new depletions to the Provo River will occur as a result of operation of the pipeline.

No Action Alternative

Selection of the No Action Alternative will have no impact on aquatic or wildlife habitat or populations.

3.9 Recreation

3.9.1 Introduction

The Provo River trail is a non-motorized recreation trail that extends approximately 24 miles from Utah Lake on the south to Vivian Park on the north. There are several parking lot and other access points along the length of the trail where recreationists can enter and exit the trail. The trail is used extensively by bicyclists, walkers, runners and skateboarders, especially during the summer months. The trail is managed by Utah County under a twenty-year lease with Rocky Mountain Power Company, the land owner. The parking lot is in Orem City. This analysis addresses potential recreation impacts from construction, operation, and maintenance of the Action and No Action alternatives.

3.9.2 Affected Environment

The affected recreation environment includes the proposed construction site area that includes the parking lot and trail and the larger area that encompasses the entire length of the trail.

3.9.3 Impact Analysis

Action Alternative

Closure of the parking lot and trail would potentially impact; 1) parking lot use by the public for trail recreation activities, 2) parking lot use by participants of Orem City's annual Story Telling Festival, 3) trail use by recreationists, and 4) trail use for organized racing events.

The temporary (up to 120 days) closure of the parking lot would require the public to use a substitute temporary parking lot approximately one-half mile below the construction site. Parking lot closure, if closed during the story-telling festival, would require festival participants to use alternate parking lots north of the construction site. The temporary (up to 15 days) closure of the trail would bisect the trail into two segments, one north of the construction site and the other south of the construction site. Only the section of the trail through the construction site would be closed; however, no passage would occur between the two trail segments while the trail is closed.

Based on the proposed plan to provide a close-proximity alternate parking lot, to time the trail and parking lot closures to avoid organized events as much as possible, and to widely publicize those closures, recreation impacts during construction of the pipeline are considered to be moderate. The "moderate" designation recognizes the public nuisance and irritation with closing a very popular and widely used trail system and parking lot. No recreation impacts are anticipated during operation of the completed pipeline.

No Action Alternative

There would be No Effect on recreation with selection of the No Action Alternative.

3.10 Transportation and Traffic

3.10.1 Introduction

This analysis addresses potential changes to traffic patterns and to transportation networks from construction, operation, and maintenance activities. Traffic issues addressed in this section include short-term effects during construction and long-term effects during operation.

3.10.2 Affected Environment

The affected environment for the transportation network includes an approximately one-mile long section of highway at the intersection of 800 North Street in Orem, and Highway 89 in the Provo Canyon, as shown on Figure 2. This section of highway is a major arterial highway connecting the Orem and Provo areas of Utah County with Heber City in Wasatch County and areas north and east of Heber City in Summit County and the Uintah Basin. Existing roads would be used as haul routes during construction, operation, and maintenance of the proposed Project.

3.10.3 Impact Analysis

Action Alternative

Construction phasing and traffic control plans will be developed prior to construction in order to minimize lengthy vehicular travel delays. These plans would be coordinated and approved by the Utah Department of Transportation (UDOT). It is anticipated that at least one lane of traffic will be maintained through the project construction area at all times. Construction activities that require major constrictions in traffic flow would be scheduled to occur during the lowest traffic volume times of the day or week, such as during evening hours or on Sundays. If needed to minimize traffic delays, alternate routes would be recommended; such as I-15 and I-80 to Heber City and areas north and U.S. Hwy 6 and U.S. Hwy 191 to the Uintah Basin. Some rerouting of traffic is anticipated on a temporary basis during construction. Traffic delays through the construction area are anticipated to be significant during high-volume times of the day and week. There would be no appreciable increase in traffic volume within the affected area due to construction or operation of the proposed Project.

No Action Alternative

There would be no effect on traffic or transportation with selection of the No Action Alternative.

3.11 Utilities

3.11.1 Introduction

This analysis addresses potential impacts to utilities from construction, operation, and maintenance activities. Utility issues include short-term effects during construction and long-term effects during operation. Utility impacts would consist of short-term disruption of services during construction and long-term reliability concerns after construction.

3.11.2 Affected Environment

The affected environment for the utility network includes water, sewer, gas, communication, electricity, storm drain and other utility services that would potentially be impacted during construction, operation, and maintenance of the pipeline.

3.11.3 Impact Analysis

Action Alternative

A list of all existing utilities that would be affected by construction activities will be prepared prior to construction. Construction activities will be coordinated with the utility owners (Orem City, Provo City, canal companies, etc.) in order to minimize disruptions and ensure long-term reliability of the utility. Disrupted utilities would be restored to their pre-construction condition. It is anticipated that there would be minimal short-term construction impact and no long-term operation impact from as a result of the proposed Project.

No Action Alternative
There would be no effect on utilities with selection of the No Action Alternative.

3.12 Public Health and Safety

3.12.1 Introduction
This section addresses public health and safety during construction and operation of the pipeline. Health and safety issues include short-term effects during construction and long-term effects during operation. Short-term effects are evaluated with respect to construction workers and the public, while long-term effects are evaluated for only the public. Public health and safety also incorporates traffic, and noise. These resources are presented in Sections 3.2 and 3.5, respectively. They are not evaluated in this section.

3.12.2 Affected Environment
The area of influence includes the pipeline construction corridor right-of-way, construction staging areas and access roads, and locations where normal traffic flow would be disrupted.

3.12.3 Impact Analysis
Action Alternative
Construction areas would be secured as necessary to prevent unauthorized access to work sites or excavations. Workers would be at risk of accidents during construction despite following all required safety procedures. However, the risk and severity of accidents would be minimized by contractors fully implementing standard operating procedures (SOPs) and best management practices (BMPs) for health and safety. Minimal impacts are anticipated for construction of the Action Alternative. No impacts are anticipated during operation of the completed pipeline.

No Action Alternative
There would be no effect on public health and safety with selection of the No Action Alternative.

3.13 Noise

3.13.1 Introduction
This section addresses potential changes in noise levels from construction and operation of the pipeline alternatives. Noise issues addressed in this section include short-term effects during construction and long-term effects during operation.

3.13.3 Affected Environment
The area of influence is a corridor approximately 0.8 miles long within the city limits of Provo and Orem at the mouth of Provo Canyon. With exception of the western end of the corridor at 800 North Orem, there are no homes or businesses near the construction areas. The nearest

residence is over 300 feet from the project and the nearest business is about 100 feet from the project.

3.13.3 Impact Analysis

Action Alternative

Noise during construction, such as trench excavation, backfilling, grading, cleaning, and restoration would be localized and short-term. Existing traffic noise in the area of influence varies greatly depending on the time of day. During times of high-volume traffic, construction activities are not expected to noticeably increase sound levels. During times of low-volume traffic, construction activities may temporarily increase noise levels, but such increases are not expected to be significant. Operation of the pipeline would not result in changes to noise levels in the area of influence, resulting in no long-term noise impacts associated with the Action Alternative.

No Action Alternative

There would be no effect on noise with selection of the No Action Alternative.

3.14 Land Use

3.14.1 Introduction

This section addresses potential land use impacts from construction and operation of the pipeline alternatives. Land use issues addressed in this section include short-term effects during construction and long-term effects during operation and maintenance. Land use effects also include recreation and transportation/traffic. Recreation and transportation/traffic resources, however, are not evaluated in this section but are presented in Sections 3.8 and 3.9 respectively.

3.14.2 Affected Environment

The area of influence is a corridor approximately 4,200 feet long and 75 feet wide as shown in Figure 2 and a small alternate parking lot shown in Figure 6. After construction is completed, the corridor width would be reduced to 50 feet. As described in Section 2.3.2.1 and shown in Figure 2, the entire pipeline alignment is within existing PRC right-of-way (2,000 feet) and UDOT right-of-way (2,200 feet) with exception of a 25-foot wide, 900 foot long temporary construction easement on Rocky Mountain Power Company adjacent to the PRC right-of-way.

3.14.4 Impact Analysis

Action Alternative

As stated above, pipeline construction activities would be contained within the existing PRC and UDOT rights-of-way except for the 25-foot wide, approximately 900 foot long strip of land on Rocky Mountain Power right-of-way. With exception of a small unpaved parking lot, this strip of land is currently vacant from development or other activity. The temporary use of this land

for construction purposes is considered to have minimal impact on Rocky Mountain Power operations or other potential uses. The proposed location for the temporary recreation trail parking lot is also on lands currently vacant land as shown on Figure 6. The temporary use of this land for an unpaved parking lot is considered to have minimal impact on land use.

No Action Alternative
There would be no effect on land use with selection of the No Action Alternative.

3.15 Visual

3.15.1 Introduction
This section addresses visual resources during construction, operation, and maintenance of the pipeline alternatives. It addresses changes to existing landscape characteristics that would result from construction, operation, or maintenance of any alternative.

3.15.2 Affected Environment
The visual resources impact area of influence includes any area that would be directly affected by construction, operation, or maintenance of any of the features associated with the alternatives.

3.15.3 Impact Analysis
Action Alternative
The impact evaluation on visual resources was based on best professional judgment using existing conditions as the point of comparison.
Construction activities and equipment used for excavating, pipe placement, and material hauling would be visible along the proposed alignments. Upon construction completion, disturbed areas would be reclaimed and restored to preconstruction conditions. As noted in the wetland section, the riparian area impacted during construction will be revegetated with native riparian vegetation found at the site. The completed pipeline would be underground (the 8 foot diameter pipe will have a minimum of 5 feet of cover), and access points would be manhole covers at ground level.

No Action Alternative
There would be no effect with selection of the No Action Alternative.

3.16 Air Quality

3.16.1 Introduction
This analysis addresses potential impacts on air quality from construction and operation of the alternatives. The temporary effects on air quality from construction activities associated with the pipeline alternative as well as potential long-term effects on air quality from pipeline operations is also addressed.

3.16.2 Affected Environment

In accordance with the Clean Air Act (CAA), National Ambient Air Quality Standards (NAAQS) have been established by the Environmental Protection Agency (EPA) to protect the public from exposure to air pollutants that may be harmful to their health and may be harmful to the environment. NAAQS have been established for six air pollutants that are most commonly found throughout the U.S., referred to as criteria pollutants, which include ozone (O3), particulate matter (PM), carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2), and lead. The Federal NAAQS for these criteria pollutants have been adopted by the State of Utah.

Attainment is achieved when the existing background concentrations for criteria air pollutants are less than the maximum allowable ambient concentrations defined in the NAAQS. If a particular air shed or area cannot comply with one or more NAAQS, the EPA designates the area as a non-attainment area for those pollutants. According to the Utah Division of Air Quality (UDAQ, 2010), the proposed pipeline alternative, which is located in the Utah Valley air shed, is located in an area of Utah County that has been designated as non-attainment for PM less than 10 micrometers in aerodynamic diameter (PM10) and PM less than 2.5 micrometers in aerodynamic diameter (PM2.5). The proposed project area is also located in a portion of Utah County that has been designated a maintenance area for CO (UDAQ, 2010). Maintenance areas are geographic areas that had a history of non-attainment for a NAAQS (CO in this instance) but are now consistently meeting the NAAQS. Maintenance areas have been redesignated by the EPA or UDAQ from "non-attainment"to "attainment with a maintenance plan. The maintenance plan is a 10-year plan developed by the UDAQ that outlines the measures needed to comply with air quality standards and other requirements of the CAA.

The UDAQ Rule R307-300 sets requirements for specific locations within non-attainment and maintenance areas. Rule R307-309 describes the rules for Davis, Salt Lake, Utah, and Counties; Ogden City; and any non-attainment area for PM10: fugitive emissions and fugitive dust. Rule R307-309-8 is applicable to construction and demolition activities and states, "*Any person engaging in clearing or leveling of land with an area of 1/4 acre or more, earthmoving, excavating, construction, demolition, or moving trucks or construction equipment over cleared land or access haul roads shall prevent, to the maximum extent possible, material from being deposited onto any paved road other than a designated deposit site. Any such person who deposits materials that may create fugitive dust on a public or private paved road shall clean the road promptly*." Finally, the fugitive emissions and fugitive dust rule, R307-309, requires a fugitive dust control plan (R307-309-6) from all sources whose activities or equipment have the potential to produce fugitive dust, airborne dust in Davis, Salt Lake, and Utah Counties and Ogden City.

3.16.3 Impact Analysis

Action Alternative

Temporary impacts are anticipated for construction of all action alternatives; however, use of BMPs for dust control would minimize or mitigate the impacts. There are no anticipated air quality emissions from operation of the proposed pipeline alternatives. Temporary impacts on air quality from construction activities result from two primary sources for each alternative, including (1) exhaust from heavy construction equipment and trucks and (2) fugitive dust produced during construction. Since the general project area is in non-attainment for PM10 and PM2.5 and is designated as a maintenance area for CO, the following analysis focuses on the potential emissions of these pollutants from project construction activities. Exhaust emissions from construction equipment and vehicles will generate emissions of other criteria pollutants as well, including NOx, SO2, and O3; however, these emissions are expected to be well below applicable NAAQS and are not further evaluated as a part of the following analysis.

PM10 and PM2.5 - Fugitive dust emissions during construction and from construction vehicles working in areas with exposed surfaces would result in temporary emissions of PM with a significant portion of the emissions being of larger particulate size. In addition, emissions of PM10 and PM2.5 will result from exhaust from construction equipment and trucks.

Multipliers that can be used to infer PM2.5 concentrations from PM10 emissions in fugitive dust have been established (Pace, 2005). According to recent studies, the PM2.5/PM10 multiplier for fugitive dust from construction sites averages 0.10 (EPA, 2010). Ratios for PM2.5/PM10 for emissions from vehicle exhaust have not been well developed. Based on the calculated 24-hour maximum concentration of PM10 from the SCREEN3 model for pipeline construction and the established multipliers for PM2.5/PM10, it can be inferred that PM2.5 emissions from pipeline construction could exceed the NAAQS for PM2.5 of 35 μg/m3 during pipeline construction. The estimated exceedance of the NAAQS 24-hour standard for PM10 is considered a significant impact. Use of dust control BMPs would mitigate these impacts to less than significant. Construction duration is anticipated to be less than 12 months, so any impact would be temporary. Furthermore, the SCREEN3 modeling results assume a worst-case scenario, so actual PM emissions are likely to be less than estimated by the model. Since PM concentrations are anticipated to rapidly decrease with distance from the construction area, the impacts are considered to be highly localized.

CO - Emissions of CO will be generated from construction equipment and vehicle exhaust during construction activities. As mentioned previously, the general project area is located within an area of Utah County that has been designated as a maintenance area for CO. The SCREEN3 model used during the ULS EIS estimated that maximum potential concentrations of CO from pipeline construction could total 10.4 μg/m3 in a 1-hour period and 6.7 μg/m3 in a 24-hour period. The NAAQS for CO is 40 μg/m3 in a 1-hour period and 10 μg/m3 in any 24-hour period. Based on these model estimates, it does not appear that CO concentrations resulting

from pipeline construction activities would exceed NAAQS, so no significant impact to air quality from project CO emissions is anticipated.

No Action Alternative
There would be no effect on air quality with selection of the No Action Alternative.

3.17 Environmental Justice

3.17.1 Introduction
This section addresses the environmental justice effects from construction, operation, and maintenance of the No Action Alternative and Action Alternative. It addresses the effect the proposed project would have on disadvantage populations, such as minorities and low-income individuals.

3.17.2 Affected Environment
On February 11, 1994, the President issued Executive Order 12898 on Environmental Justice in Minority Populations and Low Income Populations. This Executive Order requires agencies to identify and address disproportionately high and adverse human-health or environmental effects of their actions on minorities and low-income populations and communities, as well as the equity of the distribution of the benefits and risks of their decisions.

A total of 545,307 people lived in Utah County in 2009. According to the U.S. Census Bureau, the majority of those individuals are white (94.9 percent) (Census Bureau, 2010). Hispanic/Latino individuals made up the second largest group (9.6 percent). Some individuals were identified in multiple races. In total, non-Hispanic or non-Latino minorities are 3.4 percent of the population.

3.17.3 Impact Analysis
Action and No Action Alternatives
There would be no disproportionate disruption of minority groups by construction of the proposed project because the project is not located near large minority group populations. No disproportionate negative impacts on minorities or low-income communities are expected.

3.18 Summary of Environmental Effects

Table 6 summarizes environmental effects under the No Action Alternative and the Proposed Action Alternative.

Table 6
Summary of Environmental Effects

	No Action Alternative	Proposed Action Alternative
Cultural Resources	No Effect	No Adverse Effect
Paleontological Resources	No Effect	No Effect
Wetlands and Vegetation	No Effect	Minor Effect during construction, No Effect long-term
Water Resources	No Effect	No Adverse Effect
Water Quality	No Effect	Minor Effect during construction, No Effect long-term
Threatened/Endangered Species	No Effect	No Effect
Biological Resources	No Effect	No Effect
Recreation	No Effect	Moderate Effect during construction, No Effect long-term
Transportation and Traffic	No Effect	Significant Effect during construction, none long-term
Utilities	No Effect	Minor Effect during construction, No Effect long-term
Public Health and Safety	No Effect	Minor Effect during construction, No Effect long-term
Noise	No Effect	Minor Effect during construction, No Effect long-term
Land Use	No Effect	Minor Effect during construction, No Effect long-term
Visual	No Effect	Minor Effect during construction, No Effect long-term
Air Quality	No Effect	Minor Effect during construction, No Effect long-term
Environmental Justice	No Effect	No Effect

Chapter 4 – Environmental Commitments

The following environmental commitments would be implemented as an integral part of the Proposed Action.

1. **Standard Reclamation Management Practices** - Standard Reclamation management practices would be applied during construction activities to minimize environmental effects and would be implemented by construction forces or included in construction specifications. Such practices or specifications include sections in the present report on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and wildlife. Excavated material and construction debris may not be wasted in any stream or river channel or placed in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at an upland site well away from any channel. Construction materials, bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. Silt fencing would be appropriately installed and left in place until after revegetation becomes established, at which time the silt fence can then be carefully removed. Machinery must be fueled and properly cleaned of dirt, weeds, organisms, or any other possibly contaminating substances offsite prior to construction.

2. **Additional Analyses** - If the proposed action were to change significantly from that described in this EA because of additional or new information, or if other spoil, or work areas beyond those outlined in this analysis are required outside the defined project construction area, additional environmental analyses may be necessary.

3. **State Stream Alteration Permit** – A Stream Alteration Permit (Number 10-55-24SA) was issued by the State Engineer for the Project on November 4, 2010. Conditions and requirements of this Permit will be strictly adhered to by the Association.

4. **Utah Pollutant Discharge Elimination System Permit** - A Utah Pollutant Discharge Elimination System Permit would be required from the State of Utah before any discharges of water, if such water is to be discharged as a point source into the Green River. Appropriate measures would be taken to ensure that construction related sediments would not enter the stream either during or after construction. Settlement ponds and intercepting ditches for capturing sediments would be constructed and the sediment and other contents collected would be hauled off the site for appropriate disposal upon completion of the project.

5. **Water Quality Certification and Storm Water Discharge Permit** - Under authority of the Clean Water Act, construction would require from the Utah Division of Water Quality a Section 401 Water Quality Certification and a Section 402 Storm Water Discharge Permit. Whenever the project proponent causes the water turbidity in an adjacent surface water to increase 10 NTU's or more, the Utah Division of Water Quality shall be notified.

6. **Cultural Resources** - Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, he/she must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work would stop until the proper authorities are able to assess the situation onsite. This action would promptly be followed by written confirmation to the responsible Federal agency official, with respect to Federal lands. The Utah SHPO and interested Native American tribal representatives would be promptly notified. Consultation would begin immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10); and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).

7. **Paleontological Resources**-Should vertebrate fossils be encountered by the proponent during ground disturbing actions, construction must be suspended until a qualified paleontologist can be contacted to assess the find.

8. **Previously Disturbed Areas** - Construction activities should be confined to previously disturbed areas where possible for such activities as work, staging, and storage; waste areas; and vehicle and equipment parking areas. Vegetation disturbance should be minimized as much as possible.

9. **Public Access** - Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. Reclamation would coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the project area.

10. **Disturbed Areas** - All disturbed areas resulting from the project would be smoothed, shaped, contoured, and rehabilitated to as near their pre-project construction condition as practicable. After completion of the construction and restoration activities, disturbed areas would be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes would be coordinated with wildlife habitat specialists. Weed control on all disturbed areas would be required. Successful

revegetation efforts must be monitored and reported to Reclamation along with photos of the completed project.

11. **Avoidance of Construction**- Construction activities within the Provo River will be avoided from April 15 through August 15 to minimize potential impacts to the June sucker.

12. **Disruption of Canals**- Construction activities that require disrupting canals will take place during the non-irrigation season and follow the steps, or alternate similarly effective steps, identified in "Section 2.3.2 Project Construction, Canal Crossings" of this EA.

13. **Traffic Control**- A minimum of two traffic lanes (one in each direction) will be maintained through the construction area at all times to minimize traffic delays.

14. **Parking**- An alternate parking lot will be provided during the time the existing trailhead parking lot is closed.

15. **Scheduling**- Reasonable efforts will be made to schedule parking lot and trail closures at times of least impact to public recreation activities (annual story-telling festival, races, etc.).

Chapter 5 - Coordination and Consultation

NEPA implementing regulations provided by the CEQ and Interior, direct lead agencies to involve agencies and the general public in preparing an EA. This chapter documents coordination and consultation that has occurred with agencies and the public during development of this EA.

On August 5, 2010 a site visit was conducted by the applicant for representatives from UDOT and Reclamation. The purpose of the site visit was to acquaint the two agencies with the project and obtain input their input related to the project's potential impacts on the highways and traffic.

On August 11, 2010 a site visit was help for representatives of the Utah Division of Water Rights and Reclamation to address potential vegetation, fish, and wildlife impacts of constructing through the riparian area and crossing the Provo River.

On October 22, 2010 a site visit was held with representatives from Utah County and Orem City to discuss construction impacts to recreation due to closure of the parking lot and trail.

In addition to the three site visits, coordination and consultation has been conducted with the U. S. Army Corps of Engineers and the U. S. Fish and Wildlife Service. Also, a briefing on the project was provided to the June sucker Technical Committee on October 6, 2010.

Reclamation conducted Native American consultation throughout the public involvement process. Consultation letters and copies of the Class III cultural resource inventory report were sent to the Ute Indian Tribe of the Uintah and Ouray Reservation, the Northwestern Band of Shoshoni Nation of Utah, the Confederated Tribes of the Goshute Reservation, and the Skull Valley Band of Goshute Indians of Utah. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort, each tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance; to express their views on the effects of the proposed action on such properties; and to participate in the resolution of adverse effects. Reclamation received no response from any of the consulted tribes.

A paleontological file search was conducted by Martha Hayden, Paleontological Assistant with the Utah Geological Survey (UGS). File search results and recommendations from the UGS were received in a letter dated November 15, 2010.

A copy of the Class III cultural resource inventory report and a determination of no historic properties affected for the proposed project were submitted to the Utah State Historic Preservation Officer (SHPO). SHPO concurrence with Reclamation's determination was received in a letter dated October 12, 2010.

A consultation letter and a copy of the Class III cultural resource inventory report were sent to Ms. Jennifer Elsken, Archaeologist with the Utah Department of Transportation, Region 3, in accordance with 36 CFR 800.2(c)(5). Reclamation received no response from Ms. Elsken.

Chapter 6 – Preparers

The following contributed to the preparation of this EA.

Name	Position Title	Organization and Role
Terry Hickman, MS	Project Manager	Terry J. Hickman, Inc. Environmental analysis and report preparation
R. Jay Henrie, PE	Civil Engineer	Henrie Engineering, LLC Engineering and report preparation
Elisabeth Robinson. MA	Senior Project Manager	SWCA Environmental Consultants Cultural Resources survey
Nicole Herzog, MA	Archaeologist	SWCA Environmental Consultants Cultural Resources survey
Peter Crookston	Environmental Protection Specialist	Bureau of Reclamation Coordination and Review
Russ Findlay	Wildlife Biologist	Endangered Species Act consultation
Brian Joseph, MA	Archaeologist	Bureau of Reclamation Review - Cultural and Paleontological Resources
Beverley Heffernan, AB	Chief, Environmental Group	Bureau of Reclamation Coordination and Oversight
Rafael A. Lopez, BA	General Biologist	Bureau of Reclamation Review - Wetlands, CWA Compliance, 404 Permit

Chapter 7 – References

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